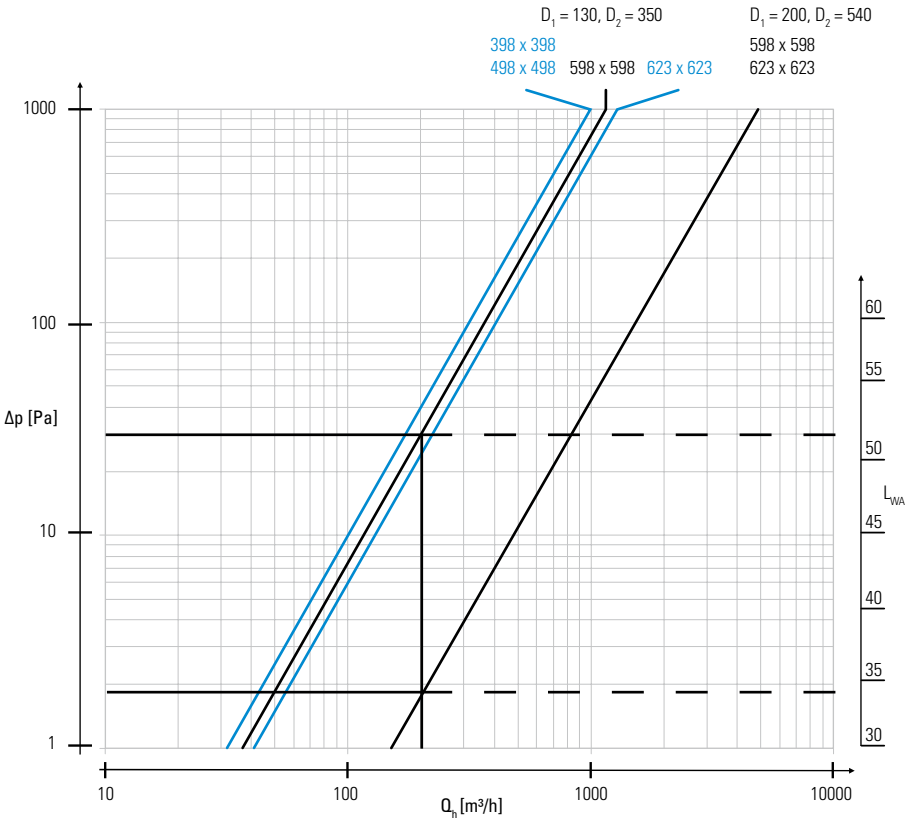
IInstructions for the diagrams for selection of AWR swirl diffusers

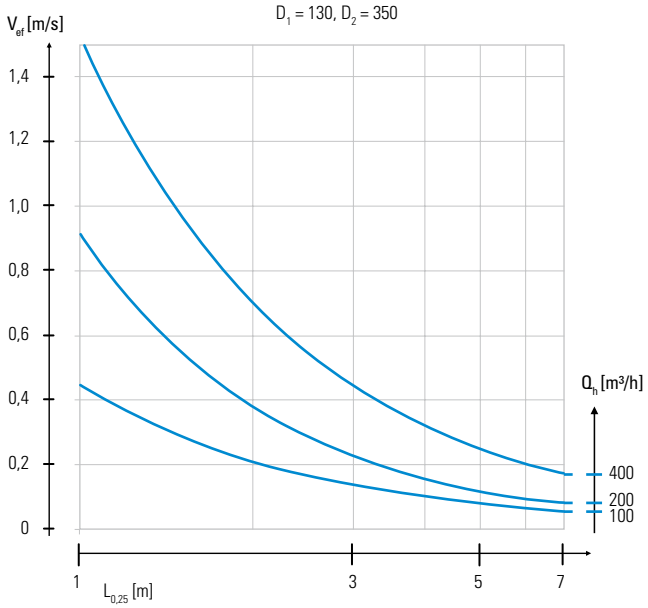
Relation of pressure loss (Δp) and a level of acoustic power (L_{WA}) from air stream volume (Q).

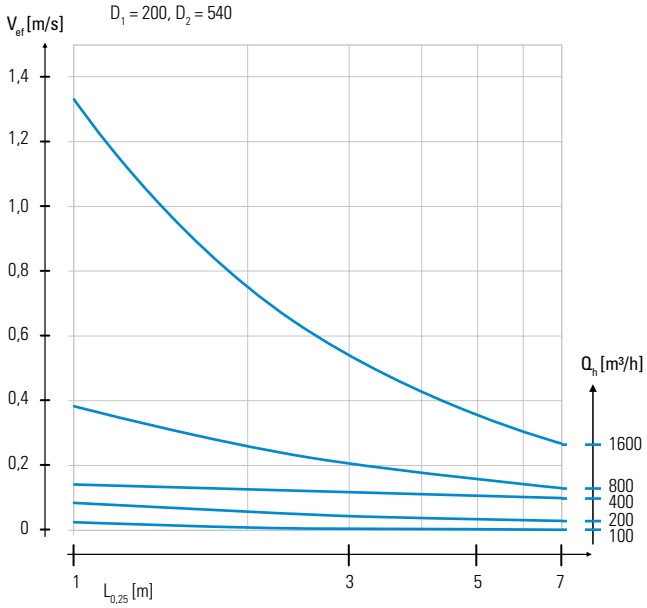
Example:
Output of 200m /h
From the crossing point of the diagonal line (ventilator) with a vertical line Q=200m /h draw horizontal linesthey indicate the degree of pressure loss and noise.
For a ventilator:
(1) type D_1 = 130, D_2 = 350, dimensions 598x598 we achieve 28Pa and approx. 52dB(A).
(2) type D_1 = 200, D_2 = 540, dimensions 598x598 we achieve 1,9Pa and approx. 34dB(A).

Pressure loss			
	D1	D2	P [Pa]
398 x 398	130	350	$0{,}0010\ Q_h^2$
498 x 498			
598 x 598			$0{,}0007\ Q_h^2$
623 x 623			$0{,}0006\ Q_h^2$
598 x 598	200	540	$0{,}0000485\ Q_h^2$
623 x 623			



Relation of pressure loss (Δp), maximum stream velocity relation (V_{ef}) and a range of velocity stream V=0,25 m/s ($L_{0,25}$) from air stream volume (Q).

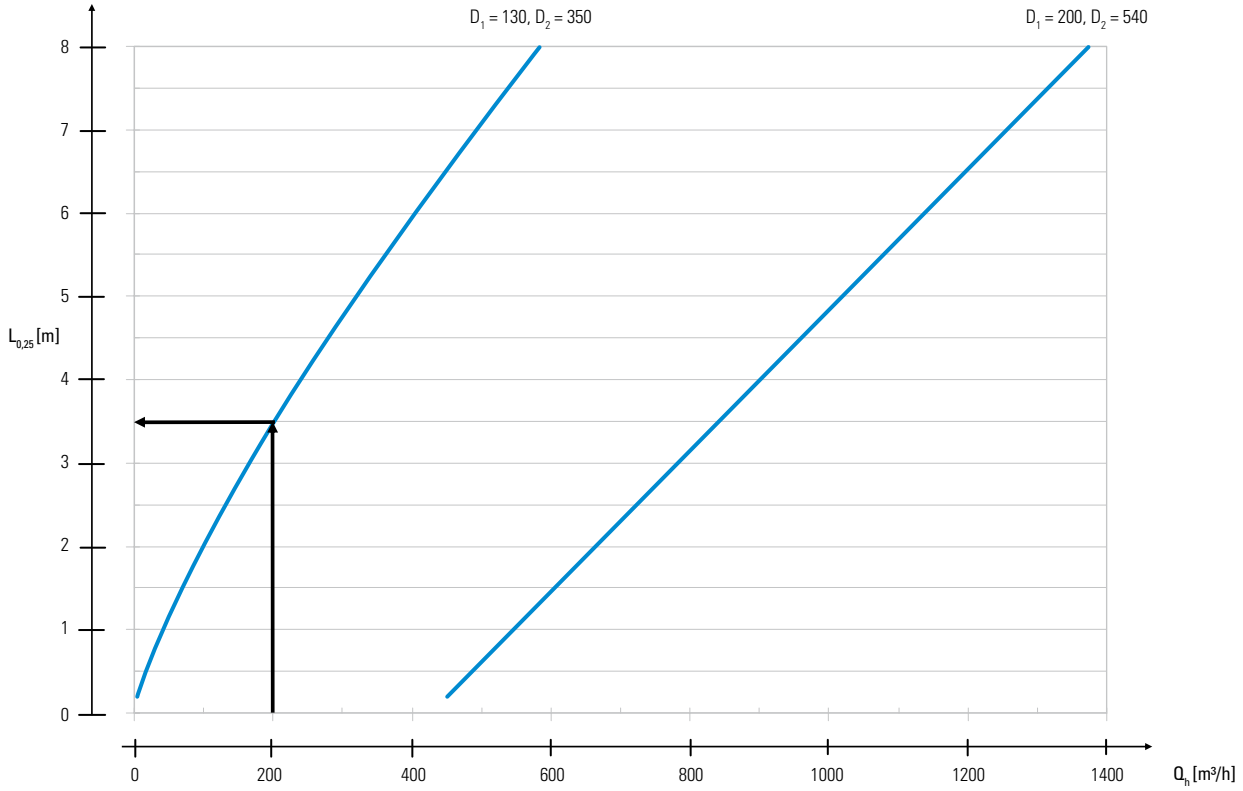




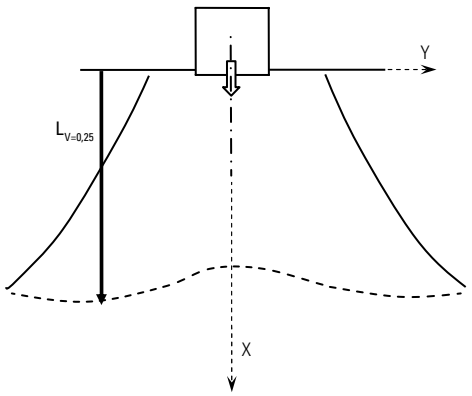
Example:
Air Outlet 200 m^3/h.
Moving along the curve reflecting a given outlet (outlet line) it is possible to estimate the maximal velocity of the air stream knowing the distance from the ventilator.
For ventilators type D_1 = 130, D_2 = 350, sized 98 x 598 maximal velocity does not exceed 0,9 m/s within 1 meter from the ventilator.
For ventilators type D_1 = 200, D_2 = 540, sized 598 x 598 maximal velocity does not exceed 0,1 m/s.

Instructions for diagrams for selection of swirl ventilators AWR

Relation of a range of velocity stream V=0,25 m/s ($L_{0,25}$) from air stream volume (Q).

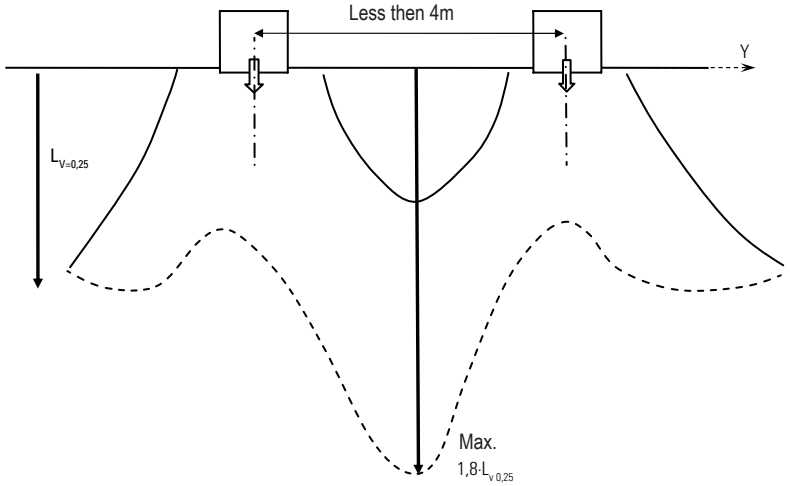


Air distribution from single ventilator



Example:
Air outlet stream – 200 m³/h
1) Ventilators type D_1 = 130, D_2 = 350, sized 598x598 – we read a value of 3.45m
2) Ventilators type D_1 = 200, D_2 = 540, sized 598x598 – for such an outlet the air stream velocity does not exceed 0.2 m/s and $L_{V=0,2}$ = 0m. This is why for this ventilator the stream velocity will exceed 0.2 m/s from an outlet of 450 m³/h, and of 600m³/h it will be approx. 1,5m.

Air distribution from the ventilators



Maximal range between ventilators:
Example:
Air outlet stream 200m³/h
There will be a velocity acceleration between the ventilators. The range will be 1,8 times higher. For the above data we will obtain: Ventilator type D_1 = 130, D_2 = 350 size 598 x 598 - 3,45 m x 1,8 = 6,21 m