



HEX-25 RADON CLEANER

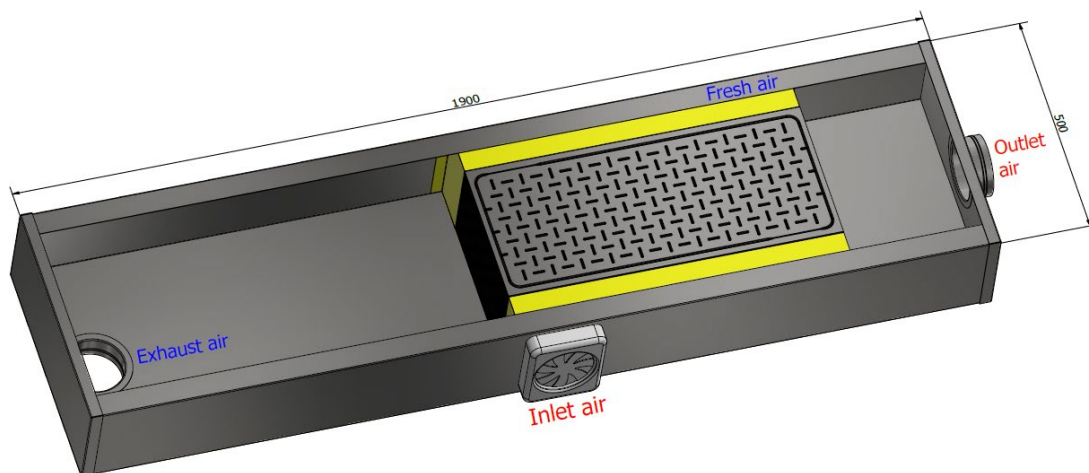
Energy recovery and radon reduction down to $> 200 \text{ Bqr/m}^3$ in a 75m^3 home.

HEX-25 Radon Cleaner

Fan:

Dimensions: 1000 x 590 x 200 (l x w x h) mm. Material: AISI 316L Lamellae distance: 2mm Temperature efficiency: $\geq 95\%$ Airflow: 30 l/s Pressure drop over HEX-25: $< 72 \text{ Pa}$ (30l/s) Carbon filter included Min/max temperature: $-40^\circ \text{ C} - +90^\circ \text{ C}$	Duct: $\phi 125 \text{ mm}$ Working point: Airflow: 30 l/s External static pressure drop: 200 Pa Sound pressure level: $\leq 29 \text{ dB(A)}$ Effect: 25 W 1 x 230 V Current: 0,24 A RPM: 2370 SFP: $0,817 \text{ kW/m}^3/\text{s}$ Controll system: Potentiometer: 6.11 V (0-10 V) Fan diagram: See Appendix 1
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Radon Cleaner

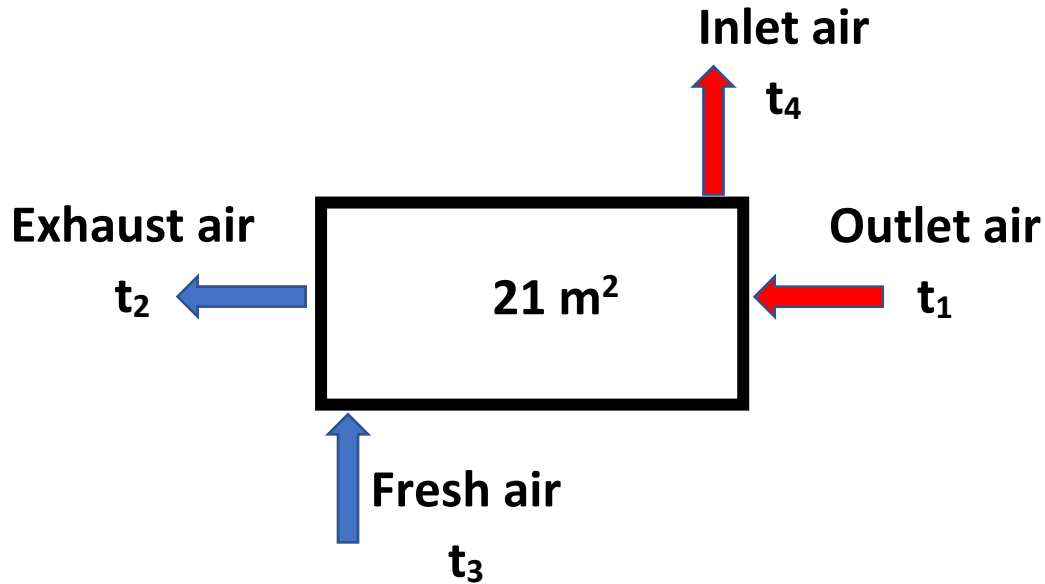




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CALCULATION

ASSUMPTIONS



Outlet air:

$q = 30 \text{ l/s}$, $t_1 = 22^\circ \text{C}$, $\gamma = 0.55$

Exhaust air:

$t_2 = 8^\circ \text{C}$

Fresh air:

$t_3 = 7^\circ \text{C}$, $\gamma = 0.85$

Temperature efficiency: $\eta_t \geq 0.95$



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CALCULATION

Inlet air temperature (t_4)

$$\frac{t_4 - t_3}{t_1 - t_3} = 0.95 \rightarrow t_4 \cong 21^{\circ} \text{ C}$$

Entalphi:

I: $t_1 = 22^{\circ} \text{ C}$, $\gamma = 0.55$

$x = 0,0093 \text{ kg / kg clean air}$

$i_1 = 22 \times 1,005 + 0,0093(2500 + 22 \times 1,86)$

$i_1 = 45.7 \text{ kJ/kg}$

II: $t_2 = 8^{\circ} \text{ C}$, $x = 0.0093 \text{ kg/kg}$

$i_2 = 31.4 \text{ kJ/kg}$

III: $t_3 = 7^{\circ} \text{ C}$, $\gamma = 0.85$, $x = 0,0054$

$i_3 = 20.6 \text{ kJ/kg}$

IV: $t_4 = 21^{\circ} \text{ C}$, $x = 0.0054 \text{ kg/kg}$

$i_4 = 34.8 \text{ kJ/kg}$

$$(i_2 - i_1) \cong (i_4 - i_3)$$

and $\eta_t \geq 0.95$



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