



VSD-1

VARIABLE SWIRL DIFFUSER

DESCRIPTION

The VSD-1 variable swirl diffuser can be used for various ceiling heights from 4 m to 12 m. It enables turbulent airflow, long-range constant airflow and the Coanda effect – where cold air is dispersed below the ceiling.

CONSTRUCTION

The device includes a casing of nozzle shaped aluminium and six centrally adjustable blades.

MATERIAL AND FINISH

Standard: carbon steel with RAL 9010 matte powder coating finish or optionally any other RAL colour.

Option: stainless steel sheet metal AISI 304 SB.

ACTUATOR

MANUAL (C)

Central manual blade position adjustment

ELECTRIC ACTUATOR (E)

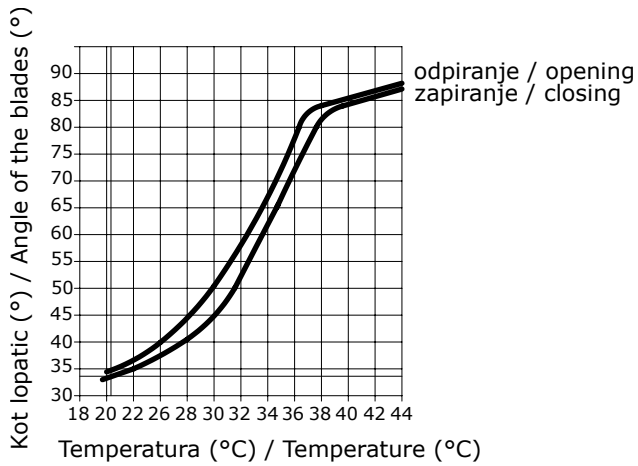
Prepared for Belimo actuator installation. Upon request the actuator can also be installed on the diffuser housing.

Actuator options:

- LM230A
- LM230A SR
- LM24A
- LM24A SR

THERMOSTATIC ACTUATOR (T)

Thermostatic actuator installed on the diffuser measures intake air temperature and automatically adjusts the position of the blades. It works at temperatures between 22 °C and 38°C. It does not need an additional source of energy. Diffuser is set to an optimal position and activated in the factory. At temperature 38 °C the blades are open at 85° angle. At temperature 20 °C a mechanical element on the holder stops the blades at a 35° angle.

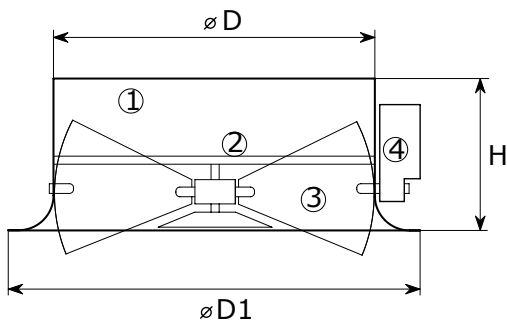


Angle of the blades depending on air temperature

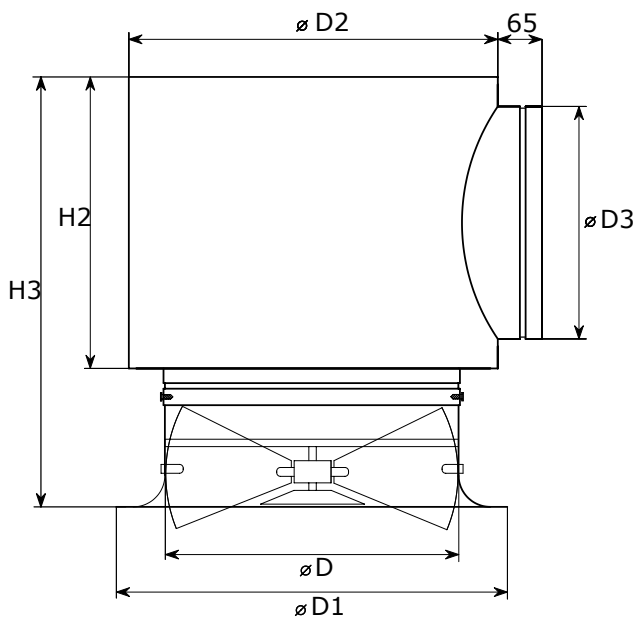


Thermostatic mechanism for blade movement

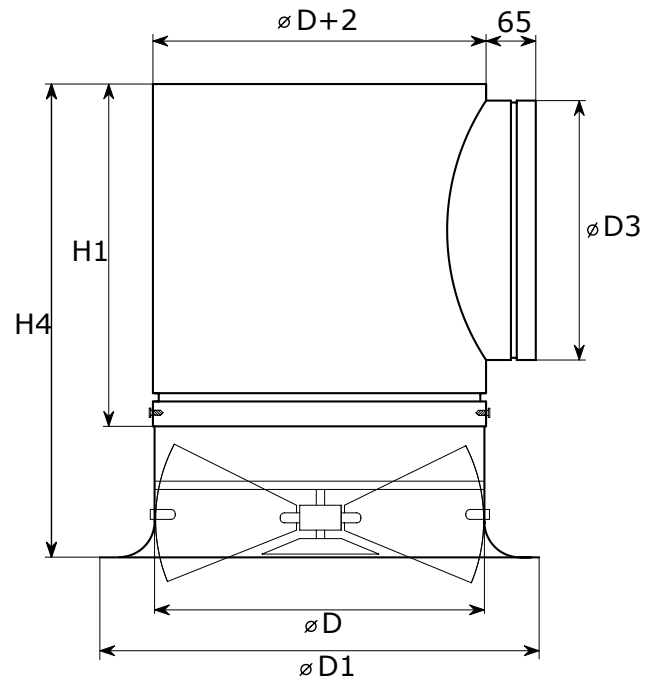
DIMENSIONS



- 1 - diffuser
- 2 - mounting bar
- 3 - blades
- 4 - actuator



Diffuser VSD-1 with plenum box PB-3



Diffuser VSD-1 with plenum box PB-4

D	ø D	ø D1	ø D2	ø D3	H	H1	H2	H3	H4
125	123	173	225	98	55	170	170	255	220
160	158	220	260	123	80	195	195	305	255
200	198	280	300	158	105	230	230	365	315
250	248	345	350	198	120	270	270	420	370
315	313	425	415	248	150	320	320	500	450
400	398	530	500	313	180	385	385	595	545
500	498	660	630	398	220	470	470	720	670

ACCESSORIES AND OPTIONS



Plate with dimensions 595 × 595 mm for installation in prefabricated ceilings (PL)



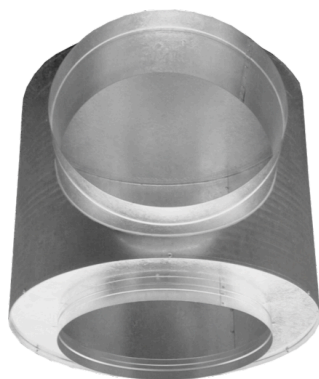
Ball impact protection in gyms (ZM)



Perforated plate on the neck of the diffuser (PP)



Stainless steel sheet metal AISI 304 SB

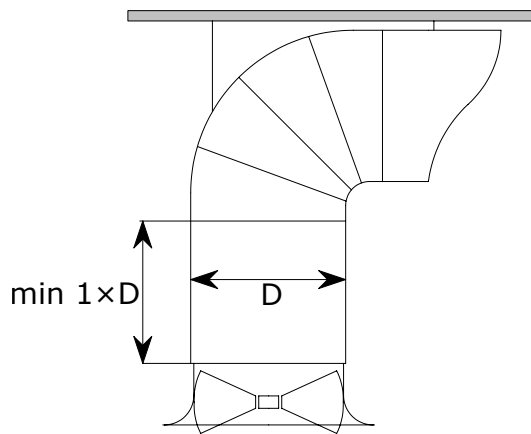


Plenum box PB-3

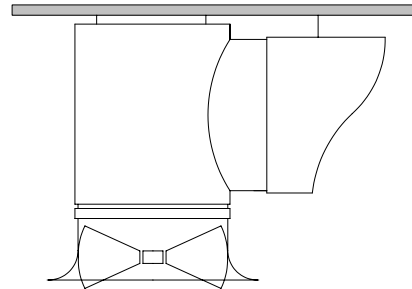


Plenum box PB-4

INSTALLATION



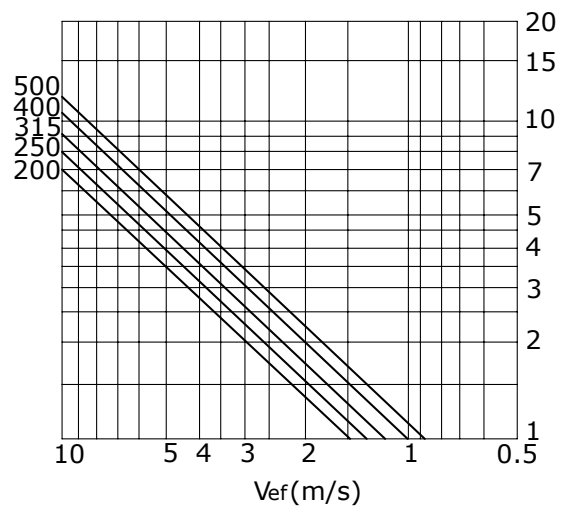
Installation on air shaft



Installation on plenum box

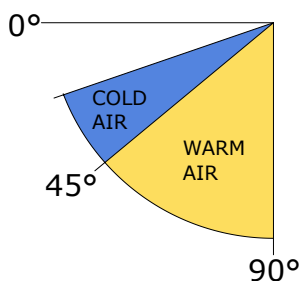
MINIMUM DISTANCE BETWEEN DIFFUSERS

Minimum distance between two diffusers must be at least 5 times the diameter of the diffuser at minimum flow and 10 times the diameter of the diffuser at maximum flow.

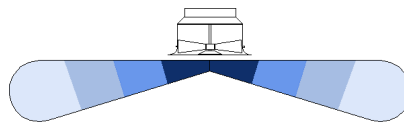


razdalja med dvema difuzorjema (m)
distance between two diffusers (m)

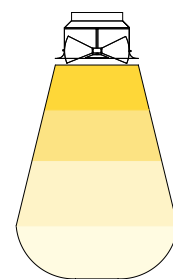
ANGLE OF BLADES AND AIR FLOW DIRECTION



Angle of air flow



Cold air



Warm air

PRODUCT CODE

VSD-1	C	315	FE	RAL 9010	PP	PB-3	315 / 250	H	L	ISO 6mm
										Insulation 6, 10, 13, 19 mm Damper L – with damper Connection position H – horizontal V – vertical Connection dimension Connection dimension in mm Plenum box dimension 100 – 500 mm Plenum box PB-3 – plenum box PB-3 PB-4 – plenum box PB-4 Accessories PP – perforated dispersing plate PL – plate 595 × 595 mm for installation in prefabricated ceilings ZM – ball impact protection in gyms Finish RAL 9010 matte (standard for galvanized sheet metal) Optional: any RAL colour Material FE – carbon steel sheet metal INOX 304 SB – stainless steel sheet metal AISI 304 SB Diffuser dimension 125, 160, 200, 250, 315, 400, 500 mm Actuator C – central manual E – ready for actuator E + code – installed actuator T – thermostatic actuator
Product Variable swirl diffuser										