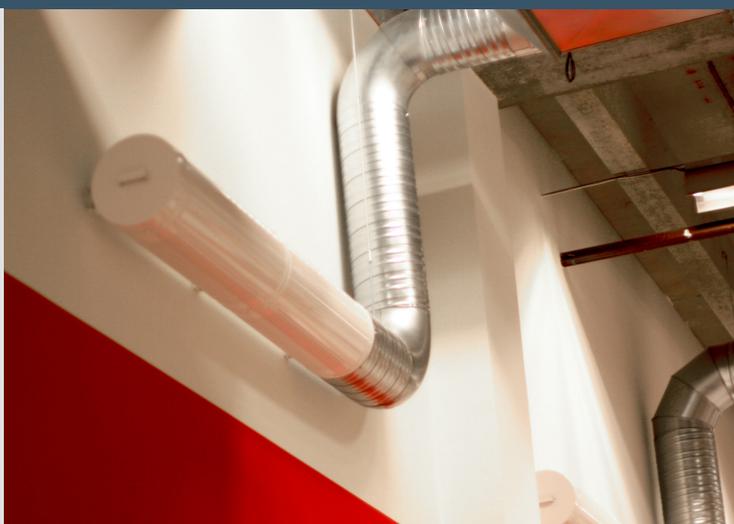


TUBUS RAW

Horizontally mounted supply air diffuser



Key figure

Connection:	125, 160, 200, 250, 314 & 400 (mm)
Airflow:	up to 240 l/s
Pressure:	50 - 100 Pa
Coating:	Galvanized steel, RAL 9003 (white) or any choice of powder coating as option

TUBUS RAW is found in MagiCADs database.

TUBUS RAW is an extremely quiet supply air diffuser to be installed horizontally on a wall or suspended from the ceiling. The diffuser can be used in facilities and rooms with high ceilings and large internal loads.

RAW has a solid construction made of galvanized steel plating which as standard is powder-lacquered in white color (RAL 9003).

RAW is suitable for all types of premises such as retail, industrial facilities, exhibition halls, theaters, swimming pools, exhibition halls, warehouses, foyers, glass facades, museums, offices, conference rooms, etc.

Function

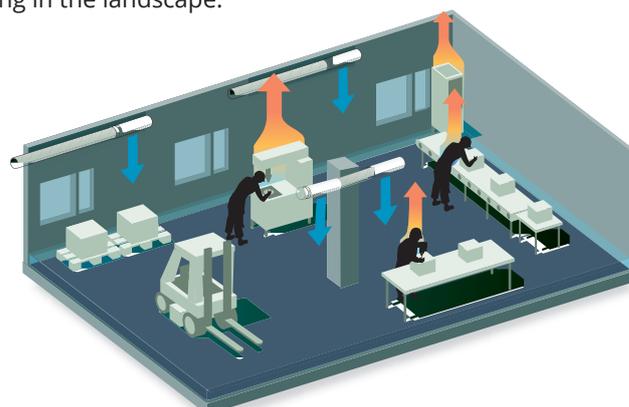
TUBUS RAW can be used to both cool and heat premises. TUBUS RAW is designed to obtain a high impulse to create an air flow that is directed to the floor. The intention is to ensure that fresh air is supplied to the occupied zone and that a stratified indoor climate is achieved with high air exchange efficiency.

TUBUS RAW is mounted horizontally on the wall, so the Coanda effect is utilized and the air will be distributed to the occupied zone as a thin air layer along the wall and further allocated over the floor in the room. In conjunction with the thermal driving forces from the heat sources, fresh air will effectively be supplied to the area of the room where people are, and the polluted air from the exhausted air in the upper part of the room outside the occupied zone.

TUBUS RAW can be used for free blowing supply air in higher locations where it is important to get the fresh air to the occupied zone, to create a stratified indoor climate.

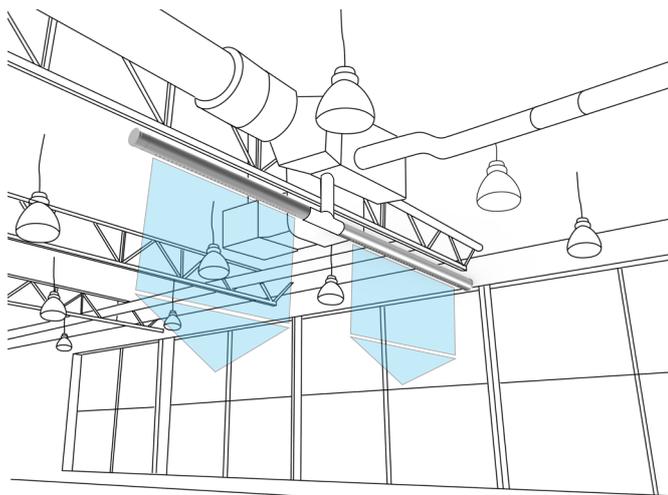
Stratification of the air temperature in the room represents a major difference between the supply air and exhaust air temperature, which means a higher heating power can be removed with the same amount of air as a mixing ventilation system. The result is simply a better thermal indoor climate. InventiAir technology results in a high air exchange efficiency (efficiency) of 50-70%.

The image below shows an illustration of an industrial environment with TUBUS RAW placed along the walls and hanging in the landscape.



Construction

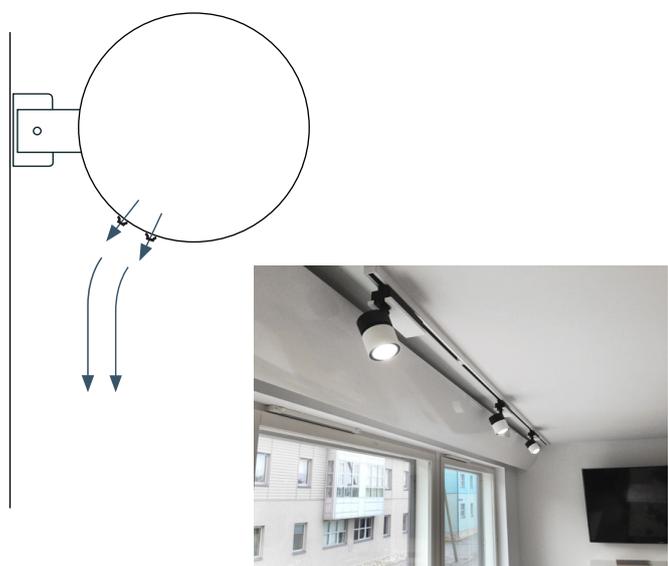
TUBUS RAW has a solid construction made of galvanized steel plating for horizontal installation, with associated sweep. Two RAW can be connected to a T-pipe, as shown in the image below.



Mounting

Tube can be freely suspended or placed against a wall.

The nozzles should be directed down towards the wall, if TUBUS RAW is mounted against a wall.



TUBUS RAW dimension 200 can be fitted with a stylish panel in aluminum, coated in the same colour as the wall.

Adjustments

TUBUS RAW can be pre-set at the factory to the correct airflow and pressure. Readjustment (flow and pressure adjustments) is easily made on-site without tools within the diffuser's maximum capacity. Additional plug for the nozzles can be ordered from InventiAir.

Material

TUBUS RAW is manufactured as standard in galvanized zinc plating Z275 in corrosivity category C2. Seals in recyclable EPDM rubber.

Standard untreated galvanized steel plating and RAL 9003 (white) or color of your choice (optional).

Care/cleaning

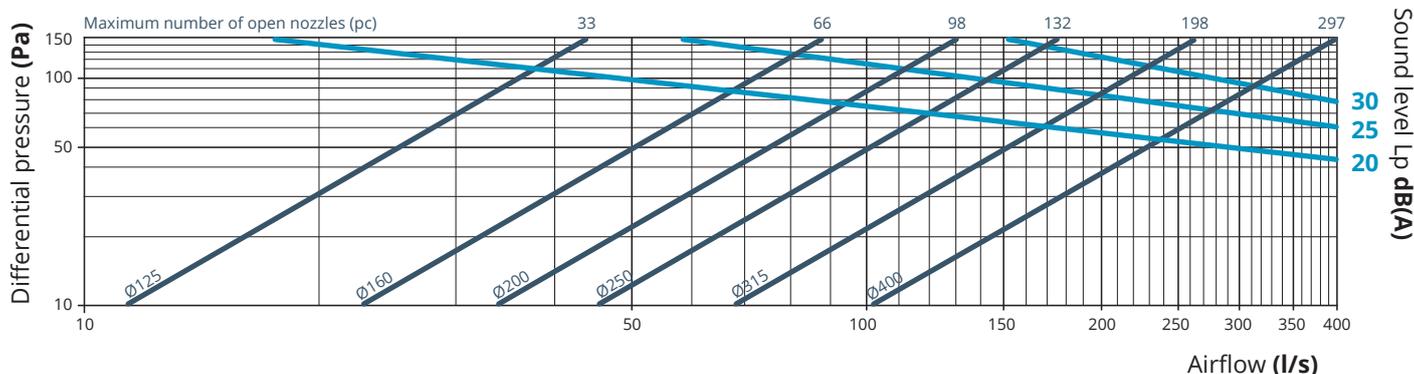
Standard galvanized surface can be cleaned with noncorrosive detergent and water. Painted surfaces may be cleaned with water and detergent suitable for painted surfaces. All components are accessible without disassembly. The devices are equipped with an access hatch that allows access to other duct systems.

Dimensioning

With InventiAir technology, a considerably smaller amount of energy supplied to the room is needed compared to a traditional mixing system. Please contact your InventiAir representative for support with dimensioning.



Capacity- & adjustment chart



Dimensional example

Choose the right size of TUBUS RAW for airflow 50 l/s and available pressure of 50 Pa. Follow the line for 50 Pa on the y-axis where it crosses 50 l/s on the x-axis. Choose the size of RAW on the line to the right on this point, which is TUBUS RAW 160.

Every nozzle has a k-factor = 0,108. To calculate the amount of active nozzles for the preferred pressure and air flow, use the formula "Amount of active nozzles" = $Q_s / (K \cdot \sqrt{\Delta P})$. Q_s = applied airflow, K = k-factor, ΔP = available pressure in the nozzles

For air volume 50 l/s at pressure 50 Pa the number of open nozzles is = $50 / (0,1086 \cdot \sqrt{50 \text{ Pa}}) = 65 \text{ pc}$.

Choose size based on the line with almost exceeding the value indicated in the top row of the chart, which will be TUBUS RAW 160 with maximum number of open nozzles = 66 pc. The number of plugged nozzles must therefore be $66 - 65 = 1 \text{ pc}$.

Tubus Raw uses nozzles designed to provide high accuracy, while these provide low noise levels even at high operating pressures. This gives you a quiet diffuser with a wide working area.

The specified sound pressure level in the function chart is including room attenuation 4 dB (A), corresponding to an equivalent absorption area of 10m² Sabine.

Correction of sound pressure level (Lp) to the sound power level (Lw) in each octave band*

63	125	250	500	1000	2000	4000	8000	Hz
-13	-8	-7	-5	-3	-4	-7	-8	

Natural attenuation in octave bands*

63	125	250	500	1000	2000	4000	8000	Hz
18	14	10	7	7	6	6	7	

Order number (example)

AMA-code: QMC

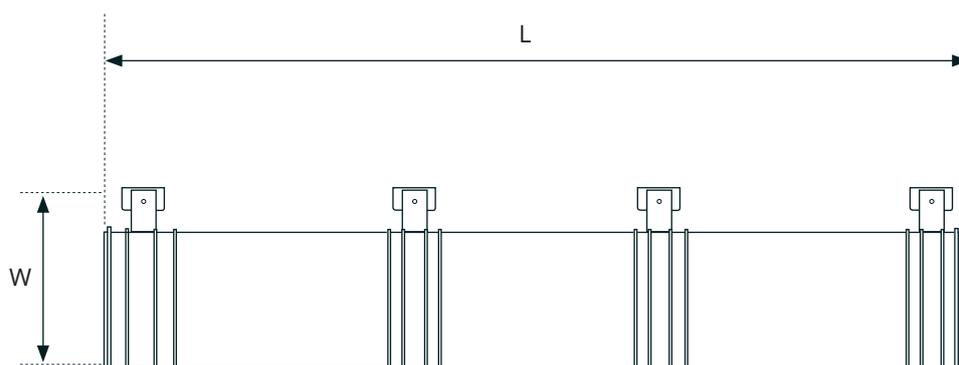
Product name	Dimension (Ø)	Airflow (l/s)	Pressure (Pa)
○ TUBUSRAW-160-20-80	160	20	80
○ TUBUSRAW P-125-50-120	125	50	120

P - Aluminum panel

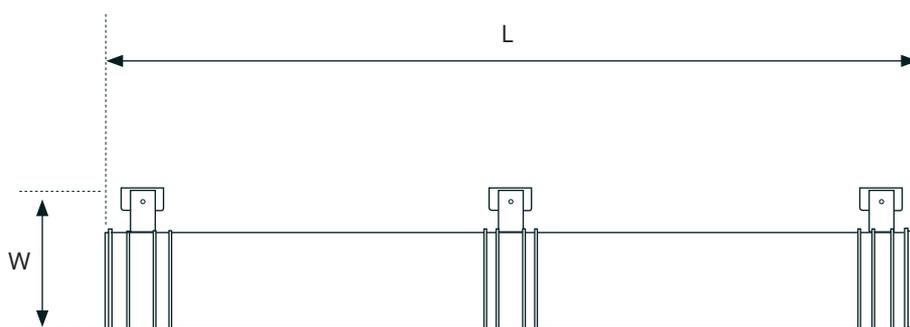
Technical specification

Product name	Width (mm)	Length (mm)	K-factor	Weight (kg)
○ TUBUS RAW 125	172,5-195,5	1130	3,6	3,09
○ TUBUS RAW 160	207-230	2175	7,2	7,13
○ TUBUS RAW 200	245-268	2175	10,6	9,65
○ TUBUS RAW 250	295-318	2190	14,3	11,33
○ TUBUS RAW 315	360,5-383,5	3235	21,4	20,54
○ TUBUS RAW 400	445-468	3243	32,1	26,51

Dimension 315-400
(4 anchorages)



Dimension 160-250
(3 anchorages)



Dimension 125
(2 anchorages)

