

Overview

**12 Months
Warranty**

STOCKED RANGE Lay-In and Flush Mounted Diffusers

Description

For supply air, multi-core pattern design with quick release core, suitable for heating and cooling. Available in a range of different core patterns and sizes giving total flexibility for most installations in modern ceiling tile applications. Flanged for surface mounting or lay-in ceiling grid.

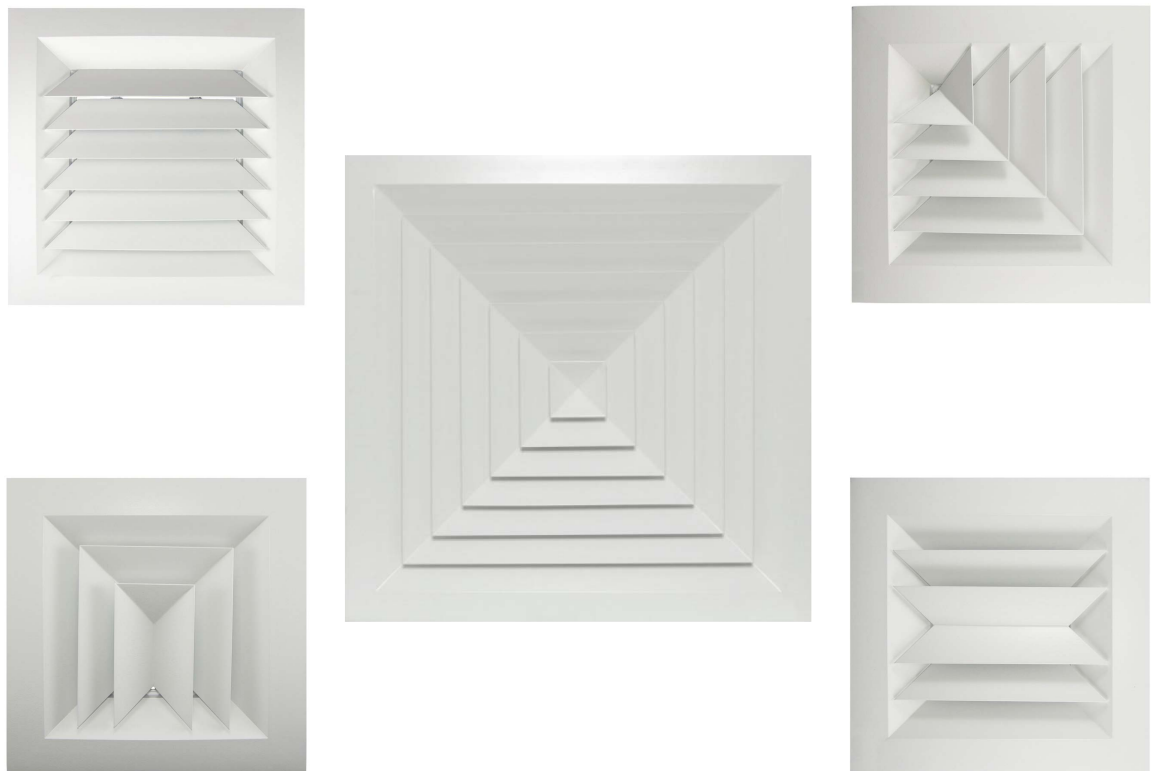
Construction

From extruded aluminium sections. Hairline mitred joints mechanically held. Optional Opposed Blade Dampers manufactured from extruded aluminium are also available.

PRODUCT CODE	DESCRIPTION
XLD and LD	Lay-In 1, 2OPP, 2CNR, 3 or 4-Way Blow Diffuser
SD	Flush Mounted 1, 2OPP, 2CNR, 3 or 4-Way Blow Diffuser

Note:

- Custom sizes and colours are available upon request
- Available in 5 different core patterns
- Powder coated white as standard
- [For product performance data, see pages 298 - 300](#)



QAE strive to provide products that best suit the market's requirements. As such, QAE reserve the right to supply products which may differ slightly from those shown in this and other publications. For product warranties please refer to our standard terms and conditions.

Lay-In Diffusers

Lay-In 4-Way Blow Diffusers						
PRODUCT CODE	NOMINAL NECK (mm)	EXACT NECK (mm)	CEILING OPENING (mm)	FACE SIZE X & Y (mm)	PIECES/CARTON	
LD4395F	250 x 250	245 x 245	320 x 320	395 x 395	8	
LD4595295F	450 x 150	445 x 145	520 x 220	595 x 295	10	
LD4595395F	450 x 250	445 x 245	520 x 320	595 x 395	10	
XLD4595F	450 x 450	445 x 445	520 x 520	595 x 595	8	
LD4605F	460 x 460	455 x 455	530 x 530	605 x 605	8	

Lay-In 3-Way Blow Diffuser						
PRODUCT CODE	NOMINAL NECK (mm)	EXACT NECK (mm)	CEILING OPENING (mm)	FACE SIZE X & Y (mm)	PIECES/CARTON	
LD3595F	450 x 450	445 x 445	520 x 520	595 x 595	8	

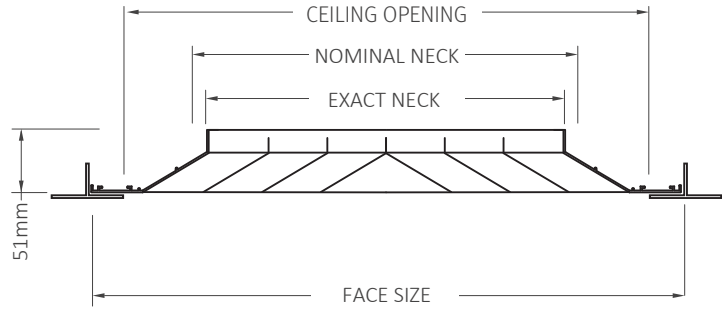
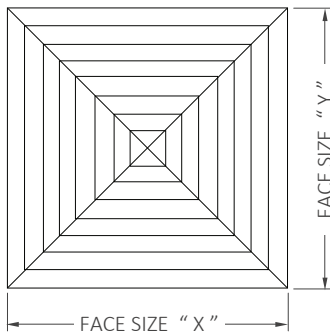
Lay-In 2-Way Opposite Blow Diffuser						
PRODUCT CODE	NOMINAL NECK (mm)	EXACT NECK (mm)	CEILING OPENING (mm)	FACE SIZE X & Y (mm)	PIECES/CARTON	
LD2OPP595F	450 x 450	445 x 445	520 x 520	595 x 595	8	

Lay-In 2-Way Corner Blow Diffuser						
PRODUCT CODE	NOMINAL NECK (mm)	EXACT NECK (mm)	CEILING OPENING (mm)	FACE SIZE X & Y (mm)	PIECES/CARTON	
LD2CNR595F	450 x 450	445 x 445	520 x 520	595 x 595	8	

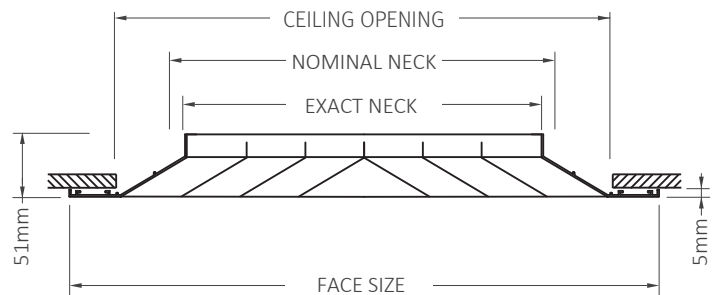
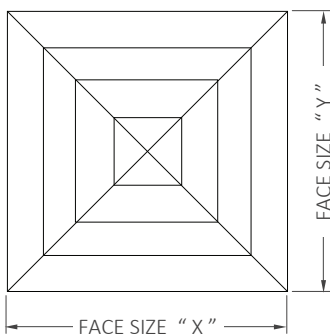
Lay-In 1-Way Blow Diffuser						
PRODUCT CODE	NOMINAL NECK (mm)	EXACT NECK (mm)	CEILING OPENING (mm)	FACE SIZE X & Y (mm)	PIECES/CARTON	
LD1595F	450 x 450	445 x 445	520 x 520	595 x 595	8	

Related Products for Lay-In Diffusers										
PBF	RN	RN	CB	OBD	BP	FCF	FCF	ALPBF	ALPBM	
see pg.79	see pg.274	see pg.274	see pg.267	see pg.68	see pg.273	see pg.274	see pg.274	see pg.226	see pg.227	

Lay-In Diffusers: LD and XLD



Flush Mounted Diffusers: SD



Flush Mounted Diffusers

STOCKED RANGE

Flush Mounted 4-Way Blow Diffusers						
PRODUCT CODE	NOMINAL NECK (mm)	EXACT NECK (mm)	CEILING OPENING (mm)	FACE SIZE X & Y (mm)	PIECES/CARTON	
SD466	150 x 150	145 x 145	220 x 220	295 x 295	10	
SD499	225 x 225	220 x 220	295 x 295	370 x 370	10	
SD41212	300 x 300	295 x 295	370 x 370	445 x 445	10	
SD41515	375 x 375	370 x 370	445 x 445	520 x 520	10	

Flush Mounted 3-Way Blow Diffusers						
PRODUCT CODE	NOMINAL NECK (mm)	EXACT NECK (mm)	CEILING OPENING (mm)	FACE SIZE X & Y (mm)	PIECES/CARTON	
SD366	150 x 150	145 x 145	220 x 220	295 x 295	10	
SD399	225 x 225	220 x 220	295 x 295	370 x 370	10	
SD31212	300 x 300	295 x 295	370 x 370	445 x 445	10	
SD31515	375 x 375	370 x 370	445 x 445	520 x 520	10	

Flush Mounted 2-Way Opposite Blow Diffusers						
PRODUCT CODE	NOMINAL NECK (mm)	EXACT NECK (mm)	CEILING OPENING (mm)	FACE SIZE X & Y (mm)	PIECES/CARTON	
SD2OPP66	150 x 150	145 x 145	220 x 220	295 x 295	10	
SD2OPP99	225 x 225	220 x 220	295 x 295	370 x 370	10	
SD2OPP1212	300 x 300	295 x 295	370 x 370	445 x 445	10	
SD2OPP1515	375 x 375	370 x 370	445 x 445	520 x 520	10	

Flush Mounted 2-Way Corner Blow Diffusers						
PRODUCT CODE	NOMINAL NECK (mm)	EXACT NECK (mm)	CEILING OPENING (mm)	FACE SIZE X & Y (mm)	PIECES/CARTON	
SD2CNR66	150 x 150	145 x 145	220 x 220	295 x 295	10	
SD2CNR99	225 x 225	220 x 220	295 x 295	370 x 370	10	
SD2CNR1212	300 x 300	295 x 295	370 x 370	445 x 445	10	
SD2CNR1515	375 x 375	370 x 370	445 x 445	520 x 520	10	

Flush Mounted 1-Way Blow Diffusers						
PRODUCT CODE	NOMINAL NECK (mm)	EXACT NECK (mm)	CEILING OPENING (mm)	FACE SIZE X & Y (mm)	PIECES/CARTON	
SD166	150 x 150	145 x 145	220 x 220	295 x 295	10	
SD199	225 x 225	220 x 220	295 x 295	370 x 370	10	
SD11212	300 x 300	295 x 295	370 x 370	445 x 445	10	
SD11515	375 x 375	370 x 370	445 x 445	520 x 520	10	

Related Products for Flush Mounted Diffusers							
PBF	RN	CB	OBD	BP	FCF	ALPBF	ALPBM
see pg.79	see pg.275	see pg.267	see pg.68	see pg.273	see pg.275	see pg.226	see pg.227

Lay-In and Flush Mounted Diffusers: LD/SD/XLD

Air Patterns and Throw

Plan View

L_{bh} b_h

Air Pattern (with isothermal air supply)

$b_h = \text{Active Length} + (L_{0.25} \times 0.03)$

$L_{bh} = L_{0.25} \times 0.65$

Side View

L_{bv} b_v

$b_v = L_{0.25} \times 0.06$

$L_{bv} = L_{0.25} \times 0.65$

Note:

- L = Throw in M (refer graphs)
- $L_{0.25}$ = Throw at 0.25m/s terminal velocity
- Active Length = supply air plenum Length

Sound data

NR levels for the grille may be determined from engineering charts.

Sound power level L_w

The generated sound power level L_w dB is calculated by adding the correction factor K_{ok} (see table on the right) to the sound level NR dB according to the formula:

$$L_w = NR + K_{ok}$$

Size	Frequency (cycles per second)						
	125	250	500	1000	2000	4000	8000
150	+17	+13	+10	+8	+3	-5	-15
225	+14	+11	+10	+8	+1	-10	-16
300	+13	+9	+9	+8	-3	-15	-18
450	+13	+9	+11	+7	-6	-21	-21
525	+12	+8	+10	+7	-4	-23	-24
600	+12	+7	+9	+7	-4	-23	-24
Tol+/-	2	2	2	2	2	2	2

Correction factor K_{ok}

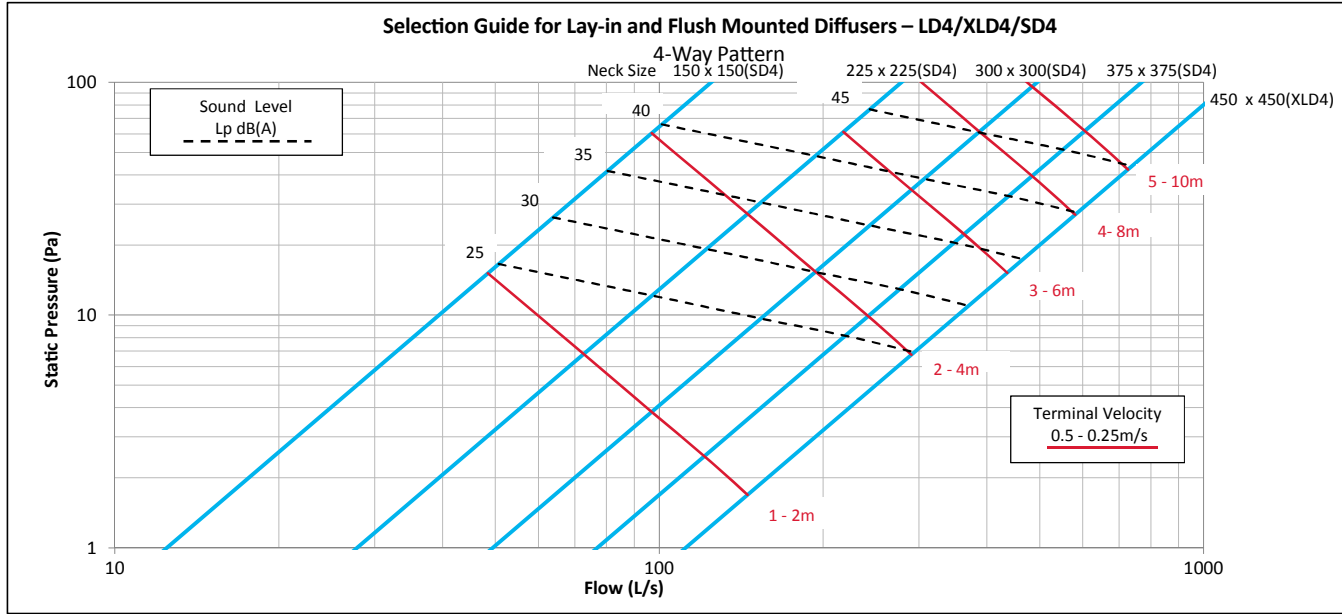
Lay-In Ceiling Diffuser Data							
q (l/s)	A x B	Static Pressure (Pa)	Sound Level dB(A)	THROW (m)			
				4-way	3-way	2-way	1-way
35	150x150	8	<20	0.7 - 1.4	0.8 - 1.7	0.9 - 1.8	1.4 - 2.8
	225x225	2	<20	0.4 - 0.9	0.5 - 1.1	0.6 - 1.2	0.9 - 1.8
60	150x150	23	29	1.2 - 2.4	1.5 - 3.0	1.6 - 3.2	2.4 - 4.8
	225x225	5	<20	0.8 - 1.6	1.0 - 2.0	1.0 - 2.1	1.6 - 3.2
82	150x150	43	35	1.6 - 3.3	2.1 - 4.2	2.2 - 4.4	3.3 - 6.6
	225x225	9	21	1.1 - 2.2	1.4 - 2.8	1.4 - 2.9	2.2 - 4.4
100	150x150	64	40	2.0 - 4.1	2.5 - 5.1	2.6 - 5.3	4.0 - 8.0
	225x225	13	26	1.3 - 2.7	1.7 - 3.4	1.7 - 3.5	2.6 - 5.3
125	225x225	20	31	1.7 - 3.4	2.1 - 4.2	2.2 - 4.4	3.3 - 6.7
	300x300	6	21	1.2 - 2.5	1.6 - 3.2	1.6 - 3.3	2.5 - 5.0
150	225x225	29	34	2.0 - 4.1	2.5 - 5.1	2.6 - 5.3	4.0 - 8.0
	300x300	9	24	1.5 - 3.0	1.9 - 3.8	2.0 - 4.0	3.0 - 6.0
175	225x225	39	38	2.4 - 4.8	2.9 - 5.9	3.1 - 6.2	4.7 - 9.4
	300x300	13	28	1.8 - 3.6	2.2 - 4.4	2.3 - 4.7	3.5 - 7.0
	375x375	5	20	1.4 - 2.8	1.7 - 3.5	1.8 - 3.7	2.8 - 5.6
200	300x300	16	31	2.0 - 4.1	2.5 - 5.1	2.6 - 5.3	4.0 - 8.0
	375x375	7	23	1.6 - 3.3	2.0 - 4.0	2.1 - 4.3	3.2 - 6.4
	450x450	3	<20	1.3 - 2.7	1.7 - 3.4	1.7 - 3.5	2.6 - 5.3
250	300x300	26	36	2.5 - 5.1	3.2 - 6.4	3.3 - 6.7	5.0 - 10.
	375x375	11	28	2.0 - 4.1	2.5 - 5.1	2.6 - 5.3	4.0 - 8.0
	450x450	5	21	1.7 - 3.4	2.1 - 4.2	2.2 - 4.4	3.3 - 6.7
300	300x300	37	40	3.0 - 6.1	3.8 - 7.6	4.0 - 8.0	6.0 - 12.
	375x375	15	32	2.4 - 4.9	3.0 - 6.1	3.2 - 6.4	4.8 - 9.7
	450x450	7	25	2.0 - 4.1	2.5 - 5.1	2.6 - 5.3	4.0 - 8.0

Lay-In and Flush Mounted Diffusers: LD/SD/XLD

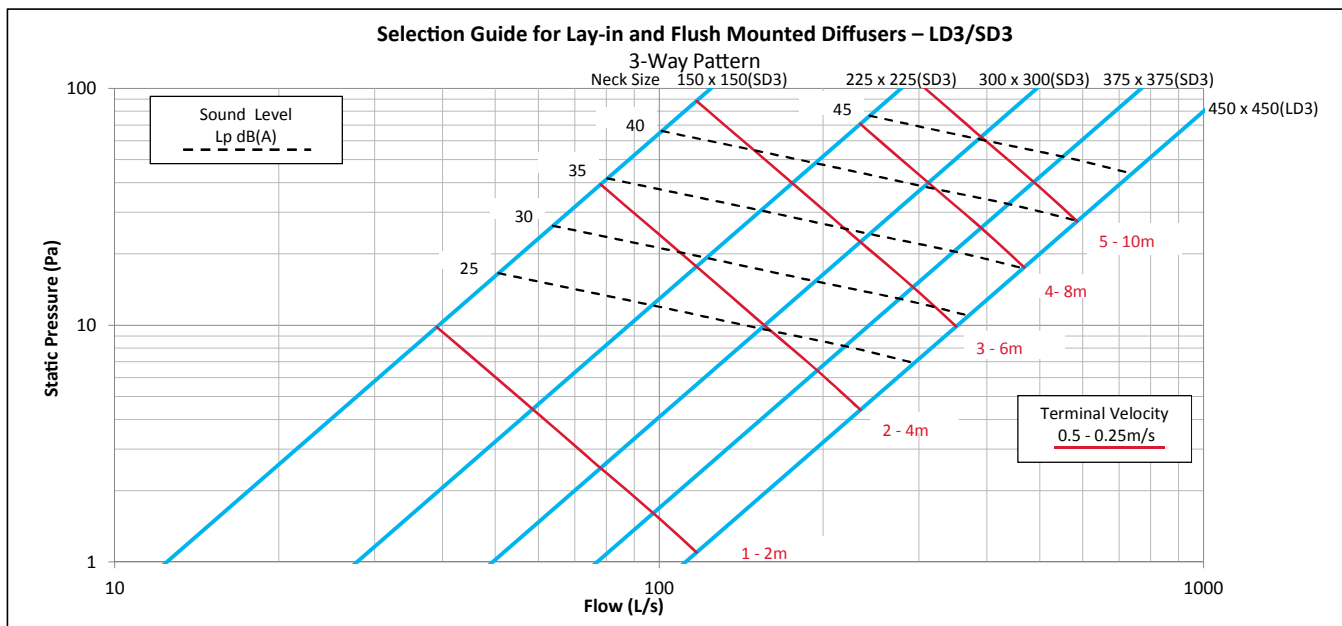
Test Conditions

Throws are based at Isothermal conditions to a terminal velocity of 0.5m/s and 0.25m/s respectively, with a ceiling height of 2.7m. The diffuser is mounted flush in ceiling. Throw factors are for throws in one direction only. Noise Ratings are based on a room absorption level of 10db.

Note: Please refer to the table “Comparing Noise Criteria” on page no. 297 when evaluating “sound pressure level dB(A).”



These graphs are for selection only and should not be used for commissioning.



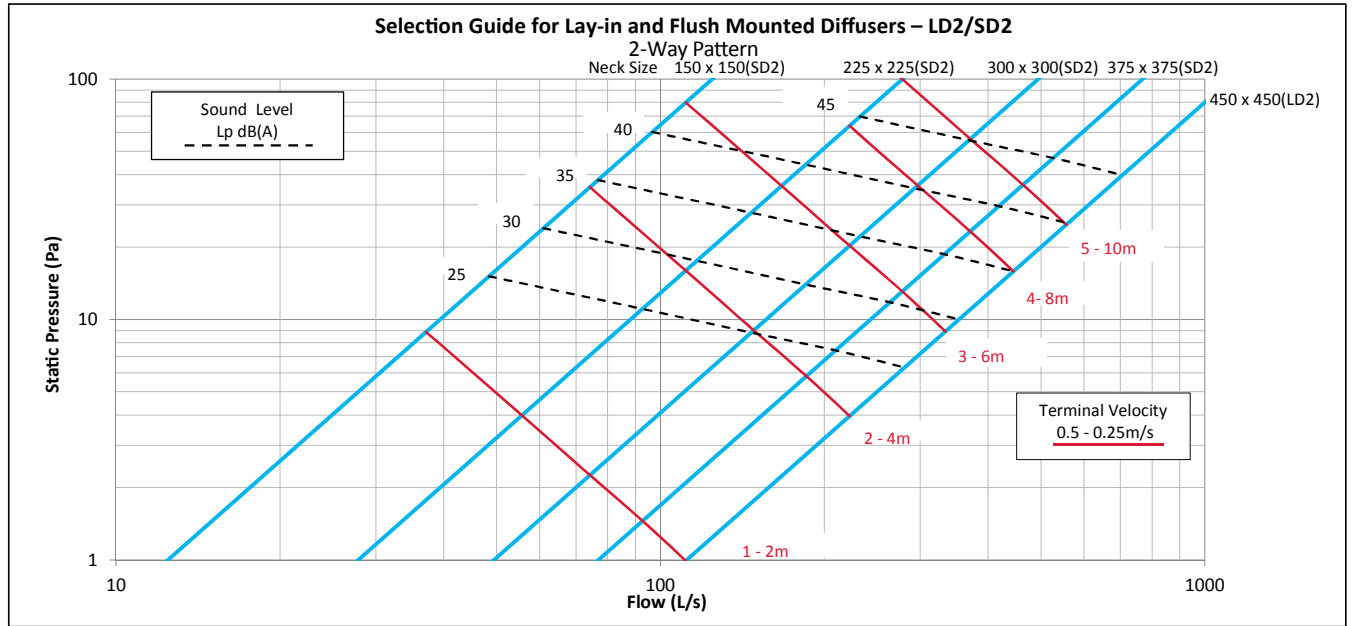
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Lay-In and Flush Mounted Diffusers: LD/SD/XLD

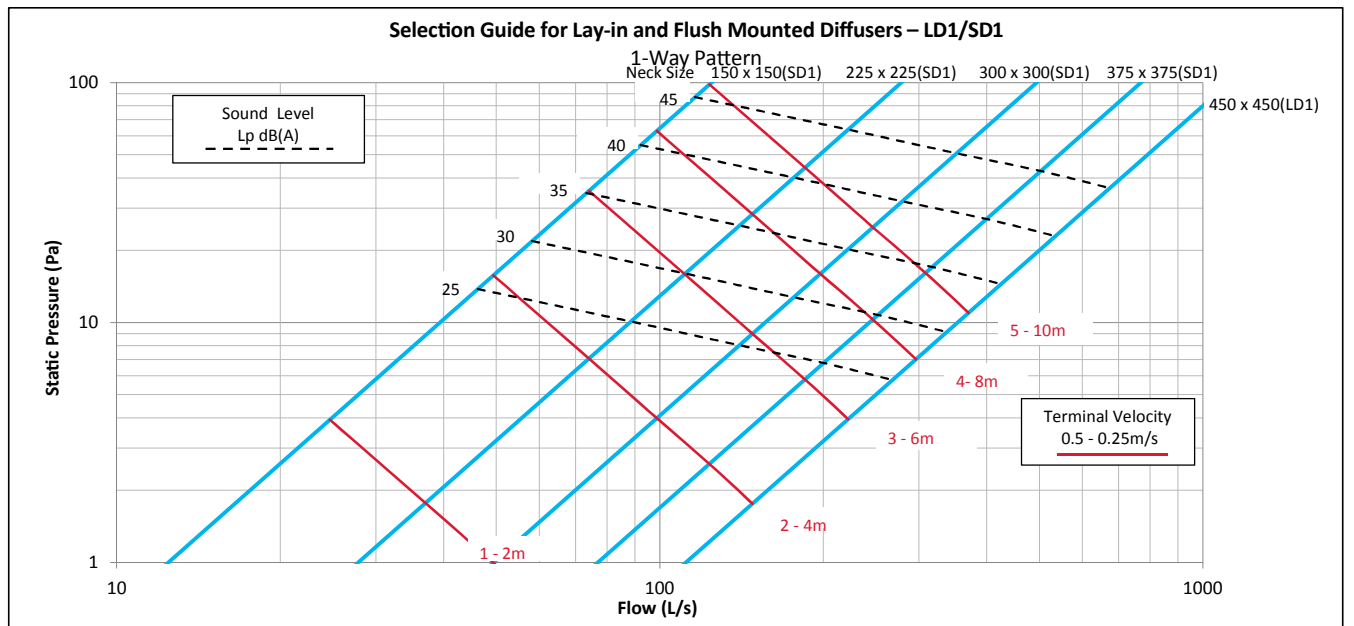
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