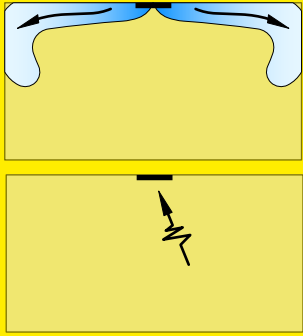


Linear diffusers

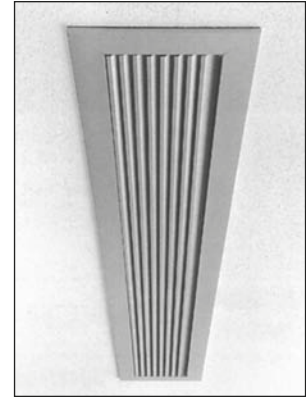
LINEAR LOUVRE DIFFUSER

introduction



The F45L louvre style ceiling diffuser offers an alternative form of continuous air distribution system for variable air volume or fan coil applications.

The diffuser can be supplied with one or two way cores in either single lengths or in sections, with frame alignment pins for continuous applications. Removable cores are offered as standard, allowing both ease of installation and service access to air filters or controls. The cores are retained with spring clips and are supplied complete with detachable safety cords.



The F45L diffuser is manufactured in standard width increments ranging from 150mm to 400mm and can be supplied in single lengths upto 1200mm long.

For continuous applications, the core section lengths are limited to 1200mm, although frames can be manufactured upto 3m long.

type

F45L /1 = 1 way blow Flanged or Plaster Frame
/2 = 2 way blow

control

Control options include diffuser mounted opposed blade dampers (OB) or spigot mounted flap dampers (FDQ Quadrant operated or FDC Cord operated).

options

A full range of plenums are available to suit a variety of installation conditions. See **Part H** for details.

fixings

We offer 2 types of fixing method. The first being the yoke strap fixing method which is offered as standard, providing ease of installation when used with Brooke air plenums. Installation details are shown on the installation page 12.

The second fixing method is via screw through plenum flange. This is used on plaster in frame. Again, further details regarding fixing can be found on the installation page.

finish

The standard finish is satin anodised aluminium, but a wide range of paint finishes are also available in either BS or RAL colours.

See **Part I** for details.

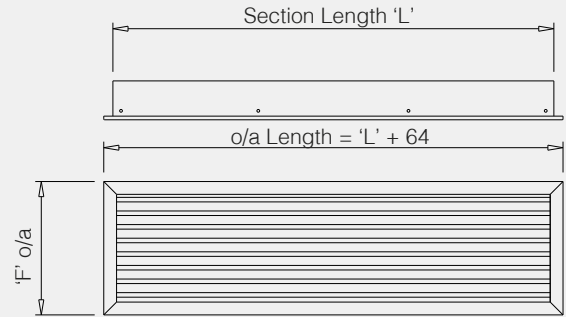
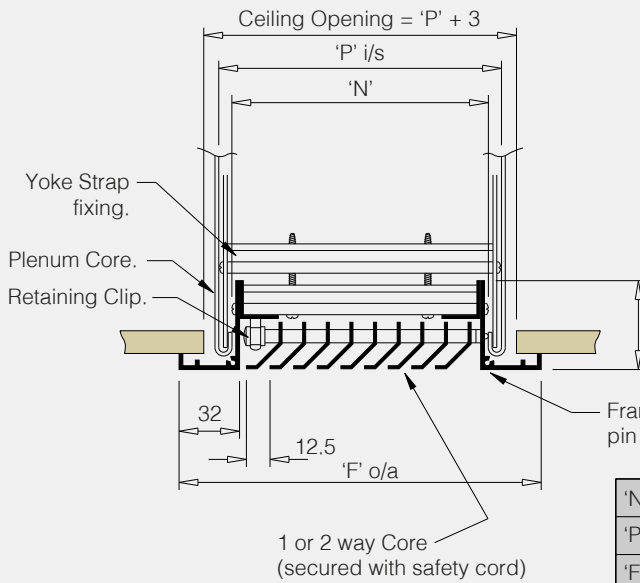
ordering details

When ordering, state the diffuser type (F45L/1 or F45L/2), the required width, the section length and the finish.

EXAMPLE :

type	end option	finish	length	quantity
F45L-RPF/2	/ ENDS	/ SAA	/ 1500	/ 3

FLANGED F45

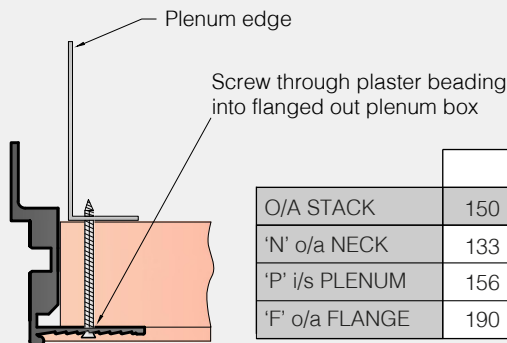
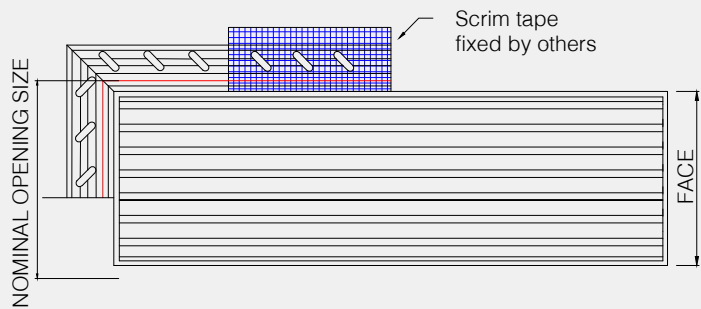
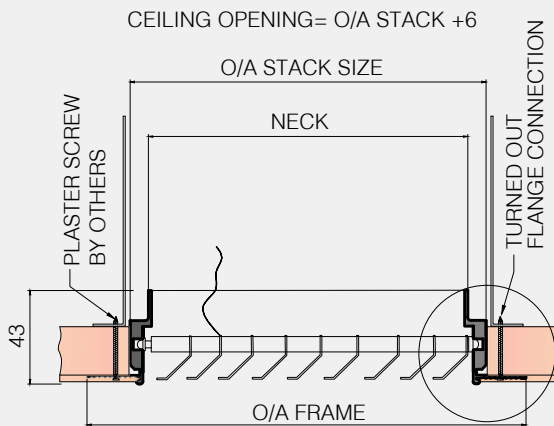


	NOMINAL DIFFUSER HEIGHT (mm)					
	150	200	250	300	350	400
'N' o/a NECK	134	185	236	287	337	388
'P' i/s PLENUM	144	195	246	297	347	398
'F' o/a FLANGE	191	242	293	344	394	445

Note: inside Plenum length add 6mm when using end caps.

TYPE-F45/RPF

(Plaster frame)



	DIFFUSER HEIGHT (mm)						
O/A STACK	150	200	250	300	350	400	
'N' o/a NECK	133	183	233	283	333	383	STACK-17
'P' i/s PLENUM	156	206	256	306	356	406	=CEILING OPENING
'F' o/a FLANGE	190	240	290	340	390	440	STACK +40

Linear diffusers

PERFORMANCE DATA

NOMINAL WIDTH	PARAMETER	AIR FLOW RATE (l/s/m)									
		70	80	90	100	110	120	140	160	180	200
150	1 WAY THROW (m)	3.0	3.5	4.0	4.4	4.8	5.2	6.1	7.1		
	2 WAY THROW (m)	2.5	2.9	3.2	3.6	4.0	4.3	5.1	5.9		
	Ps (Pa)	2	2	3	3	4	4	6	7		
	NR LEVEL		15	19	23	27	30	35	40		
200	1 WAY THROW (m)				3.6	4.0	4.4	5.0	5.8	6.5	7.3
	2 WAY THROW (m)				2.8	3.0	3.3	4.0	4.5	5.0	5.7
	Ps (Pa)				2	2	2	3	4	5	6
	NR LEVEL					18	21	26	31	35	38

NOMINAL WIDTH	PARAMETER	AIR FLOW RATE (l/s/m)									
		120	140	160	180	200	220	240	260	280	300
250	1 WAY THROW (m)	3.7	4.3	4.9	5.6	6.1	6.8	7.5	8.0		
	2 WAY THROW (m)	2.8	3.3	3.7	4.2	4.7	5.2	5.7	6.1		
	Ps (Pa)	2	2	3	3	4	5	6	7		
	NR LEVEL		19	23	27	31	35	38	41		
300	1 WAY THROW (m)			4.5	5.0	5.7	6.2	6.7	7.3	7.9	8.5
	2 WAY THROW (m)			3.3	3.7	4.0	4.5	5.0	5.3	5.8	6.2
	Ps (Pa)			2	2	3	4	4	5	6	6
	NR LEVEL			18	22	25	29	32	35	38	40

NOMINAL WIDTH	PARAMETER	AIR FLOW RATE (l/s/m)									
		180	200	220	240	260	280	300	320	340	360
350	1 WAY THROW (m)	4.6	5.0	5.6	6.1	6.6	7.1	7.6	8.1	8.7	
	2 WAY THROW (m)	3.4	3.7	4.2	4.5	4.9	5.2	5.7	6.1	6.4	
	Ps (Pa)	2	2	3	3	4	4	5	6	6	
	NR LEVEL	17	21	24	27	30	33	35	37	40	
400	1 WAY THROW (m)	4.3	4.7	5.1	5.7	6.1	6.6	7.1	7.6	8.0	8.6
	2 WAY THROW (m)	3.0	3.3	3.6	4.0	4.4	4.7	5.0	5.3	5.7	6.1
	Ps (Pa)	2	2	3	3	4	4	5	6	6	7
	NR LEVEL		17	20	23	26	29	31	33	36	38

Linear diffusers

PERFORMANCE DATA

The tabulated data is based on a 1.25m length of diffuser. Correction factors should be applied to the noise and throw data for continuous lengths. (See table 1 below)

Jet throws are based on a terminal velocity (V_t) of 0.5m/s, corresponding to an average room air velocity (V_r) of 0.2m/s with a cooling differential of 11°C and a room height of 2.7m. Where the application height differs from this, throw selections should be adjusted accordingly; that is, increasing the throw by 1m for every 1m increase in height.

Noise data is based on one or two way throw configurations and is expressed in terms of NR level with a room absorption factor of 8dB.

basis of data

throws

noise levels

Length correction factors

table 1

	ACTIVE DIFFUSER LENGTH (m)					
	0.5	1.0	1.2	2.0	2.5	3.0
Throw/Projection factor	0.7	0.8	1.0	1.1	1.25	1.5
NR addition	-4	-1	0	+2	+3	+5

Temperature correction factors

table 2

	TEMPERATURE DIFFERENTIAL (°C)					
	-10	0	+5	+10		
Throw factor	1.0	1.1	1.15	1.2		