

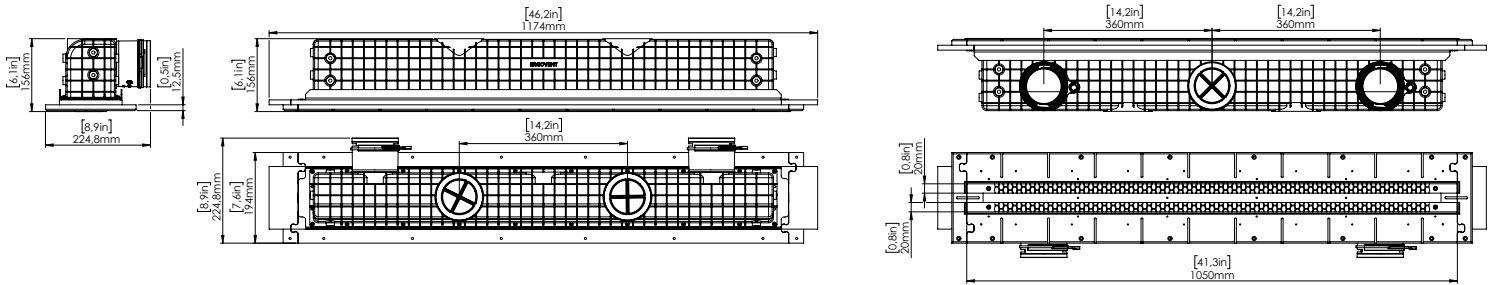
LINEO PRO PUZZLE 90

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"

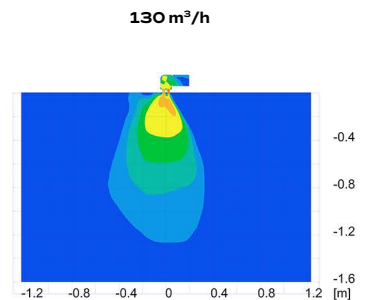
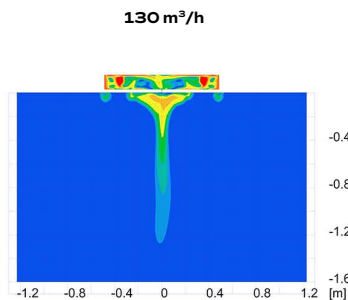
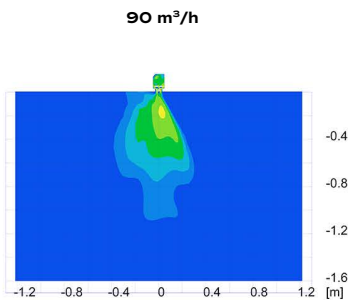
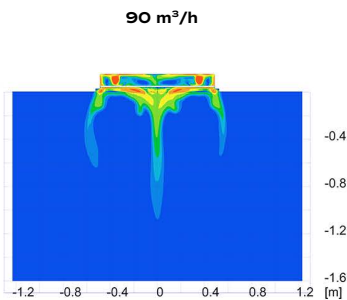


Patented technical solution: the PUZZLE LOCK system allows diffusers to be connected.



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

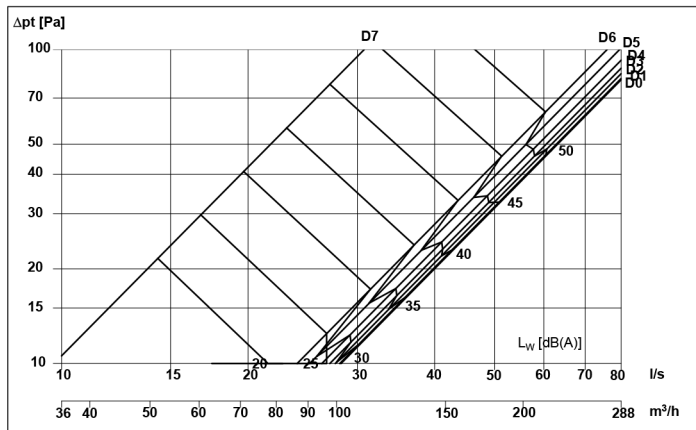
THROW DISTANCE



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

SUPPLY

Diagram for pressure and flow noise:



$$L_{W_{Oct}} [dB] = L_{WA} + K_{Oct}$$

q [l/s]	D _{pt} [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: $L_{W(Oct\ or\ A)} = k \cdot \log(q) + L_0$

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]

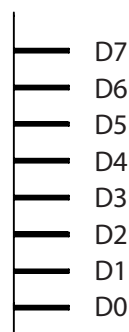
	Total p C _{plot}	Balancing K-factor		L _{WA}	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
D0	0.0125	Not measured	k	60.7	36.8	43.4	47.9	65.6	78.2	95.9	38.5	38.8
			Lo	-58.6	-24.7	-33.1	-34.7	-65.7	-98.4	-134.9	-46.4	-45.6
D1	0.0126	Not measured	k	66.1	46.6	58.8	50.4	73.1	86.8	96.7	37.3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



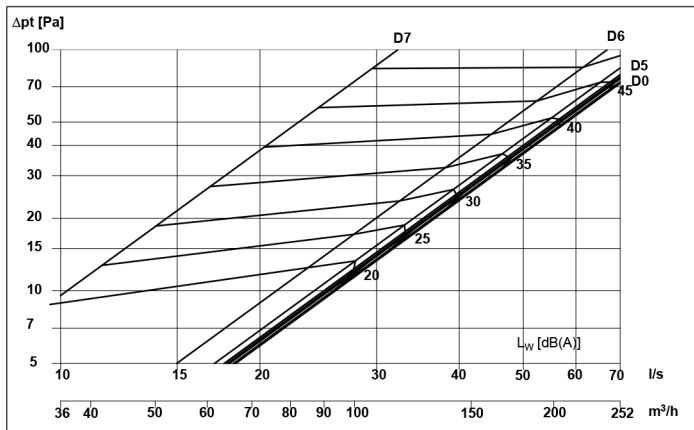
* The damper-position gauge is supplied with the diffuser.

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:



$$L_{W_{Oct}} [dB] = L_{WA} + K_{Oct}$$

q [l/s]	Δpt [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, Δpt or L_{WA}/L_{PA}

Calculation of pressure and sound effect according to flow:

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

L_W - sound effect [dB]

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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

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