

TUBUS

Wall-mounted supply air diffusers



Key figures

Connection:	100, 125, 160, 200, 250, 315 & 400 (mm)
Airflow:	10 - 350 l/s
Pressure:	70 - 100 Pa
Sound level:	Always below 30 dB(A) at 100 Pa, 300 l/s
Coating:	Standard white RAL 9003 (can be coated in any color or galvanized steel).

Tubus is found in MagiCADs database.

TUBUS is an aesthetically pleasing and extremely quiet supply air diffuser for mounting on a wall or free-standing. The unit can also be placed hidden in the cladding and furniture to blend in with different types of premises.

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

TUBUS is suitable for all types of facilities, including offices, conference rooms, meeting halls, hospitals, public spaces and warehouse / industrial.

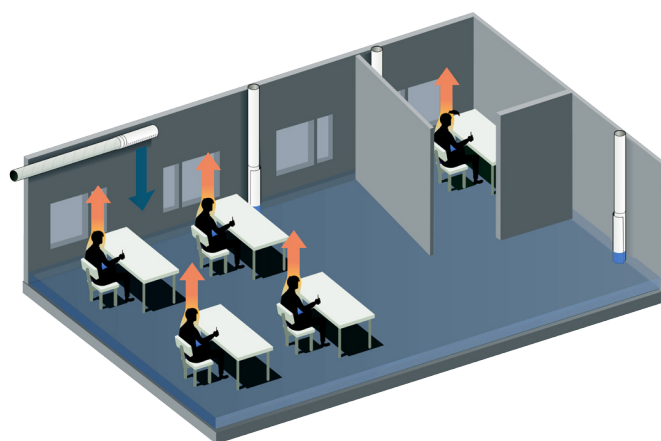
Function

TUBUS can be used to both cool and heat premises. Tubus uses the walls in both directions from the diffuser to spread the air in the room. The distribution pattern can be continuously changed directly in the diffuser for an absolutely draft-free operation.

TUBUS interacts with the heat sources in the room. The supply air is distributed effectively in the lower part of the room, without creating any draft in the occupied zone. This creates a stratified indoor climate with high ventilation efficiency. The heat exchange is concentrated to the heat sources, where the supply air replaces the upward convection. The "used" and warm air leaves the room at the ceiling as exhausted air.

The technology provides a stratified indoor climate, where the exchange efficiency is 60-70%, compared to 30-50% for a mixing ventilation system. This means that you need less resources to achieve a good indoor climate, resulting in high energy savings and a better environment.

TUBUS can be equipped with on-demand adjustable control damper (MINMAX).



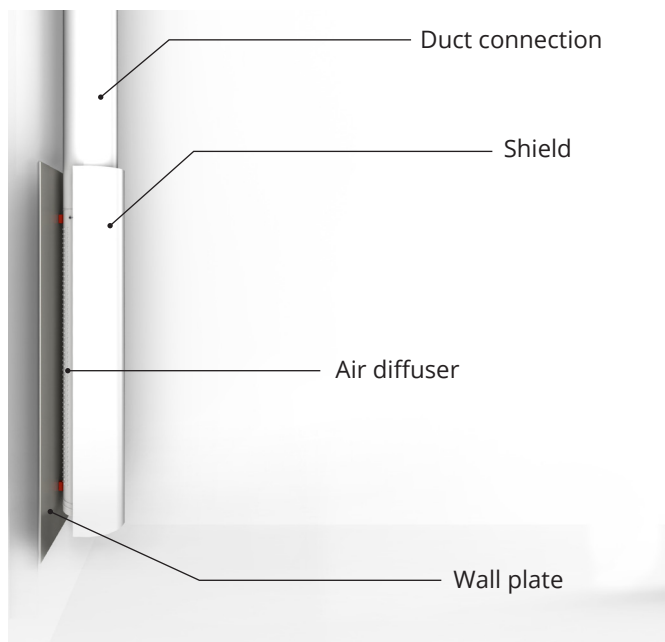
Placement of Tubus in a room (example)

Construction

TUBUS has a solid construction made of galvanized steel plating. The delivery includes wall brackets.

As an option, a wall plate in plexiglass can be supplied for mounting between the diffuser and the wall. This plate protects the wall by dusting behind the vehicle.

As an option, a duct connection (2.0 m) which is powder coated in the same color as the diffuser, can be ordered.



Tubus Wall

Accessories

Wallplate in plexiglass - which protects the wall from dirt

Corner mounting - mounting of Tubus in a corner

Duct connection - pipe for connection to duct

Mounting brackets - extra support for duct connections

MINMAX - motorized control damper for adjusted ventilation as required. Dimensions 100 - 315 equipped with a 24V or 230V motor. *See separate documentation.*

Mounting

Tubus can be mounted vertically or horizontally against a wall.

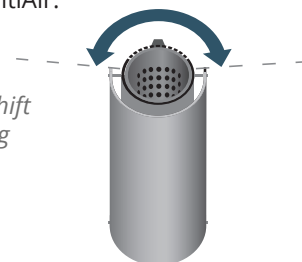
Tubus is easily mounted to the support surface by Tubus smart wall-mounts. To avoid unnecessary dirt impact against the wall, Tubus can be fitted with a transparent wall plate of Plexiglas (optional).

Complete installation instructions are included with the delivery or can be downloaded from our website, inventiair.com

Adjustments

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

Swivel diffuser to continuously shift the air flow in the direction along the wall.



Material

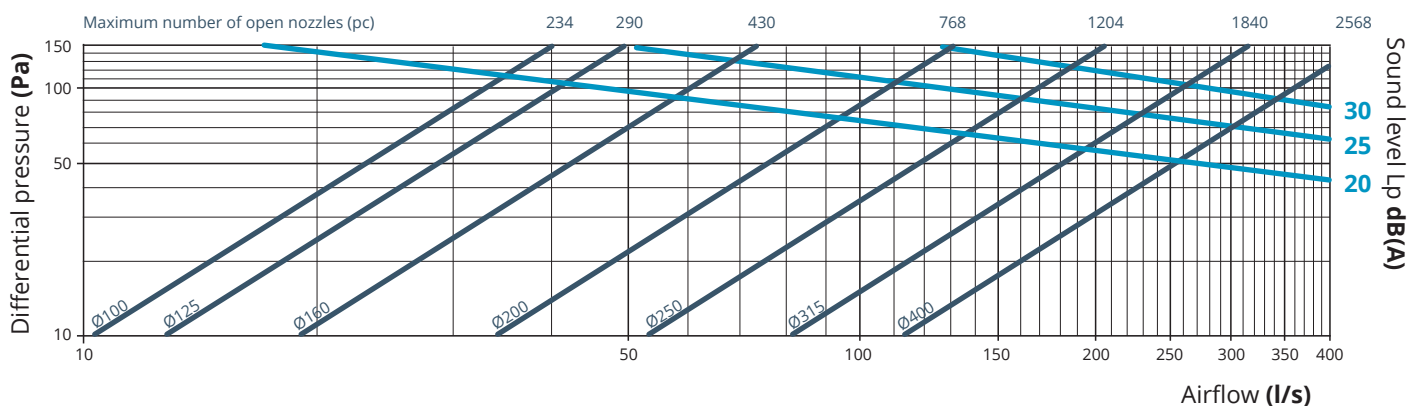
TUBUS is manufactured as standard in galvanized zinc plating Z275 in corrosivity category C2. Seals in recyclable EPDM rubber.

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



TUBUS special color (black)

Capacity- & adjustment chart (k-factor per nozzle is 0,014)



Dimensional example

Choose the right Tubus-size, Airflow 45 l/s and available pressure of 80 Pa. Follow the line for 80 Pa on the y-axis where it crosses 45 l/s on the x-axis. Choose the size of Tubus on the line to the right on this point, which is Tubus 160.

Every nozzle has a k-factor = 0,014. 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 45 l/s at pressure 80 Pa the number of open nozzles is = $45 / (0,014 \cdot \sqrt{80 \text{ Pa}}) = 359 \text{ pc}$.

Choose size based on the line with almost exceeding the value indicated in the top row of the chart, which will be Tubus- with maximum number of open nozzles = 430 pc. The number of plugged nozzles must therefore be $430 - 359 = 71 \text{ pc}$.

Tubus 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 includes 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	Type	Dimension (Ø)	Airflow (l/s)	Air pressure (Pa)
○ TUBUS W-160-20-80	W	160	20	80
○ TUBUS A-125-50-120	A	125	50	120

W - TUBUS Wall (wall mounted)
A - Duct connection (wall mounted)

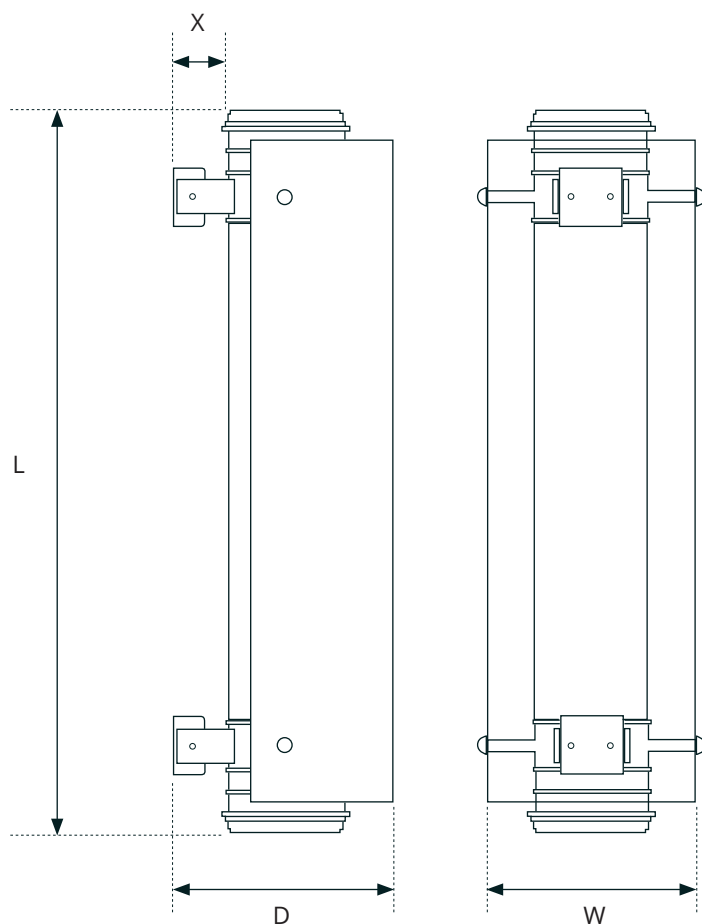
H - Corner mounting
P - Plexiglass wall plate

Measure Tubus 100-160

Product name	Height (H)	Width (W)	Depth (D)	Distance (X)
○ TUBUS 100	632	179	189	50
○ TUBUS 125	643	206	218-241	47,5-70,5
○ TUBUS 160	818	240	252-275	47-70

Duct connection	Length	Diameter
○ Duct connection 100	2000	100
○ Duct connection 125	2000	125
○ Duct connection 160	2000	160

Wall plate	Height	Width	Thickness	Material
○ Wall plate 100	637	245	4	Plexiglass
○ Wall plate 125	637	270	4	Plexiglass
○ Wall plate 160	812	305	4	Plexiglass

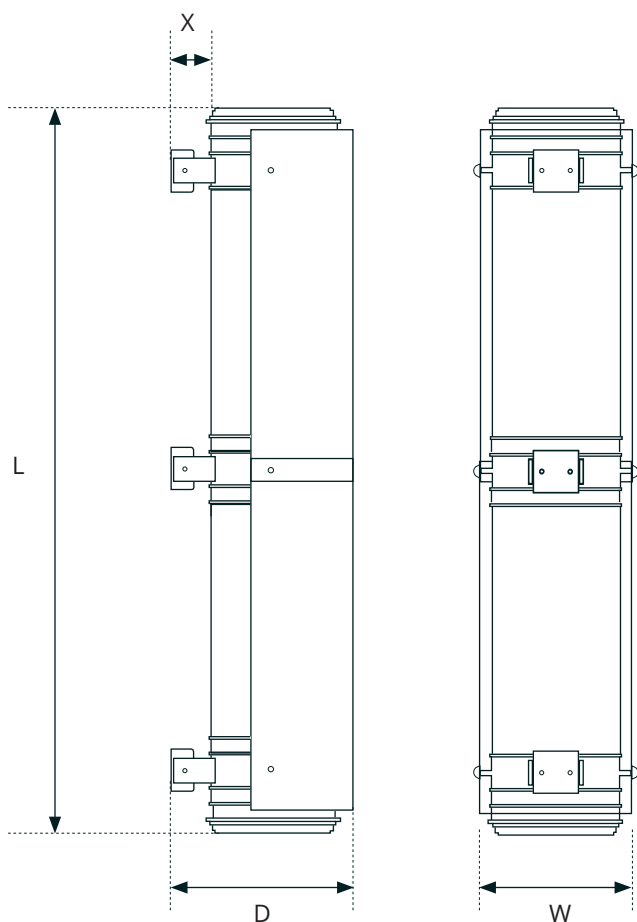


Measure Tubus 200-315

Product name	Height (H)	Width (W)	Depth (D)	Distance (X)
○ TUBUS 200	1245	284	292-315	45-68
○ TUBUS 250	1557	334	342-365	45-68
○ TUBUS 315	1780	395	406-429	45,5-68,5

Duct connection	Length	Diameter
○ Duct connection 200	2000	200
○ Duct connection 250	2000	250
○ Duct connection 315	2000	315

Wall plate	Height	Width	Thickness	Material
○ Wall plate 200	1238	345	4	Plexiglass
○ Wall plate 250	1520	395	4	Plexiglass
○ Wall plate 315	1745	460	4	Plexiglass



Measure Tubus 400 special

Product name	Height (H)	Width (W)	Depth (D)	Distance (X)
○ TUBUS 400	2422	480	490-513	45-68

Wall plate	Height	Width	Thickness	Material
○ Wall plate 400	2379	545	4	Plexiglass

