ERGOVENT

reddot winner 2023

RONDO 160

Hidden ventilation diffusers for ceilings and walls

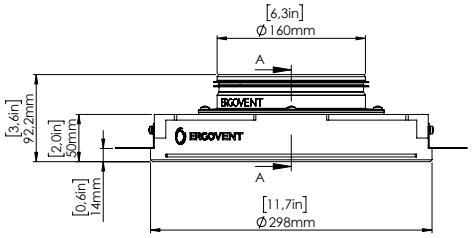


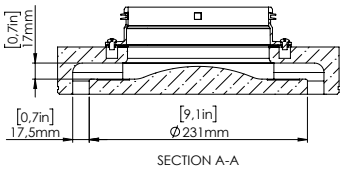


Aerodynamic convex cap shape to reduce air vortices.

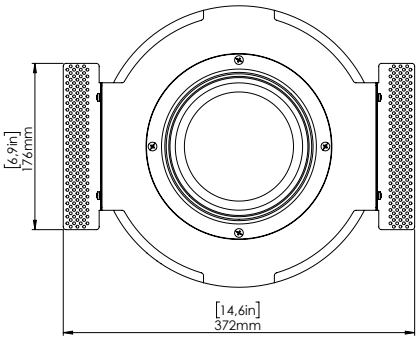
160 mm connection / with damper

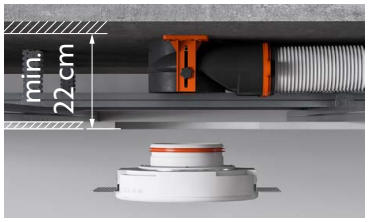
- Can be painted with the same paint as walls / ceilings.
- Dirt rings do not form around the diffusers.
- Easy, fast, simple installation.
- Suitable for single layer, double layer or custom thickness of plasterboard.
- Universal - A/C, ventilation, recuperation. suitable for both supply & exhaust.
- Safely packed (never gets damaged during transportation).





SECTION A-A





Minimum installation height: 220 mm ≈ 8,66"



We recommend reinforcing the entire diffuser area with thin fiberglass mesh



Quick and easy installation

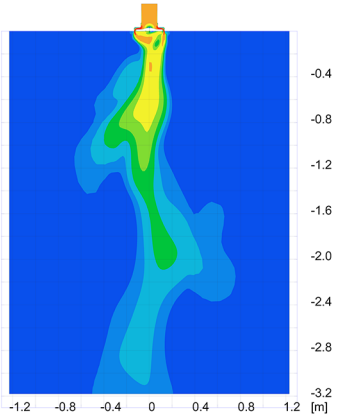


Airflow damper is included

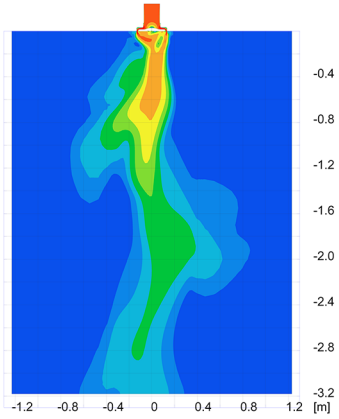
THROW DISTANCE



65 m³/h



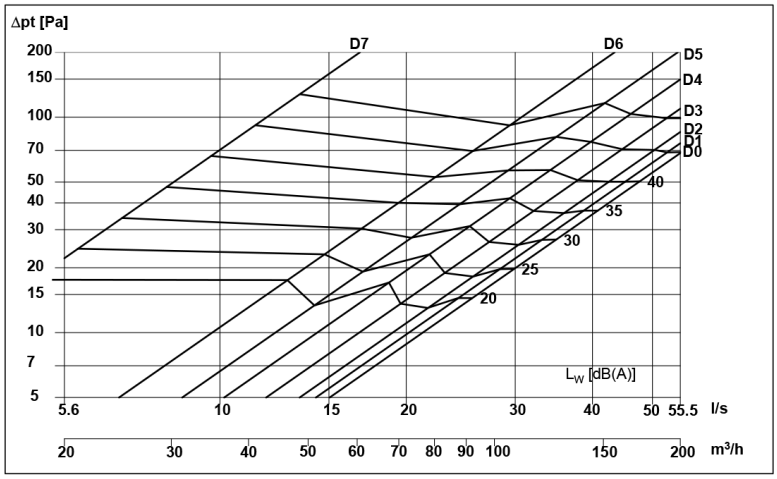
90 m³/h



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_t [Pa]	L_{WA} [dBA]			63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
-	-	33		K_{oct}	-3	3	1	-2	-5	-9	-19	-24

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

Calculation of pressure and sound effect according to flow:

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

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

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

L_W - sound effect [dB]
k - factor, sound effect [-]
L_0 - addend, sound effect [-]
Δp_t - total pressuredrop [Pa]
c_{pt} - factor, total pressuredrop [Pa·s²/l²]

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

	Total p c_{ptot}	Balancing K-factor		LwA	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
D0	0.0221	Not measured	**k**	73.9	40.4	38.5	75.1	70.8	81.7	89.0	77.8	78.9
			Lo	-84.1	-31.5	-21.5	-81.7	-81.4	-105.3	-119.0	-110.0	-114.3
D1	0.0245	Not measured	**k**	73.8	37.1	41.3	71.1	69.3	77.1	91.2	90.5	90.5
			Lo	-82.2	-26.9	-27.4	-74.8	-76.6	-94.2	-120.9	-130.0	-132.6
D2	0.0277	Not measured	**k**	68.1	47.9	38.5	61.8	67.0	72.6	83.0	82.6	83.4
			Lo	-71.0	-42.3	-21.7	-58.0	-70.9	-84.5	-105.0	-113.6	-117.9
D3	0.0355	Not measured	**k**	69.7	38.3	53.4	56.3	66.7	75.7	85.9	81.2	82.3
			Lo	-70.0	-23.4	-44.1	-48.1	-67.2	-84.8	-104.5	-106.9	-111.5
D4	0.0485	Not measured	**k**	76.7	61.9	43.3	59.3	76.8	80.8	87.8	84.1	84.5
			Lo	-77.7	-65.8	-26.5	-50.6	-79.6	-88.9	-103.5	-106.8	-112.1
D5	0.0662	Not measured	**k**	63.9	39.0	36.9	55.3	61.7	62.2	73.6	83.3	84.6
			Lo	-53.6	-24.1	-15.9	-42.6	-53.4	-55.8	-75.0	-97.9	-105.8
D6	0.1061	Not measured	**k**	83.5	55.0	45.4	89.0	63.8	60.9	101.8	98.4	99.3
			Lo	-72.6	-43.2	-21.9	-82.2	-50.7	-47.6	-102.3	-109.3	-118.5
D7	0.7050	Not measured	**k**	69.7	51.2	46.4	58.2	69.6	61.5	76.1	91.9	91.9
			Lo	-28.6	-15.6	-10.0	-20.3	-33.0	-25.0	-41.0	-64.9	-74.6

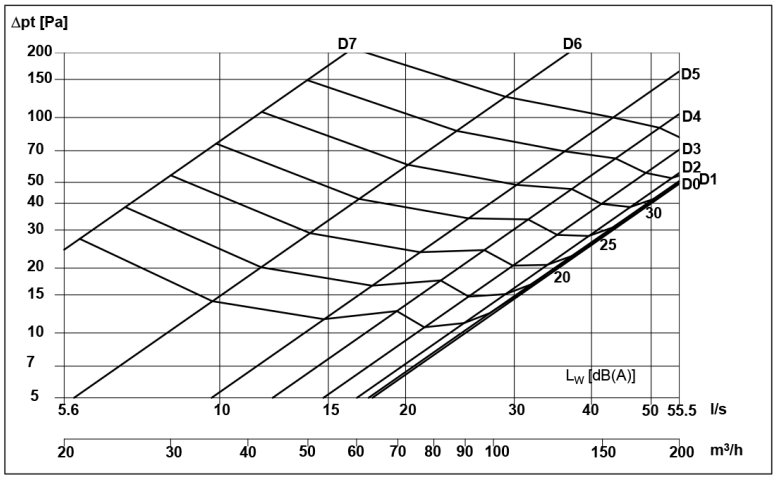


no damper | 1 segment | 2 segments | 3 segments | 4 segments / full open | 4 segments / 75% open | 4 segments / 50% open | 4 segments / 25% open

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]	Dp_t [Pa]	L_{WA} [dBA]			63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
-	-	33		K_{oct}	-2	-1	0	-3	-4	-8	-17	-22

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

Calculation of pressure and sound effect according to flow:

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

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

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

L_W - sound effect [dB]
k - factor, sound effect [-]
L_0 - addend, sound effect [-]
Δp_t - total pressuredrop [Pa]
c_{pt} - factor, total pressuredrop [Pa·s²/l²]
q - flow [l/s]
K_{factor} - factor, balancing [l/(s·√Pa)]
p_i - pressuredifference, balancing [Pa]

	Total p c_{ptot}	Balancing K-factor		LwA	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
D0	0.0160	Not measured	**k**	67.6	38.9	41.0	72.9	56.7	71.9	79.5	74.3	74.8
			Lo	-83.4	-31.8	-36.8	-88.9	-65.8	-99.2	-114.9	-111.8	-115.2
D1	0.0165	Not measured	**k**	75.3	36.7	45.3	72.4	66.8	74.7	82.7	90.0	90.7
			Lo	-88.2	-24.3	-40.3	-83.5	-79.5	-91.3	-107.5	-128.2	-135.9
D2	0.0180	Not measured	**k**	74.3	42.8	43.2	70.0	68.4	74.0	81.9	83.5	84.0
			Lo	-83.8	-36.8	-34.8	-76.3	-77.3	-87.9	-103.4	-115.4	-122.1
D3	0.0230	Not measured	**k**	69.8	46.9	59.5	48.3	75.7	70.9	76.0	77.6	78.2
			Lo	-72.9	-43.5	-59.6	-38.8	-85.6	-79.1	-90.3	-102.3	-108.2
D4	0.0337	Not measured	**k**	70.5	61.0	55.2	39.7	62.0	72.5	76.0	98.6	98.8
			Lo	-70.8	-60.7	-51.2	-25.1	-61.7	-77.7	-86.1	-130.1	-136.6
D5	0.0532	Not measured	**k**	64.1	53.1	48.6	43.4	63.9	61.5	77.4	74.3	75.0
			Lo	-54.9	-46.0	-33.5	-27.0	-57.8	-54.9	-82.2	-86.2	-91.8
D6	0.1479	Not measured	**k**	63.2	37.9	72.6	39.7	54.6	58.3	74.7	85.7	86.0
			Lo	-42.4	-15.6	-57.1	-16.5	-36.6	-39.6	-63.9	-86.2	-94.0
D7	0.7758	Not measured	**k**	67.9	42.0	46.7	53.5	68.5	66.2	73.3	81.1	82.2
			Lo	-32.5	-9.5	-16.2	-20.6	-37.2	-34.3	-45.4	-61.6	-68.1



no damper | 1 segment | 2 segments | 3 segments | 4 segments / full open | 4 segments / 75% open | 4 segments / 50% open | 4 segments / 25% open