



**JD** *Jet Diffuser*





## Introduction

Commonly used in wide open spaces where duct work is not possible but requiring proper ventilation, Prudent Aire Jet Diffuser (JDA) are able to deliver air to localised targeted area over large distance up to 50m.

Depending on model type, the air flow direction is adjustable in either one plane or two planes (4-way diffuser). With its aerodynamic design, the Jet Diffuser is able to produce airflow at high outlet velocities without compromising noise level.

With its fully rotatable center core, the Jet Diffuser is able to provide both the narrow and wide throw configurations depending on the application requirements (the wider throw provides better induction but at a shorter throw distance).

## CONSTRUCTIONS & MATERIALS

- One-piece components with no seam joints
- Design configurations:
  - i) 4-way configuration
- Adjustable flow deflection in two planes
- Throw distance up to 50 m
- GI material upon request and custom made

### Outer Cone



Aluminium

### Inner Core Cones



Aluminium

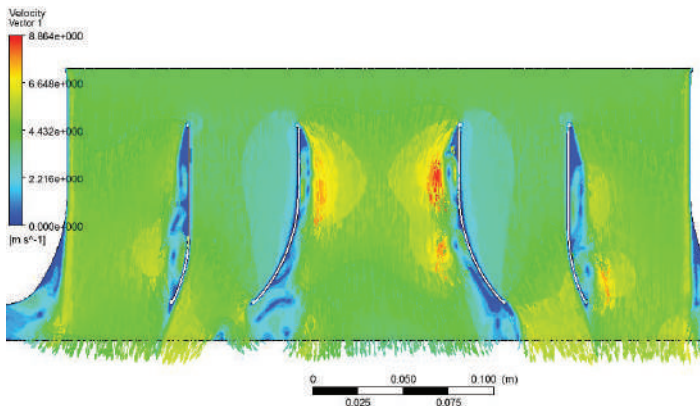
### Surface Finishing



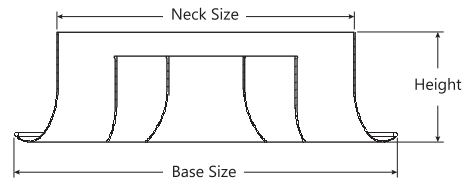
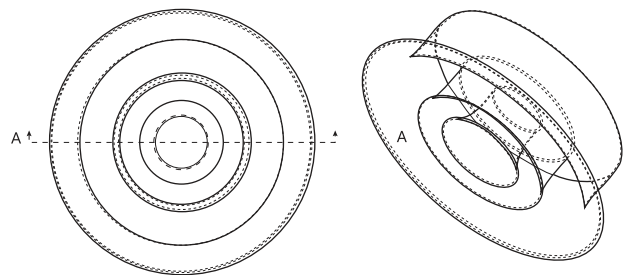
White (Matt)



White (Matt)



## DIMENSIONS



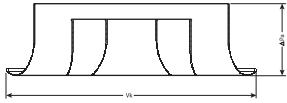
SECTION A-A

### Dimensions

Order Size (Inch)	Neck Size (mm)	Base Size (mm)	Height (mm)
8.0	198	270	140
10.0	248	320	140
12.0	295	380	140
14.0	345	450	140

**Supply - Wide/Narrow Throw**

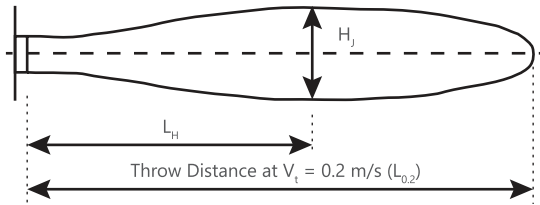
**Throw correction factor for multiple jet diffusers installed within 1.5 m apart**



<b>Number of Diusers</b>	2	3	4
<b>Correction Factor</b>	LT x 1.4	LT x 1.7	LT x 1.9

\* The effective area given is to the best estimation & knowledge of Prudentaire's engineers at the point of entry.

\* The throw length values quoted in the diagrams are valid for isothermal supply air. Throw lengths depend considerably on; the temperature of the supply air, whether the diffusers are grouped together.

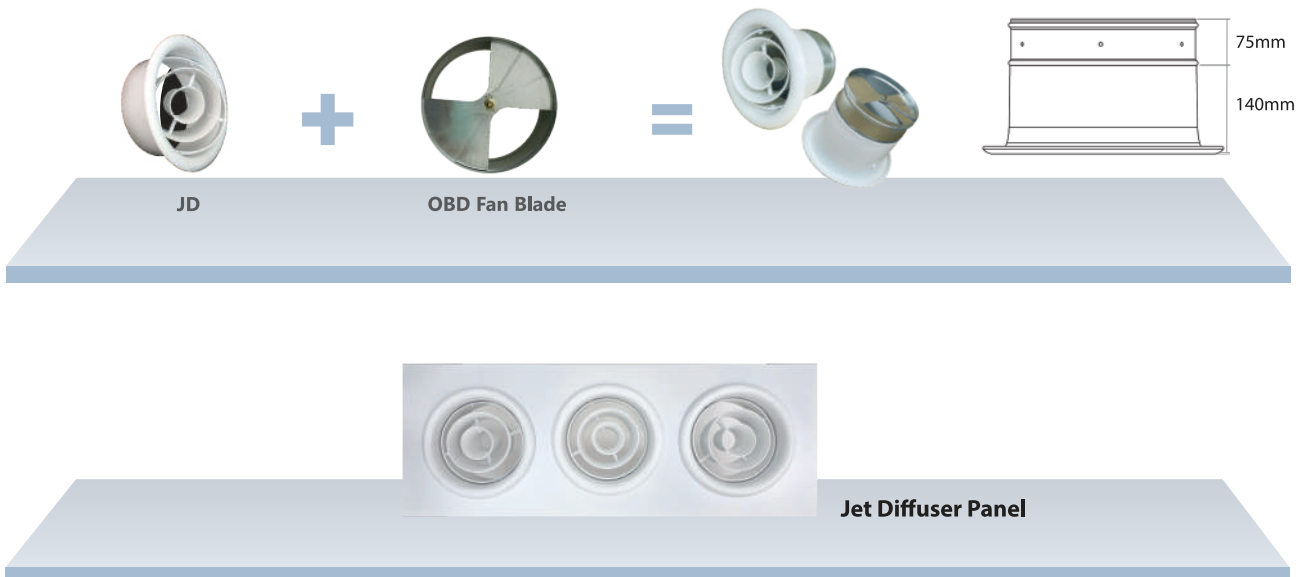


	Spread	
	L <sub>H</sub>	H <sub>J</sub>
<b>Narrow Jet</b>	L <sub>0.2</sub> x 0.45	L <sub>0.2</sub> x 0.12
<b>Wide Jet</b>	L <sub>0.2</sub> x 0.45	L <sub>0.2</sub> x 0.5

Order Size, inch	Neck Area (Eff. Area) m <sup>2</sup>	Unit Volume Flowrate, m <sup>3</sup> /hr Unit Volume Flowrate, l/s	200	250	400	500	800	1000	1400	1600	2000
			56	70	112	140	224	280	392	448	560
8.0	0.0308	Throw Distance (0.2 m/s), m (1)	9.5	12	3.0	-	-	-	-	-	-
		Throw Distance (0.2 m/s), m (2)	<8.0	<8.0	7.7	13.0	-	-	-	-	-
		Total Pressure Loss, Pa (1)	19	30	32	-	-	-	-	-	-
		Total Pressure Loss, Pa (2)	8.0	13	42	55	-	-	-	-	-
		Noise Rating (NR) (1)	<25	29	0.022	-	-	-	-	-	-
		Noise Rating (NR) (2)	<25	<25	>30	36	-	-	-	-	-
10.0	0.0483	Throw Distance (0.2 m/s), m (1)	<8.0	9.8	15.5	20.0	-	-	-	-	-
		Throw Distance (0.2 m/s), m (2)	-	<8.0	8.0	10.0	-	20	-	-	-
		Total Pressure Loss, Pa (1)	7.5	12	31	50	-	-	-	-	-
		Total Pressure Loss, Pa (2)	-	5.0	13	20	-	80	-	-	-
		Noise Rating (NR) (1)	<25	<25	32	37	-	-	-	-	-
		Noise Rating (NR) (2)	-	<25	<25	25	-	>45	-	-	-
12.0	0.0684	Throw Distance (0.2 m/s), m (1)	-	-	11.0	15.0	25.0	29	-	-	-
		Throw Distance (0.2 m/s), m (2)	-	-	<8.0	8.0	13.0	16	22	26	-
		Total Pressure Loss, Pa (1)	-	-	11	16	45	65	-	-	-
		Total Pressure Loss, Pa (2)	-	-	5.0	8.0	21	33	65	90	-
		Noise Rating (NR) (1)	-	-	<25	<25	37	43	-	-	-
		Noise Rating (NR) (2)	-	-	<25	<25	30	36	45	>45	-
14.0	0.0935	Throw Distance (0.2 m/s), m (1)	-	-	10.0	13.0	21.0	25.0	35.0	42.0	-
		Throw Distance (0.2 m/s), m (2)	-	-	<8.0	11.0	14.0	20.0	20.0	20.0	28.0
		Total Pressure Loss, Pa (1)	-	-	5.5	9.0	23	33	62	90	-
		Total Pressure Loss, Pa (2)	-	-	-	5.0	12	19	37	50	75
		Noise Rating (NR) (1)	-	-	<25	<25	27	33	33	>45	-
		Noise Rating (NR) (2)	-	-	-	<25	<25	28	40	43	>45

xxx (1) Values for narrow throw    xxx (2) Values for wide throw

**DIFFUSER + ACCESSORIES COMBINATION**



## JET DIFFUSER TECHNICAL SPECIFICATION

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### Frame Construction

1. Frame to be in extruded aluminium. Frame thickness should be in minimum 1.0mm thick, unless otherwise stated.
2. Frame height to be in 140mm.

### Core Construction

1. Cores to be in extruded aluminium.
2. Cores to be in 1.0mm thick. 2 layer of vanes to be adjustable for directional air distribution, unless otherwise stated.

### Finishing

1. Finishing should be white powder coated, oven baked as standard RAL 9010 SG or HY-1001/A127. Others available upon request.

### Performance

1. Diffusers core are adjustable for directional air distribution.
2. Jet Diffusers are designed to be high wall mounted, round duct connection with damper should to be installed at the neck of the diffuser for volume control purpose, unless otherwise stated.
3. Jet Diffuser's aerodynamic design is able to produces a jet throw without compromising noise level.







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## Products Range

- Grilles 
- Diffusers  ◀
- Dampers 
- Fire & Smoke Protection 
- VAV 
- Others 
- Accessories 



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