

# When back pressure is the problem



SILENTOR

Less pollution

More power

Patented technology since 1972

***New technology solved problems caused by too high back pressure in exhaust system at Ellemarken's Power station in Køge. The existing silencer was rebuilt using Silentor technology and the result was a back pressure reduction of 73 % and improved attenuation!***

1997 the consulting engineering company Rambøll contacted Silentor in order to have the back pressure reduced on an existing exhaust system.

The back pressure was 100 mmWG too big on the system which consisted of three silencers (not Silentor), one heat exchanger and a 25 meter high chimney.

The engine was running badly resulting in poor efficiency, too much soot and numerous stops.

The task was to reduce the back pressure with 100 mmWG. It was however important that this task was solved while maintaining the existing attenuation at the same level as before. Using Silentor's unique diffuser technology it was pos-

sible to design the inner components for the silencer for installation inside the shell of one of the existing silencers. With this solution the rest of the existing exhaust system could be re-used and installation could be finished in just two days.

Use of Silentor components meant that back pressure for the modified silencer was reduced to 40 mmWG compared to the original 150 mmWG. This represents a reduction of 73% and on top of that the attenuation was improved with 1,7 dB.

This clearly shows that with the Silentor technology you can obtain the same attenuation as with conventional silencers but with a much reduced back pressure.

Frequency [Hz]	63	125	250	500	1k	2k	4k	8k	Σ
Before [dB(A)]	63,5	67,5	73,4	72,4	73,1	67,8	62,5	50,9	78,8
After [dB(A)]	69,5	65,4	68,7	70,3	70,9	67,9	63,1	56,6	77,1
Δ [dB(A)]	6,0	-2,1	-4,7	-2,1	-2,2	0,1	0,6	5,7	-1,7

Level of noise before and after conversion of the silencers. [ $L_w$ dB(A) re 1 pW]