



Linear Diffusers

DSL / DSL-D

Introduction

The Waterloo Large Format Linear Diffuser series (DSL) are ideal for most commercial supply and exhaust systems and integrate well with ceiling tile and lighting layouts. The clear design provides an extremely low air resistance characteristic and this makes the diffuser ideal for any fan coil or induction system which is pressure sensitive. Single or multi-slot diffusers are available with fixed 1 or 2 way air patterns; multi-slot 2 way diffusers may be adjusted to suit site conditions by changing vanes.

The diffusers are constructed from aluminium alloy extrusions fixed or clipped to cross stays. Internal vanes are removable for installation, access or cleaning.

Product Description

- DSL** Large format one way discharge
- DSL-D** Large format two way discharge
- Ends** End caps
- OBSS** Allen key operated opposed blade damper
- ED** Equalising Deflector

Features

- Ultra low pressure loss characteristics suited to fan coil and induction supply systems
- Single or multi-slot to suit most air handling requirements
- Clean design for practical integration with lighting or ceiling systems
- Fixed 1 or 2 way pattern to prevent unwanted adjustment of air diffusion

Finishes

- PPG9010 (RAL 9010 Gloss - 80% Gloss White)
- PPM9010 (RAL 9010 Matt - 20% Gloss White)
- PPM9006 (RAL 9006 Matt - 30% Gloss Silver)
- Other colours available on request

Weights

0.4N + 0.6 kg/m

N = number of slots

Sizes

From 1 to 8 slots wide
1500mm long (excluding ends)
Continuous diffuser lengths are supplied in sections for butt jointing on site (Alignment plates supplied)

Selection Criteria

From a ceiling height of 3.0m, increase throw by 300mm for each 300mm increase in ceiling height.

Horizontal diffusion is based on a cooling differential of 11°C

Under isothermal conditions apply a factor of 1.1 to throw values

Noise level is based on diffuser sound power level less 8dB room absorption

V_r = mean room air velocity (m/s)

V_t = terminal velocity of supply air jet (m/s)

Selection Example

DSL/2000/S4

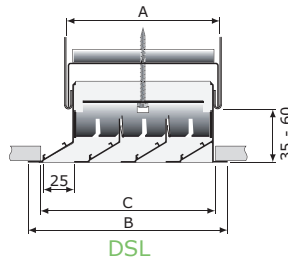
- Total air flow rate 400 l/s
- Air flow rate per metre = 200 l/s/m
- Minimum throw 6.8m (8.5 x 0.8 factor)
- Maximum throw 12m (15.0 x 0.8 factor)
- Pressure drop 13Pa
- Noise level 27dBA (30dBA - 3dB length correction)

DSL Exhaust Corrections
Pressure Loss Multiply x 2
Noise Level +5 dB

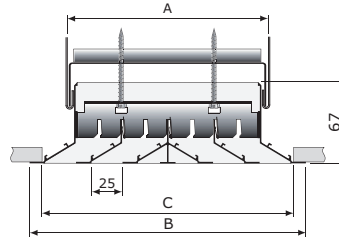
ORDER EXAMPLE

DSL/3000/S1/PPM9010/ENDS

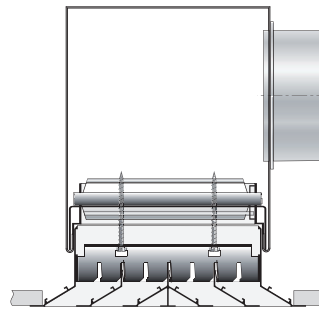
- Type _____
- Length _____
- No of Slots _____
- Finish _____
- Ends caps _____



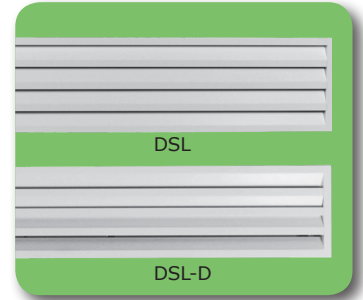
DSL



DSL-D



DSL-D + OBSS + Plenum



Dimensions

Type	A	B	C
DSL-1	46	89	70
DSL-2	84	127	108
DSL-3	122	165	146
DSL-4	160	203	185
DSL-5	198	241	222
DSL-6	237	279	260
DSL-7	275	317	298
DSL-8	313	355	336
DSL-D11	84	154	137
DSL-D12	122	192	175
DSL-D22	160	230	213
DSL-D23	198	268	251
DSL-D33	237	306	289
DSL-D34	275	345	327
DSL-D44	313	382	365

*Please specify number of slots in each direction

Equalizing Deflector Corrections				
Diffuser Length (m)	0.5	0.75	1.0	1.5
Throw Multiplier using ED Blades	0.33	0.42	0.48	0.54

Length Corrections					
Active Length (m)	0.5	1.25	2.0	2.5	3.0
dBA Reduction	-8	-5	-3	-2	0
Throw Multiplier	0.45	0.65	0.8	0.9	1.0

Performance Nomogram

