TAWREED

TAWREED TRADING & CONTRACTING · DUCT FACTORY IN QATAR SINCE 2012

TECHNICAL DATA SHEET // AIR OUTLETS

Round Ceiling Diffuser

ديفيوزر سقف دائري

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DOCUMENT

4 pages, extracted from:
Technical Submittal - Air Outlet, p. 16–18
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CONTACT · REQUEST A QUOTE

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Web: tawreed.ltd Hours: Sat–Thu, 9am–5pm

Data supplied for submittal and specification purposes. Values are nominal; confirm project-specific requirements with Tawreed before ordering.

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INTRODUCTION

- The diffuser can be used for ceiling or exposed duct mounting and has a fixed horizontal air pattern.



DISCRIPTION

MATERIAL

- Frame and inner cones are high quality die drawing aluminum.
- **Blade support :** Aluminum bar linkage to support inner cones together.
- **clamp :** Spring clamp to fix inner cones to the frame by hinge bar.

DAMPER

- Damper frame and blades are galvanized steel sheets black matt finish.

SEAL

- Foam gasket is sealed around the back of the frame as option to avoid air leakage.

FINISH

- Aluminium construction with white powder coated finish (RAL 9010) any color upon request.

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Supply Round Ceiling Diffuser

Neck Size (inches)	Neck Area (FT^2)	Area factor (FT^2)	Neck Velocity (FPM)	300	400	500	600	700	800	1000	1200	1400	1600
			Velocity Pressure (inches W.G)	0.007	0.01	0.016	0.023	0.031	0.041	0.064	0.091	0.123	0.161
6"	0.196	0.13	Air flowrate(CFM)	60	80	100	120	135	155	195	235	275	315
			Total pressure drop	0.025	0.04	0.061	0.082	0.106	0.132	0.201	0.282	0.380	0.480
			Throw (FT)	3-5	3-6	3-6	4-6	4-6	4-6	5-7	5-7	6-8	7-10
			NC	<20	<20	<20	<20	<20	25	30	35	39	45
8"	0.349	0.22	Air flowrate(CFM)	105	140	175	210	245	280	350	420	490	560
			Total pressure drop	0.021	0.03	0.052	0.071	0.100	0.122	0.183	0.271	0.370	0.480
			Throw (FT)	4-6	4-6	5-7	6-8	6-8	6-8	7-10	7-11	8-13	9-14
			NC	<20	<20	<20	20	25	29	33	38	42	46
10"	0.545	0.25	Air flowrate(CFM)	165	220	275	325	380	435	545	655	765	870
			Total pressure drop	0.040	0.06	0.092	0.122	0.181	0.242	0.361	0.500	0.710	0.950
			Throw (FT)	4-6	6-9	7-10	7-10	7-11	8-13	9-14	10-16	12-18	15-22
			NC	<20	<20	<20	21	26	30	34	39	43	47
12"	0.785	0.38	Air flowrate(CFM)	225	315	395	470	550	630	785	940	1100	1255
			Total pressure drop	0.026	0.04	0.072	0.101	0.152	0.201	0.313	0.490	0.670	0.870
			Throw (FT)	6-8	7-10	7-11	7-11	8-13	9-14	10-16	14-21	15-23	19-27
			NC	<20	<20	<20	32	28	32	36	41	45	48
14"	1.07	0.50	Air flowrate(CFM)	320	430	535	640	750	855	1070	1285	1500	1710
			Total pressure drop	.034	0.05	0.080	0.112	0.156	0.201	0.313	0.460	0.600	0.80
			Throw (FT)	6-8	8-13	9-15	10-16	11-17	12-18	15-23	19-2	19-27	21-31
			NC	<20	<20	<20	24	29	33	37	42	46	49
16"	1.40	0.59	Air flowrate(CFM)	420	560	700	840	980	1120	1400	1680	1960	2240
			Total pressure drop	0.043	0.07	0.106	0.140	0.202	0.262	0.413	0.593	0.800	0.980
			Throw (FT)	7-11	9-14	9-15	11-17	12-18	15-23	16-25	19-27	21-31	25-36
			NC	<20	<20	20	25	30	34	38	43	47	50
18"	1.77	0.75	Air flowrate(CFM)	530	710	885	1060	1240	1415	1770	2125	2480	2830
			Total pressure drop	0.033	0.05	0.082	0.113	0.166	0.220	0.350	0.530	0.710	0.950
			Throw (FT)	8-13	9-14	10-16	12-18	14-12	17-24	19-27	21-31	22-33	26-38
			NC	<20	<20	21	26	31	35	39	44	48	51
20"	2.18	0.96	Air flowrate(CFM)	660	850	1100	1300	1530	1750	2150	2650	3050	3500
			Total pressure drop	0.040	0.06	0.092	0.131	0.182	0.251	0.450	0.640	0.820	0.930
			Throw (FT)	8-14	11-16	14-20	17-21	19-25	22-28	29-34	34-40	41-47	43-50
			NC	<20	<20	21	27	32	36	40	45	49	52
24"	3.14	1.23	Air flowrate(CFM)	940	1250	1570	1850	2200	2500	3130	3850	4320	4950
			Total pressure drop	0.045	0.07	0.105	0.135	0.195	0.265	0.460	0.690	0.790	0.960
			Throw (FT)	10-15	14-20	17-23	20-26	24-30	27-34	35-41	43-50	46-52	51-58
			NC	<20	<20	22	28	33	37	41	46	50	53

Notes : —AK→Area Factor —Throw→FT —Air Flow→CFM —Terminal Velocity= 50 FPM
—Noise Level→db —Total Pressure → IN W.G —FaceVelocity→ FP

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Return Round Ceiling Diffuser

Neck Size (inches)	Neck Area (FT^2)	Neck Velocity (FPM)	300	400	500	600	700	800	1000	1200	1400	1600
		Velocity Pressure (inches W.G)	0.007	0.01	0.016	0.023	0.031	0.041	0.064	0.091	0.123	0.161
6"	0.196	Air flowrate(CFM)	60	80	100	120	135	155	195	235	275	315
		Total pressure drop	0.029	0.04	0.076	0.108	0.146	0.18	0.294	0.421	0.569	0.749
		NC	<20	<20	<20	<20	21	26	32	37	41	46
8"	0.349	Air flowrate(CFM)	105	140	175	210	245	280	350	420	490	560
		Total pressure drop	0.020	0.03	0.053	0.077	0.100	0.123	0.207	0.293	0.394	0.519
		NC	<20	<20	<20	21	26	30	34	39	43	47
10"	0.545	Air flowrate(CFM)	165	220	275	325	380	435	545	655	765	870
		Total pressure drop	0101	0.03	0.050	0.071	0.096	0.120	0.196	0.281	0.379	0.477
		NC	<20	<20	<20	22	27	31	36	41	45	48
12"	0.785	Air flowrate(CFM)	225	315	395	470	550	630	785	940	1100	1255
		Total pressure drop	0.018	0.02	0.045	0.064	0.086	0.112	0.176	0.249	0.339	0.443
		NC	<20	<20	<20	23	29	33	37	42	46	49
14"	1.07	Air flowrate(CFM)	320	430	535	640	750	855	1070	1285	1500	1710
		Total pressure drop	0.017	0.02	0.042	0.061	0.083	0.108	0.170	0.242	0.328	0.430
		NC	<20	<20	<20	25	30	34	38	43	47	50
16"	1.40	Air flowrate(CFM)	420	560	700	840	980	1120	1400	1680	1960	2240
		Total pressure drop	0.016	0.02	0.041	0.059	0.079	0.103	0.162	0.231	0.314	0.411
		NC	<20	<20	21	26	31	35	39	44	48	51
18"	1.77	Air flowrate(CFM)	530	710	885	1060	1240	1415	1770	2125	2480	2830
		Total pressure drop	0.015	0.02	0.040	0.057	0.077	0.099	0.156	0.224	0.303	0.397
		NC	<20	<20	22	27	32	36	40	45	49	52
20"	2.18	Air flowrate(CFM)	660	850	1100	1300	1530	1750	2150	2650	3050	3500
		Total pressure drop	0.014	0.02	0.036	0.052	0.071	0.091	0.143	0.205	0.277	0.363
		NC	<20	<20	21	28	33	37	41	46	50	53
24"	3.14	Air flowrate(CFM)	940	1250	1570	1850	2200	2500	3130	3850	4320	4950
		Total pressure drop	0.013	0.02	0.031	0.046	0.064	0.082	0.130	0.185	0.246	0.326
		NC	<20	<20	23	29	34	38	42	47	51	55

Notes : –Noise Level→db –Air Flow→CFM –Total Pressure → IN W.G