

BS

Swimming pool slot diffusers



Ordering Codes

Number of slots	BS -	1	2	3
Slot width W (mm)		8	10	12
Length L (mm) ¹⁾		500	1000	1500
		2000		
Accessories ²⁾	No accessories	-		
	Mounting console	MB		
	Plenum box	PB		

Ordering code example:

BS - 2 - 10 - 1000 - PB

Slot diffuser BS with two slots of 10mm width, 1000mm length and plenum box in stainless steel A316-L.

NOTES:

- The standard length modules are 500mm, 1000mm, 1500mm, 2000mm. According to requirements it is possible to deliver a non-standard length up to max. L ≤ 2400mm.
- Standard material for accessories MB and PB is stainless steel A316-L

Description

The swimming pool slot diffuser BS are applied as terminal air supply elements for swimming pools near to large windows.

The diffuser BS is used for aeration of large glassed constructions to prevent cooling of the glass and the subsequent condensation. The diffusers are intended specially for ventilation and dehumidifying of moist areas. The recommended air velocity range in effective aperture is 2,5 - 4,2m/s.

Design

The swimming pool slot diffuser is manufactured from aluminium profiles with one (BS-1), two (BS-2) or three (BS-3) slots. The connection is given by the accessories - mounting console (MB) or plenum box (PB) with round spigots for 1 or 2 slots and rectangular spigot for 3 slots. The PB inlets are equipped with dampers for air flow adjustment. The flow diagrams below show parameters for operation with open and closed damper.

The mounting console and the plenum box are manufactured from stainless steel A316-L sheet as standard. The standard lengths are 500, 1000, 1500 or 2000mm, the maximum, non standard length is 2400mm. For longer installations diffusers of smaller sizes can be installed in a continuous array.

Dimensions

NOTE: all dimensions in mm



Slot width w	BS-1		BS-2		BS-3	
	W_1	m_{1m}	W_1	m_{1m}	W_1	m_{1m}
(mm)	(kg/m)	(mm)	(kg/m)	(mm)	(kg/m)	
8	11,1	0,45	24,6	0,7	38,1	0,95
10	13,1		28,6		44,1	
12	15,1		32,6		50,1	

Tab. 1: BS diffuser dimension table

NOTES: $L = 500 / 1000 / 1500 / 2000$ as standard.



Fig. 1: BS-1, BS-2 and BS-3

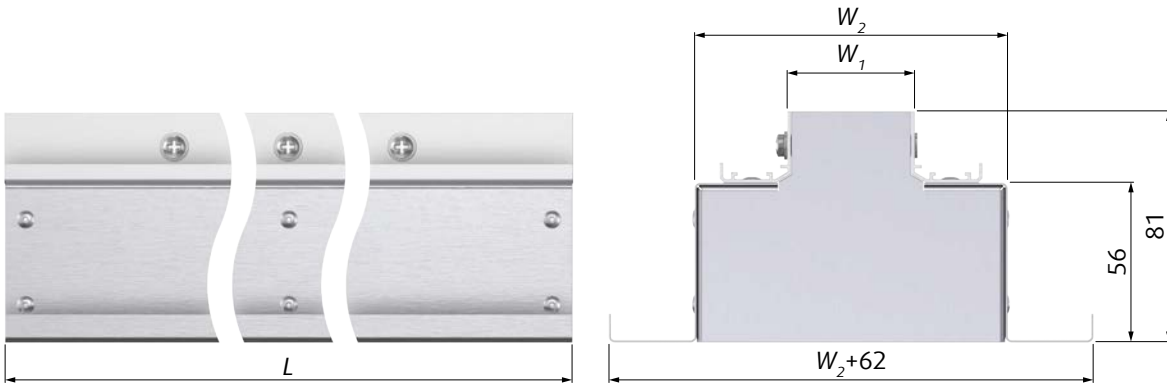


Fig. 2: BS-1-MB, BS-2-MB and BS-3-MB

Slot width w	BS-1-MB			BS-2-MB			BS-3-MB		
	W_1	W_2	m_{1m}	W_1	W_2	m_{1m}	W_1	W_2	m_{1m}
(mm)	(mm)	(mm)	(kg/m)	(mm)	(mm)	(kg/m)	(mm)	(mm)	(kg/m)
8	11,1	76	2,09	24,6	92	2,36	38,1	108	2,64
10	13,1			28,6			44,1		
12	15,1			32,6			50,1		

Tab. 2: BS-MB mounting console dimension table

NOTES: $L = 500 / 1000 / 1500 / 2000$ as standard.



PB length	Nr. of connections
L (mm)	n (pcs)
500	1
1000	2
1500	3
2000	4

Tab. 4: BS-PB Plenum box / nr. of connections

NOTE: The flow rates are measured on the diffusers of 1m length

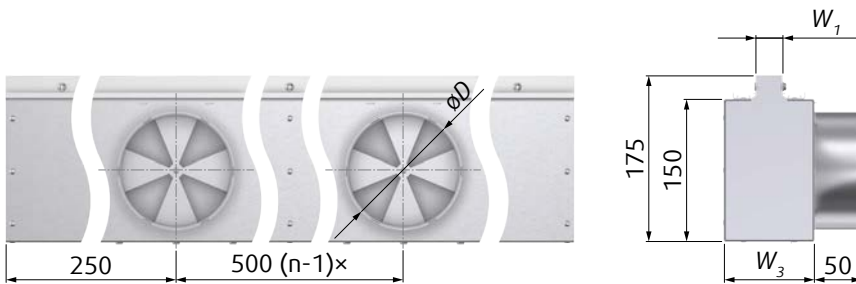


Fig. 3: BS-1-PB and BS-2-PB

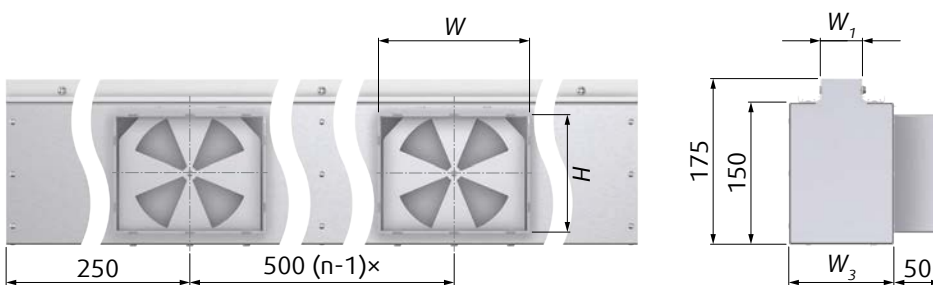


Fig. 4: BS-3-PB

Slot width w	BS-1-PB				BS-2-PB				BS-3-PB				
	W_1	W_3	$\varnothing D$	m_{1m}	W_1	W_2	$\varnothing D$	m_{1m}	W_1	W_2	W	H	m_{1m}
	(mm)			(kg/m)	(mm)			(kg/m)	(mm)				(kg/m)
8	11,1	79	98	3,9	24,6	95	123	4,3	38,1	111	160	125	4,7
10	13,1				28,6				44,1				
12	15,1				32,6				50,1				

Tab. 3: BS-PB Plenum box dimension table

NOTES: L = 500 / 1000 / 1500 / 2000 as standard.

Plenum boxes are equipped by circular connections for 1 and 2-slot diffusers and rectangular connections for 3-slot diffusers.

Technical parameters

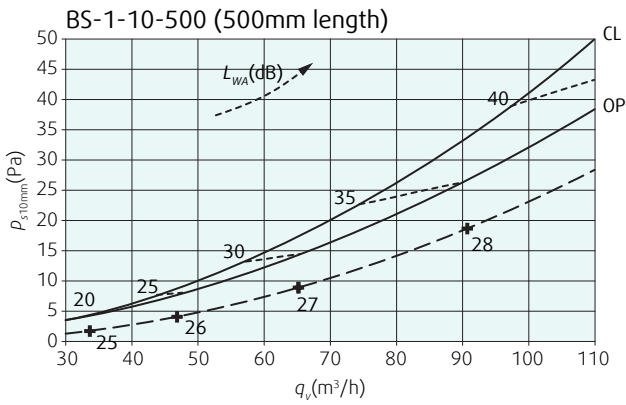


Diagram 1a: Pressure drop and A-weighted sound power level

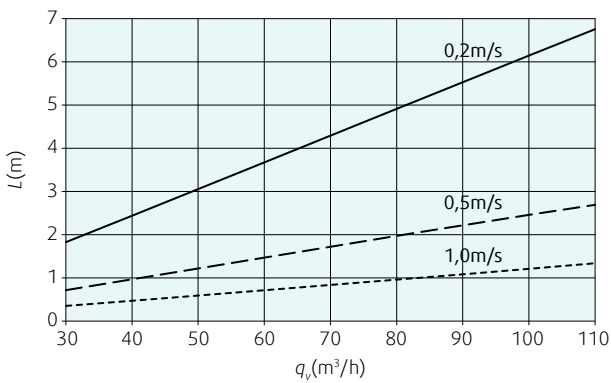


Diagram 1b: Throw length

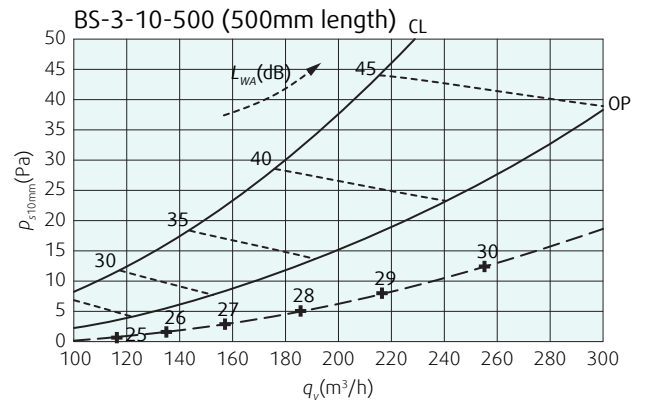


Diagram 3a: Pressure drop and A-weighted sound power level

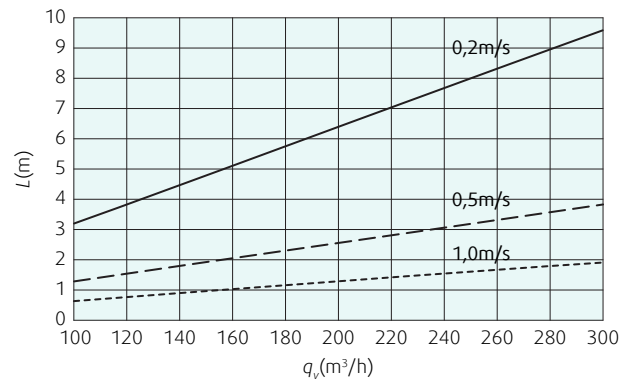


Diagram 3b: Throw length

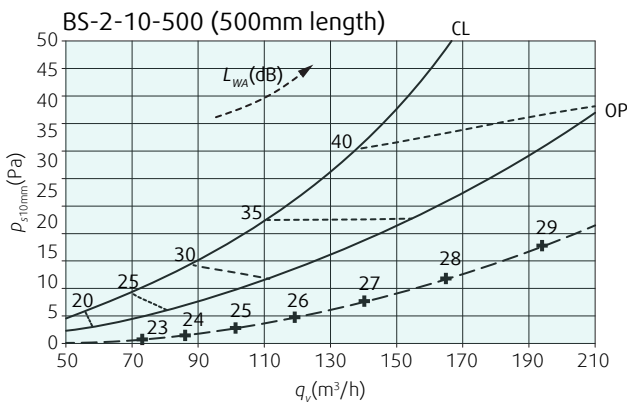


Diagram 2a: Pressure drop and A-weighted sound power level

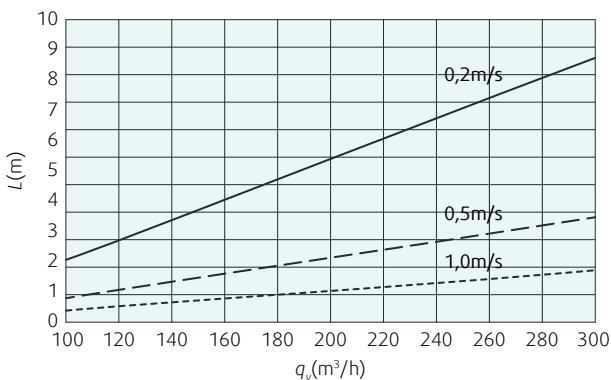


Diagram 2b: Throw length

Legend

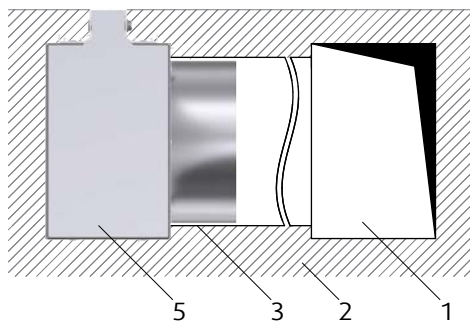
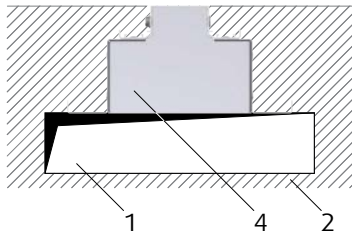
CL	Closed regulation
OP	Opened regulation
---	Without plenum box
—	With plenum box

Slot width <i>w</i> (mm)	p_s (Pa)	L_{WA} (dB)
8	$p_{s10mm} \cdot 1,19$	$L_{WA10mm} + 0,96$
10	-	-
12	$p_{s10mm} \cdot 0,77$	$L_{WA10mm} - 0,60$

Tab. 5: Correction factors for pressure drop and A-weighted sound power level

Mounting

The recommended installation distance from the windows is 0,2m. The diffusers with mounting console are installed directly into the floor. The connection part at the air duct side is not in delivery scope and must be prepared at the site. The diffuser with plenum box has round (for 1 and 2 slots) or rectangular (for 3 slots) air duct connectors.



Legend

1	Air duct
2	Concrete or other construction material
3	Duct connection slip on the plenum box connection
4	Diffuser BS with mounting console MB
5	Diffuser BS with plenum box PB