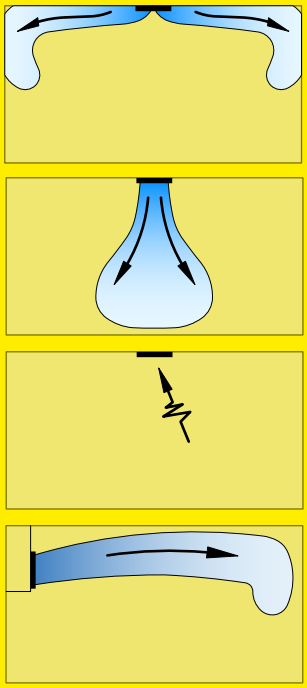
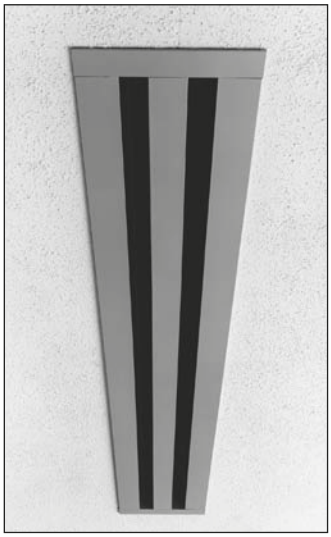
CONTINUOUS SLOT DIFFUSER

introduction



The LCS series diffuser has been developed to provide a simple and economical form of continuous slot air distribution system and is suitable for variable air volume schemes or fan coil applications.
The air direction blades are readily adjustable from the diffuser face and have been designed to minimise discharge air turbulence, resulting in low pressure loss and low noise generation characteristics.



type

LCS Flanged, Recessed and Plaster Frame.

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 11.

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 frame and 'T' sections with matt black blades. A wide range of paint finishes are also available in BS or RAL colours. See **PART I** for details.

The following designations should be used when specifying the required finish:

A = Satin anodised frame with black blades.
B = Specified frame colour with black blades

sizes

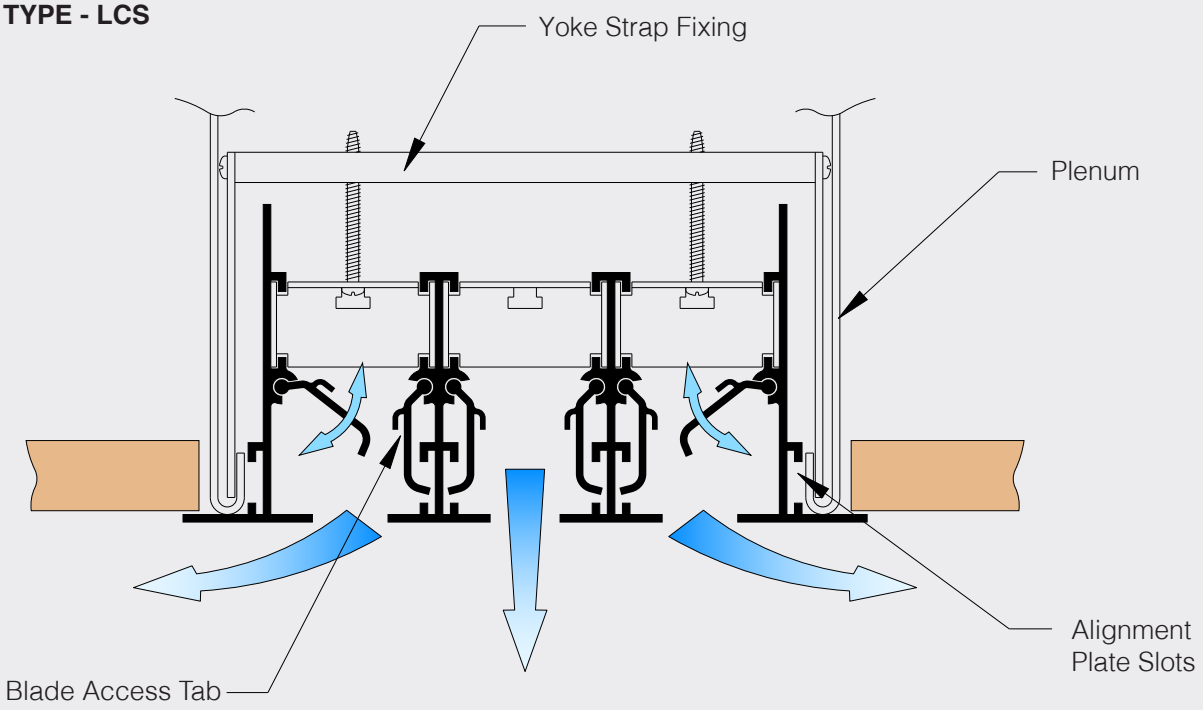
The LCS system is completely modular, offering single section lengths up to 2m, in maximum widths of 6 slot.

The frame and intermediate sections incorporate alignment plate slots to ensure section joins. Preformed corner sections can also be supplied to suit building contours, thereby eliminating site trimming.

CONTINUOUS SLOT DIFFUSER

design features

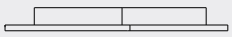
TYPE - LCS

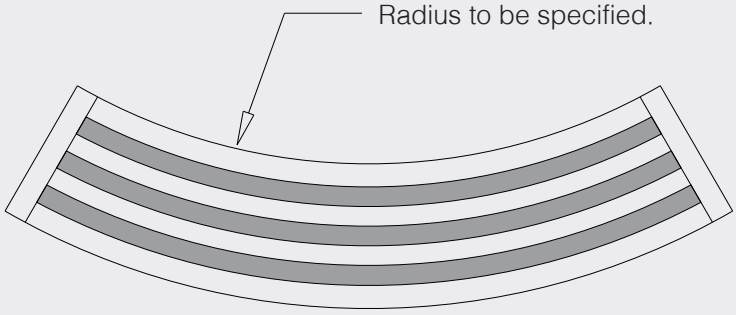


Standard Flanged unit shown

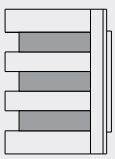
curved options

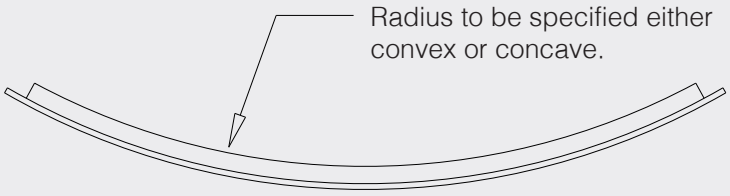
CURVED CEILING - CILL (CC)





CURVED SIDE WALL (CSW)

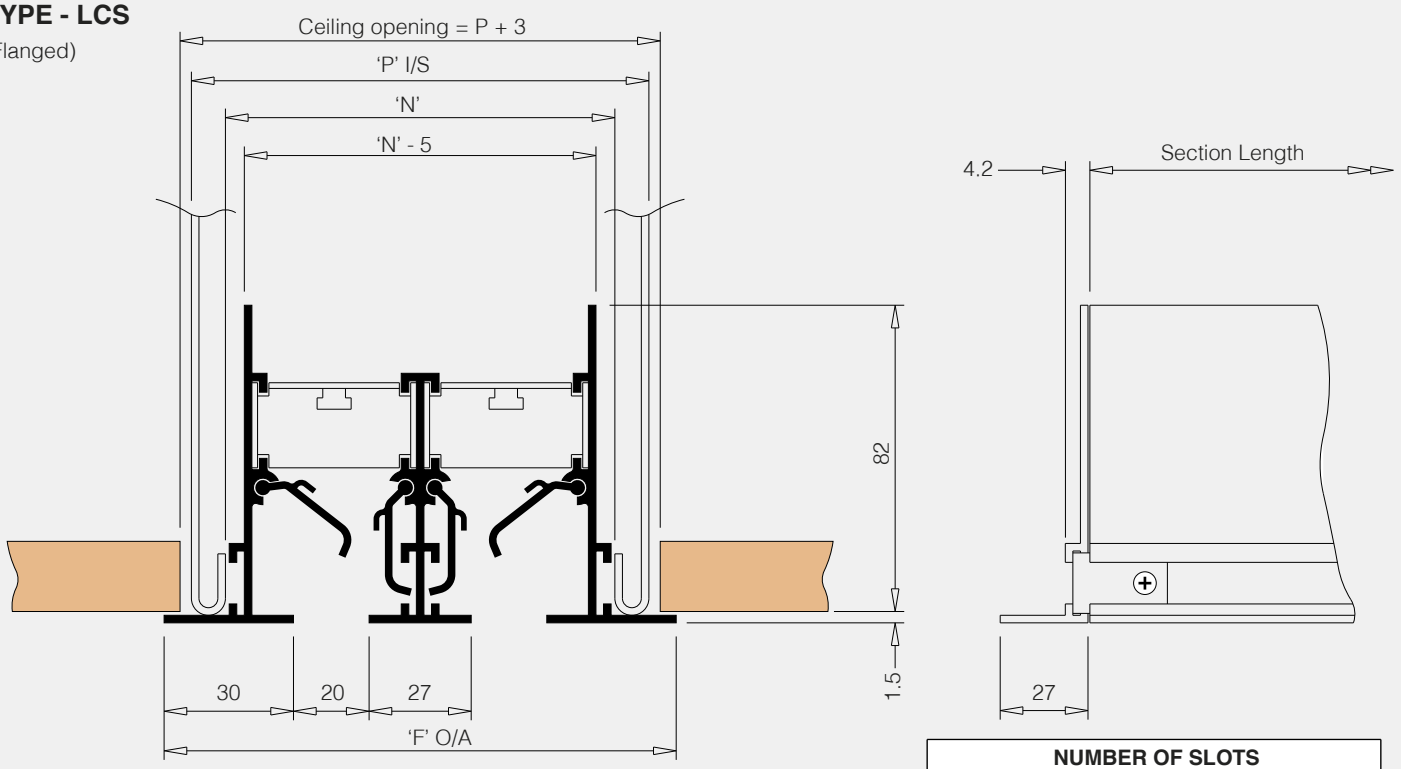




DIMENSIONS AND ORDERING DESIGNATIONS

dimensions

TYPE - LCS
(Flanged)

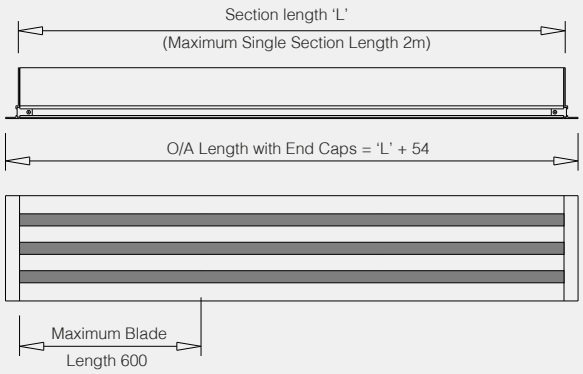


	NUMBER OF SLOTS					
	LCS1	LCS2	LCS3	LCS4	LCS5	LCS6
'N' o/a NECK	54	101	148	195	242	289
'P' I/S PLENUM	68	115	162	209	256	303
'F' o/a FLANGE	80	127	174	221	268	315

Note: inside Plenum length add 14mm when using end caps.

ordering designations

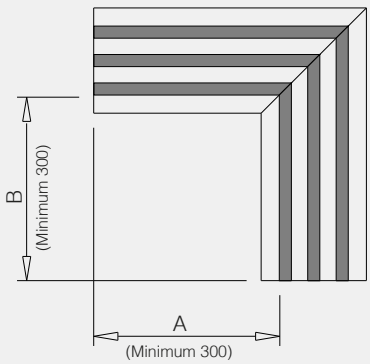
When ordering linear sections, state the number of slots required, the section length and the finish designation code.



	type		end option		finish		length		quantity
Examples :	LCS3	/	ENDS	/	A	/	1500	/	6
	LCS3/RPF	/	ENDS	/	A	/	1500	/	6

When ordering corner sections, state the number of slots required, the inside lengths A and B, the angle and the finish designation code.
Note: dimensions A and B should be based on the reflected ceiling plan.

Corners are normally supplied as non active sections.
Other angles available.

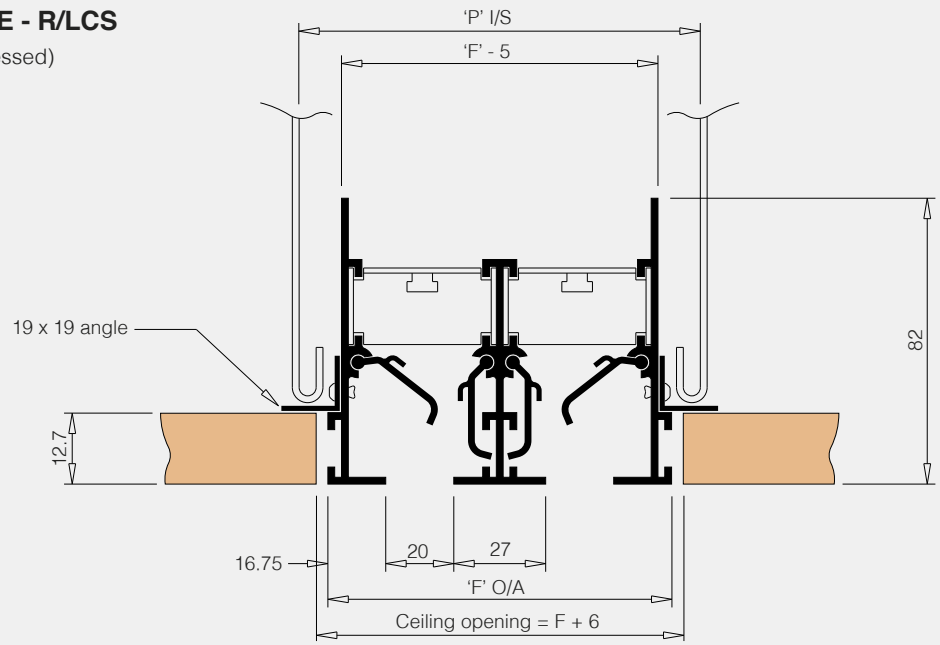


type	angle	finish	length (A x B)	quantity
LCS3	/ 90° /	A	/ 300 x 300	/ 6

DIMENSIONS

TYPE - R/LCS

(Recessed)

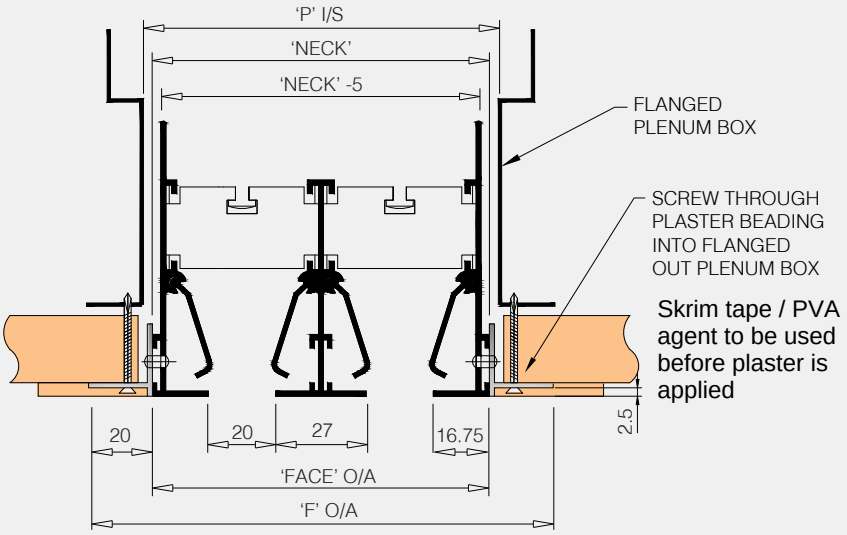


	NUMBER OF SLOTS					
	R/LCS1	R/LCS2	R/LCS3	R/LCS4	R/LCS5	R/LCS6
'F' o/a NECK	54	101	148	195	242	289
'P' I/S PLENUM	68	115	162	209	256	303

Note: inside Plenum length add 14mm when using end caps.

TYPE - LCS2/RPF

(Plaster frame)



	NUMBER OF SLOTS						
	RPF/LCS1	RPF/LCS2	RPF/LCS3	RPF/LCS4	RPF/LCS5	RPF/LCS6	
'N' o/a NECK	54	101	148	195	242	289	
'P' i/s PLENUM	62	109	156	203	250	287	NECK +8
'F' o/a RPF FLANGE	96	143	190	237	284	331	FACE +42
FACE	54	101	148	195	242	289	

Note: inside Plenum length add 10mm when using end caps.
Nominal ceiling opening = Neck+8

PERFORMANCE DATA

basis of data

The following tabulated data is based on a 1.2m length of diffuser. Correction factors should be applied to the noise and throw data for continuous lengths. See table 1 on page 7.

throws

Maximum and minimum throws are based on jet terminal velocities (Vt) of 0.25 and 0.75m/s respectively and correspond to average room air velocities (Vr) of 0.1 and 0.25m/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.

projection

Projection data is based on a vertical free jet at a heating differential of 10°C and represents the point at which the jet has fully retarded. Correction factors can be applied for other heating differentials, as detailed in table 2 on page 7.

noise levels

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

When used in projection mode the noise levels are reduced by NR 10.

		AIR FLOW RATE (l/s/m)									
		20	40	60	80	100	120	140	160	180	200
LCS1	THROW (m) MIN	0.7	1.4	2.1	2.7	3.4					
	THROW (m) MAX	2.7	4.3	5.7	7.0	7.8					
	PROJECTION (m)	0.7	1.8	3.0	4.5	6.0					
	Ps (Pa)		6	15	28	45					
	NR LEVEL		14	26	35	42					
LCS2	THROW (m) MIN		1.2	1.6	2.0	2.5	3.0	3.4	3.8	4.2	4.7
	THROW (m) MAX		3.5	5.0	6.0	7.0	7.7	8.4	9.0	9.8	10.4
	PROJECTION (m)			1.7	2.5	3.3	4.2	5.2	6.2	7.3	8.5
	Ps (Pa)			3	6	10	14	21	28	35	45
	NR LEVEL				17	24	29	33	38	41	45

		AIR FLOW RATE (l/s/m)									
		100	125	150	175	200	225	250	275	300	325
LCS3	THROW (m) MIN	2.1	2.5	3.0	3.5	4.0	4.4	4.8			
	THROW (m) MAX	6.0	7.2	8.2	9.1	9.8	10.5	10.9			
	PROJECTION (m)	2.3	3.2	4.0	5.0	6.0	7.0	8.0			
	Ps (Pa)	5	8	12	16	22	28	35			
	NR LEVEL		20	26	31	35	38	42			
LCS4	THROW (m) MIN	1.8	2.2	2.7	3.1	3.5	3.8	4.2	4.6	5.0	5.5
	THROW (m) MAX	5.6	6.7	7.7	8.7	9.5	9.8	10.5	11.0	11.4	12.0
	PROJECTION (m)		2.4	3.1	3.8	4.5	5.3	6.0	7.0	8.0	10.0
	Ps (Pa)		4	5	8	10	13	16	20	24	28
	NR LEVEL			17	22	27	30	34	37	40	42

PERFORMANCE DATA

		AIR FLOW RATE (l/s/m)									
		200	225	250	275	300	325	350	375	400	450
LCS5	THROW (m) MIN	3.2	3.5	4.0	4.2	4.5	5.0	5.2	5.6		
	THROW (m) MAX	8.4	9.0	9.8	10.4	11.0	11.5	12.0	12.3		
	PROJECTION (m)	3.8	4.4	5.0	5.7	6.5	7.2	8.0	9.0		
	Ps (Pa)	7	9	11	14	17	20	23	27		
	NR LEVEL	21	25	28	32	34	36	38	41		
LCS6	THROW (m) MIN	2.9	3.2	3.5	3.8	4.2	4.5	4.8	5.0	5.4	6.0
	THROW (m) MAX	8.0	8.6	9.3	10.0	10.5	11.0	11.5	11.9	12.2	13.0
	PROJECTION (m)	3.2	3.7	4.3	5.0	5.6	6.2	6.8	7.5	8.2	10.0
	Ps (Pa)	5	6	8	9	11	13	16	18	21	27
	NR LEVEL	16	19	23	26	29	31	34	36	38	42

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	+15	+20
Throw factor	1.0	1.1	1.15	1.2		
Projection factor	1.6	1.25	1.15	1.0	0.73	0.62

Exhaust correction factors **table 3**

NR correction	-10
Pressure loss factor	0.8