Eurovent Certification Energy Efficiency Classification

Eurovent Certification has launched a new energy efficiency classification for the cooling recovery in the summer. The calculation of the class takes into account the both the sensible and the latent energy as well as the additional cost of the energy consumed in the fans as a result of the pressure drop in the heat exchanger.

This means that we now have two labels on the technical printout from AHU Design.

The first label is for the winter case and has a snow flake icon.

This label and the calculation behind it is otherwise unchanged.

The second label is for the summer case and has a sun icon.

Eurovent Certified Air Handling Units must display these labels and AHUs that are not Certified are not allowed to use the Eurovent Energy Efficiency Classification labels.

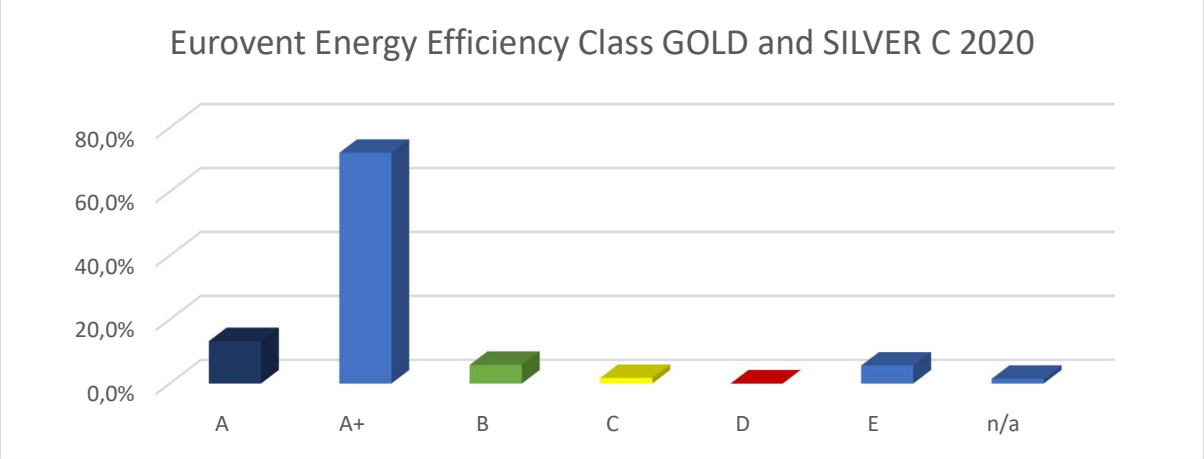
AHU Design now provides both of these labels in the technical printout in accordance with Eurovent regulations.

The Eurovent Energy Efficiency Class for the winter case is calculated from limiting values for air velocity, Temperature efficiency of the heat recovery device, pressure drop of the heat recovery device and the fan efficiency as given in the table below:

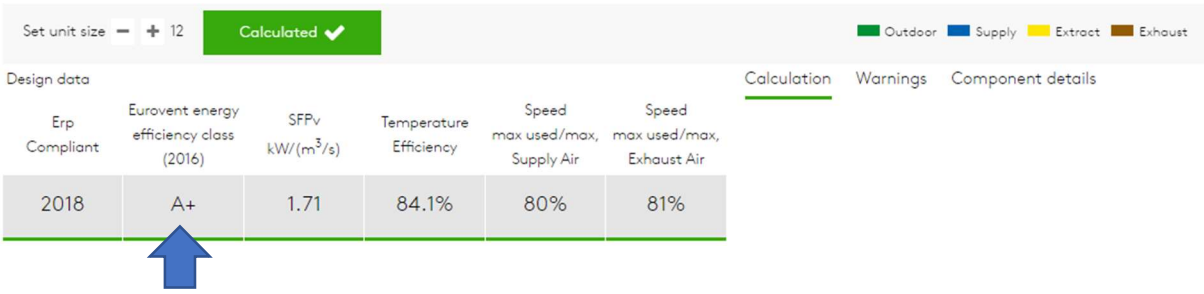
OUTPUTS - Energy Efficiency Class							
		A+	A	B	C	D	E
v	m/s	1,4	1,6	1,8	2	2,2	
η_T	%	83	78	73	68	63	
Δp	Pa	250	230	210	190	170	
Ng_{ref}	-	64	62	60	57	52	

For example, to get Eurovent Energy Efficiency Class A the air velocity must be 1,6 m/s or less and the temperature efficiency must be at least 78% and the pressure drop 230Pa or less and the fan efficiency at least 62%.

The vast majority (85%) of GOLD and SILVER C units have Eurovent Energy Efficiency class A+ or A. Below you can see statistics for GOLD and SILVER C for the year 2020:



In AHU Design you can see the Eurovent Energy Class on screen here:



The new Eurovent Energy Class for Summer is calculated in a similar way but includes cooling recovery performance:

OUTPUTS - Energy Efficiency Class							
		A+	A	B	C	D	E
v	m/s	1,4	1,6	1,8	2	2,2	
η_T	%	83	78	73	68	63	
Δp_T	Pa	167	160	155	151	147	
η_H	%	81	73	65	58	50	
Δp_H	Pa	222	213	207	202	197	
Ng_{ref}	-	64	62	60	57	52	

It only becomes relevant when the outdoor summer design temperature is above 30 °C and the winter design temperature is above -3 °C

The summer temperature is taken from ASHRAE data.

Below those temperatures the Summer class will be the same as that for the winter.

This means that we now have a labeling system that works for both cold and warm climate.