



DIFFUSERS

PERFORATED CEILING DIFFUSER

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PERFORATED CEILING DIFFUSER

PCD

Perforated ceiling diffusers meet architectural demands for air outlets which easily blends into perforated ceilings or any other modern designs of ceiling system.

DESIGN & CONSTRUCTION

ADF Perforated Ceiling Diffuser has a perforated face with an open area of 50% which determine their capacity and performance.

Generally used as return air diffuser, this range of products can be alternatively used as supply air outlet with high air entrainment allowing large quantity of air to be diffused.

Standard units without any deflection device are designed for low capacity discharging low volume of air at low velocities. Units for high capacity applications are come with a specified deflection device to obtain horizontal air throw pattern.

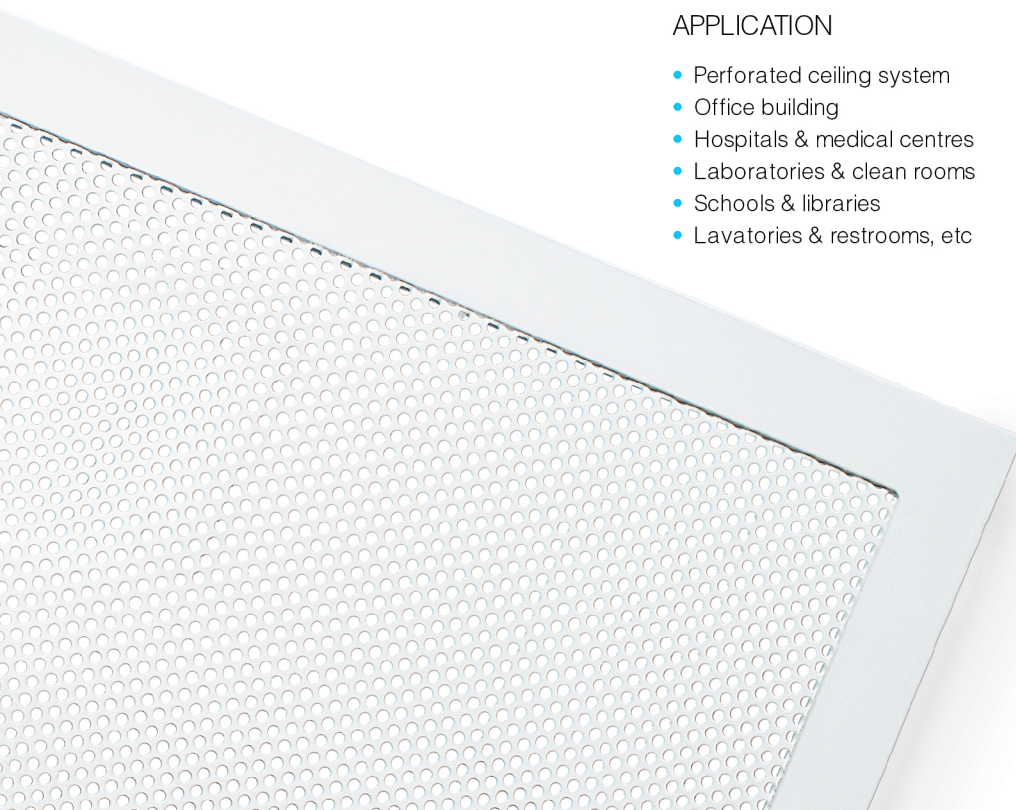
System using this range of products are recommended to be specifically designed for satisfactory performance.

FEATURES

- Flexible in applications: suitable for supply, return or transfer air.
- Ideal for laminar flow and air displacement ventilation.
- High air entrainment.
- Constructed from Galvanised Steel or Aluminium and finished to baked enamel or natural anodised.
- Wide range of deflection devices for optimum performance of air throw.

APPLICATION

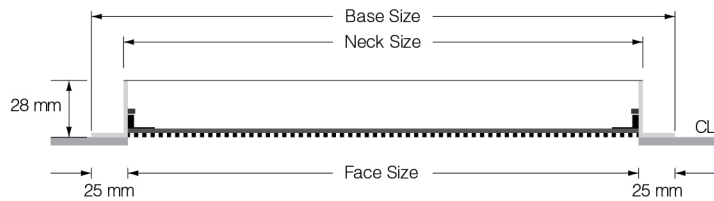
- Perforated ceiling system
- Office building
- Hospitals & medical centres
- Laboratories & clean rooms
- Schools & libraries
- Lavatories & restrooms, etc



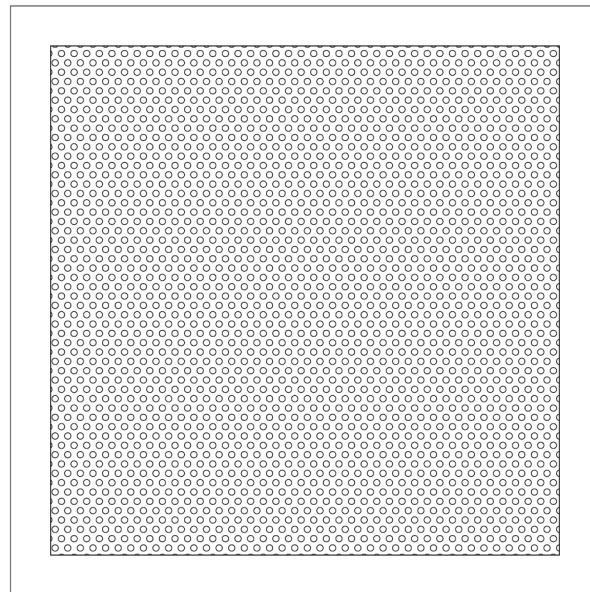
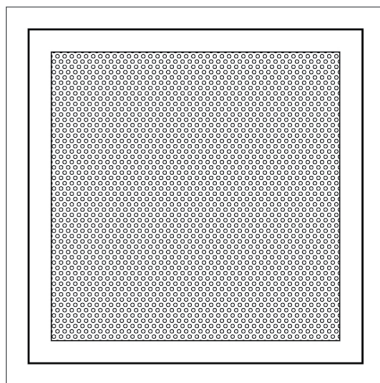
PERFORATED CEILING DIFFUSER

Model PCD

PHYSICAL DIMENSION



PCD with full or semi-detachable front panel



Base Size		Neck / Face Size		Face Area		Effective Free Air Area	
mm	inch	mm	inch	M ²	FT ²	M ²	FT ²
300 x 300	12 x 12	250 x 250	10 x 10	0.0625	0.694	0.031	0.347
400 x 400	16 x 16	350 x 350	14 x 14	0.1225	1.361	0.061	0.681
600 x 300	24 x 12	550 x 250	22 x 10	0.1375	1.528	0.069	0.764
600 x 600	24 x 24	550 x 550	22 x 22	0.3025	3.361	0.151	1.681
1200 x 600	48 x 24	1150 x 550	46 x 22	0.6325	7.028	0.316	3.514

PERFORATED CEILING DIFFUSER

Model PCD

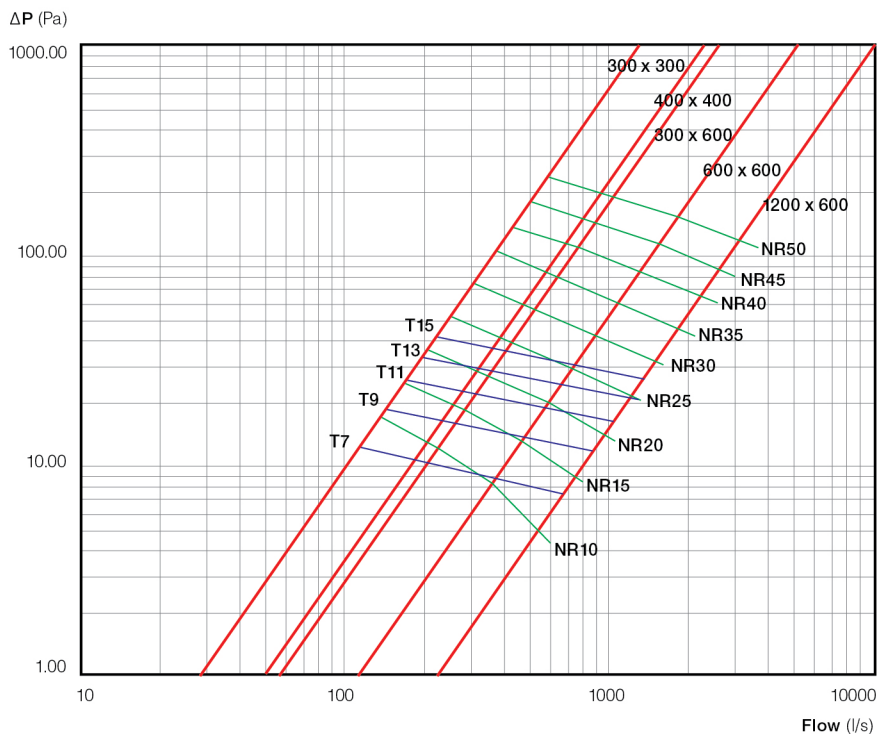
PERFORMANCE DATA

Neck Velocity, m/s		1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
Neck Size mm x mm	ΔP Pa	17	29	43	59	78	99	122	147	174	203	234
	Air, l/s	135	180	225	270	315	360	405	450	495	540	585
300 x 300	Throw, m	9	12	15	19	>19	>19	>19	>19	>19	>19	>19
	NR	10	17	23	27	31	34	38	42	45	47	50
400 x 400	Air, l/s	240	320	400	480	560	640	720	800	880	960	1040
	Throw, m	9	13	17	21	>21	>21	>21	>21	>21	>21	>21
600 x 300	NR	13	20	26	30	34	38	42	45	48	50	53
	Air, l/s	270	360	450	540	630	720	810	900	990	1080	1170
600 x 600	Throw, m	10	13	17	21	>21	>21	>21	>21	>21	>21	>21
	NR	14	21	27	31	35	39	42	46	49	52	54
ΔP Pa		8	17	29	43	59	78	99	122	147	174	203
600 x 600	Air, l/s	360	540	720	900	1080	1260	1440	1620	1800	1980	2160
	Throw, m	7	11	15	19	>19	>19	>19	>19	>19	>19	>19
1200 x 600	NR	10	18	25	31	35	39	43	46	50	53	56
	Air, l/s	720	1080	1440	1800	2160	2520	2880	3240	3600	3960	4320
1200 x 600	Throw, m	7	12	16	20	25	>25	>25	>25	>25	>25	>25
	NR	15	23	29	34	39	44	47	51	54	57	60

SELECTION NOMOGRAPH

MODEL PCD

PRESSURE DROP vs FLOW vs THROW vs NR
(Throw in metres, for velocity of 0.25 m/s)



SELECTION GUIDE

1. Select from horizontal axis the required air flow, plot a vertical line up.
2. Select the required pressure drop by plotting a horizontal line to cross-section with the plotted air flow line.
3. The cross-section point will determine the desired diffuser with the closest Neck Size, Throw and NR.

LAMINAR FLOW UNIT

LFU

LFF



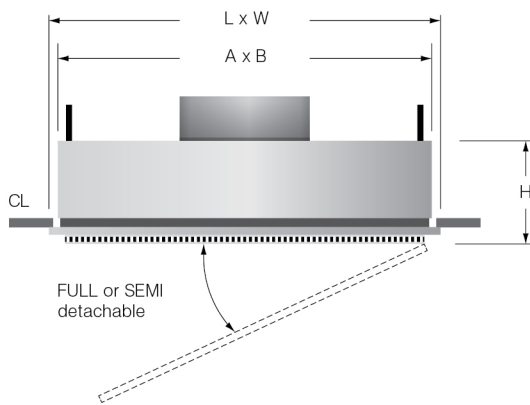
This specialised range of Laminar Flow Unit is constructed with or without removable HEPA filter and perforated-faced plenum mounting system to provide clean supply air at low velocity to the occupied work area preventing mixing of contaminated air. The air displacement effect is further enhanced by exhaust air system at low level.

The front panel is detachable for maintenance purposes such as filter replacement, etc.

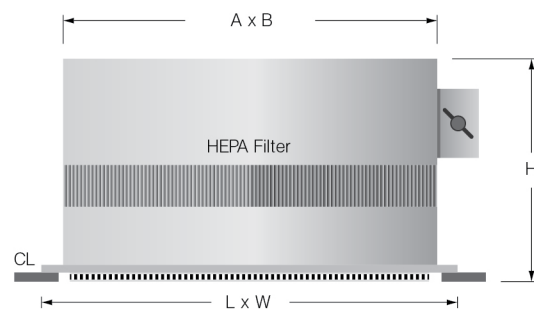
Available in aluminium or stainless steel construction, this product is most applicable for:

- Operating rooms
- Clean rooms
- Semiconductor
- Pharmaceutical
- Biotech
- Food processing
- Laboratories
- Veterinary clinics

OPTIONAL designs and constructions available to meet various project requirements. Contact sales representative for further details.



Flush mounting for Model LFU



Lay-on mounting for Model LFF

PHYSICAL DIMENSION

Model	Base Size L x W mm	Plenum Size A x B mm	Top Inlet Round mm Ø	Side Inlet Oval mm	Overall Height, H mm	
					Top Inlet	Side Inlet
LFU2	600 x 600	550 x 550	200	-	75	-
LFU4	1200 x 600	1150 x 550	300	-	100	-
LFF2	600 x 600	550 x 550	200	125 x 250	250	300
LFF4	1200 x 600	1150 x 550	300	150 x 300	300	300

LAMINAR FLOW UNIT

Model LFU
Model LFF

PERFORMANCE DATA

Model	Air Flow, l/s	40	60	80	100	120	150	200	225	250
LFU2	Velocity, m/s	0.42	0.48	0.63	0.71	0.78	0.85	-	-	-
	ΔP , Pa	2	3	4	6	9	12	-	-	-
	NR	<15	<15	16	19	22	27	-	-	-
LFU4	Velocity, m/s	-	-	0.4	0.4	0.53	0.62	0.73	0.78	0.83
	ΔP , Pa	-	-	2	4	5	10	15	20	25
	NR	-	-	<15	<15	<15	<15	15	18	22

** Velocities are the average values measured within 2.5 m of vertical air stream from air outlet and at temperature differential of -10 °C.

** Correction factor of ΔP for Clean HEPA filter, add 200-300 Pa.

TYPICAL LAMINAR FLOW AIR STREAM

