

Two-way Narrowline Slot Diffusers

Description

For supply or extract air, fixed blade slot diffuser available with quick release core, ideal for fan coil units due to low pressure drop and short throws. Suitable for ceiling mounting only.

Construction

From extruded aluminium sections, frame 1.6mm thick, blades 1.6mm thick on 20mm centres. Hairline mitres mechanically locked. Optional OBD is of extruded aluminium.

Size and Weight

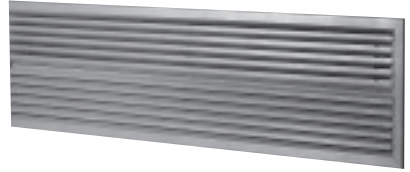
Height of slot diffuser is determined by the number or slots required, usually up to a maximum of 24 slots. The diffuser is designed to form long continuous lengths but is also effective in short sections.

Diffuser only 12.0kg/m². Diffuser and OBD 20.0kg/m².

How to Specify

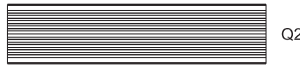
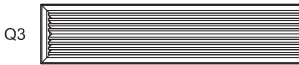
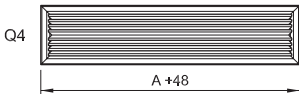
STATE QUANTITY, THE PRODUCT CODING AND THE SIZE WIDTH X HEIGHT

e.g. 10 Qty.Q4RS0+8C 3000 Long.

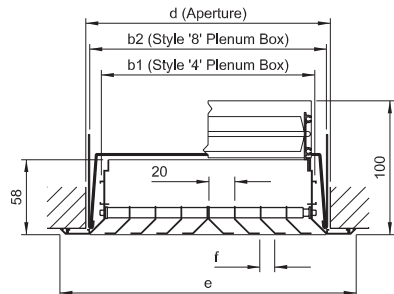
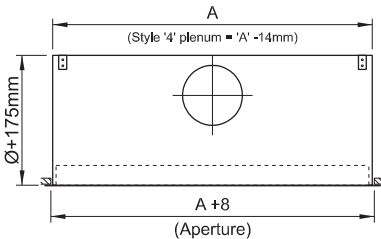


Frame Style	Slot Quantity	Options	Accessories
Q4 35mm Border 2 End Caps	H > R	S Spring Release Core (J > R)	0 None
Q3 35mm Border 1 End cap		0 Fixed Core	V Damper
Q2 35mm Border No End Caps			

Fixings	Finish
2 Neck Fixings	C PPC BS /RAL Colour
8 Concealed Rear Bracket ('S' Core Only)	D Mill Finish
4 Drop Rod Lugs	



Two - Way Air Pattern



Size	H	J	K	L	M	N	P	R
f	2 + 2	3 + 3	4 + 4	5 + 5	6 + 6	8 + 8	10 + 10	12 + 12
b1 (mm)	87	127	167	207	247	327	407	487
b2 (mm)	N/A	141	181	221	261	341	421	501
d (mm)	109	149	189	229	269	349	429	509
e (mm)	149	189	229	269	309	389	469	549

Technical Data Narrowline Slot Diffusers (Q- Model)

Narrow line slot diffuser

An aesthetically pleasing fixed vane linear diffuser providing a one-way or two-way opposite air pattern in long continuous appearance or in short individual form. The diffuser core has a quick release mechanism for access to rear accessories and to facilitate concealed fixing. Core retaining safety wires are fitted as standard. Non-removable core is optional.

Application

The narrowline slot diffuser is primarily designed for supply air ceiling mounting installations serving large open plan areas or small partitioned-off spaces, heating or cooling. Low resistance makes this diffuser ideal for fan coil use. A thicker air stream is produced than conventional slot diffusers thus giving a shorter throw (Lt).

Performance Data

Based upon a 1200mm long x 5 slots wide module 1-way air pattern supplying cool air at 10°C below room temperature and a floor to ceiling height of 2.7 metres with an unobstructed flush false ceiling. Performance is influenced by the diffuser length. For guidance correction values are given in Fig. 1. Also refer to Fig. 2. for maximum recommended air volumes per direction in relation to ceiling heights based on 10°C cooling.

Fig. 1.

Diffuser Length (metres)	Lt (Throw Distance in metres)	NC ±
0.6 - 0.75	Lt x 0.75	-3
0.75 - 0.9	Lt x 0.90	-1
1.0 - 1.2	Lt x 1.00	0
1.3 - 1.5	Lt x 1.05	+1
1.6 - 2.0	Lt x 1.10	+2
2.1 - 3.0	Lt x 1.15	+2
3.1 - 4.0	Lt x 1.20	+3
4.1 +	Lt x 1.25	+4

Fig. 2.

Ceiling Height (metres)	2.3	2.5	2.7	3.0	3.5
Volume Per Direction Per Linear Metre (l/s)	50	100	175	250	400

Throw (Lt) and terminal velocity (Vt)

The throw (Lt) in Fig. 3. is given in metres per one direction and is the distance from the outlet to the opposing wall or half the distance between opposing diffusers. The short Lt values given in the tables is that distance at which the air stream velocity has been reduced to 0.5M/s Vt and the longer throw is that distance at which the air stream has been reduced to 0.25M/s Vt. For 2-way opposite air pattern with an equal volume in both directions halve the volume and select as normal. It is possible to have unequal sections i.e. an 8 slot diffuser could be produced to give 3 slots one-way and 5 slots in the opposite direction. Divide the air volume proportionately and select from the tables in the normal manner.

Exposed duct mounting

Where there is no ceiling to support the air stream the throw (Lt) will effectively be reduced by approximately 33% and the air-off envelope, rather than being horizontal, will be inclined at an angle of between 20° to 30°.

Extract applications

For continuous linear sizes select from Fig. 3. and apply the following:

Correction Factor For Exhaust Use

Pressure Loss = Ps x 2
Noise Criteria = +4 NC

Fig. 3.

qm (l/s) Air Volume Per Linear Metre	f Slot Quantity	Vn (Ms) Neck Velocity	Ps Pascals	NC Noise Criteria	Lt Throw Distance (metres)
50	2 x f	1.05	7	18	1.8 - 2.5
	3 x f	0.75	4	-	1.6 - 2.1
	4 x f	0.60	3	-	0.9 - 1.3
	5 x f	0.45	2	-	0.7 - 1.1
	6 x f	0.30	1	-	-
75	2 x f	1.83	14	24	3.0 - 4.5
	3 x f	1.23	9	20	2.6 - 3.5
	4 x f	0.93	7	18	1.8 - 2.5
	5 x f	0.74	5	16	1.6 - 2.2
	6 x f	0.62	3	-	1.3 - 1.9
100	3 x f	1.65	11	26	3.0 - 4.3
	4 x f	1.25	9	22	2.4 - 3.6
	5 x f	1.00	6	19	2.0 - 3.0
	6 x f	0.83	4	17	1.7 - 2.6
	8 x f	0.62	2	-	1.4 - 2.0
125	3 x f	2.05	17	27	4.0 - 5.4
	4 x f	1.55	11	25	3.1 - 4.2
	5 x f	1.24	7	23	2.6 - 3.6
	6 x f	1.03	5	22	2.4 - 3.3
	8 x f	0.78	3	19	1.8 - 2.6
150	3 x f	2.46	23	32	5.0 - 6.3
	4 x f	1.85	14	28	3.6 - 4.9
	5 x f	1.49	9	26	3.3 - 4.3
	6 x f	1.24	7	24	3.0 - 4.0
	8 x f	0.93	4	22	2.6 - 3.5
175	4 x f	2.16	18	33	4.5 - 5.8
	5 x f	1.73	13	30	4.0 - 5.2
	6 x f	1.45	10	28	3.7 - 4.8
	8 x f	1.09	5	25	3.0 - 4.1
	10 x f	1.87	2	22	2.5 - 3.3
200	4 x f	2.50	24	36	5.1 - 6.8
	5 x f	2.00	17	33	4.8 - 6.0
	6 x f	1.65	12	31	4.3 - 5.5
	8 x f	1.25	7	27	3.6 - 4.8
	10 x f	1.00	5	23	2.8 - 3.9
225	5 x f	2.23	20	35	5.2 - 6.8
	6 x f	1.86	15	33	4.7 - 6.2
	8 x f	1.40	10	29	3.9 - 5.3
	10 x f	1.12	8	24	3.1 - 4.3
	12 x f	1.94	5	22	2.5 - 3.5
250	5 x f	2.48	24	38	6.3 - 8.0
	6 x f	2.07	17	35	5.4 - 6.9
	8 x f	1.55	11	31	4.5 - 6.0
	10 x f	1.24	9	26	3.6 - 5.0
	12 x f	1.04	7	24	2.9 - 4.0
275	6 x f	2.27	22	37	6.0 - 7.4
	8 x f	1.70	13	33	5.0 - 6.6
	10 x f	1.40	10	29	4.2 - 5.7
	12 x f	1.14	8	26	3.4 - 4.8
	15 x f	1.00	6	23	2.8 - 3.9
300	8 x f	1.86	16	35	5.4 - 7.2
	10 x f	1.49	11	31	4.8 - 6.3
	12 x f	1.25	9	29	3.9 - 5.2
	15 x f	1.00	7	26	3.0 - 4.3
	18 x f	0.83	5	23	2.4 - 3.3
325	8 x f	2.00	23	38	6.0 - 8.0
	10 x f	1.65	12	33	5.4 - 7.2
	12 x f	1.35	10	31	4.6 - 6.0
	15 x f	1.12	8	28	3.9 - 5.3
	18 x f	1.00	6	25	3.0 - 4.3
350	10 x f	1.74	14	37	6.0 - 8.0
	12 x f	1.45	11	34	5.2 - 7.0
	15 x f	1.25	9	31	4.6 - 6.0
	18 x f	1.00	7	28	3.9 - 5.2
	21 x f	0.83	5	25	3.0 - 4.3
375	10 x f	1.87	17	39	6.6 - 9.0
	12 x f	1.56	13	36	5.7 - 7.8
	15 x f	1.25	10	33	4.8 - 6.3
	18 x f	1.00	8	30	4.0 - 5.2
	21 x f	0.83	6	27	3.3 - 4.3
400	12 x f	1.66	14	40	6.4 - 8.5
	15 x f	1.35	11	37	5.6 - 7.4
	18 x f	1.12	9	34	4.8 - 6.3
	21 x f	1.00	7	31	4.0 - 5.2
	24 x f	0.83	5	28	3.3 - 4.3