The Vento safe system approval for "D class" air thightness.
Das Vento Safe System hat "D class" bekommen betriff Luftdichtkeit.

REPORT

Date	Reference	Page
2005-11-24	P504542-1	1 (2)

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Pressure testing of a circular duct system

(2 appendices)

Test object

Circular duct system, type Vento

Test procedure

The test was performed on Nov. 23, 2005 according to test method SS EN 12237 on a duct system mounted at SP in Borås.

A speed-controlled fan and an air flow gauge were connected to the duct system. The static pressure was measured in the hose with a measurement tube.

Measuring equipment

- Micro-air pressure gauge, Furness Pocket Manometer FCO 10, SP's inventory number 201638, calibrated on Dec. 6, 2004
- Micro-air pressure gauge, Swema Man, SP's inventory number 201562, calibrated on Dec. 2, 2004
- Air flow measuring tube, field nozzle 5 mm, SP's inventory no 201602, calibrated on Dec. 1, 2005
- Paulin barometer, SP's inventory number 200149

Test results

The measured/calculated pressure values and leakage factors are shown in Appendix 1 and 2.

The reported values apply to an air density of 1.21 kg/m^3 and at an ambient air pressure of 1016 mbar.

The tested circular system had a total enclosed area (A) of 14.9 m^2.

Measuring uncertainty

The measuring uncertainty when determining the flow is judged to be ±5 % of the relevant value. The measuring uncertainty for static pressure is judged to be ±1 Pa, while the measuring uncertainty for temperature is judged to be ±0.5 °C.

Traceability

All instruments used have a traceability to a national laboratory or corresponding international organisation.

The test results apply only for the tested duct system.

SP Swedish National Testing and Research Institute
Energy Technology - Climate Simulation

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Appendices
1-2 Results

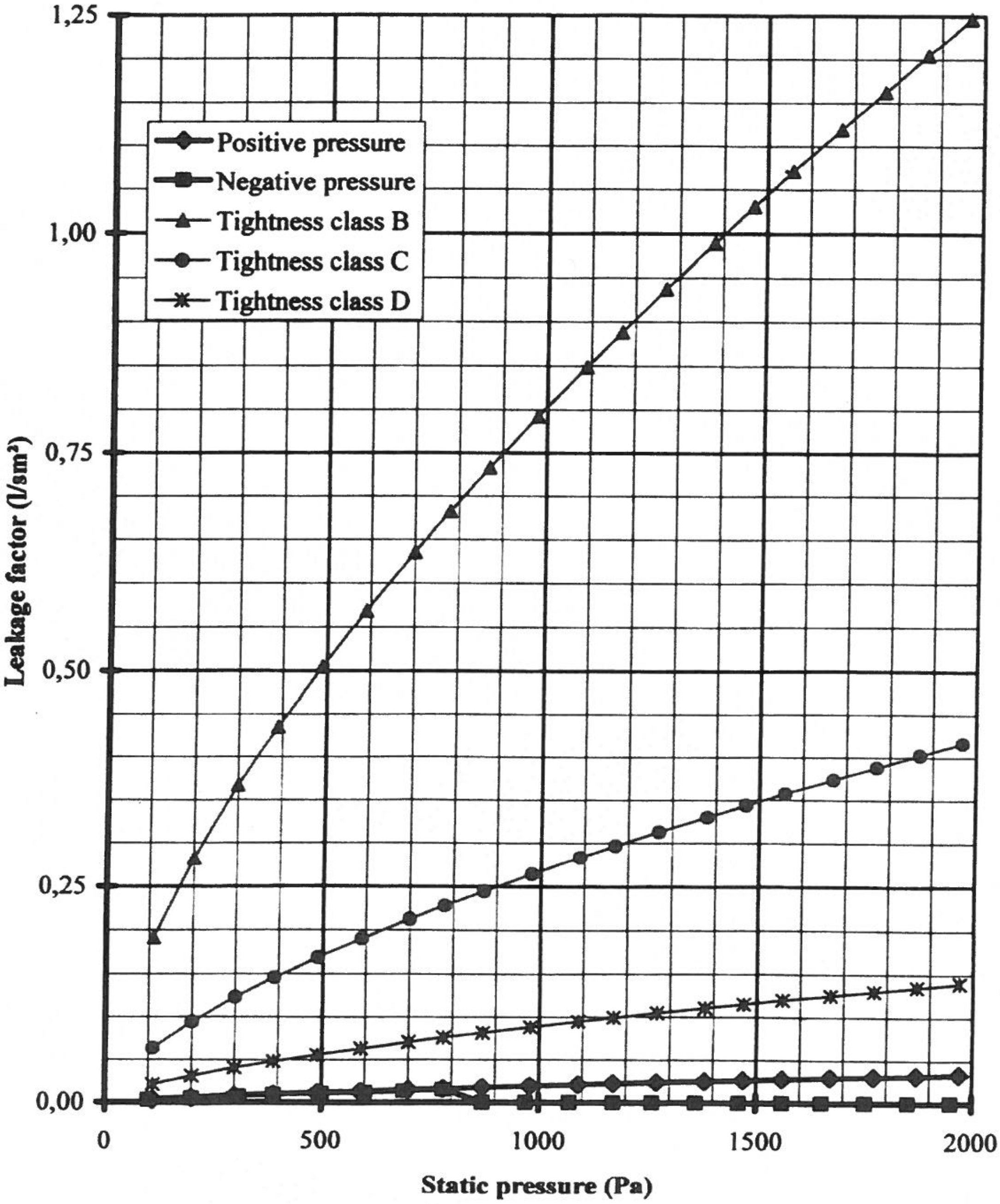
Appendix 1

Circular duct system Vento

Static possitive pressure Pa	Measured leakage factor l/sm²	Requirements according to class B, l/sm²	Requirements according to class C, l/sm²	Requirements according to class D, l/sm²
110	0,00	0,19	0,06	0,02
200	0,01	0,28	0,09	0,03
300	0,01	0,37	0,12	0,04
390	0,01	0,43	0,14	0,05
490	0,01	0,50	0,17	0,06
590	0,01	0,57	0,19	0,06
700	0,02	0,64	0,21	0,07
780	0,02	0,68	0,23	0,08
870	0,02	0,73	0,24	0,08
980	0,02	0,79	0,26	0,09
1090	0,02	0,85	0,28	0,09
1170	0,02	0,89	0,30	0,10
1270	0,02	0,94	0,31	0,10
1380	0,02	0,99	0,33	0,11
1470	0,03	1,03	0,34	0,11
1560	0,03	1,07	0,36	0,12
1670	0,03	1,12	0,37	0,12
1770	0,03	1,16	0,39	0,13
1870	0,03	1,20	0,40	0,13
1970	0,03	1,25	0,42	0,14

Static negative pressure Pa	Measured leakage factor l/sm²	Requirements according to class B, l/sm²	Requirements according to class C, l/sm²	Requirements according to class D, l/sm²
100	0,00	0,18	0,06	0,02
200	0,00	0,28	0,09	0,03
310	0,01	0,37	0,12	0,04
390	0,01	0,43	0,14	0,05
500	0,01	0,51	0,17	0,06
600	0,01	0,58	0,19	0,06
690	0,01	0,63	0,21	0,07
780	0,02	0,68	0,23	0,08
870		0,73	0,24	0,08
970		0,79	0,26	0,09
1070		0,84	0,28	0,09
1170		0,89	0,30	0,10
1260		0,93	0,31	0,10
1360		0,98	0,33	0,11
1460		1,03	0,34	0,11
1560		1,07	0,36	0,12
1650		1,11	0,37	0,12
1750		1,15	0,38	0,13
1850		1,20	0,40	0,13
1950		1,24	0,41	0,14

Appendix 2


1,25
1,00
0,75
0,50
0,25
0,00
Leakage factor (l/sm²)
0
500
1000
1500
2000
Static pressure (Pa)
Positive pressure
Negative pressure
Tightness class B
Tightness class C
Tightness class D