

Height of the room	Airflow by area		Nominal dimension DN	Number of diffusers	Airflow by diffuser		Min. space diffusers [2x] (m)	Min. wall space (m)	X crit (m)	Pressure drop ΔP (Pa)	Sound level Lw(dBA)	Noise criteria NC (dB)**
	m³/h/m²	cfm/sq.ft.										
2.44 m (8 ft) ①	9	0.5	DN 180	6	152	90	1.9	1.3	1.6	17	< 25	-
	15	0.8	DN 215	6	244	143	2.3	1.5	1.3	13	< 25	-
	27	1.5	DN 250	9	206	120	2.2	1.4	1.1	9	< 25	-
	37	2	DN 250	12	305	179	5.0	2.3	1.5	20	< 25	-
2.74 m (9 ft)	9	0.5	DN 180	6	152	90	1.1	1.0	1.6	17	< 25	-
	15	0.8	DN 215	6	244	143	1.8	1.3	1.3	13	< 25	-
	27	1.5	DN 250	9	305	179	3.9	2.4	1.5	20	< 25	-
	37	2	DN 250	12	305	179	4.0	2.5	1.5	20	< 25	-
3.05 / 3.4 m (10/11 ft)	9	0.5	DN 180	6	152	90	0.4	0.7	1.6	17	< 25	-
	15	0.8	DN 215	6	244	143	1.9	1.2	1.3	13	< 25	-
	27	1.5	DN 315	6	457	269	5.2	3.2	1.3	19	< 25	-
	37	2	DN 315	6	609	358	8.5	4.7	1.7	34	35	18
3.66 / 4.6 m (12/15 ft)	9	0.5	DN 215	4	228	134	2.7	2.1	1.5	26	< 25	-
	15	0.8	DN 250	4	366	215	3.0	2.2	1.8	29	30	15
	27	1.5	DN 315	6	457	269	3.6	2.5	1.3	19	< 25	-
	37	2	DN 315	8	457	269	3.7	2.6	1.3	19	< 25	-
4.88 / 5.8 m (16/19 ft)	9	0.5	DN 315	2	457	269	0.4	1.3	1.3	19	< 25	-
	15	0.8	DN 315	3	487	287	1.2	1.6	1.4	22	27	-
	27	1.5	DN 355	4	685	403	3.5	2.8	1.4	29	28	15
	37	2	DN 355	5	731	430	4.4	3.2	1.5	32	30	18
6.10 m (20 ft)	9	0.5	DN 315	2	457	269	0.1	0.1	1.3	19	< 25	-
	15	0.8	DN 355	2	731	430	1.1	2.0	1.5	32	30	18
	27	1.5	DN 355	4	685	403	0.5	1.7	1.4	29	28	15
	37	2	DN 355	4	914	538	4.7	3.8	1.9	49	35	23

Columns relative to all the areas of that height with the same volume of air, by diffuser (isothermal values) .
 Column in reference to the example

We recommend that a high induction swirl jet air diffuser is used in this case.

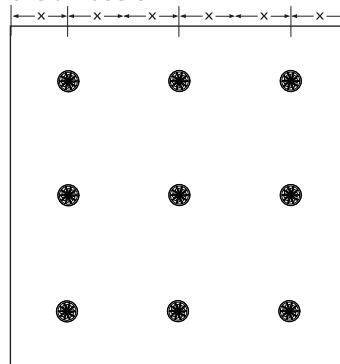
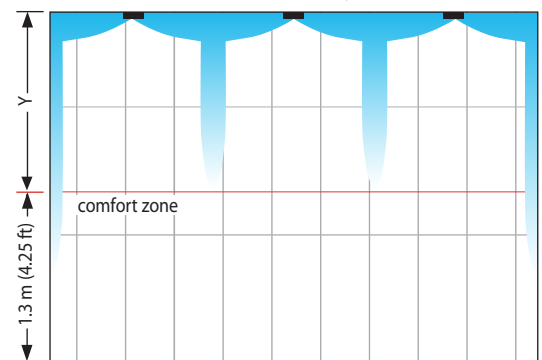
* The absorption of the room is not considered. ** determined by considering a room absorption of 10 dB.

Specifications :

- Room: L x W x H = 10 m x 10 m x 2,44m (33 feet x 33 feet x 8 feet)
- Total airflow in the room : 1080 cfm ④
- Initial temperature ratio: ΔT = -10°C
- Air velocity at 0.15 m/s (30 ft/m) at 1.3 m (4.25 ft) from the floor
- VAV : 25%

From the height of the ceiling ① and the air flow by area (m² or square feet) ② select the nominal dimension (DN) of the DRS. ③ Divide the total airflow of the room ④ by the ideal value of airflow. ⑤ Adjust the quantity of diffusers for symmetry in your area to ensure the maximum airflow within the optimum range.

Maintain the minimal distance between the diffusers ⑥ and the minimum distance from the walls. ⑦

View of the location of the diffusers

View of the air jet trajectory


Diameter of fitting Ø d mm in	DN	Minimum range of application (For minimum application in V.A.V.)		Optimum range of application (Maximum standard volume for office building)		Maximum range of application (Noise level higher than 33 (43-10) dBA)	
		cfm	L/s	cfm	L/s	cfm	L/s
250 10	DN 355			130 - 330		330 - 470 OPTIMAL NC 20	470 - 600 NC 27
225 9	DN 315			100 - 240		240 - 330 OPTIMAL NC 15	330 - 435 NC 25
200 8	DN 250			70 - 170		170 - 240 OPTIMAL NC 15	240 - 310 NC 23
175 7	DN 215			50 - 120		120 - 170 OPTIMAL NC 15	170 - 220 NC 21
150 6	DN 180			35 - 75		75 - 120 OPTIMAL NC 20	120 - 155 NC 20
125 5	DN 125			22 - 40		40 - 75 OPTIMAL NC 25	75 - 100 NC 30
100 4	DN 100	12 - 20		20 - 40 OPTIMAL NC 17		40 - 55 NC 17	
		cfm	10 20 30 40 50 60 70 80 90 100 120 140 160 180 200 220 240 300 400 500 600	L/s	5 9 14 19 24 28 33 38 42 47 57 66 75 85 94 104 113 142 189 236 283	m³/h	17 34 51 68 85 102 119 136 153 170 204 238 272 306 340 374 408 510 680 850 1020

*Ideal cfm operating value
The noise criteria NC considering a 10 dB absorption