

# Entropic HVAC sizing chart

Fresh air volume flow rate		Number of people served by fresh air at 12 l/s/person (Persons)	Office area served by fresh air at 1 person/8m <sup>2</sup> (m <sup>2</sup> )
(m <sup>3</sup> /s)	(m <sup>3</sup> /hr)		
0.05	180	4	33
0.1	360	8	67
0.2	720	17	133
0.3	1,080	25	200
0.4	1,440	33	267
<b>0.5</b>	<b>1,800</b>	<b>42</b>	<b>333</b>
0.6	2,160	50	400
0.7	2,520	58	467
0.8	2,880	67	533
0.9	3,240	75	600
<b>1.0</b>	<b>3,600</b>	<b>83</b>	<b>667</b>
1.25	4,500	104	833
1.5	5,400	125	1,000
1.75	6,300	146	1,167
2.0	7,200	167	1,333
<b>2.5</b>	<b>9,000</b>	<b>208</b>	<b>1,667</b>
3.0	10,800	250	2,000
3.5	12,600	292	2,333
4.0	14,400	333	2,667
4.5	16,200	375	3,000
<b>5.0</b>	<b>18,000</b>	<b>417</b>	<b>3,333</b>
5.5	19,800	458	3,667
6.0	21,600	500	4,000
6.5	23,400	542	4,333
7.0	25,200	583	4,667
<b>7.5</b>	<b>27,000</b>	<b>625</b>	<b>5,000</b>
8.0	28,800	667	5,333
8.5	30,600	708	5,667
9.0	32,400	750	6,000
9.5	34,200	792	6,333
<b>10.0</b>	<b>36,000</b>	<b>833</b>	<b>6,667</b>

Duct size							
2m/s		3m/s		5m/s		7.5m/s	
φ	w x h	φ	w x h	φ	w x h	φ	w x h
(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
200	300 x 100	160	300 x 100	125	200 x 100	100	100 x 100
250	300 x 150	200	300 x 150	160	200 x 100	125	200 x 100
350	500 x 200	315	400 x 200	250	300 x 150	200	300 x 100
400	500 x 300	350	500 x 200	250	300 x 150	250	300 x 150
500	600 x 400	400	500 x 300	315	400 x 200	300	300 x 200
<b>630</b>	<b>600 x 500</b>	<b>600 x 300</b>	<b>355</b>	<b>500 x 200</b>	<b>315</b>	<b>400 x 200</b>	400 x 200
		500	800 x 300	400	400 x 200		
				500	500 x 300	355	500 x 200
				500	600 x 300	400	400 x 300
				630	600 x 400	500	600 x 200
				630	800 x 400	500	600 x 400
				710	800 x 500	630	600 x 400
				800	1000 x 500	710	800 x 500
				900	1000 x 600	800	800 x 600
				900	1200 x 600	800	800 x 600
				1000	1000 x 800	900	1000 x 600
				1000	1200 x 800	900	1000 x 600
				1250	1200 x 1000	1000	1000 x 800
				1250	1600 x 1000	1000	1200 x 800
				1250	1600 x 1000	1250	1200 x 1000
				1250	2000 x 1000	1250	1600 x 800

Heat recovery unit (HRV) selection			
Thermal wheel units		Plate heat exchanger units	
Model	w x h x l (mm)	Model	w x h x l (mm)
TW-0.05	383 x 362 x 972	PHE-0.1	850 x 344 x 1700
TW-0.1	532 x 594 x 1455		
TW-0.2	700 x 720 x 1510	PHE-0.3	1150 x 385 x 1750
<b>TW-0.6</b>	<b>1800 x 1600 x 890</b>	<b>PHE-0.4</b>	<b>1250 x 470 x 2100</b>
		PHE-0.7	1700 x 610 x 2355
TW-0.8	1100 x 1440 x 2100	PHE-0.9	1010 x 1440 x 2850
<b>TW-1.2</b>	<b>1100 x 1740 x 2350</b>	<b>PHE-1.2</b>	<b>1320 x 1740 x 3200</b>
TW-1.5	1400 x 1740 x 2350	PHE-1.7	1600 x 1740 x 3200
TW-2.0	1300 x 2400 x 3150		
<b>TW-2.5</b>	<b>1540 x 2400 x 3150</b>	<b>PHE-2.5</b>	<b>1320 x 2400 x 4700</b>
TW-3.5	1640 x 3100 x 3550	PHE-3.0	1600 x 2400 x 4700
TW-4.0	2000 x 2400 x 3150	PHE-4.0	1910 x 2400 x 4700
<b>TW-5.5</b>	<b>2570 x 3300 x 4840</b>	<b>PHE-4.5</b>	<b>1930 x 3240 x 6860</b>
		<b>PHE-5.0</b>	<b>1930 x 3860 x 7360</b>
		PHE-6.0	1930 x 3860 x 7930
TW-6.5	2570 x 3300 x 4900		
		PHE-7.5	2570 x 3920 x 7840
TW-9.0	2570 x 3920 x 5120	PHE-8.5	2570 x 4520 x 9420
TW-10	2570 x 4520 x 5920	PHE-10	2570 x 5140 x 9510

Fan coil selection					
FCU cooling power <sup>(3)</sup> (kW)	FCU Model	Qty of FCUs	CHW		LFHW
			flow at ΔT=6K (l/s)	Pipe Ø (mm)	
3		1	0.24	25	0.01
7		2	0.48		0.03
13		3	0.72	32	0.04
20		4	0.96	40	0.05
27		6	1.44		0.08
<b>33</b>		<b>7</b>	<b>1.68</b>	<b>50</b>	<b>0.09</b>
40		8	1.92		0.10
47		10	2.40		0.13
53		11	2.64		0.14
60		12	2.88		0.16
<b>67</b>		<b>14</b>	<b>3.36</b>	<b>65</b>	<b>0.18</b>
83		17	4.08		0.22
<b>100</b>		<b>20</b>	<b>4.80</b>	<b>80</b>	<b>0.26</b>
117		24	5.76		0.31
133		27	6.48		0.35
<b>167</b>		<b>34</b>	<b>8.16</b>	<b>100</b>	<b>0.44</b>
200		40	9.60		0.52
233		47	11.28		0.61
267		54	12.96		0.70
300		60	14.40		0.78
<b>333</b>		<b>67</b>	<b>16.08</b>	<b>125</b>	<b>0.87</b>
367		74	17.76		0.96
400		80	19.20		1.04
433		87	20.88		1.13
467		94	22.56		1.22
<b>500</b>		<b>100</b>	<b>24.00</b>	<b>150.0</b>	<b>1.30</b>
533		107	25.68		1.39
567		114	27.36		1.48
600		120	28.80		1.56
633		127	30.48		1.65
<b>667</b>		<b>134</b>	<b>32.16</b>		<b>1.74</b>

Diffusers for fan coils selection				
600x600 diffuser (Model)	1200x300 diffuser (Model)	1200x300 nozzle diffuser (Model)	Exposed diffuser (Model)	Qty of diffusers
				3
				6
				9
				12
				18
				21
				24
				30
				33
				36
				42
				51
				60
				72
				81
				102
				120
				141
				162
				180
				201
				222
				240
				261
				282
				300
				321
				342
				360
				381
				402

Heatpump / chiller for fan coil system				
Chiller power <sup>(4)</sup> (kW)	ELEC power (kW)	Chiller model	Chiller dims w x h x l (mm)	Pipe flow (l/s) Pipe Ø <sup>(2)</sup> (mm)
4	2	HCY-20	978 x 985 x 380	0.27
9	3	HCY-31	1420 x 1288 x 550	0.39
18	6	HCY-81	1960 x 1203 x 810	0.80
26	10	HCY-131	2060 x 1417 x 1112	1.37
35	11	HCY-171		1.58
<b>43</b>	<b>14</b>	<b>HCY-211</b>	<b>2470 x 1595 x 1112</b>	<b>1.84</b>
52	18	HCY-301		2.35
60	21	HTAT-HE-30		3.03
69	23	HTAT-HE-35	1110 x 2155 x 2507	3.03
77	23	HTAT-HE-35		3.25
<b>86</b>	<b>29</b>	<b>HTAT-HE-40</b>		<b>3.94</b>
108	31	HTAT-HE-50		4.61
<b>129</b>	<b>40</b>	<b>HTAT-HE-60</b>	<b>1110 x 2155 x 3407</b>	<b>5.61</b>
151	45	HTAT-HE-65		6.44
173	55	HAST-HE-80	2188 x 2150 x 3495	8.06
<b>216</b>	<b>73</b>	<b>HAST-HE-110</b>		<b>10.08</b>
258	79	HAST-HE-120	2188 x 2150 x 4595	11.58
301	91	HAST-HE-130		13.08
346	102	HAST-HE-140		14.61
387	118	2 x HAST-HE-90		16.94
<b>429</b>	<b>146</b>	<b>2 x HAST-HE-110</b>		<b>20.17</b>
473	158	2 x HAST-HE-120		23.17
515	182	2 x HAST-HE-130		26.17
558	182	2 x HAST-HE-130		26.17
603	237	3 x HAST-HE-120		29.22
<b>645</b>	<b>204</b>	<b>2 x HAST-HE-140</b>		<b>34.75</b>
686	237	3 x HAST-HE-120		34.75
727				
773				
815				
<b>856</b>	<b>273</b>	<b>3 x HAST-HE-130</b>		<b>39.25</b>

Fresh air volume flow rate		Number of people served by fresh air at 12 l/s/person (Persons)	Office area served by fresh air at 1 person/8m <sup>2</sup> (m <sup>2</sup> )
(m <sup>3</sup> /s)	(m <sup>3</sup> /hr)		
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Chilled beam selection (4-pipe, heating and cooling)						
Beam cooling power <sup>(5)</sup> (kW)	Recessed		Exposed		Hotel bedroom (Model)	Qty of chilled beams
	Constant vol (Model)	VAV beam (Model)	Constant vol (Model)	VAV beam (Model)		
2					CBH	3
5					CBH	5
9					CBH	9
14					CBH	13
19					CBH	17
<b>24</b>						<b>21</b>
28						25
33						30
38						34
43						38
47						42
59						52
71						63
83						73
95						84
<b>118</b>						<b>104</b>
142						125
166						146
189						167
213						188
<b>237</b>						<b>208</b>
260						229
284						250
308						271
331						292
<b>355</b>						<b>312</b>
379						333
402						354
426						375