WT 1500

Ventilation system for duct installation

Correction of the thermal heat recovery rate:

$\eta = \eta_0 \times \eta_1 \times \eta_2$

Calculation example

Task:

Exhaust air:

Volumetric flow V_i = 2000 m.³/ h

Temperature t_i = 27.7 °C

Relative humidity = 68 %

Outside air:

Volumetric flow V_e = 1538 m.³/ h

Temperature t_e = -2 °C

Therm. heat recovery rate

η_0 = 62 %

Calculation:

1. Correction η_1:

Result from figure 1 η_1 = 1.12

2. Correction η_2:

Relationship of the volumetric flows: 2000:1530 = 1.3

Result from figure 2 η_1 = 1.07

3. Corrected efficiency η

$\eta = \eta_0 \times \eta_1 \times \eta_2 = 62 \times 1.12 \times 1.07 = 74.3\%$

Figure 1

Figure 2