DWP2

DWP series swirl diffusers

Features

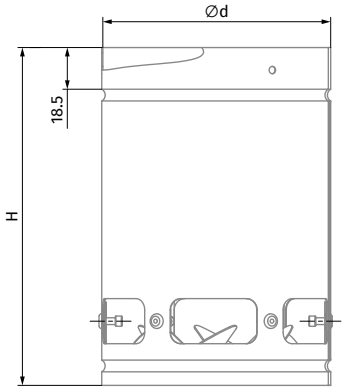
- A swirl diffuser balances air parameters throughout the entire space of the treated room by forming vortex air flow.

Design

- The units are made from steel and powder-coated.
- Angled blades provide high ejector capability.
- Specially designed casing with additional side slots for horizontal discharge.
- Ceiling-mounted with direct air duct connection.

Overall dimensions

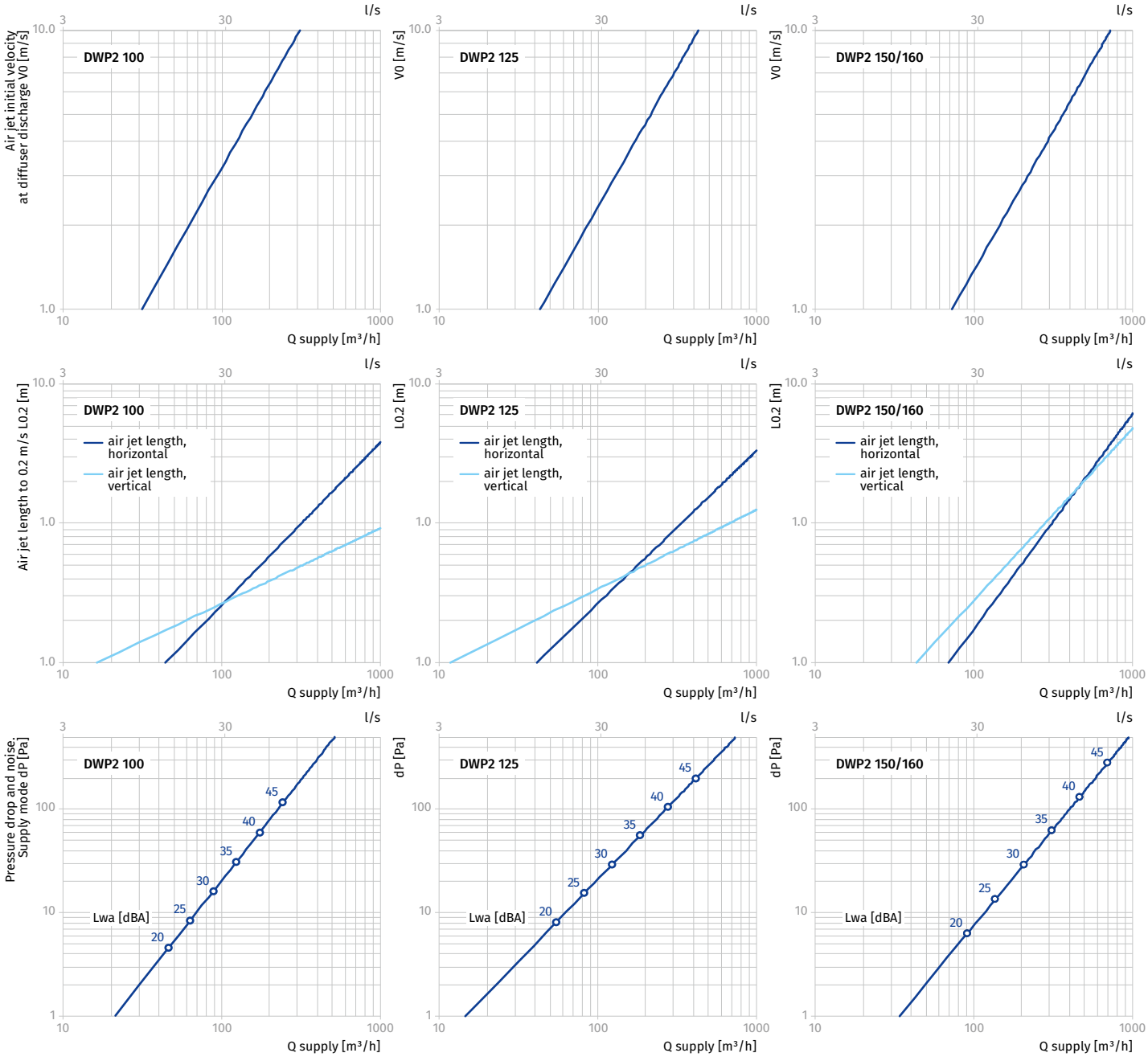
Model	Diameter d [mm]	Height H [mm]	Weight [kg]
DWP2 100	100	150	0.209
DWP2 125	125	150	0.267
DWP2 150	150	150	0.323
DWP2 160	150	150	0.341
DWP2 200	200	150	0.439
DWP2 250	250	150	0.567
DWP2 315	315	150	0.767



Effective flow area and recommended speeds

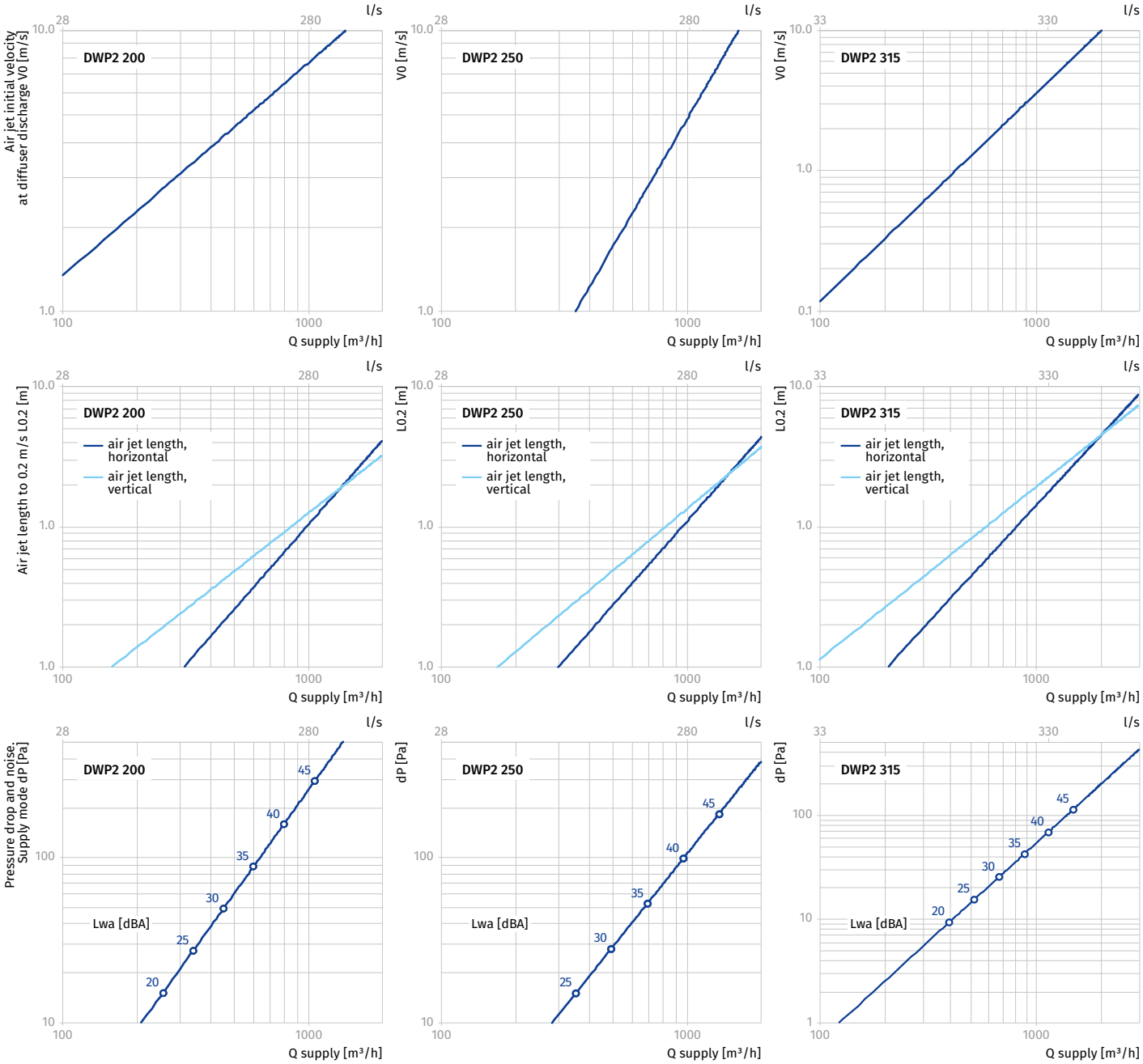
Model	EFA [m²]	V min [m/s]	V max [m/s]	Q min [m³/h]	Q max [m³/h]
DWP2 100	0.0086	2	7	62	217
DWP2 125	0.0118	2	6	85	255
DWP2 150	0.0177	2	6	127	382
DWP2 160	0.0222	2	6	160	480
DWP2 200	0.0358	3	8	387	1031
DWP2 250	0.058	2	6	418	1253
DWP2 315	0.083	2	6	598	1793

Technical data



The quoted values are true for a diffuser directly connected to an air duct.

Technical data

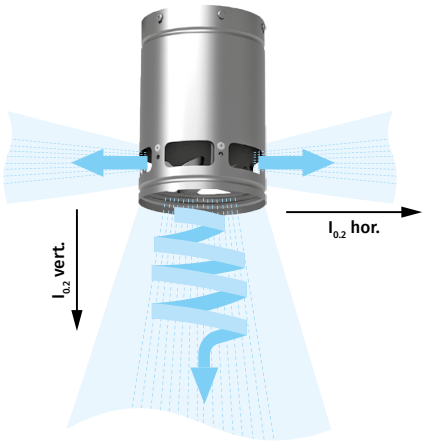


The quoted values are true for a diffuser directly connected to an air duct.

Technical data

AIR JET DISTRIBUTION GEOMETRY

- The diffuser is shaped to create a bi-directional air jet: the side slots ensure horizontal air discharge while the internal blades fixed at 30-35° (depending on the model) form a vortex air jet in the vertical plane.
  - **$l_{0.2}$ hor.** is the maximum range of the air jet in the horizontal plane to the point at which the air jet velocity is 0.2 m/s.
  - **$l_{0.2}$ vert.** is the maximum range of the air jet in the vertical plane to the point at which the air jet velocity is 0.2 m/s.



Noise characteristics

- Noise characteristics are calculated using the indices given below.

OCTAVE FREQUENCY BAND ADJUSTMENT INDEX FOR SOUND POWER LEVELS

Kok supply mode	Octave frequency band [Hz]							
	63	125	250	500	1000	2000	4000	8000
DWP2 100	16	12	8	5	-2	-5	-14	-20
DWP2 125	15	13	9	3	-1	-6	-13	-20
DWP2 150/160	14	14	9	-1	-2	-4	-9	-21
DWP2 200	15	12	7	3	-4	-7	-8	-18
DWP2 250	18	12	7	3	-3	-8	-10	-19
DWP2 315	18	10	9	-1	-4	-6	-10	-16

INDEX FOR DUCT SOUND POWER ABSORPTION BY DIFFUSER

dL supply mode [dB]	Octave frequency band [Hz]							
	63	125	250	500	1000	2000	4000	8000
DWP2 100	3	3	2	5	3	4	2	1
DWP2 125	3	4	3	5	4	2	2	2
DWP2 150/160	4	3	4	6	3	3	4	3
DWP2 200	6	4	4	6	4	4	3	3
DWP2 250	5	4	5	7	5	5	4	2
DWP2 315	7	6	5	7	4	6	5	4

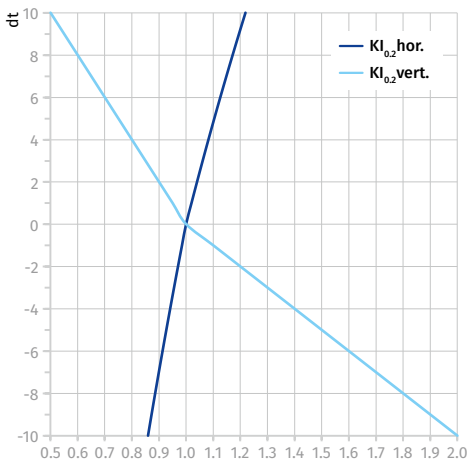
The quoted values are true for a diffuser directly connected to an air duct.

Non-isometric air flows

- The value given in the catalogue are true for isothermal jets – i.e. when the jet temperature equals the temperature in the room.
- Any difference in the jet temperature and room temperature affects the jet geometry.
- During cold air supply the jet is deflected downwards with a reduction in length.
- During warm air supply the jet is deflected upwards with an increase in length.

$$l'_{0.2} = l_{0.2} * KI_{0.2}$$

$KI_{0.2}$hor. is the index of horizontal jet length change
$KI_{0.2}$vert. is the index of vertical jet length change



dt is the difference between the supply air and indoor air