



Zehnder EVO 2

Sound power measurements

always the best climate

Test methods and applicable standards

Measurements of sound power were undertaken in accordance with the precision method as described in BS EN ISO 3741:2010 and BS EN 13141-7:2010.

Reverberation time measurements were undertaken for case radiated noise and extract / supply noise, including measurements of representative background noise. The data was processed to calculate casing radiated and supply/extract sound power levels in third octave bands.

In-duct sound power levels were calculated in accordance with BS EN ISO 5135:1999.



Zehnder EVO 2 is a centralised mechanical ventilation unit with high-efficiency recovery unit (recovery of heat alone in HRV units, recovery of heat and humidity in ERV units) which expels stale air while simultaneously supplying fresh air to rooms. It can be installed in homes, offices and similar locations.

EVO 2 Unit sound power measurements in accordance with BS EN ISO 3741:2010, BS EN 13141-7:2010

	Test Point	1	2	3	4	5	6	7	8	9	10
EVO 2	Ventilation (m ³ /h)	75	100	125	150			200			
	Pressure (Pa)	25	75	50		100	150	200	100	150	200

Test specimen details, octave band data (L_w oct) weighted sound power (L_{WA}), and sound pressure (SPL) at 3 m (case radiated), can be seen for the Zehnder EVO MVHR units in the tables below

Working point 1: Ventilation 75 m³/h, pressure 25 Pa

Test type	Octave band centre frequency Hz (dB)								Total L_{WA}	SPL at 3m
	63	125	250	500	1000	2000	4000	8000	dB(A)	dB(A)
Supply	65.4	53.6	47.0	44.5	40.4	26.9	16.1	7.6	46.7	N/A
Extract	55.7	48.5	42.7	34.4	29.0	13.5	2.4	6.1	38.7	N/A
Exhaust	64.0	55.6	50.3	46.1	41.8	32.3	20.9	10.6	48.5	N/A
Fresh air	57.7	48.2	42.1	36.6	23.5	13.1	2.4	6.3	38.5	N/A
Case radiated	39.8	38.5	34.9	34.8	36.6	29.5	11.6	6.9	38.9	21.4

Working point 2: Ventilation 100 m³/h, pressure 75 Pa

Test type	Octave band centre frequency Hz (dB)								Total L_{WA}	SPL at 3m
	63	125	250	500	1000	2000	4000	8000	dB(A)	dB(A)
Supply	74.7	64.1	56.6	53.7	52.3	39.5	33.8	24.6	57.2	N/A
Extract	65.9	58.2	52.8	43.0	36.5	18.4	5.2	6.1	48.1	N/A
Exhaust	74.7	67.8	59.8	54.7	52.5	43.8	36.1	27.8	58.5	N/A
Fresh air	63.1	57.3	51.3	45.1	31.3	16.0	4.3	6.2	47.2	N/A
Case radiated	50.3	50.6	43.1	42.8	45.0	37.0	26.2	16.7	47.3	29.8

Working point 3: Ventilation 125 m³/h, pressure 50 Pa

Test type	Octave band centre frequency Hz (dB)								Total L_{WA}	SPL at 3m
	63	125	250	500	1000	2000	4000	8000	dB(A)	dB(A)
Supply	70.5	62.5	58.2	55.6	53.9	40.6	35.8	26.8	57.9	N/A
Extract	64.8	57.2	53.1	44.8	38.1	21.0	7.6	6.2	48.2	N/A
Exhaust	73.3	64.4	61.0	56.5	54.2	45.8	38.4	30.7	59.3	N/A
Fresh air	62.8	57.2	52.4	46.8	34.2	18.2	6.3	6.3	48.1	N/A
Case radiated	48.6	49.2	44.3	44.3	46.8	38.8	28.4	19.7	48.9	31.4

Working point 4: Ventilation 150 m³/h, pressure 50 Pa

Test type	Octave band centre frequency Hz (dB)								Total L _{WA}	SPL at 3m
	63	125	250	500	1000	2000	4000	8000	dB(A)	dB(A)
Supply	71.6	63.9	60.4	58.6	57.4	43.8	40.2	32.2	60.8	N/A
Extract	70.0	58.9	55.4	48.3	40.4	23.5	11.9	6.6	50.8	N/A
Exhaust	74.1	66.1	63.4	59.9	57.2	49.5	42.7	35.9	62.1	N/A
Fresh air	65.5	58.5	54.0	49.6	37.6	21.4	10.1	6.9	50.1	N/A
Case radiated	48.8	50.0	46.7	47.0	49.5	41.9	32.3	24.6	51.6	34.1

Working point 5: Ventilation 150 m³/h, pressure 100 Pa

Test type	Octave band centre frequency Hz (dB)								Total L _{WA}	SPL at 3m
	63	125	250	500	1000	2000	4000	8000	dB(A)	dB(A)
Supply	75.0	68.3	63.8	60.9	59.3	47.3	43.9	36.8	63.4	N/A
Extract	71.5	63.2	58.3	50.1	42.4	24.9	13.5	6.7	53.7	N/A
Exhaust	78.0	70.2	66.3	61.9	59.7	52.2	45.9	39.9	64.9	N/A
Fresh air	67.1	62.2	57.7	51.7	37.9	22.5	11.3	6.9	53.0	N/A
Case radiated	52.4	54.2	49.8	49.8	51.3	44.8	35.3	28.2	53.9	36.4

Working point 6: Ventilation 150 m³/h, pressure 150 Pa

Test type	Octave band centre frequency Hz (dB)								Total L _{WA}	SPL at 3m
	63	125	250	500	1000	2000	4000	8000	dB(A)	dB(A)
Supply	76.6	69.7	65.5	62.0	60.1	49.2	45.8	39.2	64.6	N/A
Extract	72.9	66.6	61.0	51.7	43.8	26.1	15.1	6.8	56.1	N/A
Exhaust	81.4	74.8	69.5	64.2	61.4	54.8	48.7	43.1	67.4	N/A
Fresh air	68.0	64.3	60.7	53.4	39.4	24.1	13.0	7.0	55.3	N/A
Case radiated	55.0	59.4	52.7	51.1	52.5	47.7	37.5	31.0	55.7	38.2

Working point 7: Ventilation 150 m³/h, pressure 200 Pa

Test type	Octave band centre frequency Hz (dB)								Total L _{WA}	SPL at 3m
	63	125	250	500	1000	2000	4000	8000	dB(A)	dB(A)
Supply	79.7	73.3	67.8	63.8	61.6	52.2	48.5	42.7	66.8	N/A
Extract	73.8	68.6	64.0	54.1	45.3	28.3	16.8	7.0	58.5	N/A
Exhaust	82.8	77.5	71.4	65.6	62.3	57.3	50.4	45.1	69.1	N/A
Fresh air	68.6	66.9	62.2	54.4	40.2	25.3	14.0	7.2	57.0	N/A
Case radiated	56.1	60.5	54.1	52.6	53.8	49.3	39.6	33.4	57.2	39.7

Working point 8: Ventilation 200 m³/h, pressure 100 Pa

Test type	Octave band centre frequency Hz (dB)								Total L _{WA}	SPL at 3m
	63	125	250	500	1000	2000	4000	8000	dB(A)	dB(A)
Supply	75.7	68.3	67.0	65.4	62.8	52.6	49.4	44.2	67.0	N/A
Extract	72.5	64.5	60.9	54.4	45.3	30.0	20.3	10.6	56.2	N/A
Exhaust	80.5	72.6	69.7	67.1	63.4	57.9	51.7	47.0	68.9	N/A
Fresh air	69.8	63.2	60.1	55.9	42.5	28.7	18.1	11.2	55.9	N/A
Case radiated	53.9	55.8	52.3	53.4	54.6	50.6	40.4	34.8	57.8	40.3

Working point 9: Ventilation 200 m³/h, pressure 150 Pa

Test type	Octave band centre frequency Hz (dB)								Total L _{WA}	SPL at 3m
	63	125	250	500	1000	2000	4000	8000	dB(A)	dB(A)
Supply	77.4	70.6	68.6	66.2	63.5	54.5	50.6	45.9	68.1	N/A
Extract	74.6	67.2	63.1	55.9	46.3	30.9	21.0	10.5	58.3	N/A
Exhaust	82.4	74.4	71.1	67.9	64.3	59.6	53.2	48.7	70.1	N/A
Fresh air	69.9	64.7	61.9	56.7	42.9	29.2	18.5	11.3	57.1	N/A
Case radiated	56.6	59.2	54.8	55.1	55.7	52.1	42.2	36.9	59.2	41.7

Working point 10: Ventilation 200 m³/h, pressure 200 Pa

Test type	Octave band centre frequency Hz (dB)								Total L _{WA}	SPL at 3m
	63	125	250	500	1000	2000	4000	8000	dB(A)	dB(A)
Supply	79.2	72.4	70.4	67.3	64.2	55.9	52.0	47.5	69.2	N/A
Extract	75.0	70.5	65.4	56.9	46.8	31.7	21.7	10.6	60.6	N/A
Exhaust	84.4	76.7	72.5	69.0	64.9	60.7	54.4	49.9	71.3	N/A
Fresh air	71.1	66.7	64.3	58.2	44.0	30.1	19.2	11.5	59.0	N/A
Case radiated	57.2	61.9	56.5	56.2	56.3	53.4	43.6	38.5	60.3	42.8