Appendix 1
to Eurovent consolidated Position Paper concerning Revision of Commission Regulation (EU) No 1253/2014 and Commission Delegated Regulation (EU) No 1254/2014

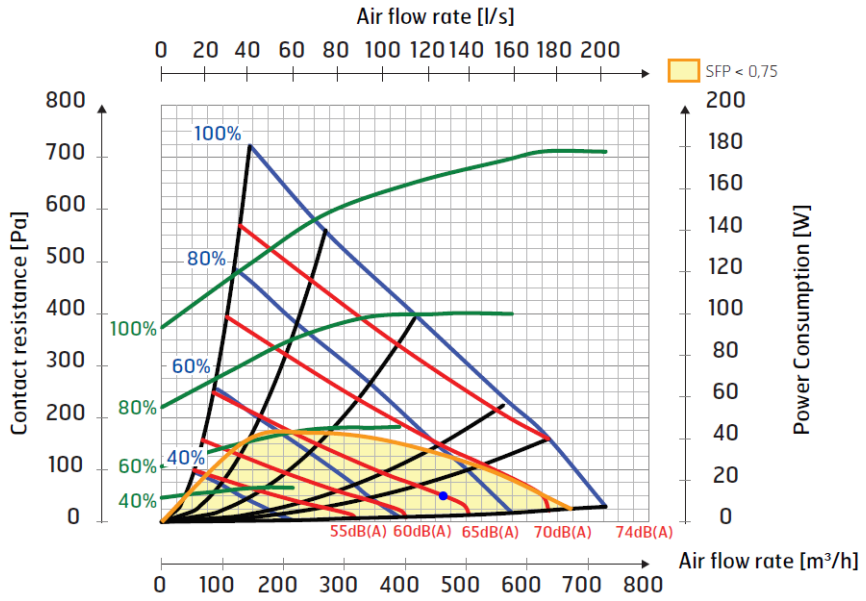
Related to Positon 5
The need for consideration of the actual working point in energy labelling

SEC Value for the customer -Energy label

REASON FOR AN ALTERNATIVE

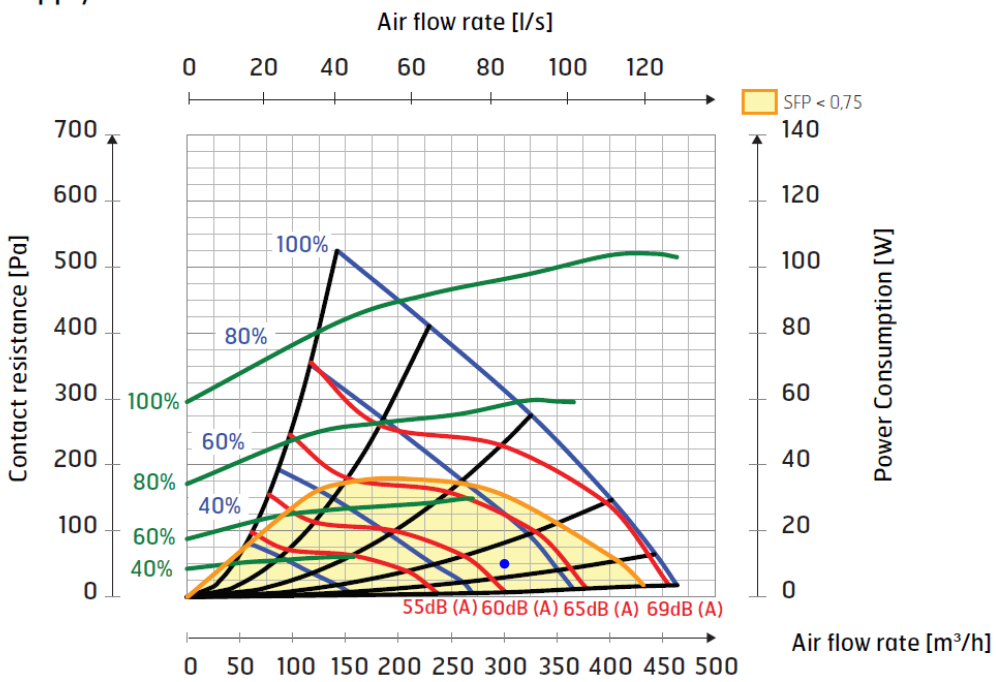
Comparison of units with different Max

Supply air side



Ctrl 0,95 on both, same x value

Supply air side

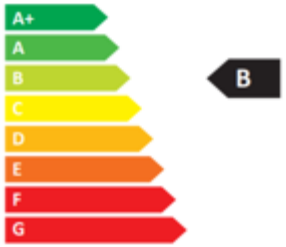


Ventilation unit 1

Max airflowrate at 100Pa is **680m³/h**

Reference point is 470m³/h at 50Pa
This is the point all ECO Design data is presented.

SEC Value -33,8

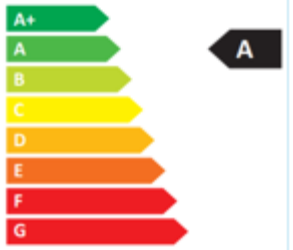


Ventilation unit 2

Max airflowrate at 100Pa is **428m³/h**

Reference point is 300m³/h at 50Pa
This is the point all ECO Design data is presented.

SEC Value -35,4



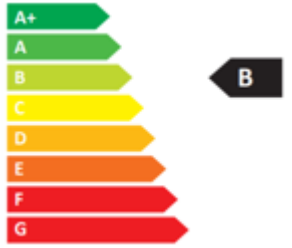
The customer look at the label

- The natural thing would be to choose the Unit with the best label.
  In this case Unit 2.

  This Unit 2 present an class A and SEC value of -35,4

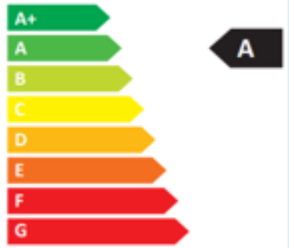
  but remember this is only in the Reference point!

Unit 1
SEC Value
-33,8



46dB(A)

Unit 2
SEC Value
-35,4

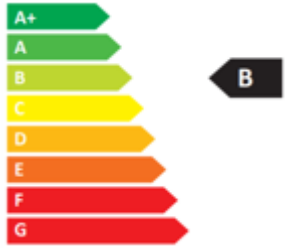


42dB(A)

We may say that the Unit with the higher Max air flow rate being punished in the way we choose the workingpoint at 70%,
both SEC class and Sound level is better for the Unit 2 in reference point.

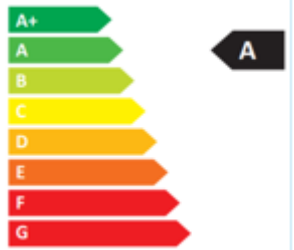
The aim is to use the Unit at a workingpoint 350m³/h at 50Pa

560	B	-31,6
550		-32,0
540		-32,3
530		-32,52
520		-32,6
510		-32,8
500		-33,1
490		-33,3
480		-33,6
470		-33,8
460		-34,0
450	A	-34,2
440		-34,4
430		-34,7
420		-34,9
410		-35,0
400		-35,0
390		-35,3
380		-35,5
370		-35,8
360		-35,9
350		-36,0
340		-36,3
330		-36,2
320		-36,4
310		-36,6
300		-36,8
290		-36,8
280		-36,7



The A labeled unit becomes a B!

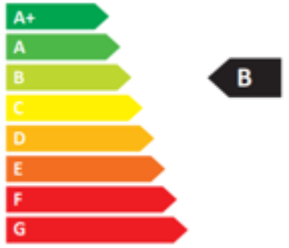
And the B labeled unit becomes an A!



440	B	-30,0
430		-30,4
420		-30,8
410		-31,1
400		-31,4
390		-32,0
380		-32,2
370		-32,3
360		-32,7
350		-33,2
340		-33,6
330	A	-34,1
320		-34,7
310		-35,1
300		-35,4
290		-35,7
280		-36,1
270		-36,4
260		-36,6
250		-36,8
240		-36,9
230		-37,2
220		-37,4
210		-37,4
200		-37,4
190		-37,5
180		-37,5
170		-37,6
160		-37,6

If we change the workingpoint to 350m³/h at 70Pa (more normal house)

560	B	-31,6
550		-32,0
540		-32,3
530		-32,52
520		-32,6
510		-32,8
500		-33,1
490		-33,3
480		-33,6
470		-33,8
460		-34,0
450	A	-34,2
440		-34,4
430		-34,7
420		-34,9
410		-35,0
400		-35,0
390		-35,3
380		-35,5
370		-35,8
360		-35,9
350		-36,0
340		-36,3
330		-36,2
320		-36,4
310		-36,6
300		-36,8
290		-36,8
280		-36,7



The SEC value : -34,8
But gives an A
the opposite of the label

The SEC value : -33,7
But gives an B
the opposite of the label

440	B	-30,0
430		-30,4
420		-30,8
410		-31,1
400		-31,4
390		-32,0
380		-32,2
370		-32,3
360		-32,7
350		-33,2
340		-33,6
330	A	-34,1
320		-34,7
310		-35,1
300		-35,4
290		-35,7
280		-36,1
270		-36,4
260		-36,6
250		-36,8
240		-36,9
230		-37,2
220		-37,4
210		-37,4
200		-37,4
190		-37,5
180		-37,5
170		-37,6
160		-37,6

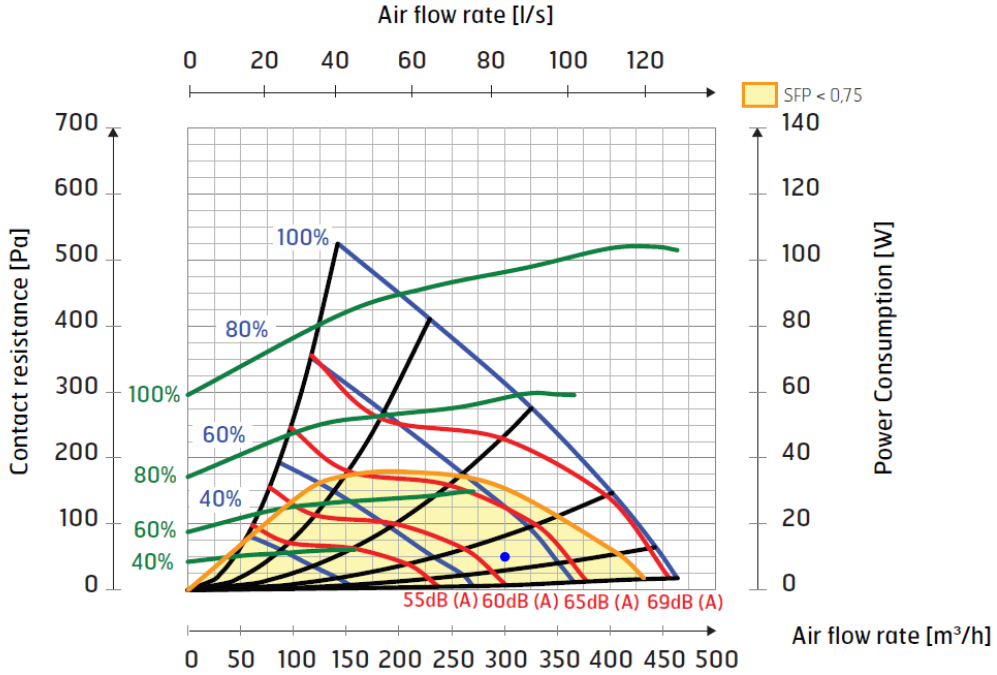
This means that the label give the customer ''false'' advise.
This happens when you compare a unit with wide flow rate range with a unit with narrow flow rate range

What can we do to provide enough information for the customer ?

SUGGESTION OF AN ALTERNATIVE

Add to the documentation

Supply air side



Today we already measure how much effect the fan uses for the different fan-power adjustments/pressure.

And we do this according to 1253 at minimum 3 different levels (minimum/normal/max)

So the suggestion would be:

-Make a table with flowrate and SPI for 3 different pressure 50,100,150Pa

Or only the one pressure 100Pa to give a scale of SEC value

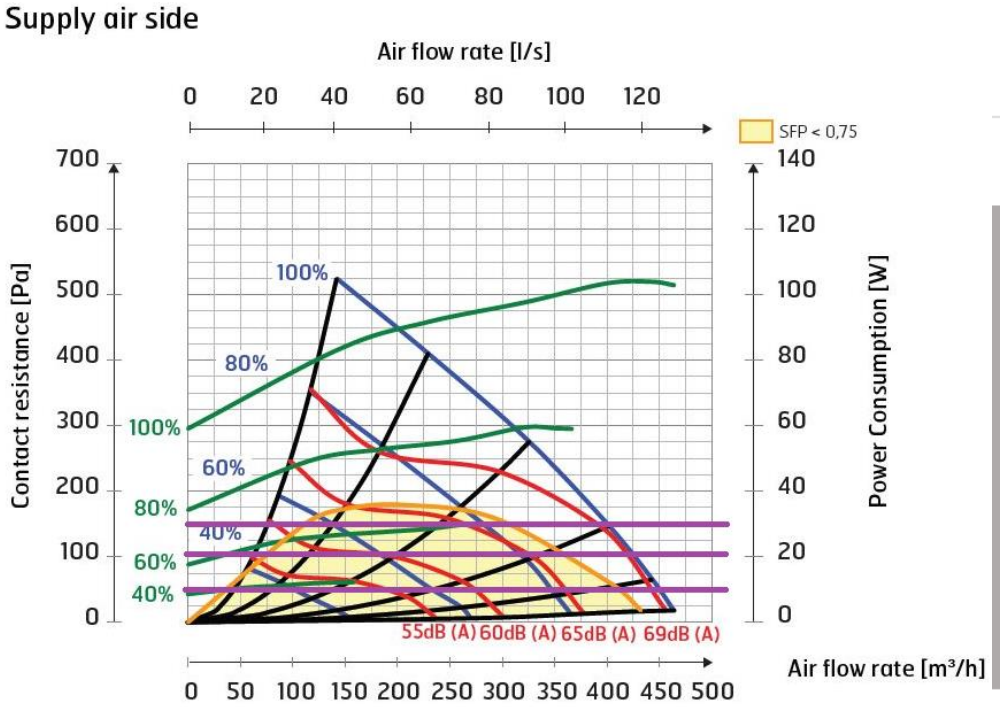
Air flow rate m³/h	SPI kW/(m³/h)
300	0,000358
290	0,000350
280	0,000350
270	0,000339
260	0,000339
250	0,000333
240	0,000328
230	0,000322
220	0,000317

A scale with SEC value in the documentation

- This can mean that you have a scale of SEC value in your documentation as an addition to the label

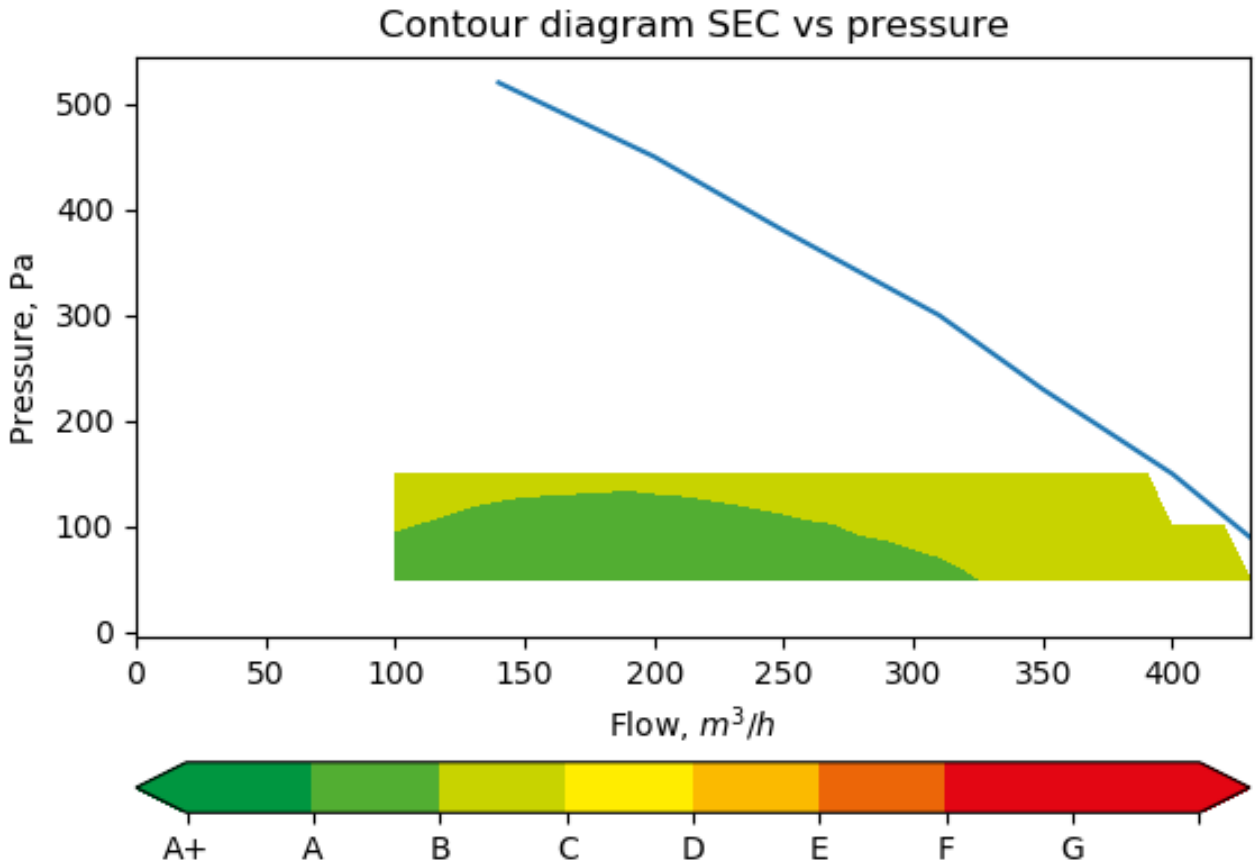
- The data you need is SPI value for different Pressure.
  For units that do not reach 100Pa

  A scale at 50Pa is enough!



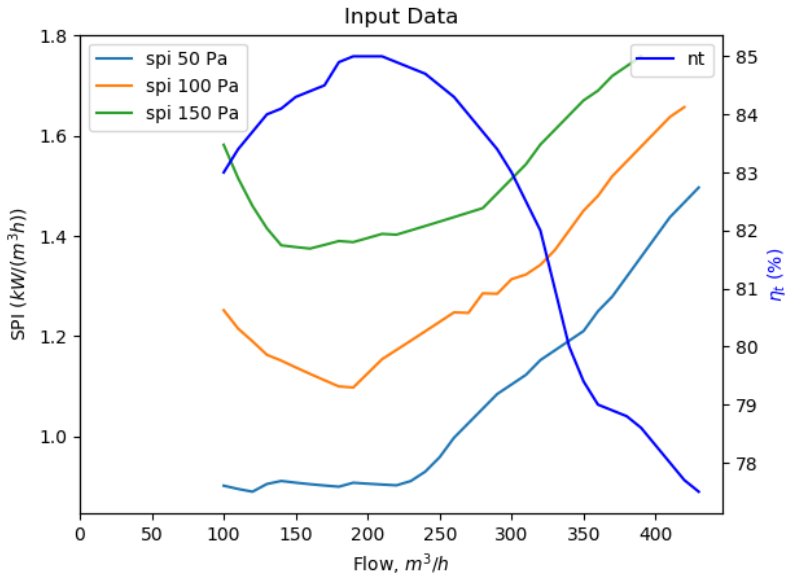
	50Pa	100Pa	150Pa
Air flow rate m³/h	SPI kW/(m³/h)	SPI kW/(m³/h)	SPI kW/(m³/h)
300	0,00031	0,00037	0,00042
290	0,00030	0,00036	0,00041
280	0,00029	0,00036	0,00040
270	0,00029	0,00035	0,00040
260	0,00028	0,00035	0,00040
250	0,00027	0,00034	0,00040
240	0,00026	0,00034	0,00039
230	0,00025	0,00033	0,00039
220	0,00025	0,00033	0,00039
210	0,00025	0,00032	0,00039
200	0,00025	0,00031	0,00039

Example how this could look like



Here you can choose your working point!

Input - Result



Flow	SEC 50 Pa	SEC 100 Pa	SEC 150 Pa
100	-36.6 A	-33.8 B	-31.1 B
110	-36.8 A	-34.2 A	-31.8 B
120	-36.9 A	-34.5 A	-32.3 B
130	-36.9 A	-34.8 A	-32.8 B
140	-36.9 A	-34.9 A	-33.1 B
150	-36.9 A	-35.1 A	-33.2 B
160	-37.0 A	-35.2 A	-33.2 B
170	-37.0 A	-35.4 A	-33.2 B
180	-37.2 A	-35.6 A	-33.2 B
190	-37.2 A	-35.6 A	-33.3 B
200	-37.2 A	-35.4 A	-33.2 B
210	-37.2 A	-35.2 A	-33.2 B
220	-37.2 A	-35.0 A	-33.1 B
230	-37.1 A	-34.8 A	-33.0 B
240	-36.9 A	-34.6 A	-32.9 B
250	-36.6 A	-34.4 A	-32.8 B
260	-36.2 A	-34.2 A	-32.7 B
270	-35.9 A	-34.1 A	-32.5 B
280	-35.6 A	-33.7 B	-32.3 B
290	-35.2 A	-33.6 B	-32.0 B
300	-35.0 A	-33.3 B	-31.7 B
310	-34.7 A	-33.1 B	-31.3 B
320	-34.3 A	-32.7 B	-30.8 B
330	-33.8 B	-32.2 B	-30.3 B
340	-33.4 B	-31.6 B	-29.7 B
350	-33.0 B	-31.1 B	-29.3 B
360	-32.6 B	-30.7 B	-29.0 B