



SUPPERFLOW ROUND DIFFUSER

**R. GLAZEN SINGAPORE PTE LTD**

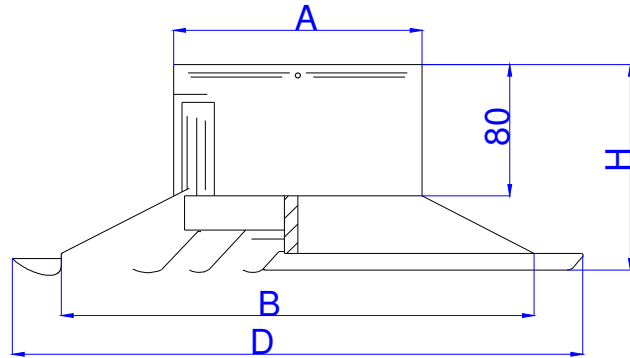
# Round Diffuser





**ROUND CEILING DIFFUSER & OUTLET MODEL: GRD – D**

**DIMENSIONAL DETAILS**



**FEATURES**

- ⇒ These diffusers can be flush mounted and also “Lay-In” on to ceiling Tee-Bar
- ⇒ For ease of maintenance, the centre core and out frame can be easily removed.
- ⇒ Volume dampers can be adjusted with a screw driver from face of diffusers.
- ⇒ Provides 360° air pattern.

Model	Face Size	Duct Size	Height	Ceiling Opening
	D (mm)	A (mm)	H (mm)	B (mm)
150	340	147	125	280
200	440	197	135	370
250	520	247	145	450
300	610	297	155	540
350	710	347	165	620

**CONSTRUCTION**

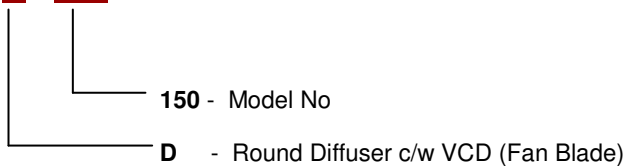
The exposed surface, frame and cores are made from extruded aluminum. Opposed blade volume dampers are also made of extruded aluminum.

**FINISHES**

All round diffusers are available in natural anodize finish as standard for scratch resistant. For painted finishes, the grilles will be enamel coated and oven-baked. For other finishes, please consult R. Glazen technical representatives.

**Ordering Key:**

**GRD - D - 150**





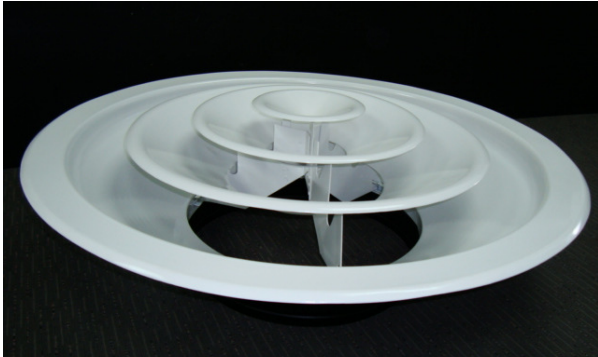
**PERFORMANCE DATA FOR GRD - D SERIES**

NECK SIZE (mm)	Velocity m/s		2	2.5	3	3.5	4	4.5	5	6
AREA (m <sup>2</sup> )										
Ø150 0.0181m <sup>2</sup>	CMH		131	163	196	228	261	294	326	392
	Press. Drop (mmAq)	H	0.2	0.3	0.5	0.7	0.9	1.1	1.4	2.1
		V	0.5	0.8	1.2	1.6	2	2.6	3.2	4.6
	Radius Of Diffusion (m)	H	0.6	0.7	0.8	0.9	1	1.1	1.2	1.3
		V	1.1	1.4	1.7	2	2.3	2.7	3	3.6
dB (A)	H				26	30	34	36	40	
	V			21	27	31	35	38	42	
Ø200 0.0320m <sup>2</sup>	CMH		231	288	346	403	461	519	576	692
	Press. Drop (mmAq)	H	0.2	0.3	0.5	0.7	0.9	1.1	1.4	2.1
		V	0.5	0.8	1.2	1.6	2	2.6	3.2	4.6
	Radius Of Diffusion (m)	H	0.9	1	1.2	1.3	1.4	1.5	1.7	1.9
		V	1.3	1.6	2	2.3	2.7	3	3.4	4.1
dB (A)	H			21	27	31	35	38	43	
	V			23	29	33	36	40	45	
Ø250 0.0499m <sup>2</sup>	CMH		359	488	538	628	718	807	897	1076
	Press. Drop (mmAq)	H	0.2	0.3	0.5	0.7	0.9	1.1	1.4	2.1
		V	0.5	0.8	1.2	1.6	2	2.6	3.2	4.6
	Radius Of Diffusion (m)	H	1	1.2	1.4	1.5	1.7	1.8	2	2.2
		V	1.6	2.1	2.5	3	3.4	3.8	4.3	5.1
dB (A)	H			23	29	33	36	39	43	
	V			25	30	34	38	40	46	
Ø300 0.0716m <sup>2</sup>	CMH		515	644	773	902	1031	1159	1288	1546
	Press. Drop (mmAq)	H	0.2	0.3	0.5	0.7	0.9	1.1	1.4	2.1
		V	0.5	0.8	1.2	1.6	2	2.6	3.2	4.6
	Radius Of Diffusion (m)	H	1.2	1.4	1.6	1.8	2	2.1	2.3	2.6
		V	2	2.5	3	3.6	4.1	4.6	5.2	6.2
dB (A)	H			24	29	33	37	39	44	
	V			27	32	36	39	42	47	
Ø350 0.0972m <sup>2</sup>	CMH		700	875	1050	1225	1400	1575	1750	2100
	Press. Drop (mmAq)	H	0.2	0.3	0.5	0.7	0.9	1.1	1.4	2.1
		V	0.5	0.8	1.2	1.6	2	2.6	3.2	4.6
	Radius Of Diffusion (m)	H	1.3	1.5	1.7	1.9	2.1	2.3	2.5	2.8
		V	2.4	3	3.6	4.2	4.8	5.5	6.2	7.4
dB (A)	H			26	31	35	38	41	46	
	V		21	28	33	37	40	44	48	

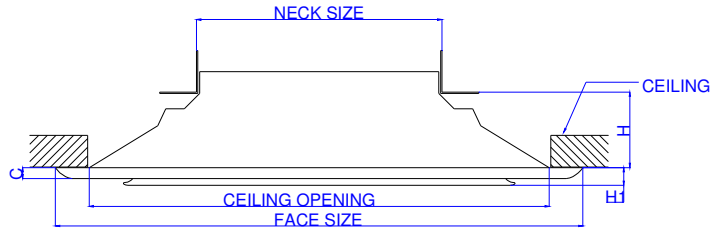
- Radians of diffusion is based on terminal velocities of 0.5m/s - 0.25m/s respectively.
- Dash (-) in space indicates NC value less than 20.



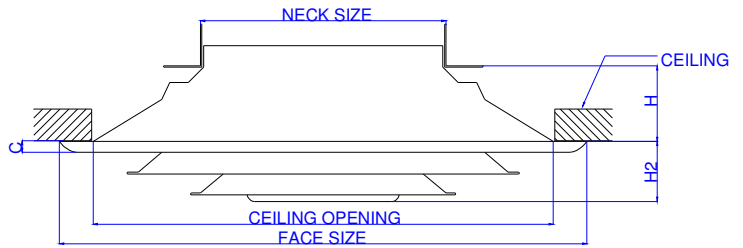
**ROUND CEILING DIFFUSER & OUTLET MODEL: GRD – F/ P**



**DIMENSIONAL DETAILS**



GRD - 4F



GRD - 4P

**FEATURES**

- ⇒ The GRD4-F Round Diffuser comes with 3 diffuser blades flashed with the face of the outer frame. Its 45° blade profile provides a wider distribution air flow pattern to the surrounding area.
- ⇒ The GRD4-P Round Diffuser comes with 3 diffuser blades protruded out in incremental step from the surface of the outer frame. The design provides a good distribution of localize air flow pattern with a lower pressure drop to the system.
- ⇒ A wide range of size is available.

NECK SIZE DN (mm)	FACE SIZE DO (mm)	CEILING OPENING DC (mm)	HEGHT (mm)			
			C	H	H1	H2
Ø150	Ø320	Ø280	6.4	44	14	35
Ø200	Ø430	Ø370	9.5	59	17	43
Ø250	Ø540	Ø470	9.5	75	21	62
Ø300	Ø650	Ø565	9.5	89	22	71
Ø350	Ø750	Ø650	15.9	108	24	78
Ø400	Ø860	Ø750	18	121	29	98
Ø450	Ø1000	Ø870	20.6	137	33	110
Ø500	Ø1070	Ø930	20.6	152	37	125

**CONSTRUCTION**

The exposed surface, frame and cores are made from extruded aluminum. Opposed blade volume dampers are also made of extruded aluminum. For the other size requirement , please consult R.Glazen technical representatives.

**Ordering Key:**

**GRD - F/ P**

**F** - Flush with Outer Frame

**P** - Protruding from outer frame



**PERFORMANCE DATA FOR GRD - F/ P SERIES**

NECK SIZE (mm)		150	200	250	300	350	400	450	500
NECK SIZE (m <sup>2</sup> )		0.018	0.032	0.051	0.073	0.12	0.13	0.167	0.204
OUTLET AREA	GRD4-F	0.011	0.02	0.032	0.047	0.065	0.085	0.102	0.139
	GRD4-P	0.015	0.026	0.041	0.061	0.085	0.111	0.139	0.177

**PERFORMANCE FOR ROUND DIFFUSER ( MODEL GRD4-P)**

NECK SIZE in (mm)	FACE SIZE in (mm)	NECK VELOCITY m/s		1	2	3	4	5	6	7	8
Ø 150	Ø 320	CAP (L/S)		18	37	55	74	92	111	129	148
		PRESSURE	H	0.15	0.625	1.4	2.475	3.85	5.55	7.575	9.9
		mm Aq (wg)	V	0.225	0.9	2	3.525	5.4	7.725	10.45	13.575
		NR				22	28	34	41	46	50
		THROW (RADIUS)		1-1-1	1-2-3	2-2-4	2-3-6	3-4-7	4-5-9	4-6-10	5-7-12
Ø 200	Ø 430	CAP (L/S)		33	66	98	131	164	197	230	263
		PRESSURE	H	0.125	0.55	1.225	2.15	3.35	4.825	6.475	8.45
		mm Aq (wg)	V	0.175	0.775	1.725	3.05	4.8	6.925	9.5	12.4
		NR				23	30	37	43	48	52
		THROW (RADIUS)		1-2-2	1-2-4	2-3-6	3-4-8	4-6-9	5-7-11	6-8-13	7-10-15
Ø 250	Ø 540	CAP (L/S)		51	102	154	257	308	352	360	412
		PRESSURE	H	0.125	0.55	1.225	2.15	3.35	4.825	6.475	8.45
		mm Aq (wg)	V	0.2	0.8	1.8	3.2	4.95	7.175	9.8	12.675
		NR				18	24	32	38	44	49
		THROW (RADIUS)		1-1-2	2-3-5	3-4-7	4-6-12	5-7-12	6-9-15	7-10-17	9-12-20
Ø 300	Ø 650	CAP (L/S)		74	148	222	296	370	444	519	593
		PRESSURE	H	0.125	0.55	1.225	2.15	3.35	4.825	6.475	8.45
		mm Aq (wg)	V	0.2	0.8	1.8	3.2	4.95	7.175	9.8	12.675
		NR				19	25	31	39	45	50
		THROW (RADIUS)		1-2-3	2-3-6	3-5-9	5-7-12	6-9-14	7-10-17	9-12-20	10-14-23
Ø 350	Ø 735	CAP (L/S)		100	200	300	400	500	600	700	800
		PRESSURE	H	0.15	0.6	1.3	2.27	3.55	5.1	6.92	8.9
		mm Aq (wg)	V	0.2	0.8	1.8	3.2	4.95	7.175	9.8	12.675
		NR				20	26	33	40	46	51
		THROW (RADIUS)		1-2-3	3-4-7	4-6-10	6-8-13	7-10-17	19-12-20	10-15-24	12-17-27
Ø 400	Ø 860	CAP (L/S)		130	260	395	527	646	790	920	1054
		PRESSURE	H	0.006	0.025	0.056	0.099	0.154	0.222	0.303	0.396
		mm Aq (wg)	V	0.175	0.725	1.65	2.95	4.6	6.6	9.15	11.9
		NR				20	26	34	40	46	52
		THROW (RADIUS)		1-2-4	3-4-8	5-7-12	6-9-16	8-12-20	10-14-24	12-17-27	14-19-31
Ø 450	Ø 1000	CAP (L/S)		166	333	500	660	833	1000	1160	1334
		PRESSURE	H	0.125	0.5	1.125	2	3.05	4.45	5.95	7.7
		mm Aq (wg)	V	0.15	0.657	1.55	2.725	4.225	6.2	8.475	11.05
		NR				21	27	35	41	47	54
		THROW (RADIUS)		2-2-4	3-5-9	5-8-13	7-10-18	9-13-22	11-16-22	14-19-27	16-23-36

- \* Result of performance is tested under NATA
- \* SP - Static Pressure are in Pascals
- \* NR - Noise Rating in dB re 10 matts Room correction of 8dB As per ADC R4
- \* CAP - Capacity of flow in litre per second



**RECOMMENDED NOISE CRITERIA FOR ROOMS**

TYPE	SPACE	NR LEVEL	RECOMMENDED FACE VELOCITY (m/s)
Auditoriums and Music Halls	Concert and Opera Halls, Studios for sound reproduction	20 -25	2.5
	Legitimate Theatres, Multi- Purpose Halls	25 – 30	2.5 – 3.75
	Movies theatres, Lectures Halls, Planetarium, TV Audience Studios	30 -35	2.5 -3.75
	Lobbies	35 -45	2.5 -3.75
Factory Areas	Light maintenance shops, Assembly lines	40 -50	3.0 - 6.5
	Office area, control room	40 -50	3.0 - 6.5
	Heavy industrial processing	60 -75	6.5 -10.0
Churches and schools	Sancturies	20 - 30	2.5 -3.75
	Libraries, schools and classrooms	30 - 40	2.5 – 5.0
	Laboratories	35 - 45	2.5 -5 .0
	Recreation halls, corridors and halls	35 - 50	2.5 – 6.5
Hotels/ Motel	Individual Rooms, suites or Ball Rooms	30 - 40	2.5 – 5.0
	Halls, corridors, Lobbies	35 - 40	2.5 – 5.0
	Kitchen and laundries, bars and lounges	40 - 50	3.0 - 6.5
Offices	Boardroom	20 - 30	2.5 -3.75
	Executive office	30 - 40	2.5 – 5.0
	Conference rooms	25 - 35	2.5 -3.75
	General Open offices	35 - 50	2.5 – 6.5
	Halls and corridors, computer room	35 - 55	2.5 – 6.5
Hospitals and Clinics	Intensive care wards, Private room	25 - 35	2.5 -3.75
	Hospitals wards, Operating room	30 - 40	2.5 – 5.0
	Waiting rooms and reception areas	35 - 45	2.5 – 5.0
	Wash rooms and toilets	40 - 50	3.0 - 6.5
Public	Public Libraries, museums, court rooms	30 - 40	2.5 – 5.0
	Post offices, Banking Areas, Department Stores, Restaurants, Night Clubs, Bowling		
	Alleys, Gymnasiums	35 - 45	2.5 – 5.0
	Cocktail Lounges	35 – 50	2.5 – 6.5
Transportation	Ticket sales offices	30 – 40	2.5 – 5.0
	Lounges, Waiting Rooms	35 -50	2.5 – 6.5
Stores Retail	Clothing Stores, Department Stores (upper Floor)	35 – 45	2.5 – 5.0
	Department Stores (main floor), small		
	Tetail Stores, Supermarkets	40 -50	3.0 - 6.5



SUPPERFLOW ROUND DIFFUSER

**R. GLAZEN SINGAPORE PTE LTD**

## WARRANTY

R.GLAZEN SINGAPORE PTE LTD (the "Company") warrants that all goods in this catalogue that have been manufactured by the Company will be defects free in quality or material under normal use and service for a period of one year after goods are sold. The Company have the right to make improved changes to the products at any time. The company is obligated under this warranty, only to replace any product which is defective in quality or material under normal use and service within such period. Component parts or accessories which are covered by the warranty of the manufacturer will not be covered under this warranty. Any improper use of the product, after defective or worn parts had been discovered, accident or any modification or repair by others which the Company claims that it will materially and adversely affects the products, neglect substitution of parts not approved by the company, will void this warranty.

No person is authorized to assume any liability with respect to any goods sold, for the Company. No representatives or employee is authorized to change this warranty or give any other warranty, unless it is authorized by an officer of the Company at its home office in writing. In any event of payment of incidental or consequential damages, including without limitation, delay costs or damages for property or injury to persons, the company shall have no liability whatsoever.

Claims under this warranty, if not submitted, in writing and received by the company within thirty (30) days of the date to which each claim relates, is discovered or should have been discovered, will be deemed waived.



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