

Energy Saving Unit Heater

CI/SfB

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TS 98



Applications

The CUH Heavy Duty Unit Heater can be installed horizontally at high level to act as combination heater and de stratification fan. Hot air generated by heaters, process heat and machinery is automatically recycled from high level down to the occupied space, if the required low level temperature is still not attained the heater elements are energised until this is the case.

De stratification alone can produce savings of around 30% thus by incorporating this facility in the heaters the total energy cost and overall installation cost can be effectively reduced. The reduction in high level temperature reduces the heat losses through the roof and the return of heated air to low level reduces the overall heat requirement.

Features

See Technical Sheet TS 35

Options

- integral hydraulic de stratification thermostat (CUH-DTH)
- integral 240V contactor for ease of installation (CUH-xx-xC) - standard over 7.5kW
- remote thermostat with on off switch (CUH-RTH)
- vertical mounting bracket for ceiling fixing (CUH-Vxxxx)
- eye bolt set for chain suspension (CUH-EYE)

Workshop Heater

The Workshop heater package consists of CUH-xx-xC heater fitted with de stratification thermostat (CUH-DTH), remote thermostat with on off switch (CUH-RTH) and vertical mounting bracket (CUH-VBxxx) or eye bolts for chain suspension (CUH-EYE)

The reference for these packages is CUHW xx000 or CUHW xx000E respectively.

Selection

Unit selection is a balance of heating and destratification requirements. For satisfactory heating performance the total heating output must be sufficient to overcome the area's heat loss. The units used for destratification must be capable of recirculating the air volume above them approximately three times per hour. Consideration must also be given to the maximum mounting height of the heaters.

CDF De-Stratification fan units can be added to reduce hot air stratification and improve air circulation.

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Example

Consider a workshop, 20m x 15m x 5.5m high, overall heat loss 60kW.
Required working height 4m thus mount destratification heaters at 4m

Volume of air above heaters = $20 \times 15 \times (5.5 - 4) = 450 \text{ cu.m}$
Thus recirculated at 3 times per hour = $3 \times 450 = 1350 \text{ cu.m/hr}$

For even heating select 6 off CUH-10 10kW units.
Each unit circulates 1190 cu.m/hr thus 2 units will be sufficient for destratification.

Two units mounted at 4.3m on centre line of building and 4 others on the walls, 3m high near the corners.

Control

CUH units for destratification use are fitted with an integral destratification thermostat (CUH-DTH) which closes on temperature rise. This switches the fan off when the high level temperature has reduced to the pre-determined level usually about 25°C. The remote thermostat maintains the required low level temperature, by switching the heater elements.

Specification

Cat No	Heater			Fan motor		Air Vol m ³ /hr	Dimension (mm)			Max Mtg Ht (m)		Throw m	Wt kgs
	kW	Volts	Phase	Watt	rpm		Height	Width	Depth	Horiz	Vert		
CUHW-3000	3.0	230	1P	6.0	1550	680	450	368	165	2.8	2.8	3.7	12
CUHW-3003	3.0	400	3P&N	6.0	1550	680	450	368	165	2.8	2.8	3.7	12
CUHW-5000	5.0	230	1P	6.0	1550	680	450	368	165	2.8	2.8	3.7	12
CUHW-5003	5.0	400	3P&N	6.0	1550	680	450	368	165	2.8	2.8	3.7	12
CUHW-7500	7.5	400	3P&N	15.0	1550	1190	620	546	165	3.0	3.7	6.7	23
CUHW-10000	10.0	400	3P&N	15.0	1550	1190	620	546	165	3.0	4.3	6.7	23
CUHW-15000	15.0	400	3P&N	38.0	1550	1870	730	546	165	3.4	6.1	9.8	30
CUHW-20000	20.0	400	3P&N	62.0	1550	3400	865	743	256	3.7	6.7	9.8	55
CUHW-25000	25.0	400	3P&N	62.0	1550	3400	865	743	256	3.7	6.7	13.7	55
CUHW-30000	30.0	400	3P&N	62.0	1550	3400	865	743	256	3.7	6.1	12.2	55
CUHW-40000	40.0	400	3P&N	186.0	1550	5200	865	743	256	3.7	7.3	16.7	55

Installation [Download full installation instructions at www.cehltd.co.uk](http://www.cehltd.co.uk)

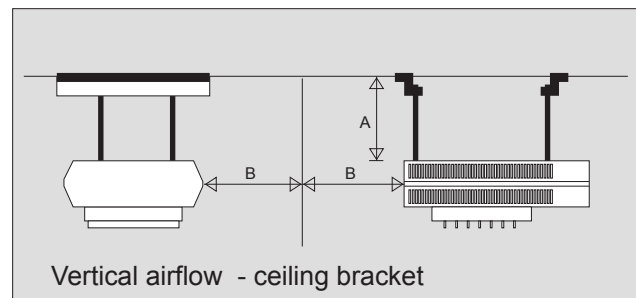
For optimum performance the heater should not be mounted higher than the maximum height shown in the table. The heaters should not be mounted at a height of less than 2.2metres, 3 - 5kW units not closer than 300mm to wall or ceiling and 7.5 - 40kW not closer than 450mm to ceiling and 600mm to wall. Standard brackets maintain these clearances.

Electrical connections should be made by a suitably qualified person in accordance with the latest edition of the IEE Requirements for Electrical Installation. (BS 7671:2001)

Mounting

Standard mounting brackets are recommended. They ensure minimum clearances are maintained. Selection as per table. Alternatively vertical airflow units can be suspended from chain using the CUH-EYE eye bolt set.

Airflow	Heater	Bracket	A mm	B mm
Horizontal	03 - 05	C35	300	300
	07 - 15	C720	450	600
	20 - 30	C2550	450	600
Vertical	03 - 05	VB35	300	300
	07 - 15	VB720	450	600
	20 - 30	V2550	450	600



The manufacturers reserve the right to change the specification without prior notice E&OE



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