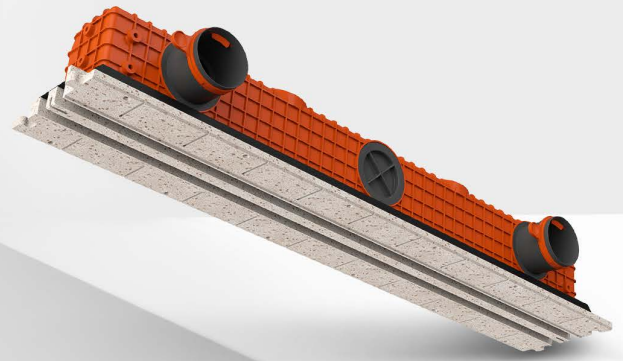


LINEO PRO PUZZLE 90

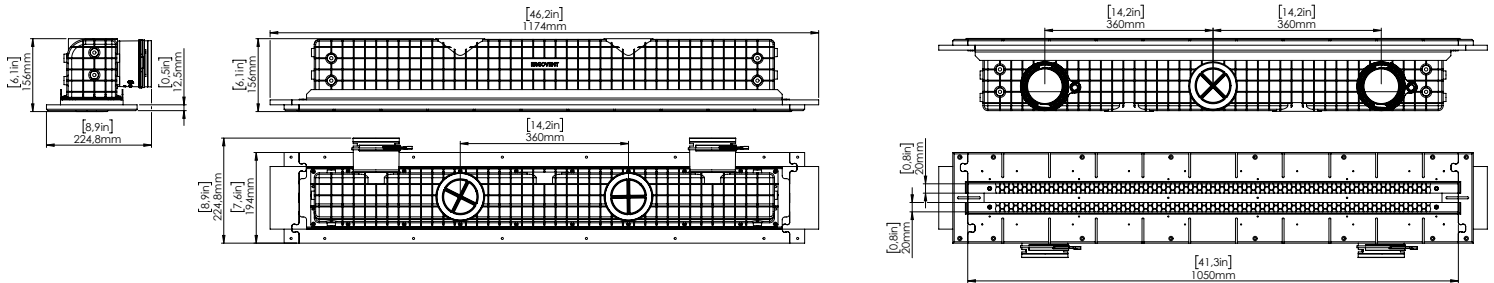
Hidden linear ventilation
diffuser



90 mm connections / 2 slots × 1050 mm × 20 mm / with damper

ERGOVENT LINEO PRO PUZZLE two-slots is an innovative linear ventilation diffuser designed for seamless integration into plasterboard ceilings and walls. This model is attached directly to the gypsum profiles. Its minimalistic two-slots design remains visible after installation, adding a stylish detail to modern interiors.

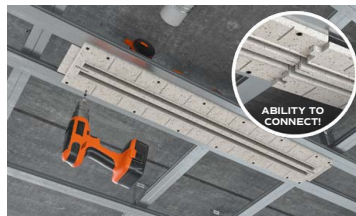
- **Ergonomic air regulation** through built-in balancing valve
- **Multi-metre ventilation systems** can easily be assembled by using the puzzle lock



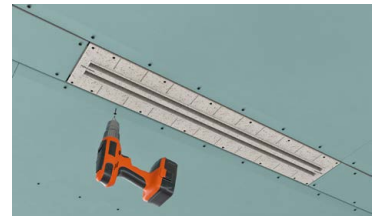
Installation width between profiles:
135 mm / ≈ 5.31"



Minimum installation height:
160 mm / ≈ 6.30"

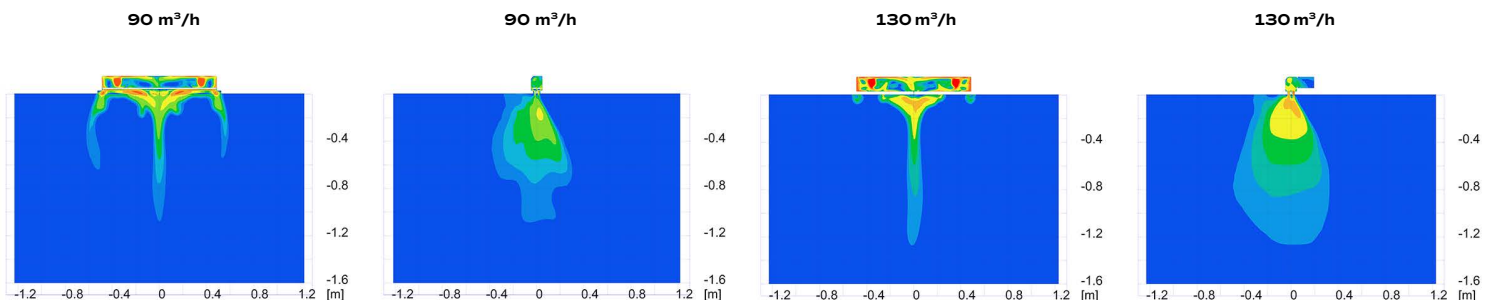


Patented technical solution: the PUZZLE
LOCK system allows diffusers to be connected.



Important: During installation, all fixing
screws must be fully tightened.

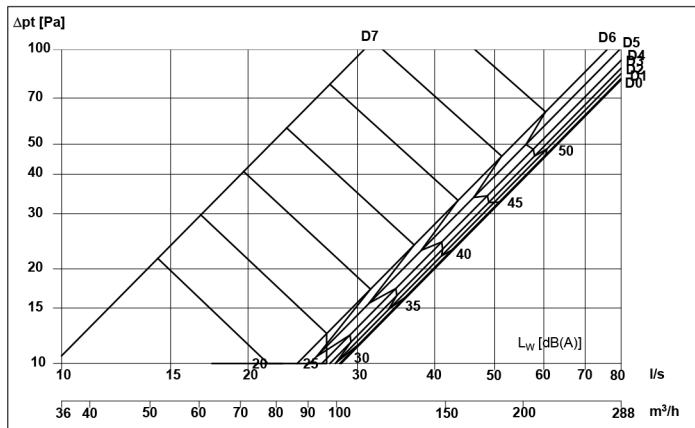
THROW DISTANCE



FLOW NOISE (in accordance with ISO 3741) and PRESSURE DROP test report

SUPPLY

Diagram for pressure and flow noise:



$$L_{Woct} [dB] = L_{WA} + K_{oct}$$

q [l/s]	Δp _t [Pa]	L _{WA} [dBA]		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
-	-	33	K _{oct}	-6	-1	3	1	-11	-20	-21	-23

Octave correction factors to the diagram are calculated at the listed value of either q, Δp_t or L_{WA}/L_{DA}

Calculation of pressure and sound effect according to flow:

Sound effect: $L_{W(oct \text{ or } A)} = k \cdot \log(q) + L_0$

L_W - sound effect [dB]

q - flow [l/s]

k - factor, sound effect [-]

K_{factor} - factor, balancing [l/(s·√Pa)]

Total pressuredrop: $\Delta p_t = c_{pt} \cdot q^2$

L₀ - addend, sound effect [-]

p_i - pressuredifference, balancing [Pa]

Δp_t - total pressuredrop [Pa]

Balancing: $q = K_{factor} \cdot \sqrt{p_i}$

c_{pt} - factor, total pressuredrop [Pa·s²/l²]

	Total p c _{ptot}	Balancing K-factor		L _{WA}	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
D0	0.0125	Not measured	k Lo	60.7 -58.6	36.8 -24.7	43.4 -33.1	47.9 -34.7	65.6 -65.7	78.2 -98.4	95.9 -134.9	38.5 -46.4	38.8 -45.6
D1	0.0126	Not measured	k Lo	66.1 -67.7	46.6 -42.1	58.8 -57.9	50.4 -38.6	73.1 -78.5	86.8 -112.6	96.7 -136.0	37.3 -44.4	38.1 -44.6
D2	0.0131	Not measured	k Lo	58.8 -54.9	21.5 0.0	34.9 -17.4	54.5 -44.5	58.1 -53.0	76.9 -95.3	90.2 -125.0	51.4 -67.3	52.3 -68.5
D3	0.0136	Not measured	k Lo	67.4 -68.9	48.9 -44.3	43.5 -32.6	54.4 -44.8	70.9 -73.6	80.0 -100.3	98.9 -138.9	42.4 -52.1	42.7 -52.2
D4	0.0145	Not measured	k Lo	67.6 -69.1	35.5 -23.5	48.0 -40.1	49.7 -36.8	73.3 -77.3	87.1 -111.9	104.3 -147.4	46.3 -58.3	47.2 -59.7
D5	0.0158	Not measured	k Lo	59.2 -53.6	28.3 -10.9	41.6 -29.1	46.0 -30.0	61.1 -55.1	83.1 -103.8	92.7 -127.5	46.2 -57.9	46.6 -58.4
D6	0.0174	Not measured	k Lo	70.8 -76.1	30.6 -14.3	46.7 -37.4	55.8 -48.7	72.2 -78.1	82.7 -103.8	101.5 -141.2	80.0 -112.2	81.7 -119.2
D7	0.1057	Not measured	k Lo	72.1 -63.3	55.9 -44.9	43.3 -28.2	42.1 -21.0	52.6 -37.4	74.0 -72.6	87.3 -92.4	104.5 -120.9	105.8 -130.9

AIRFLOW BALANCING

The diffuser is equipped with an airflow balancing damper. The **aerodynamic damper** is located inside the diffuser and is conveniently adjustable from the outside.

Setting the damper position with the gauge*:

- ✓ Insert the gauge through the diffuser grille until it contacts the balancing damper.
- ✓ Take the reading relative to the ceiling line.
- ✓ Damper positions are indicated on the gauge.



* The damper-position gauge is supplied with the diffuser.

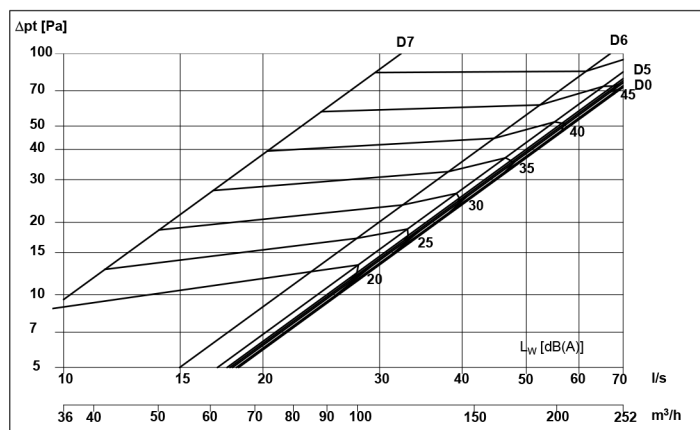
D0 – damper fully open.
D7 – damper fully closed.



FLOW NOISE (in accordance with ISO 3741) and PRESSURE DROP test report

EXTRACT

Diagram for pressure and flow noise:



$$L_{Woct} [dB] = L_{WA} + K_{oct}$$

q [l/s]	Δp _t [Pa]	L _{WA} [dBA]		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
-	-	33	K _{oct}	1	3	5	-1	-12	-19	-22	-25

Octave correction factors to the diagram are calculated at the listed value of either q, Δp_t or L_{WA}/L_{DA}

Calculation of pressure and sound effect according to flow:

Sound effect: $L_{W(oct \text{ or } A)} = k \cdot \log(q) + L_0$

L_W - sound effect [dB]

q - flow [l/s]

k - factor, sound effect [-]

K_{factor} - factor, balancing [l/(s·√Pa)]

Total pressuredrop: $\Delta p_t = c_{pt} \cdot q^2$

L₀ - addend, sound effect [-]

p_t - pressuredifference, balancing [Pa]

Δp_t - total pressuredrop [Pa]

Balancing: $q = K_{factor} \cdot \sqrt{p_i}$

c_{pt} - factor, total pressuredrop [Pa·s²/l²]

	Total p c _{ptot}	Balancing K-factor		L _{WA}	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
D0	0.0148	Not measured	k Lo	65.3 -74.6	53.4 -51.0	49.4 -42.8	68.2 -75.0	61.2 -68.3	79.0 -109.5	90.5 -133.8	74.2 -110.2	74.6 -112.2
D1	0.0150	Not measured	k Lo	58.8 -63.1	64.8 -72.9	63.1 -65.9	53.5 -49.0	56.3 -59.9	76.5 -105.1	93.4 -138.6	82.1 -124.2	83.0 -126.9
D2	0.0154	Not measured	k Lo	69.0 -81.0	59.4 -63.0	61.8 -64.0	77.3 -90.5	57.8 -62.6	78.6 -109.1	88.7 -130.6	76.8 -115.2	77.4 -118.6
D3	0.0157	Not measured	k Lo	61.9 -68.7	58.9 -62.3	42.2 -30.6	58.1 -57.0	61.7 -69.6	76.8 -106.5	87.5 -128.8	83.3 -125.8	84.1 -132.8
D4	0.0160	Not measured	k Lo	64.5 -73.1	43.8 -36.0	56.2 -54.7	64.3 -67.4	63.7 -72.9	71.6 -97.5	88.4 -130.4	79.7 -119.4	79.9 -125.3
D5	0.0171	Not measured	k Lo	67.6 -77.6	75.6 -92.0	70.9 -80.2	61.3 -61.7	68.6 -80.3	77.6 -107.1	93.1 -138.0	96.2 -148.3	96.8 -155.2
D6	0.0223	Not measured	k Lo	72.2 -79.2	42.7 -32.7	63.9 -66.7	58.6 -52.3	80.4 -92.6	92.7 -124.0	103.6 -150.1	59.0 -81.7	60.8 -82.0
D7	0.0957	Not measured	k Lo	61.2 -40.0	58.4 -42.7	65.0 -46.6	52.2 -24.8	57.1 -35.4	67.5 -55.2	101.0 -105.4	76.1 -81.6	76.8 -84.9

AIRFLOW BALANCING

The diffuser is equipped with an airflow balancing damper. The **aerodynamic damper** is located inside the diffuser and is conveniently adjustable from the outside.

Setting the damper position with the gauge*:

- ✓ Insert the gauge through the diffuser grille until it contacts the balancing damper.
- ✓ Take the reading relative to the ceiling line.
- ✓ Damper positions are indicated on the gauge.



* The damper-position gauge is supplied with the diffuser.

D0 – damper fully open.
D7 – damper fully closed.

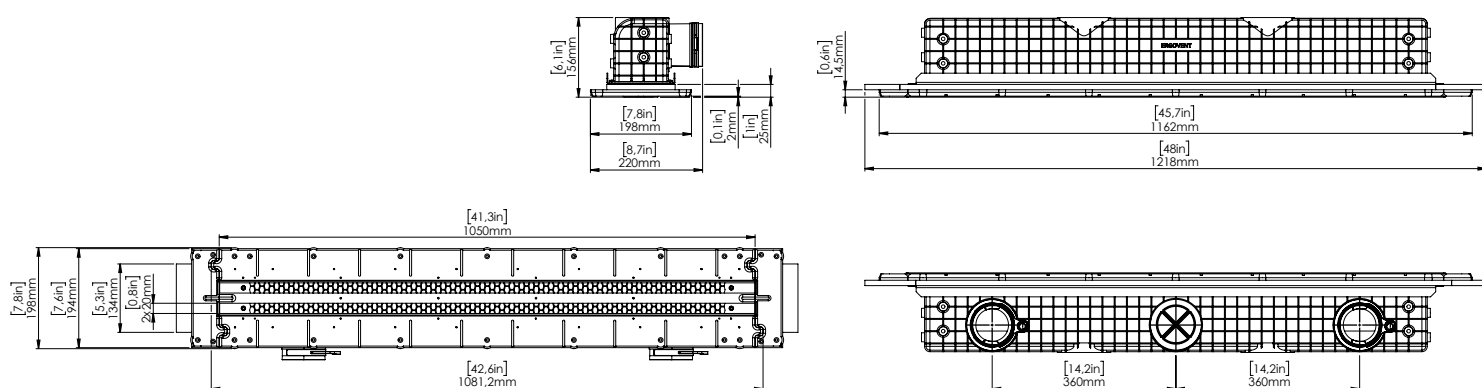


Hidden linear ventilation diffuser

75 mm connections / 2 slots × 1050 mm × 20 mm / with damper

ERGOVENT LINEO PRO PUZZLE two-slots is an innovative linear ventilation diffuser designed for seamless integration into plasterboard ceilings and walls. This model is attached directly to the gypsum profiles. Its minimalistic two-slots design remains visible after installation, adding a stylish detail to modern interiors.

- **Ergonomic air regulation** through built-in balancing valve
- **Multi-metre ventilation systems** can easily be assembled by using the puzzle lock



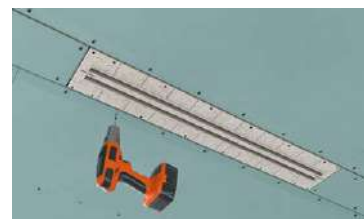
Installation width between profiles:
135 mm / $\approx 5.31"$



Minimum installation height:
160 mm / ≈ 6.30"

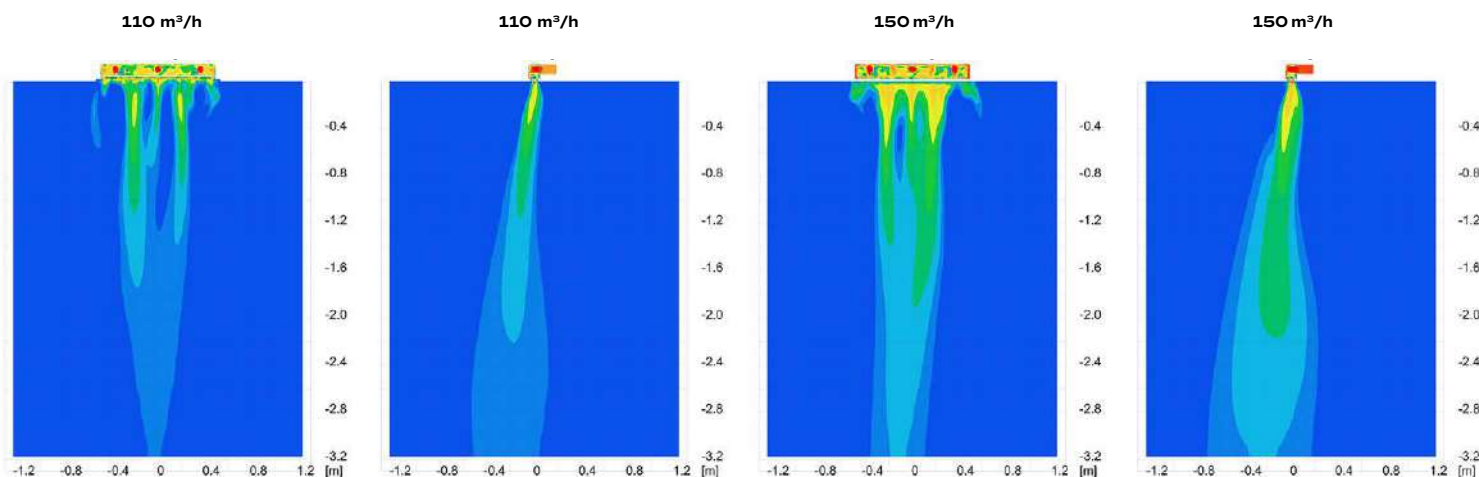


Patented technical solution: the PUZZLE LOCK system allows diffusers to be connected.



Important: During installation, all fixing screws must be fully tightened.

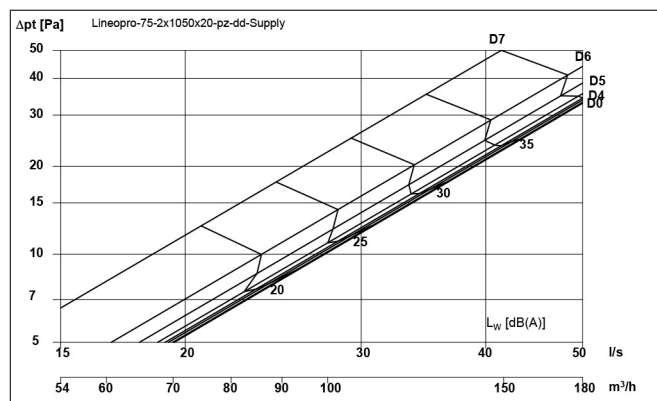
Velocity scale bar for Figure 10. The bar is divided into 10 segments of equal width, each representing 0.6 m/s. The segments are color-coded: blue (0.15-0.21), light blue (0.21-0.30), cyan (0.30-0.43), green (0.43-0.61), light green (0.61-0.87), yellow (0.87-1.23), orange (1.23-2.48), red-orange (2.48-3.52), and red (3.52-5.0).



FLOW NOISE (in accordance with ISO 3741) and PRESSURE DROP test report

SUPPLY

Diagram for pressure and flow noise:



$$L_{Woct} [dB] = L_{WA} + K_{oct}$$

q [l/s]	Dp [Pa]	L _{WA} [dBA]		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
-	-	33	K _{oct}	-3	-2	4	0	-10	-19	-23	-27

Octave correction factors to the diagram are calculated at the listed value of either q, Δp_t or L_{WA}/L_{DA}

Calculation of pressure and sound effect according to flow:

Sound effect: $L_{W(oct \text{ or } A)} = k \cdot \log(q) + L_0$

L_W - sound effect [dB]

q - flow [l/s]

k - factor, sound effect [-]

K_{factor} - factor, balancing [l/(s·√Pa)]

Total pressuredrop: $\Delta p_t = c_{pt} \cdot q^2$

L₀ - addend, sound effect [-]

p_i - pressuredifference, balancing [Pa]

Δp_t - total pressuredrop [Pa]

Balancing: $q = K_{factor} \cdot \sqrt{p_i}$

c_{pt} - factor, total pressuredrop [Pa·s²/l²]

	Total p c _{ptot}	Balancing K-factor		L _{WA}	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
D0	0.0132	Not measured	k Lo	60.1 -62.9	51.1 -50.9	77.7 -93.2	38.2 -22.8	65.1 -71.1	65.7 -81.3	91.6 -131.8	76.0 -111.2	76.9 -116.0
D1	0.0133	Not measured	k Lo	67.3 -75.1	62.8 -67.0	90.8 -114.1	58.7 -57.1	65.5 -71.9	79.8 -105.0	98.7 -143.6	90.4 -135.1	91.1 -141.4
D2	0.0135	Not measured	k Lo	61.2 -64.6	44.1 -43.0	91.4 -116.0	46.9 -37.4	60.7 -63.4	69.1 -87.0	97.7 -142.2	86.0 -127.8	86.8 -133.6
D3	0.0137	Not measured	k Lo	61.1 -63.9	43.9 -37.8	88.9 -110.5	49.4 -41.0	59.7 -61.0	67.6 -83.9	92.7 -133.1	80.1 -117.3	81.2 -123.8
D4	0.0142	Not measured	k Lo	59.7 -61.2	55.9 -54.5	91.3 -114.0	46.5 -35.4	60.7 -62.7	69.2 -86.8	91.0 -130.3	78.5 -114.5	79.0 -119.5
D5	0.0154	Not measured	k Lo	65.8 -70.3	74.9 -88.9	74.2 -83.9	69.7 -74.2	57.9 -56.4	79.6 -103.0	90.9 -128.5	80.2 -116.0	80.9 -121.9
D6	0.0176	Not measured	k Lo	65.2 -69.8	80.1 -98.8	70.8 -78.8	50.7 -42.3	64.6 -68.8	80.7 -104.2	99.0 -141.0	76.7 -108.9	77.3 -113.6
D7	0.0291	Not measured	k Lo	66.5 -67.6	48.3 -43.2	60.8 -61.0	54.9 -45.9	67.6 -69.5	83.5 -102.6	108.1 -146.3	85.3 -115.4	86.3 -121.5

AIRFLOW BALANCING

The diffuser is equipped with an airflow balancing damper. The **aerodynamic damper** is located inside the diffuser and is conveniently adjustable from the outside.

Setting the damper position with the gauge*:

- ✓ Insert the gauge through the diffuser grille until it contacts the balancing damper.
- ✓ Take the reading relative to the ceiling line.
- ✓ Damper positions are indicated on the gauge.



* The damper-position gauge is supplied with the diffuser.

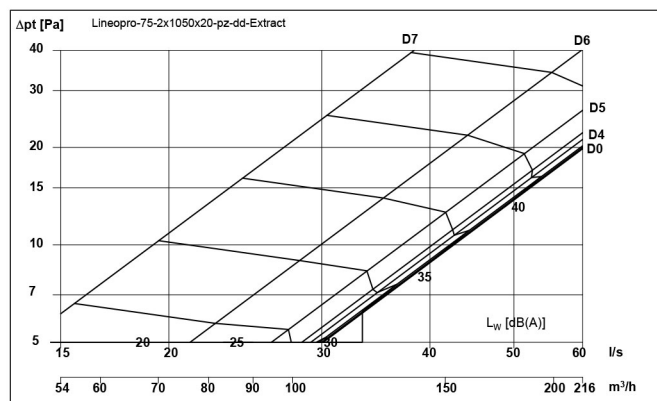
D0 – damper fully open.
D7 – damper fully closed.



FLOW NOISE (in accordance with ISO 3741) and PRESSURE DROP test report

EXTRACT

Diagram for pressure and flow noise:



$$L_{Woct} [dB] = L_{WA} + K_{oct}$$

q [l/s]	Δp _t [Pa]	L _{WA} [dBA]		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
-	-	33	K _{oct}	-9	-3	3	0	-6	-22	-30	-37

Octave correction factors to the diagram are calculated at the listed value of either q, Δp_t or L_{WA}/L_{BA}

Calculation of pressure and sound effect according to flow:

Sound effect: $L_{W(Oct \text{ or } A)} = k \cdot \log(q) + L_0$

L_W - sound effect [dB]

q - flow [l/s]

Total pressuredrop: $\Delta p_t = c_{pt} \cdot q^2$

k - factor, sound effect [-]

K_{factor} - factor, balancing [l/(s·√Pa)]

L₀ - addend, sound effect [-]

p_i - pressuredifference, balancing [Pa]

Δp_t - total pressuredrop [Pa]

Balancing: $q = K_{factor} \cdot \sqrt{p_i}$

c_{pt} - factor, total pressuredrop [Pa·s²/l²]

	Total p c _{ptot}	Balancing K-factor		L _{WA}	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
D0	0.0055	Not measured	k	46.2	46.8	45.9	32.8	41.5	50.1	81.2	88.8	89.4
			L ₀	-38.0	-45.0	-44.1	-15.4	-29.2	-50.2	-114.6	-136.9	-146.7
D1	0.0056	Not measured	k	53.5	48.9	41.8	35.6	55.6	51.0	80.9	88.1	88.7
			L ₀	-51.5	-54.5	-38.4	-19.6	-55.6	-52.1	-113.9	-135.1	-145.1
D2	0.0056	Not measured	k	60.2	63.1	44.6	47.2	66.2	44.5	95.4	94.7	95.2
			L ₀	-64.1	-77.5	-42.4	-41.1	-75.2	-40.5	-140.9	-148.1	-157.2
D3	0.0059	Not measured	k	56.1	42.3	32.9	38.7	56.2	55.7	96.8	94.2	94.6
			L ₀	-56.5	-43.4	-21.5	-25.4	-56.5	-61.0	-142.6	-146.4	-153.8
D4	0.0062	Not measured	k	54.3	61.2	32.9	43.4	50.9	53.7	88.9	88.9	89.2
			L ₀	-53.4	-74.8	-21.9	-34.0	-47.4	-57.3	-128.6	-137.4	-143.7
D5	0.0073	Not measured	k	55.1	42.4	38.1	40.7	54.6	53.1	96.8	90.0	90.6
			L ₀	-54.3	-37.4	-28.7	-28.1	-53.3	-56.1	-142.4	-139.0	-144.7
D6	0.0112	Not measured	k	51.6	40.5	30.4	32.9	54.2	64.7	92.9	83.1	84.2
			L ₀	-44.9	-37.6	-13.4	-10.0	-48.9	-75.4	-133.4	-124.6	-131.1
D7	0.0272	Not measured	k	51.5	54.2	41.8	40.1	48.8	67.8	92.5	85.4	86.0
			L ₀	-36.4	-51.2	-22.6	-15.3	-32.5	-69.4	-114.5	-112.2	-119.0

AIRFLOW BALANCING

The diffuser is equipped with an airflow balancing damper. The **aerodynamic damper** is located inside the diffuser and is conveniently adjustable from the outside.

Setting the damper position with the gauge*:

- ✓ Insert the gauge through the diffuser grille until it contacts the balancing damper.
- ✓ Take the reading relative to the ceiling line.
- ✓ Damper positions are indicated on the gauge.



* The damper-position gauge is supplied with the diffuser.

D0 – damper fully open.
D7 – damper fully closed.

