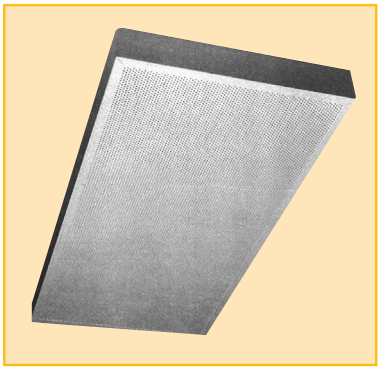
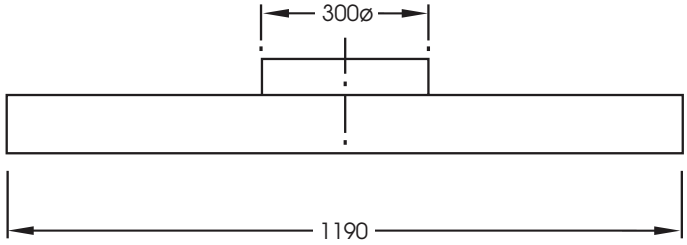
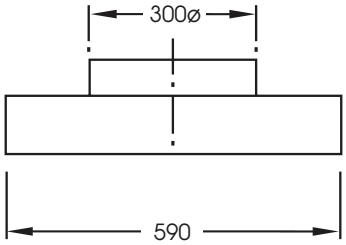
LAMINAR FLOW DIFFUSERS

TYPE: LFS • LFT • LFM



TYPE: LFS • LFT • LFM





Application

Developed originally for operating theatres, this product has applications in any area where a local constant supply of fresh, conditioned air is required, uncontaminated by the induction of room air, such as the micro-electronic industry, animal research facilities and the pharmaceutical industry.

Technical Information

FEATURES :
True laminar flow characteristics with low air velocities resulting in little or no induction of room air into the clean working area.

Neat aesthetic appearance, designed to match most modern plastered or tiled ceilings.

Modular design to facilitate ease of erection for multiple units.

SIZES:
Minimum 600 X 600.
Maximum 1200 X 600 (or multi-banked to any size).

CONSTRUCTION:
Manufactured to the highest standards entirely from special perforated aluminium sections sheet and solid aluminium extrusions, (where applicable). The integral plenum box is manufactured from high grade galvanised sheet steel.

FINISH:
Polyester powder gloss white to RAL9010 or BS 00E55 as standard. Other to BS or RAL specifications are available on request.

LAMINAR FLOW DIFFUSERS

PERFORMANCE DATA **TYPE:** LFS • LFT • LFM

GENERAL INFORMATION

All performance data is based upon the following terms of reference and definitions:-

1. All performance figures are based upon a 1200mm long X 600mm wide nominal size diffuser module, with one 300mm diameter central spigot, installed 2.7m above finished floor level in a 'T-bar' ceiling with a 12mm perimeter overlap.

2. **Velocity**
   Face velocities shown in the tables are the mean values taken over the whole of the diffuser.

3. **Temperature**
   All data is based upon a supply air temperature 5°C below room temperature, which ensures a positive laminar flow air pattern. This type of diffuser is not normally recommended for isothermal or heating applications.

4. **Pressure Drop**
   All pressure drop data shown in the tables are static pressures measured in the diffuser spigot.

5. **Sound Levels**
   Single units:- NC levels shown assume a room absorption of 8db.
   Multiple units:- NC levels shown assume a room absorption of 2db and a face velocity of 0.12m/sec.

6. **Multiple Units**
   The optimum selection conditions are with a face velocity of 0.1 m/sec at a cooling differential of 5-9°C. Units will operate satisfactorily however, from 0.07 m/sec to 0.13 m/sec face velocit!

7. **Volume Control Dampers**
   Spigot dampers have an adverse effect on the laminar flow characteristics and are not normally recommended. We would suggest that these be sited in the upstream duct work if possible.

TABLE A: SINGLE UNITS TYPE LFS, LFT

Volume (M^3/S)	Velocities (M/S) Face	Neck	ΔPs (Pa)	Nc
0.07	0.10	1.00	2	-
0.08	0.12	114	3	-
0.10	0.15	1.43	5	15
0.12	0 18	1.72	6	18
0.14	0.20	2.00	8	24
0.16	0.24	2.29	10	28
0.18	0.27	2.57	15	32
0.20	0.30	2.86	18	35

MULTIPLE UNITS PERFORMANCE DATA - SEE OVERLEAF

LAMINAR FLOW DIFFUSERS

PERFORMANCE DATA - MULTI PANEL **TYPE:** LFS • LFT • LFM

TABLE B MULTIPLE UNITS TYPE LFM

Panel Size	1800 x 2400		3000 x 24000		4200 x 2400		5400 x 2400	
No Spigots	6 x 300 dia		10 x 300 dia		14 x 300 dia		18 x 300 dia	
Volume (M^3/s)	vle (M/S)	Δ Ps (Pa)	vel (M/S)	Δ Ps (Pa)	vel (M/S)	Δ Ps (Pa)	vel (M/S)	Δ Ps (Pa)
0.30	0.08	3	-	-	-	-	-	-
0.40	0.11	6	0.06	1	-	-	-	-
0.50	0.14	8	0.08	3	0.06	1	-	-
0.60	-	-	0.10	5	0.07	2	-	-
0.70	-	-	0.11	6	0.08	3	0.06	1
0.80	-	-	0.13	8	0.09	4	0.07	2
0.90	-	-	-	-	0.10	5	0.08	3
1.00	-	-	-	-	0.11	6	0.09	4
1.20	-	-	-	-	0.13	8	0.10	5
1.40	-	-	-	-	-	-	0.12	6
NC at 0.12 M/S	26		28		30		32	