

Ceiling mounted Airshower, AS



Airshower, type AS and ASV is a series of roof and wall-mounted supply air diffusers intended for the supply of a vertically displacing, thermally controlled air flow. The diffusers provide for an exceptionally high ventilation efficiency with its minimal pitch length and low turbulence degree.

Product advantages:

- Low noise level
- Good air comfort
- Low energy consumption
- Unique ability to create zones of treated air with very low in mixing of ambient air

The diffusers are especially suited for laboratory and pharmaceutical applications, hospitals, clean rooms and other environments requiring extra high ventilation effectiveness.

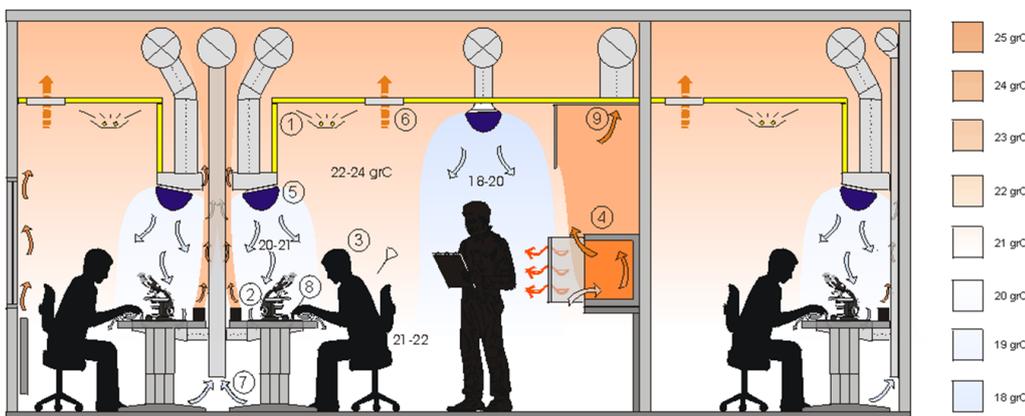


Figure 1: Temperature at displacerad ventilation



Figure 2: AS-F in cleanroom

Product info

Ceiling mounted vertically displacing, low turbulent, diffuser with minimal impulse for temperature controlled air flow.

Airshower type AS is available in three different variants:

AS-C Ceiling mounted diffuser with visible channel connection, made by AirSon, model AS-C. Standard colour. Duct connection: $\phi 200$

AS-F Ceiling mounted diffuser with hidden channel connection, made by AirSon, model AS-C. Standard colour. Duct connection: $\phi 160 / \phi 200^*$

AS-U Ceiling mounted diffuser including white ceiling plate (595x595 mm), made by AirSon, model AS-U. Duct connection: $\phi 160 / \phi 200^*$

**Flanges for connection are identical for the dimensions $\phi 160$ and $\phi 200$. To connect to duct $\phi 160$ use Lindab ILRU-160 (or similar) and to connect duct $\phi 200$ use Lindab ILU-200 (or similar). Observe, these details are not included in this delivery.*

All variants have the same type of air distributor as fitted / removed easily with a bayonet mount. The device is equipped with outlets for air flow measurement.

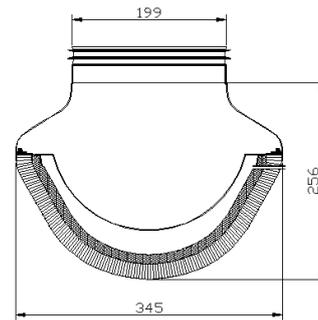


Figure 3: Measurements AS-C, $\phi 200$

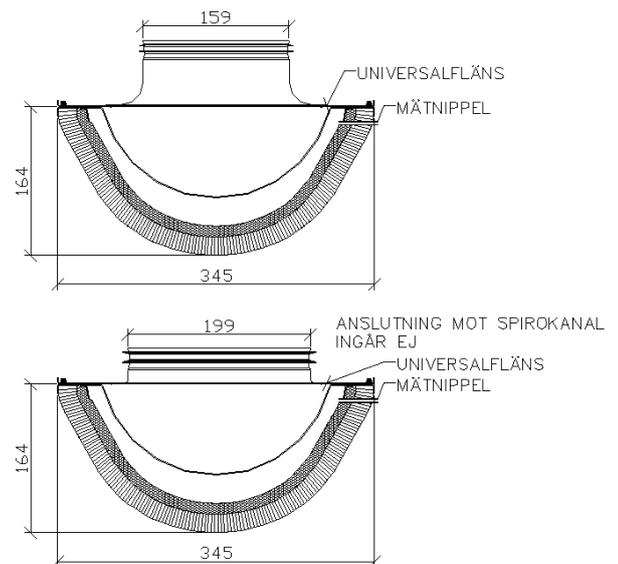


Figure 4: Measurements AS-F, $\phi 160$ and $\phi 200$

Positioning

For best performance a positioning directly above a heat source should be avoided.

In rooms with large temperature differences between floor and ceiling level, the diffusers should be positioned beneath the hottest air layers. At subset temperatures above $1\text{ }^{\circ}\text{C}$, avoid positioning directly above deskbound (or inactive) people. If replacing a high impulse (mixing) ventilation system it should be ensured that the room heating is readjusted. Otherwise the energy savings from the higher ventilation efficiency will be reduced.

In case you want to use the ability to create controlled zones with the air device, placed the devices so that their distribution pattern (d_1 , figure 6) encloses the desired surface. They should preferably be placed side by side if the surface is greater than a single enclosing means.

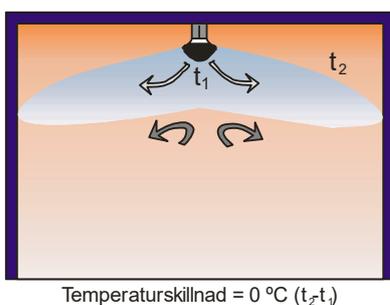


Figure 5: Air distribution at isothermal air supply ($t_2-t_1=0\text{ }^{\circ}\text{C}$)

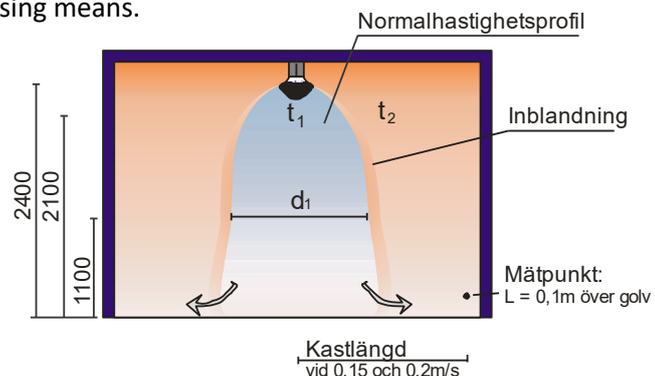


Figure 6: Air distribution at subset air supply ($t_2-t_1 \geq 1\text{ }^{\circ}\text{C}$)

Technical specification

The right hand diagram (figure 7 and 8) shows pressure drop and sound effect.

- Sound effect level (LwA)
- Total pressure drop AS (Pa)
- Pressure drop at measurement nipple for AS ϕ 160 respective AS ϕ 200

For air flow adjustment use the formula for air flow ($Q = l/s$) in relation to pressure ($P = Pa$) as measured at the measurement nipple:

AS ϕ 160: $Q = P_s^{0,644} \times 7,9042$

AS ϕ 200: $Q = P_s^{0,7499} \times 4,924$

These measurements are carried out by SP, the Technical Research Institute of Sweden, test number P703843. The error margin is $\pm 10\%$ due to variation in diffuser porosity.

Materials

Assembly ring:	Aluminium
Foam:	Bulpren
Coating:	White powder lacquering
Fire class:	Non-flammable

Mounting and maintenance

Information about mounting and maintenance can be found in the document "Mounting and maintenance".

Pressure drop and sound effect level diagram AS ϕ 160

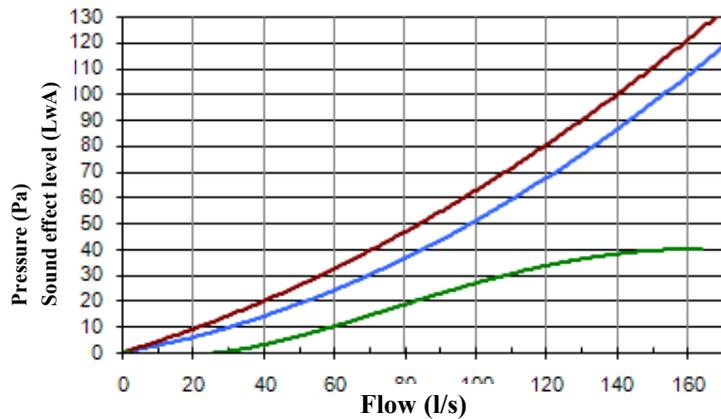


Figure 7: Pressure drop and sound level diagram for AS

Pressure drop and sound effect level diagram AS ϕ 200

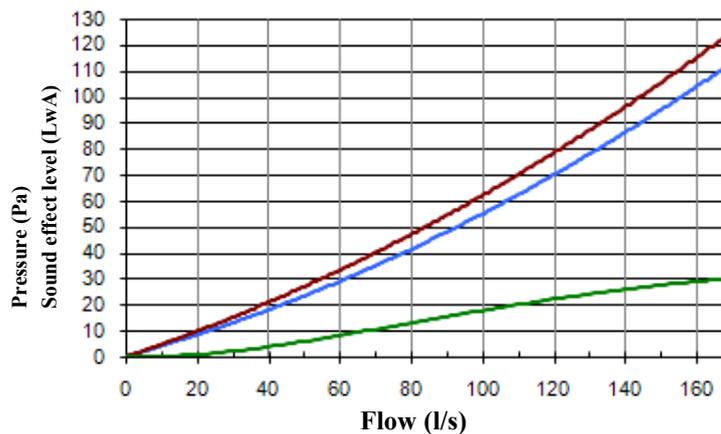


Figure 8: Pressure drop and sound level diagram for AS

Choice of colour

Colour	Code
Light grey, RAL 9010 (Standard)	White
Airshower can be supplied in any colour, to a surcharge, specify RAL code	RAL XXX

Measurements

See figure 3 and 4.