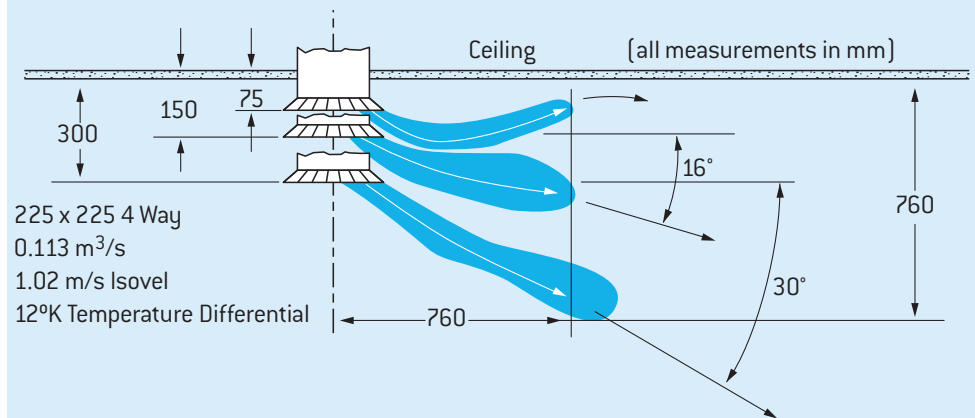


Notes on Throw Performance Data

1. The CMP and CMPH Performance Data in the tables on the following pages (Pages 148D - 157D and 160D - 165D) applies when the outlet is mounted near the ceiling with ceiling effect.
2. Where no ceiling effect is present the horizontal throw will be about 25% less than shown in the tables.
3. The subsequent downward projection should be taken into account.

Effects of Mounting Position on Air Pattern



RECOMMENDED MAXIMUM AIR FLOW

Ceiling Height, m.	2.40	2.70	3.00	3.60	4.20	4.80
Air Flow (m³/s) per side	0.095	0.165	0.260	0.425	0.660	0.755

This data is based on 12°C Δt (temperature differential) during cooling.

General Performance Notes

1. Pressure:

All pressures are in Pa (N/m²)

TP = Total Pressure

-SP = Negative Static Pressure

2. Throw:

Maximum throws are to a terminal velocity of 0.25 m/s, middle to 0.5 m/s, and minimum to 0.75 m/s.

3. Sound:

The NC values are based on a room absorption of 8 dB, re 10⁻¹² watts and one steel diffuser. For aluminium diffusers, apply the following corrections to the listed data:

Supply:	NC = Listed + 3
	TP = Listed x 1.5
	THROW = Listed x 1.0
Return:	NC = Listed + 2
	-SP = Listed x 1.0

CMPH: Where table shows -, NC is below 20.

4. Return Factors:

If the unit is used as a return inlet, the performance data is obtained by applying the return factors shown on each table in the following manner:

a. Sound: Add the factor shown to the NC value listed.

b. Negative Static Pressure: Multiply the return factor by the total pressure listed.

Return Example:

150 x 150 CMP with 0.071 m³/s being returned through the unit.

Return NC = 20 + 1 = 21

Return Pressure (-SP) = TP x 1.1 = 25 (1.1) = 27.5 Pa (N/m²)

5. Size in mm:

This is the Diffuser Listed Duct Size or Nominal Neck Opening

Symbols









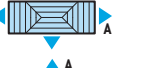

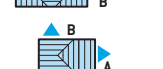





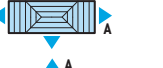

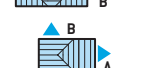




m³/s	Cubic metres per second	Pt	Total pressure Pa (= Ps + Pv)
m/s	Metres per second	Δt	Temperature differential, room to supply
Vk	Outlet velocity, m/s	Throw	Distance air travels from diffuser to a given Vt. Tables show throws to Vts of 0.75 (min); 0.5 and 0.25 (max) m/s.
Vt	Air stream terminal velocity, m/s	NC	Noise criteria. Ratings are based on sound power level (SWL) re. 10 ⁻¹² watts minus 8 dB room attenuation in all frequency bands.
Ak	Diffuser or register net jet area, m²		
AD or An	Inlet duct or neck area		
Ps	Static pressure, Pa		
Pv	Velocity pressure, Pa		

Note

All ceiling diffusers, seismic restraints are required, but not supplied.

Size in mm	Patterns	Neck Vel m/s TP Pa	1.57 6	2.10 11	2.62 18	3.15 25	3.67 35	4.19 45	4.72 57									
450 x 450	Return Factors	NC+7 -SP=2.2TP	Total m³/s NC		0.319 9	0.425 18	0.531 25	0.637 31	0.734 35	0.850 39	0.956 43							
			A	B	A	B	A	B	A	B	A	B						
		41	m³/s side throw m		0.079 2.4 3.1 4.3	0.106 2.7 3.4 4.9	0.132 3.1 4.0 5.5	0.159 3.4 4.3 6.1	0.188 3.7 4.6 6.4	0.212 4.0 4.9 7.0	0.238 4.3 5.2 7.3							
		36	m³/s side throw m		0.079 2.4 3.1 4.3	0.119 3.4 4.3 5.8	0.106 2.7 3.4 4.9	0.159 4.0 5.5 7.6	0.199 4.6 6.1 8.2	0.239 5.2 6.4 8.8	0.319 6.1 7.0 9.5	0.359 6.1 7.3 10.1						
		34 *	m³/s side throw m		0.106 3.4 4.3 5.8	0.106 3.4 4.3 5.8	0.142 4.0 4.9 6.7	0.142 4.0 4.9 6.7	0.177 4.6 5.5 7.6	0.177 4.9 6.1 8.3	0.212 5.2 6.4 8.8	0.248 5.2 6.4 8.8	0.283 5.5 7.0 9.5	0.283 5.5 7.0 9.5	0.319 6.1 7.3 10.1	0.319 6.1 7.3 10.1		
		21	m³/s side throw m		0.159 4.0 4.9 7.0	0.212 4.6 5.5 7.9	0.265 5.2 6.4 9.2	0.318 5.5 6.7 9.8	0.371 6.1 7.3 10.4	0.425 6.4 7.6 11.3	0.477 7.0 8.2 11.9							
		51	m³/s side throw m		0.159 4.0 4.9 7.0	0.212 4.6 5.5 7.9	0.265 5.2 6.4 9.2	0.318 5.5 6.7 9.8	0.371 6.1 7.3 10.4	0.425 6.4 7.6 11.3	0.477 7.0 8.2 11.9							
		11	m³/s side throw m		0.319 4.9 6.1 8.5	0.425 5.8 7.0 9.8	0.531 6.7 7.9 11.3	0.638 7.0 8.5 11.9	0.743 7.6 9.2 12.8	0.850 8.2 10.1 13.7	0.956 8.8 10.7 14.6							
525 x 525	Return Factors	NC+9 -SP=2.7TP	Total m³/s NC		0.433 11	0.578 20	0.722 27	0.866 33	1.010 37	1.157 41	1.298 45							
			A	B	A	B	A	B	A	B	A	B						
		41	m³/s side throw m		0.109 2.7 3.4 4.9	0.144 3.1 4.0 5.5	0.180 3.4 4.6 6.4	0.217 3.7 4.9 6.7	0.253 4.0 5.2 7.3	0.289 4.3 5.5 7.6	0.325 4.6 6.1 8.2							
		36	m³/s side throw m		0.109 2.7 3.4 4.9	0.163 3.7 4.6 6.4	0.144 3.1 4.0 5.5	0.217 3.7 4.9 6.7	0.325 5.2 6.4 9.2	0.379 5.5 6.7 9.8	0.423 6.1 7.3 10.4	0.486 6.4 7.9 11.0						
		34 *	m³/s side throw m		0.139 3.4 4.3 5.8	0.146 3.4 4.3 5.8	0.186 4.0 4.9 6.7	0.194 4.0 4.9 6.7	0.232 4.6 5.5 8.2	0.243 4.9 6.1 8.2	0.279 5.2 6.4 8.8	0.292 5.2 6.4 8.8	0.325 5.5 7.0 9.5	0.340 5.5 7.3 10.1	0.389 6.1 7.3 10.1	0.418 6.1 7.3 10.1	0.438 6.1 7.3 10.1	
		21	m³/s side throw m		0.216 4.6 5.5 7.9	0.289 5.2 6.4 9.2	0.361 5.8 7.3 10.4	0.433 6.4 7.9 11.3	0.505 6.7 8.5 12.2	0.578 7.3 9.2 12.8	0.649 7.9 9.8 13.7							
		51	m³/s side throw m		0.216 4.6 5.5 7.9	0.289 5.2 6.4 9.2	0.361 5.8 7.3 10.4	0.433 6.4 7.9 11.3	0.505 6.7 8.5 12.2	0.578 7.3 9.2 12.8	0.649 7.9 9.8 13.7							
		11	m³/s side throw m		0.432 5.5 7.0 9.5	0.578 6.4 7.9 11.0	0.723 7.3 9.2 12.5	0.866 7.9 9.8 13.4	1.010 8.5 10.4 14.6	1.160 9.2 11.3 15.6	1.300 9.8 11.9 16.5							
600 x 600	Return Factors	NC+9 -SP=2.83TP	Total m³/s NC		0.566 12	0.755 21	0.944 28	1.130 34	1.320 38	1.510 42	1.700 46							
			A	B	A	B	A	B	A	B	A	B						
		41	m³/s side throw m		0.142 3.1 3.7 5.2	0.189 3.7 4.3 6.1	0.236 4.3 4.9 7.0	0.283 4.6 5.2 7.6	0.330 4.9 5.5 7.9	0.378 5.2 6.1 8.5	0.425 5.5 6.4 9.2							
		36	m³/s side throw m		0.142 3.1 3.7 5.2	0.212 4.0 4.9 7.0	0.189 3.7 4.3 6.1	0.280 4.6 5.5 7.9	0.236 4.3 4.9 7.0	0.354 5.2 6.7 9.8	0.425 5.5 6.7 9.8	0.496 6.1 7.3 10.4	0.567 6.4 7.6 11.3	0.638 7.0 8.2 11.9	0.638 7.0 8.2 11.9			
		34 *	m³/s side throw m		0.213 4.0 4.9 7.0	0.177 3.7 4.6 6.4	0.283 4.6 5.5 7.9	0.236 4.3 4.9 6.7	0.354 5.2 6.4 9.2	0.295 4.9 5.8 8.2	0.425 5.5 6.7 9.8	0.354 5.2 6.4 9.2	0.496 6.1 7.3 10.4	0.567 6.4 7.6 9.2	0.638 7.0 8.2 11.9	0.638 7.0 8.2 11.9		
		21	m³/s side throw m		0.283 4.9 6.1 8.5	0.378 5.8 7.0 9.8	0.472 6.7 7.9 11.3	0.566 7.0 8.5 11.9	0.661 7.6 9.2 12.8	0.755 8.2 10.1 13.7	0.850 8.8 10.7 14.6							
		51	m³/s side throw m		0.283 4.9 6.1 8.5	0.378 5.8 7.0 9.8	0.472 6.7 7.9 11.3	0.566 7.0 8.5 11.9	0.661 7.6 9.2 12.8	0.755 8.2 10.1 13.7	0.850 8.8 10.7 14.6							
		11	m³/s side throw m		0.566 6.1 7.3 10.7	0.755 7.0 8.5 12.2	0.944 7.9 9.8 14.0	1.130 8.5 10.4 14.9	1.320 9.2 11.3 16.2	1.510 9.8 12.2 17.1	1.700 10.7 12.8 18.3							
750 x 750	Return Factors	NC+9 -SP=3.3TP	Total m³/s NC		0.885 15	1.180 24	1.480 31	1.770 37	2.070 41	2.360 45	2.660 49							
			A	B	A	B	A	B	A	B	A	B						
		41	m³/s side throw m		0.221 3.4 4.3 5.8	0.295 4.0 4.9 6.7	0.369 4.6 5.5 7.6	0.442 4.9 6.1 8.2	0.516 5.2 6.4 8.8	0.590 5.5 7.0 9.5	0.664 6.1 7.3 10.1							
		36	m³/s side throw m		0.221 3.4 4.3 5.8	0.332 4.6 5.5 7.9	0.295 4.0 4.9 6.7	0.443 5.2 6.4 10.4	0.369 4.6 5.5 8.2	0.553 5.8 7.3 11.3	0.442 4.9 6.4 8.8	0.663 5.5 7.3 12.2	0.774 6.7 9.2 12.2	0.885 7.3 9.2 12.8	0.996 7.9 9.8 13.7			
		34 *	m³/s side throw m		0.308 4.3 5.2 7.3	0.289 4.3 5.2 7.3	0.412 4.9 6.1 8.5	0.384 4.9 6.1 8.5	0.515 5.5 7.0 9.8	0.481 5.5 7.0 9.8	0.619 6.1 7.9 10.4	0.576 6.1 7.6 10.4	0.720 7.9 9.2 11.3	0.670 7.9 9.2 11.3	0.820 8.5 10.1 12.2	0.767 8.5 10.1 12.2	0.926 9.2 10.7 12.8	0.862 9.2 10.7 12.8
		21	m³/s side throw m		0.442 5.5 7.0 9.5	0.590 6.4 7.9 11.0	0.737 7.3 9.2 12.5	0.885 7.9 9.8 13.4	1.030 8.5 10.4 14.6	1.180 9.2 11.3 15.6	1.330 9.8 11.9 16.5							
		51	m³/s side throw m		0.442 5.5 7.0 9.5	0.590 6.4 7.9 11.0	0.737 7.3 9.2 12.5	0.885 7.9 9.8 13.4	1.030 8.5 10.4 14.6	1.180 9.2 11.3 15.6	1.330 9.8 11.9 16.5							
		11	m³/s side throw m		0.885 7.0 8.5 11.9	1.180 7.9 9.8 13.7	1.480 9.2 11.3 15.6	1.770 9.8 11.9 16.8	2.070 10.4 12.8 18.0	2.360 11.3 13.7 21.0	2.660 11.9 14.6 20.7							

*These cores are constructed to give as near as possible equal air flow in A & B directions.

Size in mm	Patterns		Neck Vel m/s TP Pa	1.57	2.10	2.62	3.15	3.67	4.19	4.72							
				6	11	18	25	35	45	57							
150 x 225	Return Factors	NC+0 -SP=1.3 TP	Total m ³ /s NC	0.053	0.071	0.088	0.106	0.124	0.142	0.159							
				-		10		17		23		27		31		35	
AD 0.033 m ²		42 43	m ³ /s side throw m	0.017	0.008	0.023	0.011	0.029	0.015	0.035	0.017	0.041	0.021	0.047	0.024	0.053	0.026
			m ³ /s side throw m	1.8	1.2	2.1	1.5	2.4	1.8	2.7	1.8	3.1	2.1	3.7	2.1	4.0	2.4
		31	m ³ /s side throw m	0.022	0.008	0.029	0.012	0.037	0.015	0.044	0.017	0.052	0.021	0.059	0.024	0.066	0.026
			m ³ /s side throw m	2.1	1.2	2.4	1.5	2.7	1.8	3.1	1.8	3.4	2.1	3.7	2.4	4.0	2.4
		33	m ³ /s side throw m	0.020	0.017	0.026	0.022	0.033	0.027	0.040	0.033	0.046	0.039	0.053	0.044	0.060	0.050
			m ³ /s side throw m	1.8	1.5	2.1	1.8	2.4	2.1	2.7	2.1	3.1	2.4	3.4	2.7	4.0	3.1
		37	m ³ /s side throw m	0.017	0.017	0.024	0.024	0.029	0.029	0.035	0.035	0.041	0.041	0.047	0.047	0.053	0.053
			m ³ /s side throw m	1.8	1.8	2.1	2.1	2.4	2.4	2.7	2.7	3.1	3.1	3.4	3.4	4.0	4.0
		22, 23	m ³ /s side throw m	0.026	-	0.035	-	0.044	-	0.053	-	0.062	-	0.071	-	0.079	-
			m ³ /s side throw m	2.4	-	2.7	-	3.1	-	3.4	-	3.7	-	4.0	-	4.3	-
	52 54 55 53	m ³ /s side throw m	0.035	0.017	0.047	0.024	0.059	0.029	0.071	0.035	0.083	0.044	0.094	0.047	0.106	0.053	
		m ³ /s side throw m	2.4	1.8	2.7	2.1	3.1	2.4	3.4	2.7	3.7	2.7	4.0	3.1	4.3	3.4	4.3
	12, 13	m ³ /s side throw m	0.053	-	0.071	-	0.088	-	0.106	-	0.124	-	0.142	-	0.159	-	
		m ³ /s side throw m	3.1	-	3.7	-	4.3	-	4.6	-	4.9	-	5.2	-	5.5	-	5.8
150 x 300	Return Factors	NC+2 -SP=1.7 TP	Total m ³ /s NC	0.071	0.094	0.118	0.142	0.165	0.189	0.212							
				-		11		18		24		28		32		36	
		42 43	m ³ /s side throw m	0.026	0.009	0.035	0.012	0.044	0.015	0.055	0.018	0.062	0.021	0.071	0.024	0.080	0.026
			m ³ /s side throw m	2.4	1.2	2.7	1.5	3.1	1.8	3.4	1.8	3.7	2.1	4.0	2.1	4.3	2.4
		45*	m ³ /s side throw m	0.018	0.018	0.024	0.024	0.029	0.029	0.035	0.035	0.041	0.041	0.047	0.047	0.053	0.053
			m ³ /s side throw m	2.1	2.1	2.4	2.4	2.7	2.7	3.1	3.1	3.4	3.4	3.7	3.7	4.0	4.0
		31	m ³ /s side throw m	0.031	0.009	0.041	0.012	0.052	0.015	0.062	0.018	0.072	0.020	0.083	0.024	0.093	0.026
			m ³ /s side throw m	2.4	1.2	2.7	1.5	3.1	1.8	3.4	1.8	3.7	2.1	4.0	2.1	4.3	2.4
		33	m ³ /s side throw m	0.035	0.018	0.047	0.024	0.060	0.029	0.071	0.035	0.083	0.041	0.094	0.047	0.107	0.053
			m ³ /s side throw m	1.8	1.8	2.1	2.1	2.4	2.4	2.7	2.7	3.1	3.1	3.4	3.4	3.7	3.7
	37	m ³ /s side throw m	0.026	0.022	0.035	0.029	0.044	0.037	0.053	0.044	0.062	0.052	0.071	A59	0.080	0.066	
		m ³ /s side throw m	2.4	2.1	2.7	2.4	3.1	2.7	3.4	3.1	3.7	3.4	4.0	3.4	4.3	3.7	4.6
	22, 23	m ³ /s side throw m	0.035	-	0.047	-	0.059	-	0.071	-	0.083	-	0.094	-	0.106	-	
		m ³ /s side throw m	2.4	-	2.7	-	3.1	-	3.4	-	3.7	-	4.0	-	4.3	-	4.6
	52 54 55 53	m ³ /s side throw m	0.053	0.018	0.071	0.024	0.089	0.029	0.106	0.035	0.124	0.041	0.142	0.047	0.160	0.053	
		m ³ /s side throw m	3.1	1.8	3.7	2.1	4.3	2.4	4.6	2.7	4.9	2.7	5.2	3.1	5.5	3.4	5.8
	12, 13	m ³ /s side throw m	0.071	-	0.094	-	0.118	-	0.142	-	0.165	-	0.189	-	0.212	-	
		m ³ /s side throw m	3.1	-	3.7	-	4.3	-	4.6	-	4.9	-	5.2	-	5.5	-	5.8
150 x 375	Return Factors	NC+2 -SP=2.0 TP	Total m ³ /s NC	0.089	0.118	0.147	0.177	0.207	0.236	0.266							
				-		12		19		25		29		33		37	
		42 43	m ³ /s side throw m	0.035	0.009	0.047	0.012	0.059	0.015	0.071	0.018	0.083	0.021	0.094	0.024	0.106	0.026
			m ³ /s side throw m	2.4	1.2	2.7	1.5	3.1	1.8	3.4	1.8	3.7	2.1	4.0	2.1	4.3	2.4
		45*	m ³ /s side throw m	0.018	0.026	0.024	0.035	0.029	0.044	0.035	0.053	0.041	0.062	0.047	0.071	0.053	0.080
			m ³ /s side throw m	2.1	2.4	2.4	2.7	2.7	3.1	3.4	3.4	3.7	3.7	4.0	4.0	4.3	4.3
		31	m ³ /s side throw m	0.040	0.009	0.053	0.012	0.066	0.015	0.080	0.018	0.093	0.021	0.106	0.024	0.119	0.026
			m ³ /s side throw m	2.7	1.2	3.1	1.5	3.4	1.8	3.7	1.8	4.0	2.1	4.3	2.1	4.6	2.4
		33	m ³ /s side throw m	0.053	0.018	0.071	0.024	0.089	0.029	0.106	0.035	0.125	0.041	0.142	0.047	0.160	0.053
			m ³ /s side throw m	2.7	1.8	3.1	2.1	3.4	2.4	3.7	2.7	4.0	2.7	4.3	3.1	4.6	3.4
	37	m ³ /s side throw m	0.026	0.031	0.035	0.042	0.044	0.052	0.055	0.062	0.062	0.072	0.071	0.083	0.080	0.093	
		m ³ /s side throw m	2.4	2.4	2.7	2.7	3.1	3.1	3.4	3.4	3.7	3.7	4.0	4.0	4.3	4.3	4.6
	22, 23	m ³ /s side throw m	0.044	-	0.059	-	0.074	-	0.088	-	0.103	-	0.118	-	0.133	-	
		m ³ /s side throw m	2.7	-	3.1	-	3.4	-	3.7	-	4.0	-	4.3	-	4.6	-	4.9
	52 54 55 53	m ³ /s side throw m	0.071	0.018	0.094	0.024	0.118	0.029	0.142	0.035	0.165	0.041	0.189	0.047	0.212	0.053	
		m ³ /s side throw m	3.1	1.8	3.7	2.1	4.3	2.4	4.6	2.7	4.9	2.7	5.2	3.1	5.5	3.4	5.8
	12, 13	m ³ /s side throw m	0.089	-	0.118	-	0.147	-	0.177	-	0.207	-	0.236	-	0.266	-	
		m ³ /s side throw m	3.4	-	4.0	-	4.6	-	4.9	-	5.2	-	5.5	-	5.8	-	6.1

* These cores are constructed to give as near as possible equal air flow in A & B directions.

Diffusers - Ceiling Multi Pattern

Size in mm	Patterns		Neck Vel m/s	1.57	2.10	2.62	3.15	3.67	4.19	4.72						
	Return Factors	NC+5 -SP=4.1 TP	TP Pa	6	11	18	25	35	45	57						
225 x 300	42	43	Total m ³ /s NC	0.106	0.142	0.177	0.212	0.248	0.283	0.319						
			NC	13	13	20	26	30	34	38						
AD 0.068 m ²	m ³ /s side throw m		0.033	0.020	0.044	0.026	0.055	0.033	0.067	0.040	0.077	0.046	0.089	0.053	0.100	0.060
	2.1	1.5	2.4	1.8	2.7	2.1	3.1	2.1	3.4	2.4	4.0	2.4	3.4	2.4	3.7	2.7
	2.7	1.8	3.1	2.1	3.4	2.4	3.7	2.7	4.0	2.7	4.0	2.7	4.3	3.1	4.6	3.4
	3.7	2.7	4.3	3.1	4.9	3.4	5.2	3.7	5.5	4.0	6.1	4.3	6.1	4.3	6.4	4.6
	m ³ /s side throw m		0.043	0.020	0.057	0.033	0.072	0.033	0.086	0.040	0.101	0.046	0.115	0.053	0.129	0.060
	2.7	1.5	3.1	1.8	3.4	2.1	3.7	2.1	4.0	2.4	4.3	2.4	4.3	2.4	4.6	2.7
	3.4	1.8	4.0	2.1	4.6	2.4	4.9	2.7	5.2	2.7	5.5	3.1	6.1	3.1	6.1	3.4
	4.9	2.7	5.5	3.1	6.4	3.4	6.7	3.7	7.3	4.0	7.6	4.3	8.2	4.3	8.2	4.6
	m ³ /s side throw m		0.035	0.035	0.047	0.047	0.059	0.059	0.071	0.071	0.083	0.083	0.094	0.094	0.106	0.106
	2.4	2.4	2.7	2.7	3.1	3.1	3.4	3.4	3.7	3.7	4.0	4.0	4.3	4.3	4.3	4.3
	3.1	3.1	3.4	3.4	4.0	4.0	4.3	4.3	4.6	4.6	4.9	4.9	5.2	5.2	5.2	5.2
	4.0	4.0	4.6	4.6	5.2	5.2	5.5	5.5	6.1	6.1	6.4	6.4	7.0	7.0	7.0	7.0
m ³ /s side throw m		0.033	0.036	0.044	0.049	0.055	0.060	0.067	0.073	0.077	0.085	0.089	0.097	0.100	0.109	
2.4	2.7	2.7	3.1	3.1	3.4	3.4	3.7	3.7	4.0	4.0	4.3	4.3	4.3	4.3	4.6	
3.1	3.1	3.4	3.7	4.0	4.3	4.3	4.6	4.6	4.9	4.9	5.2	5.2	5.2	5.2	5.5	
4.3	4.6	4.9	5.2	5.5	5.8	6.1	6.4	6.4	6.7	6.7	7.0	7.0	7.3	7.3	7.9	
m ³ /s side throw m		0.053	0.071	0.089	0.089	0.111	0.067	0.133	0.080	0.155	0.093	0.177	0.106	0.199	0.119	
3.1	3.7	4.3	4.3	4.3	3.1	4.6	3.4	4.9	3.7	5.2	4.0	5.2	4.0	5.5	4.3	
3.7	4.3	4.9	4.9	4.9	4.0	5.2	4.3	6.1	4.6	6.4	5.5	7.0	4.9	6.4	5.2	
5.2	6.1	7.0	7.0	7.0	5.2	7.6	5.2	8.2	6.4	9.2	7.0	9.8	7.0	9.2	7.0	
m ³ /s side throw m		0.067	0.040	0.089	0.055	0.111	0.067	0.133	0.080	0.155	0.093	0.177	0.106	0.199	0.119	
3.1	2.4	3.7	2.7	4.3	3.1	4.6	3.4	4.9	3.7	5.2	4.0	5.2	4.0	5.5	4.3	
3.7	3.1	4.3	3.4	4.9	4.0	5.2	4.3	6.1	4.6	7.0	5.5	8.2	6.4	7.0	5.2	
5.2	4.0	6.1	4.6	7.0	5.2	7.6	5.5	8.2	6.4	9.2	7.0	9.8	7.0	9.2	7.0	
m ³ /s side throw m		0.106	0.142	0.177	0.177	0.222	0.212	0.266	0.243	0.310	0.283	0.389	0.283	0.319	0.319	
3.7	4.3	4.9	4.9	4.9	4.9	5.2	5.2	5.2	5.5	5.5	6.1	6.1	6.4	6.4	6.4	
4.6	5.2	5.8	5.8	5.8	5.8	6.4	6.4	6.4	6.7	6.7	7.3	7.3	7.3	7.3	7.9	
6.4	7.3	8.2	8.2	8.2	8.2	9.2	9.2	9.2	9.8	9.8	10.4	10.4	10.4	10.4	11.0	
225 x 375	Patterns		Neck Vel m/s	1.57	2.10	2.62	3.15	3.67	4.19	4.72						
	Return Factors	NC+4 -SP=1.8 TP	TP Pa	6	11	18	25	35	45	57						
AD 0.084 m ²	42	43	Total m ³ /s NC	0.133	0.177	0.222	0.266	0.310	0.354	0.400						
			NC	14	14	21	27	31	35	39						
	m ³ /s side throw m		0.046	0.020	0.062	0.026	0.079	0.033	0.094	0.040	0.109	0.046	0.124	0.053	0.140	0.060
	2.7	1.5	3.1	1.8	3.4	2.1	3.7	2.1	4.0	2.4	4.3	2.4	4.6	2.7	4.6	2.7
	3.4	1.8	4.0	2.1	4.6	2.4	4.9	2.7	5.2	2.7	5.5	3.1	6.1	3.1	6.1	3.4
	4.9	2.7	5.5	3.1	6.4	3.4	6.7	3.7	7.3	4.0	7.6	4.3	8.2	4.3	8.2	4.6
	m ³ /s side throw m		0.033	0.033	0.044	0.044	0.055	0.055	0.067	0.067	0.077	0.077	0.089	0.089	0.100	0.100
	2.4	2.4	2.7	2.7	3.1	3.1	3.4	3.4	3.7	3.7	4.0	4.0	4.3	4.3	4.3	4.3
	3.1	3.1	3.4	3.4	4.0	4.0	4.3	4.3	4.6	4.6	4.9	4.9	5.2	5.2	5.2	5.2
	4.3	4.3	4.9	4.9	5.5	5.5	6.1	6.1	6.4	6.4	7.0	7.0	7.3	7.3	7.3	7.3
	m ³ /s side throw m		0.057	0.020	0.075	0.026	0.094	0.033	0.113	0.040	0.132	0.046	0.151	0.053	0.169	0.060
	3.1	1.5	3.7	1.8	4.3	2.1	4.6	2.1	4.9	2.4	5.2	2.4	5.2	2.4	5.5	2.7
3.7	1.8	4.3	2.1	4.9	2.4	5.2	2.7	5.5	2.7	6.1	3.1	6.1	3.1	6.4	3.4	
5.2	2.7	6.1	3.1	7.0	3.4	7.6	3.7	7.9	4.0	8.5	4.3	9.2	4.3	9.2	4.6	
m ³ /s side throw m		0.039	0.055	0.052	0.073	0.065	0.093	0.078	0.110	0.091	0.128	0.103	0.147	0.117	0.166	
2.7	2.1	3.1	2.4	3.4	2.7	3.7	3.1	4.0	3.4	4.3	3.4	4.6	3.4	4.6	3.7	
3.1	2.7	3.7	3.1	4.3	3.4	4.6	3.7	4.9	4.0	5.2	4.3	5.5	4.3	5.5	4.6	
4.6	3.7	5.2	4.3	5.8	4.9	6.4	5.2	6.7	5.5	7.3	6.1	7.9	6.1	7.9	6.4	
m ³ /s side throw m		0.046	0.043	0.061	0.058	0.076	0.072	0.092	0.086	0.107	0.100	0.123	0.115	0.138	0.129	
2.7	2.7	3.1	3.1	3.4	3.4	3.7	3.7	4.0	4.0	4.3	4.3	4.6	4.6	4.6	4.6	
3.4	3.4	4.0	4.0	4.6	4.6	4.9	4.9	5.2	5.2	5.5	5.5	5.5	5.5	6.1	6.1	
4.9	4.9	5.5	5.5	6.4	6.4	6.7	6.7	7.3	7.3	7.6	7.6	8.2	8.2	8.2	8.2	
m ³ /s side throw m		0.066	0.088	0.111	0.111	0.133	0.133	0.155	0.155	0.177	0.177	0.199	0.199	0.222	0.222	
3.1	3.7	4.3	4.3	4.3	4.3	4.6	4.6	4.9	4.9	5.2	5.2	5.5	5.5	5.5	5.5	
3.7	4.3	4.9	4.9	4.9	4.9	5.2	5.2	5.5	5.5	5.8	5.8	6.1	6.1	6.4	6.4	
5.2	6.1	7.0	7.0	7.0	7.0	7.6	7.6	7.9	7.9	8.5	8.5	9.2	9.2	9.2	9.2	
m ³ /s side throw m		0.093	0.040	0.124	0.053	0.155	0.067	0.186	0.080	0.217	0.093	0.248	0.106	0.279	0.119	
3.4	2.4	4.0	2.7	4.6	3.1	4.9	3.4	5.2	3.7	6.1	4.3	7.0	4.9	7.3	5.2	
4.3	3.1	4.9	3.4	5.5	4.0	6.1	4.3	6.4	4.6	7.0	5.5	8.2	6.4	7.3	7.0	
5.8	4.0	6.7	4.6	7.6	5.2	8.2	5.5	8.8	6.1	9.5	6.4	10.1	7.0	10.1	7.0	
m ³ /s side throw m		0.133	0.177	0.222	0.222	0.266	0.266	0.310	0.310	0.354	0.354	0.400	0.400	0.400	0.400	
4.0	4.6	5.2	5.2	5.2	5.2	5.5	5.5	6.1	6.1	6.4	6.4	7.0	7.0	7.0	7.0	
4.9	5.5	6.4	6.4	6.4	6.4	6.7	6.7	7.3	7.3	7.6	7.6	8.2	8.2	8.2	8.2	
7.0	7.9	9.2	9.2	9.2	9.2	9.8	9.8	10.4	10.4	11.0	11.0	11.6	11.6	11.6	11.6	

* These cores are constructed to give as near as possible equal air flow in A & B directions.

Size in mm	Patterns		Neck Vel m/s	1.57	2.10	2.62	3.15	3.67	4.19	4.72								
	Return Factors	NC+4 -SP=2.0 TP	TP Pa	6	11	18	25	35	45	57								
			Total m ³ /s NC	0.212	0.283	0.354	0.425	0.496	0.566	0.637								
300 x 450			m ³ /s side throw m	0.071	0.035	0.094	0.047	0.118	0.059	0.142	0.071	0.165	0.083	0.189	0.094	0.212	0.106	
			m ³ /s side throw m	3.1	1.8	3.7	2.1	4.3	2.4	4.6	2.7	4.9	2.7	5.2	3.1	5.5	3.4	5.5
			m ³ /s side throw m	3.7	2.4	4.3	2.7	4.9	3.1	5.2	3.4	5.5	3.7	6.1	4	6.4	4.3	6.4
			m ³ /s side throw m	5.2	3.1	6.1	3.7	7	4.3	7.6	4.6	7.9	4.9	8.5	5.2	9.2	5.5	9.2
			m ³ /s side throw m	0.053	0.053	0.071	0.071	0.088	0.088	0.106	0.106	0.124	0.124	0.142	0.142	0.159	0.159	0.159
			m ³ /s side throw m	3.1	3.1	3.7	3.7	4.3	4.3	4.6	4.6	4.9	4.9	5.2	5.2	5.5	5.5	5.5
			m ³ /s side throw m	3.7	3.7	4.3	4.3	4.9	4.9	5.2	5.2	5.5	5.5	6.1	6.1	6.4	6.4	6.4
			m ³ /s side throw m	5.2	5.2	6.1	6.1	7.2	7.2	7.6	7.6	7.9	7.9	8.5	8.5	9.2	9.2	9.2
			m ³ /s side throw m	0.088	0.035	0.118	0.047	0.147	0.059	0.177	0.071	0.206	0.083	0.236	0.094	0.265	0.106	0.265
			m ³ /s side throw m	3.4	1.8	4.0	2.1	4.6	2.4	4.9	2.7	5.2	2.7	5.5	3.1	6.1	3.4	6.1
AD 0.135 m ²			m ³ /s side throw m	4.3	2.4	4.9	2.7	5.5	3.1	6.4	3.7	7.0	4.0	7.3	4.3	7.3		
			m ³ /s side throw m	4.9	3.4	5.5	4.0	6.4	4.6	6.7	4.9	7.3	5.2	7.6	5.5	8.2	6.1	8.2
			m ³ /s side throw m	7.0	4.9	7.9	5.5	9.2	6.4	9.8	6.7	10.4	7.3	11.3	7.6	11.9	8.2	8.2
			m ³ /s side throw m	0.212		0.283		0.354		0.425		0.496		0.566		0.637		0.637
			m ³ /s side throw m	4.3		4.9		5.5		6.1		6.4		7.0		7.3		7.3
			m ³ /s side throw m	5.2		6.1		7.0		7.6		7.9		8.5		9.2		9.2
			m ³ /s side throw m	7.3		8.5		9.8		10.4		11.3		12.2		12.8		12.8
			m ³ /s side throw m	0.142	0.071	0.189	0.094	0.236	0.118	0.283	0.142	0.330	0.165	0.378	0.189	0.425	0.212	0.425
			m ³ /s side throw m	3.1	2.7	4.6	3.1	5.2	3.4	5.5	3.7	6.1	4.0	6.4	4.3	7.0	4.6	7.0
			m ³ /s side throw m	4.9	3.4	5.5	4.0	6.4	4.6	6.7	4.9	7.3	5.2	7.6	5.5	8.2	6.1	8.2
300 x 525			m ³ /s side throw m	0.088	0.035	0.118	0.047	0.147	0.059	0.177	0.071	0.206	0.083	0.236	0.094	0.265	0.106	
			m ³ /s side throw m	3.4	1.8	4.0	2.1	4.6	2.4	4.9	2.7	5.2	2.7	5.5	3.1	6.1	3.4	6.1
			m ³ /s side throw m	4.3	2.4	4.9	2.7	5.5	3.1	6.1	3.4	6.4	3.7	7.0	4.0	7.3	4.3	7.3
			m ³ /s side throw m	5.8	3.1	6.7	3.7	7.6	4.3	8.2	4.6	8.8	4.9	9.5	5.2	10.1	5.5	10.1
			m ³ /s side throw m	0.053	0.071	0.071	0.094	0.088	0.118	0.106	0.142	0.124	0.165	0.142	0.189	0.159	0.121	0.121
			m ³ /s side throw m	3.1	3.1	3.7	3.7	4.3	4.3	4.6	4.6	4.9	4.9	5.2	5.2	5.5	5.5	5.5
			m ³ /s side throw m	3.7	3.7	4.3	4.3	4.9	4.9	5.2	5.2	5.5	5.5	6.1	6.1	6.4	6.4	6.4
			m ³ /s side throw m	5.2	5.2	6.1	6.1	7.0	7.0	7.6	7.6	7.9	7.9	8.5	8.5	9.2	9.2	9.2
			m ³ /s side throw m	0.106	0.035	0.142	0.047	0.177	0.059	0.212	0.071	0.248	0.083	0.283	0.094	0.319	0.106	0.319
			m ³ /s side throw m	3.7	1.8	4.3	2.1	4.9	2.4	5.2	2.7	5.5	2.7	6.1	3.1	6.4	3.4	6.4
AD 0.157 m ²			m ³ /s side throw m	4.6	2.4	5.2	2.7	5.8	3.1	6.4	3.4	6.7	3.7	7.3	4.0	7.9	4.3	
			m ³ /s side throw m	4.9	3.4	5.5	4.0	6.4	4.6	6.7	4.9	7.3	5.2	7.6	5.5	8.2	6.1	8.2
			m ³ /s side throw m	7.9	4.9	9.2	5.5	10.4	6.4	11.3	6.7	12.2	7.3	13.1	7.6	13.7	8.2	13.7
			m ³ /s side throw m	0.177	0.071	0.236	0.094	0.295	0.118	0.354	0.142	0.413	0.165	0.472	0.189	0.531	0.212	0.531
			m ³ /s side throw m	4.3	2.7	4.9	3.1	5.5	3.4	6.1	3.7	6.4	4.0	7.0	4.3	7.3	4.6	7.3
			m ³ /s side throw m	5.2	3.4	6.1	4.0	7.0	4.6	7.6	4.9	8.2	5.2	8.8	5.5	9.2	6.1	9.2
			m ³ /s side throw m	7.3	4.9	8.5	5.5	9.8	6.4	10.4	6.7	11.3	7.3	12.2	7.6	12.8	8.2	12.8
			m ³ /s side throw m	0.248		0.330		0.413		0.496		0.578		0.661		0.743		0.743
			m ³ /s side throw m	4.6		5.2		5.8		6.4		6.7		7.3		7.9		7.9
			m ³ /s side throw m	5.5		6.4		7.3		7.9		8.5		9.2		9.8		9.8
300 x 600			m ³ /s side throw m	0.106	0.035	0.142	0.047	0.177	0.059	0.212	0.071	0.248	0.083	0.283	0.094	0.319	0.106	
			m ³ /s side throw m	3.7	1.8	4.3	2.1	4.9	2.4	5.2	2.7	5.5	2.7	6.1	3.1	6.4	3.4	6.4
			m ³ /s side throw m	4.6	2.4	5.2	2.7	5.8	3.1	6.4	3.4	6.7	3.7	7.3	4.0	7.9	4.3	7.9
			m ³ /s side throw m	6.4	3.1	7.3	3.7	8.2	4.3	9.2	4.6	9.8	4.9	10.4	5.2	11.0	5.5	11.0
			m ³ /s side throw m	0.071	0.071	0.094	0.094	0.118	0.118	0.142	0.142	0.165	0.165	0.189	0.189	0.212	0.212	0.212
			m ³ /s side throw m	3.1	3.1	3.7	3.7	4.3	4.3	4.6	4.6	4.9	4.9	5.2	5.2	5.5	5.5	5.5
			m ³ /s side throw m	3.7	3.7	4.3	4.3	4.9	4.9	5.2	5.2	5.5	5.5	6.1	6.1	6.4	6.4	6.4
			m ³ /s side throw m	5.2	5.2	6.1	6.1	7.0	7.0	7.6	7.6	7.9	7.9	8.5	8.5	9.2	9.2	9.2
			m ³ /s side throw m	0.124	0.035	0.165	0.047	0.206	0.083	0.248	0.071	0.289	0.083	0.330	0.094	0.372	0.106	0.372
			m ³ /s side throw m	3.7	1.8	4.3	2.1	4.9	2.4	5.2	2.7	5.5	2.7	6.1	3.1	6.4	3.4	6.4
AD 0.180 m ²			m ³ /s side throw m	4.6	2.4	5.2	2.7	5.8	3.1	6.4	3.4	6.7	3.7	7.3	4.0	7.9	4.3	
			m ³ /s side throw m	4.9	3.4	5.5	4.0	6.4	4.6	6.7	4.9	7.3	5.2	7.6	5.5	8.2	6.1	8.2
			m ³ /s side throw m	7.0	4.9	9.2	5.5	10.4	6.4	11.3	6.7	12.2	7.3	13.1	7.6	13.7	8.2	13.7
			m ³ /s side throw m	0.142	0.071	0.283	0.094	0.354	0.118	0.425	0.142	0.496	0.165	0.566	0.189	0.637	0.212	0.637
			m ³ /s side throw m	4.3	2.7	4.9	3.1	5.5	3.4	6.1	3.7	6.4	4.0	7.0	4.3	7.3	4.6	7.3
			m ³ /s side throw m	5.2	3.4	6.1	4.0	7.0	4.6	7.6	4.9	8.2	5.2	8.8	5.5	9.2	6.1	9.2
			m ³ /s side throw m	7.3	4.9	8.5	5.5	9.8	6.4	10.4	6.7	11.3	7.3	12.2	7.6	12.8	8.2	12.8
			m ³ /s side throw m	0.283		0.378		0.472		0.566		0.661		0.775		0.850		0.850
			m ³ /s side throw m	4.9		5.8		6.7		7.0		7.6		8.2		8.8		8.8
			m ³ /s side throw m	6.1		7.0		7.9		8.5		9.2		10.1		10.7		10.7

* These cores are constructed to give as near as possible equal air flow in A & B directions.

CMP-A, CMP-ADJ, CMPH & CMP-S

Product Ordering Key and Suggested Specifications

CMP	-	A	-	1	-	41	-	450x450	-	600x600	-	OBD	-	TRV	-	SRA 300 DIA CH 300 DIA	-	FINISH	
⋮		⋮		⋮		⋮		⋮		⋮		⋮		⋮		⋮		⋮	
Ceiling Multi Pattern		Aluminium		Frame Style		Core Pattern		Duct Size		Module Size		Opposed Blade Damper Attached		Throw Reducing Vanes		Square to Round Adaptor, or Cushion Head		Holyoake White Mill Aluminium Powder Coat	

Ceiling Multi Pattern Louver Face diffusers shall be type CMP-A and be all Aluminium construction with removable core, to give the air distribution pattern shown on the drawings. They shall be available with a range of frame styles and purpose made accessories for both throw adjustment and volume control.

All shall be as manufactured by Holyoake.

CMP-ADJ	-	2	-	41	-	225x225	-	600x600	-	OBD	-	TRV	-	SRA 150 DIA CH 150 DIA	-	FINISH	
⋮		⋮		⋮		⋮		⋮		⋮		⋮		⋮		⋮	
Ceiling Multi Pattern - Adjustable		Frame Style		Core Pattern		Duct Size		Module Size		Opposed Blade Damper Attached		Throw Reducing Vanes		Square to Round Adaptor, or Cushion Head		Holyoake White Mill Aluminium Powder Coat	

Ceiling Multi Pattern - Adjustable Louver Face diffusers shall be type CMP-ADJ. They shall be of all Aluminium construction, with removable cores. CMP-ADJ are fitted with vanes which can easily be adjusted to enable vertical, or horizontal throw.

All shall be as manufactured by Holyoake.

CMPH	-	2	-	41	-	300x300	-	600x600	-	OBD	-	TRV	-	SRA 150 DIA CH 150 DIA	-	FINISH	
⋮		⋮		⋮		⋮		⋮		⋮		⋮		⋮		⋮	
Ceiling Multi Pattern Horizontal		Frame Style		Core Pattern		Duct Size		Module Size		Opposed Blade Damper Attached		Throw Reducing Vanes		Square to Round Adaptor, or Cushion Head		Holyoake White Mill Aluminium Powder Coat	

Ceiling Multi Pattern Horizontal Louver Face diffusers shall be type CMPH and be all Aluminium construction with additional horizontal blades. Complete with removable core to give multiple air distribution patterns. They shall be available with a range of frame styles and accessories for both throw adjustment and volume control.

All shall be as manufactured by Holyoake.

CMP	-	S	-	2	-	41	-	450x450	-	600x600	-	OBD	-	TRV	-	SRA 300 DIA CH 300 DIA	-	FINISH	
⋮		⋮		⋮		⋮		⋮		⋮		⋮		⋮		⋮		⋮	
Ceiling Multi Pattern		Steel		Frame Style		Core Pattern		Duct Size		Module Size		Opposed Blade Damper Attached		Throw Reducing Vanes		Square to Round Adaptor or Cushion Head		Holyoake White Powder Coat	

Ceiling Multi Pattern Louver Face diffusers shall be type CMP-S and be of Steel construction with removable core, to give the air distribution pattern shown on the drawings. They shall be available with a range of frame styles and purpose made accessories for both throw adjustment and volume control.

All shall be as manufactured by Holyoake.

Note: All ceiling diffusers, seismic restraints required, but not supplied.

CMPP, CMP - T & CMP - TL

Product Ordering Key and Suggested Specifications

CMPP	–	1	–	300x300	–	450 x 450	–	OBD	–	SRA 300 DIA CH 300 DIA	–	FINISH
⋮		⋮		⋮		⋮		⋮		⋮		⋮
Ceiling Multi Pattern Plaque		Frame Style		Duct Size		Module Size		Opposed Blade Damper Attached		Square to Round Adaptor, or Cushion Head		Holyoake White Mill Aluminium Powder Coat

Ceiling Multi Pattern - Plaque Louver Face diffusers shall be type CMPP. They shall be of all Aluminium construction, with removeable plaque core. CMPP have a range of frame styles and accessories for installation and volume control.

All shall be as manufactured by Holyoake.

CMP-T	–	1	–		–	450x450	–		–	SRA 300 DIA CH 300 DIA	–	FINISH
⋮		⋮				⋮				⋮		⋮
Ceiling Multi Pattern - Thermal		Frame Style				Neck Size				Square to Round Adaptor, or Cushion Head		Holyoake White Mill Aluminium Powder Coat

Ceiling Multi Pattern - Thermal Louver Face diffusers shall be type CMP-T. They shall be of Aluminium construction, with removeable cores. CMP-T central cores, are complete with a vertical supply section controlled by a thermally actuated damper. Supply air is diffused horizontally below temperatures of 24°C and vertically above temperatures of 28°C.

All shall be as manufactured by Holyoake.

CMP-TL	–	1	–		–	450x450	–		–	SRA 300 DIA CH 300 DIA	–	FINISH
⋮		⋮				⋮				⋮		⋮
Ceiling Multi Pattern - Thermal Low Cost		Frame Style				Neck Size				Square to Round Adaptor, or Cushion Head		Holyoake White Mill Aluminium Powder Coat

Ceiling Multi Pattern - Thermal Low Cost Louver Face diffusers shall be type CMP-TL. They shall be of Aluminium construction, with removeable cores. CMP-TL central cores, are complete with a vertical supply section controlled by a thermally actuated damper. Supply air is diffused horizontally below temperatures of 24°C and vertically with temperatures above 30°C.

All shall be as manufactured by Holyoake.

Note: All ceiling diffusers, seismic restraints required, but not supplied.