

# Model KCM Circular Diffusers

## INTRODUCTION

KMC Circular Diffusers have a circular cone with elegant styling to provide maximum air diffusion efficiency.

## APPLICATION

Recommended for supply air, constant or variable air volume heating, cooling, or ventilating

Efficient air distribution in cooling applications at temperature differentials as high as 16° C

360° air pattern delivery maintains horizontal pattern with or without ceiling effect

Expanding cone design provides excellent horizontal air discharge preventing drafts in the occupied zone

## PRODUCT FEATURES

Removable inner core permits easy installation and access to duct

Optional Butterfly Type Volume control damper

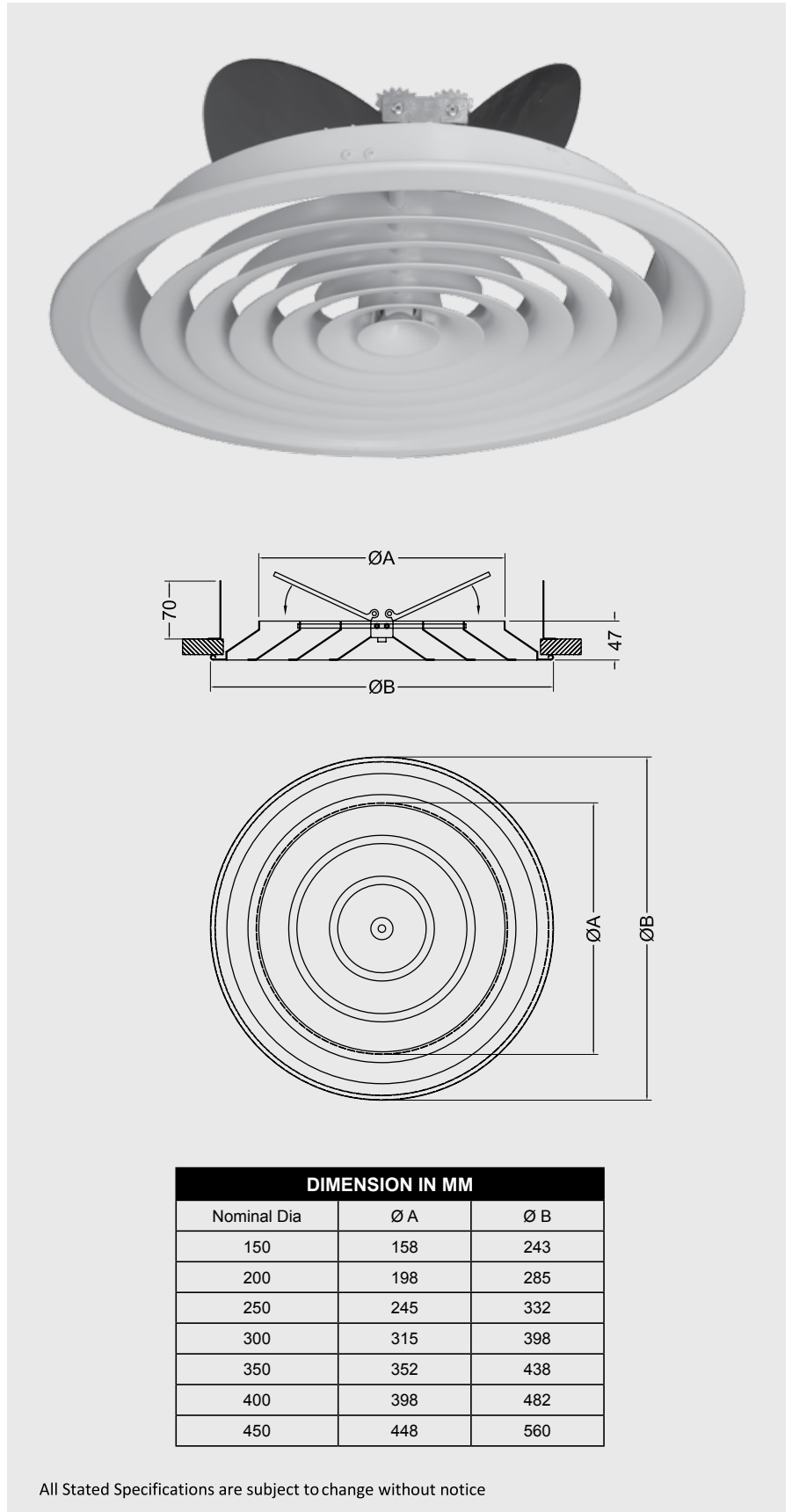
Powder Coated to RAL 9010 as standard

Custom colors available on request

## Selection Procedure

Selections can be made by means of a straight read-off from the "Performance Data" for the selected model.

- Determine the air volume flow rate per outlet.
- Establish the required Throw (Refer Notes for Throw Pattern)
- Select the diffuser based on required Air flow rate against the limiting pressure drop and sound level requirements.



DIMENSION IN MM		
Nominal Dia	Ø A	Ø B
150	158	243
200	198	285
250	245	332
300	315	398
350	352	438
400	398	482
450	448	560

All Stated Specifications are subject to change without notice

### Product Selection Check List

- Select Unit size based on specified inlet diameter.
- Select volume control accessory, if desired.
- Select Finish.

## Performance Data

Neck Size ø mm	Nominal Duct Area, m <sup>2</sup>	Neck Velocity	2.0	2.5	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0																		
		Velocity Pressure	2.5	5	5	10	15	22.5	30	40	50	62.5																		
150	0.015	CMH	109		136		163		218		272		326		367		422		476		530									
		Ps	7.5		12.5		20		25		42.5		52.5		67.5		87.5		112.5		140									
		NC	<20		<20		<20		23		29		34		37		41		45		48									
		Throw	0.3	0.6	1.2	0.6	0.9	1.5	0.6	0.9	2.1	0.9	1.2	2.7	1.2	1.5	3.4	1.2	2.1	4.0	1.5	2.1	4.6	1.8	2.4	4.9	1.8	2.7	5.2	2.1
200	0.026	CMH	190		231		286		381		476		571		666		762		857		952									
		Ps	5		7.5		10		17.5		30		42.5		57.5		72.5		92.5		115									
		NC	<20		<20		<20		20		26		31		36		39		43		45									
		Throw	0.6	0.9	1.5	0.6	0.9	2.1	0.9	1.2	2.4	1.2	1.5	3.4	1.5	2.1	4.3	1.5	2.4	4.9	1.8	3.0	5.8	2.1	3.4	6.7	2.4	3.7	7.0	2.7
250	0.041	CMH	299		367		449		598		748		884		1034		1183		1333		1482									
		Ps	2.5		5		7.5		12.5		20		27.5		37.5		47.5		60		75									
		NC	<20		<20		<20		21		27		31		36		39		43		46									
		Throw	0.6	0.9	2.1	0.9	1.2	2.4	0.9	1.5	3.0	1.5	2.1	4.3	1.8	2.4	5.2	2.1	3.0	6.1	2.4	3.7	7.0	2.7	4.0	8.2	3.0	4.6	8.8	3.4
300	0.058	CMH	422		530		639		857		1074		1278		1496		1714		1918		2135									
		Ps	5		7.5		10		17.5		27.5		37.5		52.5		67.5		85		105									
		NC	<20		<20		<20		27		33		38		42		46		49		52									
		Throw	0.9	1.2	2.4	0.9	1.5	3.0	1.2	1.8	3.7	1.8	2.4	5.2	2.1	3.0	6.4	2.4	3.7	7.6	3.0	4.3	8.8	3.4	5.2	10.1	3.7	5.8	10.7	4.3
350	0.089	CMH	666		830		1006		1333		1673		1999		2339		2666		3006		3332									
		Ps	2.5		5		7.5		12.5		20		27.5		37.5		47.5		60		75									
		NC	<20		<20		21		28		34		39		44		47		51		53									
		Throw	0.9	1.5	3.0	1.2	1.8	4.0	1.5	2.4	4.6	2.1	3.0	6.1	2.7	4.0	7.9	3.0	4.6	9.5	3.7	5.5	11.0	4.3	6.1	12.5	4.6	7.0	13.1	5.2
400	0.117	NC	762		952		1142		1523		1904		2285		2666		3046		3250		3332									
		CMH (L)	7.5		12.5		20		25		37.5		47.5		60		70		87.5		115									
		Throw (L)	<20		<20		21		28		34		39		44		47		51		53									
		CMH	0.9	1.5	3.0	1.2	1.8	4.0	1.5	2.4	4.6	2.1	3.0	6.1	2.7	4.0	7.9	3.0	4.6	8.5	3.7	5.5	9.8	4.3	6.1	10.7	4.6	7.0	11.6	5.2
450	0.132	NC	966		1197		1442		1918		2407		2883		3359		3849		4325		4801									
		CMH (L)	7.5		12.5		20		25		37.5		47.5		65		85		107.5		132.5									
		Throw (L)	<20		<20		23		30		37		42		46		50		53		56									
		Throw (L)	1.5	2.1	3.7	1.8	3.0	4.6	2.4	3.7	5.8	2.7	4.3	7.6	3.0	4.6	9.5	3.7	5.8	10.7	4.3	6.7	12.2	4.9	7.6	13.1	5.8	8.5	14.0	6.4

### Notes :

- Neck velocity in m/s, meters per second

### Test Standard

- ANSI / ASHRAE standard 70
- Isothermal conditions
- Non-uniform air flow into diffusers increase sound levels, operating pressures, and can distort the air distribution pattern into the space

### Sound Levels

- NC is noise criteria curve that will not be exceeded at the operating point. This is determined by assuming a 10dB (ref: 10-12 watts) room attenuation that is subtracted from the power levels in each of the 2nd thru 7th octave bands

### Typical Specification

Contractor shall furnish & install KMC Model KDJ Jet Diffuser air outlets of the jet discharge and/or diffusing type at each point indicated on the plans. The core of the outlet shall be rotatable so as to deliver air in a jet pattern or in a diffused pattern. The throw of the diffused pattern shall be approximately half that of the jet pattern at similar terminal velocities. Jet type diffusers without spread capability are not acceptable.

In either position, the axis of air flow may be varied up to 30° from the straight-forward in a full 360° arc. The outlet shall be attached to a mounting panel with mounting screws permitting 360° rotation.

### Throw

- The numbers shown are throw distances, in meters, measured along the jet trajectory axis relating to terminal velocities of 0.75 m/s, 0.5 m/s & 0.25 m/s and include a surface effect
- Terminal velocity is the air speed, in meters per second, measured in the supply air stream.
- For exposed duct installations, throws are 70% of the table values above.

### Pressure

- Ps represents static pressure, Pa
- Pt total pressure can be calculated by adding the Velocity pressure and Static pressure (Ps), in Pa
- All pressures are stated and calculated in Pa

Up to four outlets may be attached to one mounting panel permitting multi-directional, as well as mixed jet and diffused patterns, from one location. (Optional) The outlet shall be directly mounted at the end of the round spiral duct where shown.

The outlet and mounting panel shall be constructed from steel or aluminum as indicated.

Finishing shall be KMC standard Colour (RAL9010) or colour as scheduled or selected by the Architect.