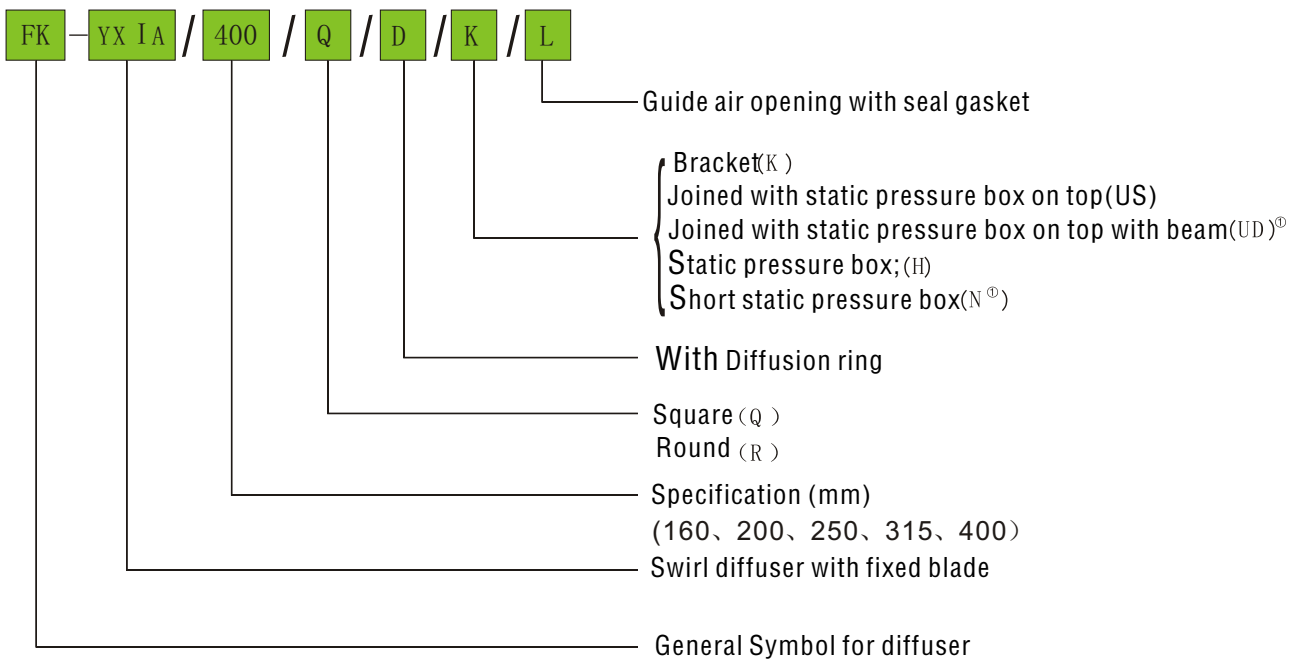


## 1 General Introduction

Swirl diffuser produced by our company is applied to premium places and industrial workshop. The diffuser blows out the air in helix, which guarantees high inductivity to reduce the temperature rapidly with low noise. Furthermore, it may be used in air conditioner system with either fixed blast volume or variable blast volume. FK-YX I A serial may be installed inside or outside of the ceiling. We provide service to change the externality of the diffuser to adapt to the nature of the building.

## 2 Representation Format for FK-YX I A Model



Note:<sup>(D)</sup>available for round diffuser

For example: FK-YX A-400-Q-D-K-L stands for swirl diffuser applicable to air conditioner with variable blast volume, 400 for the size of square panel, with bracket and seal washer attached.

## 3. Features

FK-YX I A  
Type swirl diffuser

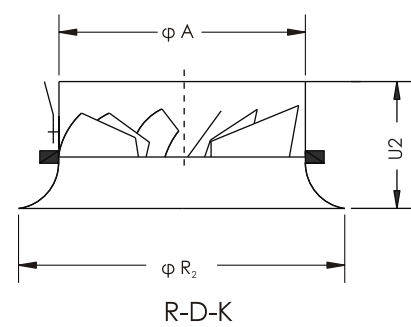
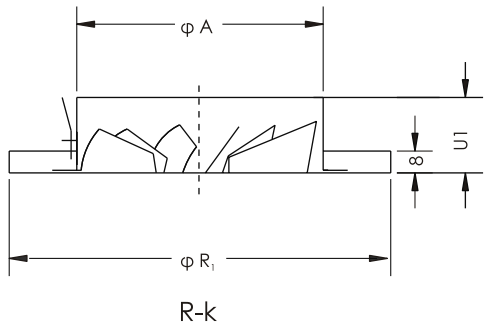
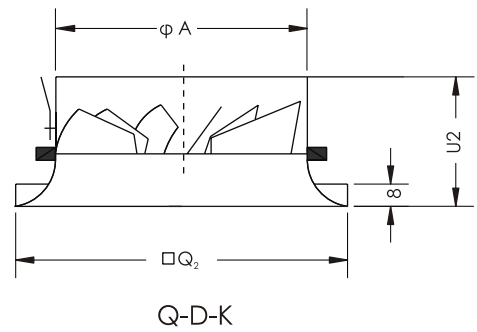
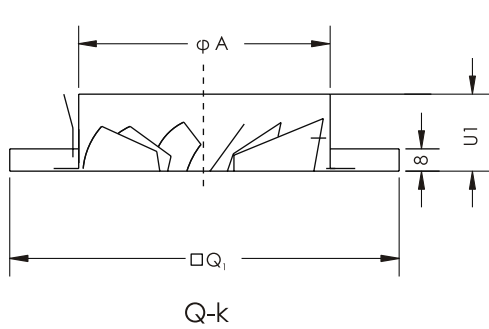


- Blowing in helix, high inductivity; reduce temperature rapidly with low noise;
- applicable to air conditioner with variable blast volume;
- With excellent performance, FK-YX I A could be either installed flatly with the ceiling or hung on construction objects, or on the air pipe inside of enclosed ceilings;
- The diffuser adopts cold rolling galvanized plate for its panels; both the panel and diffusing ring are painted white. (RAL9010) standard

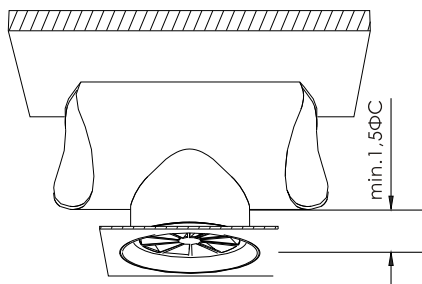
#### 4. Specifications

Specs	A	Q <sub>1</sub>	Q <sub>2</sub>	R <sub>1</sub>	R <sub>2</sub>	U <sub>1</sub>	U <sub>2</sub>
160	158	600	600	197	250	50	90
200	198	600	600	241	300	50	90
250	248	600	600	295	350	60	90
315	313	600	600	364	450	60	125
400	398	600	600	450	580	60	125

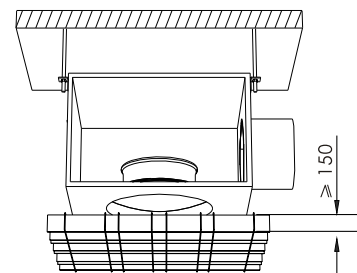
Note: The size of Q<sub>1</sub> and Q<sub>2</sub> could be manufactured pertaining to the customer's requirement.



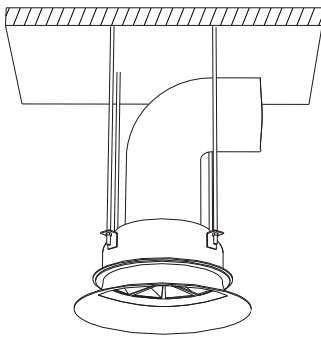
#### 5. Installations



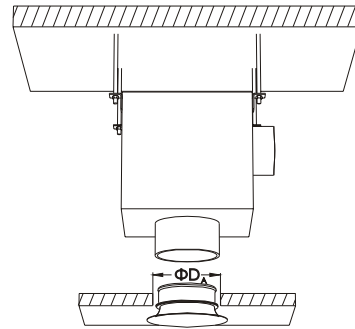
Installed on the air pipe



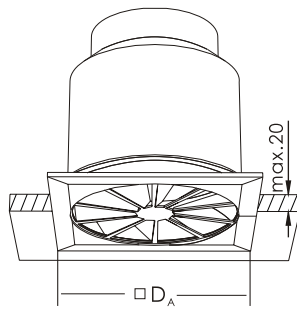
Installed on the open tuned grid hover



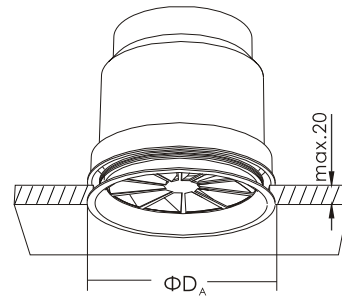
Installed on suspension loops



Fix the shield with central bolt

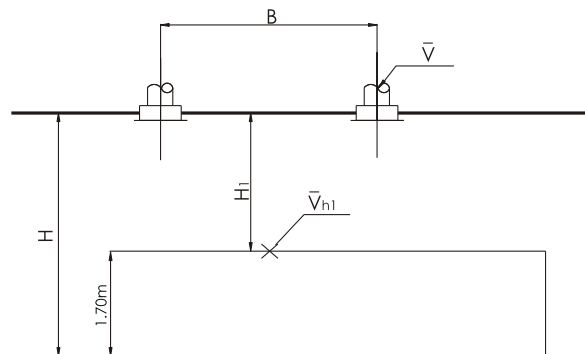


Fix the shield with central bolt (flush type)

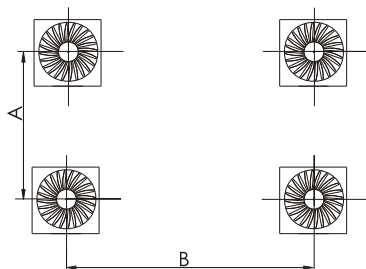


Fix the shield with central bolt (flush type)

## 6. Symbol Definitions



$V$ ( $m^3/h$ )	blast volume of every air port
$V_{h1}$ ( $m/s$ )	average air velocity between the two air ports at Height $H$
$H_1$ (m)	distance from the ceiling to the activity area
$\Delta Pt$ (Pa)	total pressure loss (air blowing)
$H$ (m)	installation height
$LWA$ ( $dB<A>$ )	A sound power level noise



## 7 Technical Specifications

### 1) Air blowing press loss and Noise Level

S/G: installed inside of the ceiling with diffusing ring; S/W: hung with diffusing ring;

N/G: installed inside of the ceiling without diffusing ring; N/W: hung without diffusing ring;

Specs	Airvolume m <sup>3</sup> /h	N/G		N/W		S/G		S/W	
		pressure loss (Pa)	Noise (dB)	pressure loss (Pa)	Noise (dB)	pressure loss (Pa)	Noise (dB)	pressure loss (Pa)	Noise (dB)
160	50	7.9	20	8.5	22	4	<20	7.8	<20
	60	11.5	25	13	27	6	<20	10	<20
	80	21	33	23.5	35	8	<20	12	<20
	100	31	38	33	40	9	21	14	24
	125	50	44	57	46	13	27	22	31
	150	68	48	73	50	21	33	32	36
	200	—	—	—	—	34	40	58	43
200	100	11	20	14	21	5.3	<20	6.2	<20
	125	16.5	26	21.5	27	8	<20	9.5	21
	150	25	32	31	34	12	24	14	25
	175	31	36	40	38	16	28	19	29
	200	40	39	54	41	21	33	26	34
	225	54	43	76	45	25	35	31	36
	250	64	46	81	48	32	38	39	39
	275	77	48	96	50	38	40	46	42
	300	—	—	—	—	49	43	60	45
350	—	—	—	—	64	47	78	49	
250	100	2	<20	4	<20	—	<20	—	<20
	150	10	<20	12	20	5	<20	6.5	<20
	175	13	23	14	24	6.5	<20	8.5	<20
	200	17	27	19	28	8.5	<20	12	20
	250	27	33	30	34	13	24	17	26
	300	39	39	45	40	19	29	26	32
	350	52	43	60	44	25	33	33	36
	400	64	47	78	48	35	37	44	40
	450	88	51	100	52	41	41	55	44
	500	—	—	—	—	49	43	60	46
315	200	3	<20	6	<20	—	<20	—	<20
	250	8	<20	9	<20	—	<20	6	<20
	300	12	26	13	27	6	<20	9.5	22
	350	16	30	17	31	8	23	12.5	26
	400	21	35	22	36	11	28	16	30
	500	34	42	36	43	16	34	25	37
	600	49	48	51	49	24	40	37	43
	700	69	54	72	55	32	44	48	47
800	—	—	—	—	41	48	62	52	
400	300	8	23	6	<20	4	<20	5	<20
	400	12	30	11	24	7	<20	7	<20
	500	20	35	16	30	11	25	11	26
	700	40	45	25	39	21	35	28	34
	900	71	54	55	47	35	42	47	45
	1200	121	69	95	68	58	48	70	53

160 multiple lines alignment B=2.8m					
Air Hight(m)	Air volume(m <sup>3</sup> /h)	72	110	145	200
	velocity Vh1(M/s)	Distance between diffusers A (m)			
0.9	0.1	4.0	5.5	—	—
	0.15	—	4.2	5.3	6.6
	0.2	—	3.0	4.4	5.5
	0.25	—	—	3.6	4.8
1.2	0.1	2.8	4.6	5.7	—
	0.15	—	3.0	4.4	5.5
	0.2	—	—	3.4	4.6
	0.25	—	—	—	3.8
1.6	0.1	—	3.6	4.8	5.8
	0.15	—	—	3.3	4.6
	0.2	—	—	—	3.6
	0.25	—	2.4	—	1.8
2.0	0.1	—	—	4.2	5.4
	0.15	—	—	1.5	3.8
	0.2	—	—	—	1.8

160 single line or multiple lines alignment B>4 m					
Hight(m)	Air velocity $\bar{V}_{H1}$ (M/s)	Air volume(m <sup>3</sup> /h)			
		72	110	145	200
		Distance between diffusers A (m)			
0.9	0.1	2.0	4.1	5.3	—
	0.15	—	2.4	3.9	5.0
	0.2	—	—	2.8	4.1
	0.25	—	—	—	3.3
1.2	0.1	—	3.1	4.4	5.6
	0.15	—	—	2.8	4.1
	0.2	—	—	—	2.9
	0.25	—	—	—	2.0
1.6	0.1	—	—	3.2	4.3
	0.15	—	—	—	3.2
2.0	0.1	—	—	—	3.6
	0.15	—	—	—	2.0

160 quadrangle alignment A=B					
Hight(m)	Air velocity $\bar{V}_{H1}$ (m/s)	Air volume(m <sup>3</sup> /h)			
		72	110	145	200
		Distance between diffusers A (m)			
0.9	0.15	2.5	3.45	3.9	4.5
	0.2	1.9	2.9	3.4	4.2
	0.3	1.6	2.4	3.1	3.8
	0.4	—	1.6	2.2	2.9
	0.5	—	—	1.7	2.5
	0.6	—	—	1.5	2.0
1.2	0.15	2.0	2.9	3.5	4.1
	0.2	1.5	2.3	2.9	3.6
	0.3	—	1.6	2.2	2.9
	0.4	—	—	1.7	2.3
	0.5	—	—	—	1.8
	0.6	—	—	—	1.6
1.6	0.15	1.5	2.3	2.9	3.6
	0.2	—	1.7	2.4	3.1
	0.3	—	—	1.7	2.3
	0.4	—	—	—	1.9
2.0	0.15	—	1.8	2.5	3.3
	0.2	—	1.5	1.9	2.7
	0.3	—	—	1.5	1.9
	0.4	—	—	—	1.5

200 multiple lines alignment B=2.8m					
Hight(m)	Air velocity $\bar{V}_{H1}$ (m/s)	Air volume(m <sup>3</sup> /h)			
		110	145	200	250
		Distance between diffusers A (m)			
0.9	0.1	4.4	5.5	—	—
	0.15	2.7	4.2	5.5	—
	0.2	—	3.0	4.5	5.5
	0.25	—	—	3.8	4.7
1.2	0.1	3.4	4.5	5.6	—
	0.15	—	3.0	4.5	5.5
	0.2	—	—	3.5	4.5
	0.25	—	—	2.2	3.8
1.6	0.1	—	3.6	4.8	5.7
	0.15	—	—	3.6	4.5
	0.2	—	—	1.5	3.6
	0.25	—	—	—	2.3
2.0	0.1	—	2.5	3.3	4.5
	0.15	—	—	2.4	3.8
	0.2	—	—	—	2.5

200 single line or multiple lines alignment B>4m					
Hight(m)	Air velocity $\bar{V}_{H1}$ (m/s)	Air volume(m <sup>3</sup> /h)			
		110	145	200	250
		Distance between diffusers A (m)			
0.9	0.1	3.3	4.6	6.0	—
	0.15	—	3.0	4.5	5.5
	0.2	—	—	3.4	4.5
	0.25	—	—	—	3.6
1.2	0.1	—	3.6	5.0	6.0
	0.15	—	—	3.4	4.5
	0.2	—	—	—	3.3
	0.25	—	—	—	2.0
1.6	0.1	—	—	3.6	4.7
	0.15	—	—	—	3.5
2.0	0.1	—	—	—	4.0
	0.15	—	—	—	2.0

200 quadrangle alignment A=B					
Hight(m)	Air velocity $\bar{v}_h$ 1 (m/s)	Air volume(m <sup>3</sup> /h)			
		110	145	200	250
Distance between diffusers A (m)					
0.9	0.15	2.8	3.6	4.2	4.6
	0.2	2.3	3.0	3.7	4.1
	0.3	1.6	2.1	2.8	3.4
	0.4	—	1.7	2.3	2.8
	0.5	—	1.5	1.85	2.3
	0.6	—	—	1.6	2.0
1.2	0.15	2.3	3.0	3.7	4.1
	0.2	1.8	2.4	3.0	3.6
	0.3	—	1.7	2.3	2.8
	0.4	—	—	1.8	2.2
	0.5	—	—	1.5	1.8
	0.6	—	—	—	1.5
1.6	0.15	1.8	2.4	3.0	3.6
	0.2	—	1.8	2.5	3.0
	0.3	—	—	1.8	2.2
	0.4	—	—	—	1.7
	0.5	—	—	—	1.5
2.0	0.15	1.5	2.0	2.6	3.2
	0.2	—	1.5	2.0	2.6
	0.3	—	—	1.7	2.2
	0.4	—	—	—	1.5

250 multiple lines alignment B=2.8m						
Hight(m)	Air velocity $\bar{v}_h$ 1 (m/s)	Air volume(m <sup>3</sup> /h)				
		110	145	200	250	290
Distance between diffusers A (m)						
0.9	0.1	3.6	4.8	6.0	—	—
	0.15	—	3.3	4.7	5.6	6.0
	0.2	—	—	3.8	4.7	5.3
	0.25	—	—	2.6	3.9	4.5
1.2	0.1	1.7	4.0	5.2	6.0	—
	0.15	—	—	3.8	4.7	5.3
	0.2	—	—	2.0	3.6	4.3
	0.25	—	—	—	2.4	3.4
1.6	0.1	—	2.4	4.3	5.2	5.7
	0.15	—	—	2.3	3.7	4.4
	0.2	—	—	—	2.2	3.3
	0.25	—	—	—	—	1.5
2.0	0.1	—	—	3.5	4.5	5.0
	0.15	—	—	—	2.4	3.4

250 single line or multiple lines alignment B>4m					
Air Hight(m)	Air velocity $\bar{V}h1$ (m/s)	Air volume(m <sup>3</sup> /h)			
		145	200	250	290
		Distance between diffusers A (m)			
0.9	0.1	3.5	4.9	5.9	—
	0.15	—	3.4	4.4	4.8
	0.2	—	—	3.3	3.7
	0.25	—	—	—	2.9
1.2	0.1	—	3.7	4.8	5.4
	0.15	—	—	3.3	3.7
	0.2	—	—	—	2.7
1.6	0.1	—	—	3.6	4.1
	0.15	—	—	—	2.8
2.0	0.1	—	—	2.9	3.5

250 quadrangle alignment A=B						
Air Hight(m)	Air velocity $\bar{V}h1$ (m/s)	Air volume(m <sup>3</sup> /h)				
		110	145	200	250	300
		Distance between diffusers A (m)				
0.9	0.15	2.5	3.2	4.0	4.5	5.0
	0.2	2.0	2.6	3.5	4.0	4.5
	0.3	—	1.7	2.7	3.2	3.7
	0.4	—	1.5	2.0	2.6	3.2
	0.5	—	—	1.7	2.2	2.6
	0.6	—	—	—	1.8	2.3
1.2	0.15	2.0	2.6	3.5	4.0	4.5
	0.2	1.5	2.0	2.9	3.4	3.8
	0.3	—	1.5	2.0	2.6	3.2
	0.4	—	—	1.6	2.1	2.5
	0.5	—	—	—	1.6	2.0
	0.6	—	—	—	1.5	1.8
1.6	0.15	1.5	2.0	2.9	3.4	3.8
	0.2	—	1.6	2.4	2.9	3.4
	0.3	—	—	1.6	2.1	2.5
	0.4	—	—	—	1.6	1.9
	0.5	—	—	—	—	1.7
2.0	0.15	—	1.7	2.5	3.0	3.5
	0.2	—	—	1.85	2.5	3.0
	0.3	—	—	—	1.6	2.0
	0.4	—	—	—	1.6	2.0
	0.5	—	—	—	—	1.7

315 multiple lines alignment B=2.8m					
Hight(m)	Air velocity $\bar{V}_{h1}$ (m/s)	Air volume(m <sup>3</sup> /h)			
		200	290	400	500
		Distance between diffusers A (m)			
0.9	0.1	4.8	—	—	—
	0.15	4.4	5.0	—	—
	0.2	4.0	5.3	6.0	—
	0.25	—	3.0	4.7	5.4
	0.3	—	—	4.0	4.8
	0.35	—	—	3.5	4.3
	0.4	—	—	2.5	3.8
1.2	0.1	4.0	5.3	—	—
	0.15	—	4.0	5.4	6.0
	0.2	—	2.8	4.7	5.3
	0.25	—	—	3.7	4.6
	0.3	—	—	2.5	3.8
	0.35	—	—	—	3.2
	0.4	—	—	—	1.6
1.6	0.1	2.3	4.5	5.7	—
	0.15	—	2.8	4.7	5.3
	0.2	—	—	3.5	4.5
	0.25	—	—	—	3.6
	0.3	—	—	—	1.9
2.0	0.1	—	3.7	5.0	5.8
	0.15	—	—	3.7	4.6
	0.2	—	—	1.5	3.5
	0.25	—	—	—	1.5

315 single line or multiple lines alignment B>4m					
Hight(m)	Air velocity $\bar{V}_{h1}$ (m/s)	Air volume(m <sup>3</sup> /h)			
		200	290	400	500
		Distance between diffusers A (m)			
0.9	0.1	3.4	5.0	—	—
	0.15	—	3.5	4.7	5.9
	0.2	—	—	3.8	4.8
	0.25	—	—	3.0	4.0
	0.3	—	—	—	3.4
1.2	0.1	—	4.0	5.2	—
	0.15	—	—	3.8	4.8
	0.2	—	—	2.5	3.7
	0.25	—	—	—	2.7
1.6	0.1	—	2.6	4.0	5.1
	0.15	—	—	2.5	3.7
	0.2	—	—	—	2.7
2.0	0.1	—	—	3.5	4.5
	0.15	—	—	—	3.1

315 quadrangle alignment A=B					
Hight(m)	Air velocity $\sqrt{v}h1$ (m/s)	Blast volume(m <sup>3</sup> /h)			
		200	300	400	500
		Distance between diffusers A (m)			
0.9	0.15	3.2	4.1	4.7	5.3
	0.2	2.7	3.7	4.1	4.6
	0.3	1.7	2.9	3.6	4.0
	0.4	1.4	2.3	2.7	3.5
	0.5	1.2	1.8	2.45	2.9
	0.6	1.0	1.5	2.0	2.4
1.2	0.15	2.7	3.7	4.1	4.6
	0.2	2.0	3.0	3.7	4.2
	0.3	1.4	2.3	2.7	3.5
	0.4	1.2	1.75	2.3	2.8
	0.5	0.85	1.45	1.8	2.4
	0.6	0.75	1.25	1.5	1.9
1.6	0.15	2.0	3.0	3.7	4.2
	0.2	1.5	2.5	3.0	3.6
	0.3	1.2	1.75	2.3	2.8
	0.4	0.8	1.35	1.75	2.4
	0.5	0.7	1.1	1.3	1.75
	0.6	—	1.0	1.25	1.6
2.0	0.15	1.6	2.5	3.0	3.5
	0.2	1.3	2.0	2.5	3.1
	0.3	1.2	1.75	2.3	2.8
	0.4	0.7	1.1	1.3	1.75
	0.5	—	0.9	1.3	1.5
	0.6	—	0.8	1.0	1.25

400 multiple lines alignment B=2.8m					
Hight(m)	Air velocity $\sqrt{v}h1$ (m/s)	Air volume(m <sup>3</sup> /h)			
		360	430	500	650
		Distance between diffusers A (m)			
0.9	0.1	—	—	—	—
	0.15	5.4	6.0	—	—
	0.2	4.2	4.8	5.5	—
	0.25	3.2	4.1	4.8	5.6
	0.3	2.0	3.3	4.0	4.7
	0.4	—	—	2.6	3.7
1.2	0.1	5.6	—	—	—
	0.15	4.5	5.2	5.9	—
	0.2	3.2	4.1	4.8	5.6
	0.25	1.8	3.2	3.8	4.7
	0.3	—	1.8	2.8	3.9
	0.4	—	—	—	2.6
1.6	0.1	5.2	5.8	—	—
	0.15	3.4	4.3	5.0	5.7
	0.2	1.8	3.2	3.8	4.7
	0.25	—	1.8	2.8	3.9
	0.3	—	—	—	2.8
	0.4	—	—	—	—
2.0	0.1	4.5	5.2	5.8	—
	0.15	2.5	3.7	4.3	5.2
	0.2	—	2.0	2.9	3.9
	0.25	—	—	1.5	3.0
	0.3	—	—	—	1.8

400 single or multiple lines alignment B>4m					
Hight(m)	Air velocity $\bar{V}h1$ (m/s)	Air volume(m <sup>3</sup> /h)			
		360	430	500	650
		Distance between diffusers A (m)			
0.9	0.1	5.6	—	—	—
	0.15	3.7	4.8	5.3	—
	0.2	2.5	3.6	4.4	5.5
	0.25	—	2.5	3.3	4.7
	0.3	—	—	2.4	4.0
1.2	0.4	—	—	—	2.7
	0.1	4.5	5.4	6.0	—
	0.15	2.7	3.8	4.5	5.6
	0.2	—	2.5	3.3	4.7
	0.25	—	—	2.3	3.9
1.6	0.3	—	—	—	3.0
	0.1	3.6	4.6	5.2	—
	0.15	2.8	3.6	4.9	—
	0.2	—	—	2.3	3.9
	0.25	—	—	—	2.7
2.0	0.3	—	—	—	1.5
	0.1	2.7	3.8	4.5	5.6
	0.15	—	—	2.9	4.3
	0.2	—	—	—	3.3
	0.25	—	—	—	1.5

400 quadrangle alignment A=B					
Hight(m)	Air velocity $\bar{V}h1$ (m/s)	Air volume(m <sup>3</sup> /h)			
		360	430	500	650
		Distance between diffusers A (m)			
0.9	0.1	5.1	5.5	5.8	—
	0.15	4.4	4.9	5.3	—
	0.2	3.7	4.3	4.9	5.7
	0.25	3.3	3.7	4.3	5.2
	0.3	2.7	3.2	3.8	4.6
	0.4	2.1	2.5	3.0	3.9
1.2	0.1	4.8	5.3	5.6	—
	0.15	3.7	4.3	4.9	5.7
	0.2	3.3	3.7	4.3	5.2
	0.25	2.7	3.2	3.8	4.6
	0.3	2.2	2.7	3.1	4.0
	0.4	1.7	2.0	2.4	3.2
1.6	0.1	4.4	4.9	5.3	—
	0.15	3.1	3.5	4.2	5.0
	0.2	2.7	3.2	3.8	4.6
	0.25	2.1	2.5	3.0	3.9
	0.3	1.8	2.1	2.5	3.3
	0.4	—	1.5	1.85	2.5
2.0	0.1	3.7	4.3	4.9	5.7
	0.15	2.9	3.4	4.0	4.9
	0.2	2.2	2.6	3.2	4.0
	0.25	1.8	2.1	2.5	3.3
	0.3	1.5	1.8	2.2	2.8
	0.4	—	—	1.6	2.1