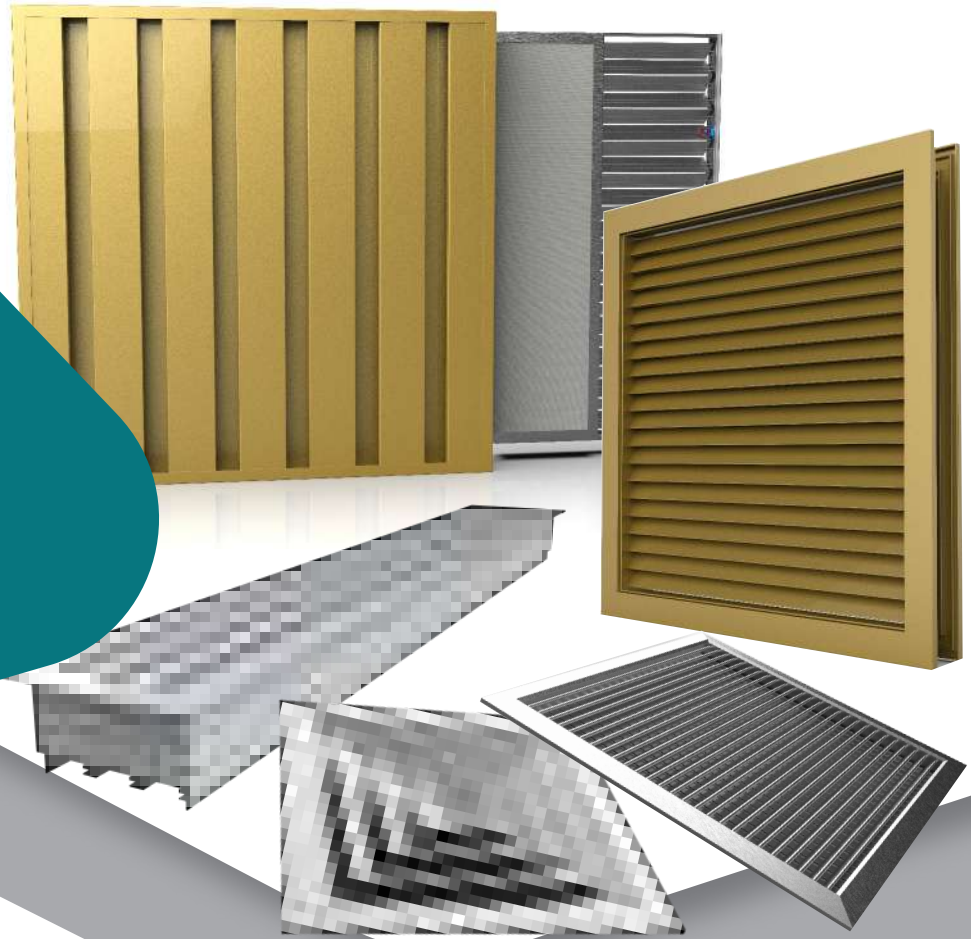




CASTLE
ENGINEERING
INDUSTRIES



AIR OUTLETS

AIR OUTLETS

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Round Ceiling Diffuser

Chapter 5

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Round Diffusers Description & Construction:

CASTLE Round Diffusers are designed to provide supply or return of conditioned air with acceptable sound levels, pressure drops, and uniform radial discharge in supply air applications. They are suitable for supply air temperature differentials ranging from +10K to -10K.

Constructed from high-quality aluminum sheet with a thickness of about 1.25 mm, these diffusers feature rigidly fixed inner cores within the frame.

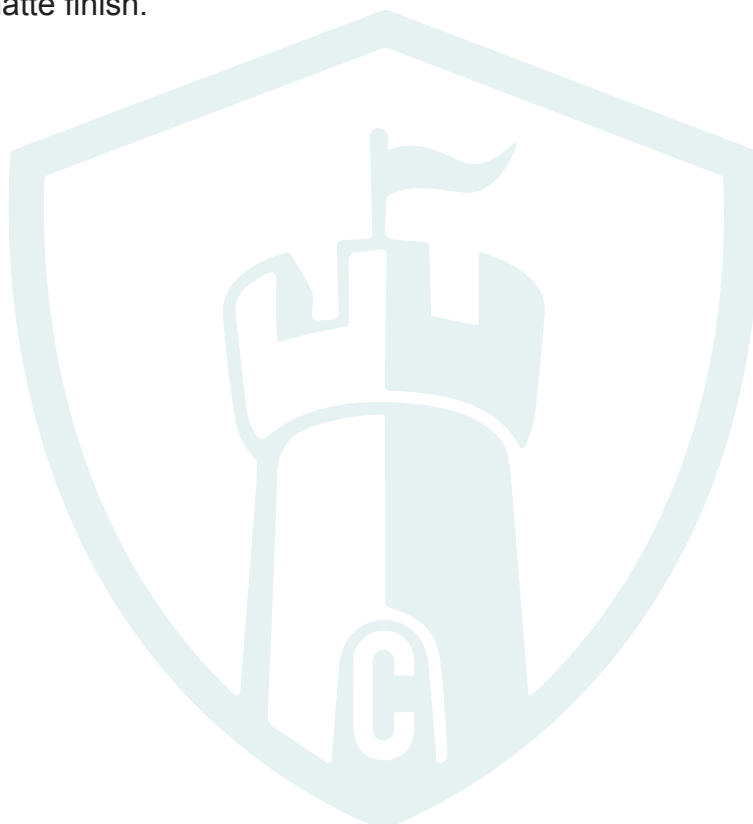
A gasket seals around the back of the frame to prevent air leakage, while a Butterfly Damper, fixed with rivets (standard), allows for adjustment. Operated through the diffuser face, the Butterfly Damper is stud-adjustable and made of galvanized steel sheet with a thickness of 1.0 mm.

Finish:

Powder-coated color finish (Specify RAL Color number)

Aluminum mill finish

Damper: Black matte finish.



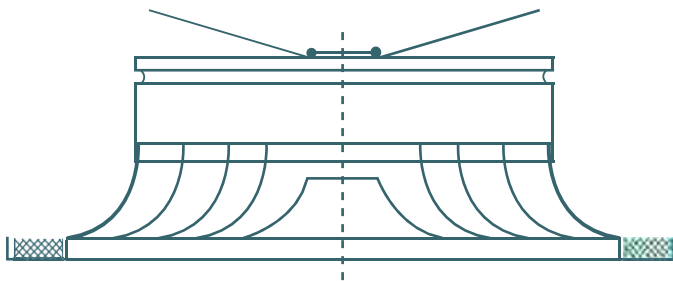
Models Available

1-Supply Round ceiling Diffuser (SRCD).

Models Description

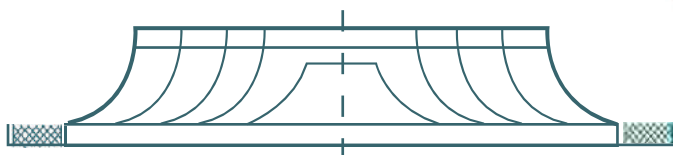
SRCD

Supply Round Diffusers, equipped with butterfly dampers, are designed for supply air applications. They are intended for installation in ceilings. The circular design ensures a consistent radial discharge in supply air applications.



2-Return Round ceiling Diffuser (RRCD).

Return Round Diffusers are diffusers without dampers designed for extract air applications. They are suitable for installation in ceilings.



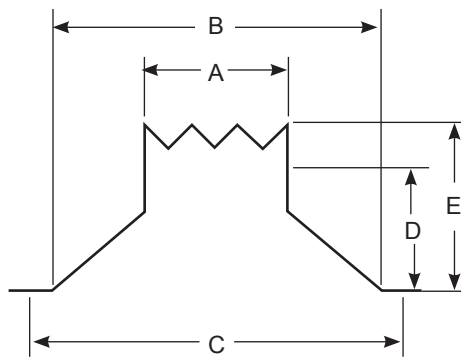
Performance Data

Neck Size (mm)	Air Flow	m/s	1	2	3	4	5	6	7	8	9
150	Air Volume	m ³ /h	70	140	210	280	350	420	490	560	630
	Throw distance m	min	0.40	0.80	1.00	1.30	1.60	1.90	2.10	2.40	2.70
		max	0.70	1.30	2.00	2.60	3.10	3.70	4.40	5.00	5.60
	Static Pressure	mmSS	0.20	0.40	1	1.70	2.60	3.80	5.60	7.50	9.60
	Sound Level	(dBA)	19	22	25	28	31	33	36	39	42
200	Air Volume	m ³ /h	125	250	375	500	625	750	875	1	1.125
	Throw distance m	min	0.48	0.95	1.23	1.60	1.95	2.30	2.60	2.95	3.30
		max	0.58	1.65	2.45	3.20	3.75	4.60	5.45	6.00	6.80
	Static Pressure	mmSS	0.25	0.45	1.05	1.80	2.80	3.90	5.65	7.55	9.70
	Sound Level	(dBA)	20	23	26	30	33	35	39	42	45
250	Air Volume	m ³ /h	180	360	540	720	900	1.08	1.26	1.44	1.62
	Throw distance m	min	0.55	1.10	1.45	1.90	2.30	2.70	3.10	3.50	3.90
		max	1.00	2.00	2.90	3.80	4.40	5.50	6.50	7.00	8.00
	Static Pressure	mmSS	0.30	0.50	1.10	1.90	3.00	4.00	5.70	7.60	9.80
	Sound Level	(dBA)	21	24	27	31	34	37	41	44	47
300	Air Volume	m ³ /h	265	530	795	1.06	1.325	1.59	1.855	2.12	2.385
	Throw distance m	min	0.68	1.30	1.70	2.23	2.70	3.15	3.60	4.10	4.53
		max	1.25	2.35	3.45	4.50	5.35	6.50	7.53	8.25	9.25
	Static Pressure	mmSS	0.30	0.50	1.10	1.95	3.00	4.05	5.70	7.80	9.90
	Sound Level	(dBA)	22	25	29	32	36	39	43	47	49
350	Air Volume	m ³ /h	350	700	1.05	1.40	1.75	2.10	2.45	2.80	3.15
	Throw distance m	min	0.80	1.50	1.95	2.55	3.10	3.60	4.10	4.70	5.15
		max	1.50	2.70	4.00	5.20	6.30	7.50	8.55	9.50	10.50
	Static Pressure	mmSS	0.30	0.50	1.10	2.00	3.00	4.10	5.70	8.00	10.00
	Sound Level	(dBA)	22	26	31	33	38	40	45	49	51
400	Air Volume	m ³ /h	460	920	1.38	1.84	2.30	2.76	3.22	3.68	4.14
	Throw distance m	min	0.90	1.75	2.28	3.03	3.55	4.30	4.75	5.35	6.08
		max	1.75	3.35	4.65	6.10	6.15	8.75	9.78	11.25	12.23
	Static Pressure	mmSS	0.30	0.50	1.1	2.00	3.05	4.10	5.85	8.00	10.05
	Sound Level	(dBA)	24	28	33	36	41	44	48	52	56

Performance Data

Neck Size	Air Flow	m/s	1	2	3	4	5	6	7	8	9
450	Air Volume	m ³ /h	570	1.14	1.71	2.28	2.85	3.42	3.99	4.56	5.13
	Throw distance m	min	1.00	2.00	2.60	3.50	4.00	5.00	5.40	6.00	7.00
		max	2.00	4.00	5.30	7.00	8.00	10.00	11.00	13.00	14.00
	Static Pressure	mmSS	0.30	0.50	1.10	2.00	3.10	4.10	6.00	8.00	10.10
	Sound Level	(dBA)	25	30	35	38	43	47	51	55	60
500	Air Volume	m ³ /h	715	1.43	2.145	2.85	3.575	4.29	5.005	5.72	6.435
	Throw distance m	min	1.18	2.25	2.80	3.75	4.50	5.50	6.05	6.75	7.70
		max	2.30	4.50	6.15	7.75	9.00	11.10	12.55	14.35	15.65
	Static Pressure	mmSS	0.35	0.50	1.15	2.05	3.10	4.15	6.00	8.00	10.10
	Sound Level	(dBA)	28	33	38	42	47	51	56	60	65
550	Air Volume	m ³ /h	860	1.72	2.58	3.44	4.30	5.16	6.02	6.88	7.74
	Throw distance m	min	1.35	2.50	3.00	4.00	5.00	6.00	6.70	7.50	8.40
		max	2.60	5.00	7.00	8.50	10.00	12.20	14.10	15.70	17.30
	Static Pressure	mmSS	0.40	0.50	1.20	2.10	3.10	4.20	6.00	8.00	10.10
	Sound Level	(dBA)	30	35	40	45	50	55	60	65	70
600	Air Volume	m ³ /h	1.035	2.07	3.105	4.14	5.175	6.21	7.245	8.28	9.315
	Throw distance m	min	1.43	2.75	3.23	4.00	5.00	5.75	6.40	7.25	8.25
		max	2.80	5.50	7.60	8.90	10.25	12.80	14.90	16.40	18.30
	Static Pressure	mmSS	0.40	0.55	1.20	2.20	3.30	4.20	6.00	8.00	10.10
	Sound Level	(dBA)	31	37	41	46	53	57	62	67	72

Dimensions

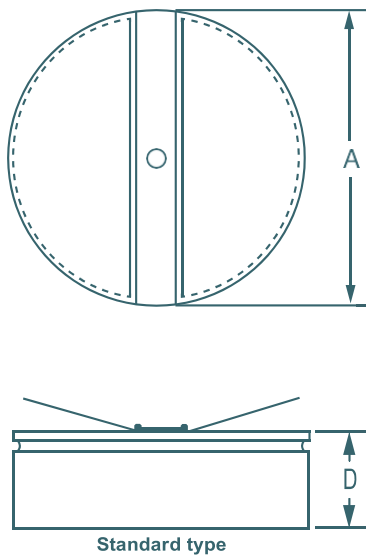


A(mm)	100	150	200	250	300	350	400	450	500	550	600
B(mm)	170	220	270	320	370	420	470	520	570	620	670
C(mm)	250	300	350	400	450	500	550	600	650	700	750
D(mm)	50	50	50	50	50	50	50	50	50	50	50
E(mm)	100	100	100	100	100	100	100	100	100	100	100

Accessory

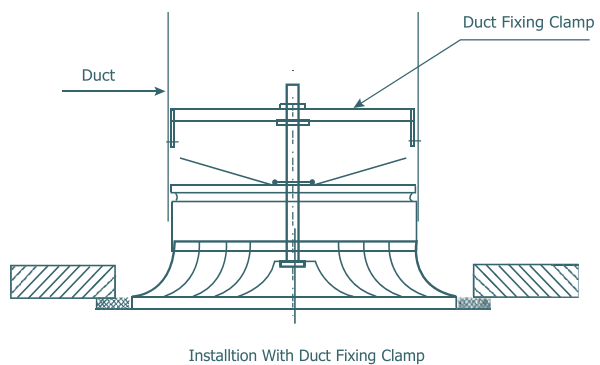
1-Volume Control Damper (Butterfly Type):

A Volume Control Damper is an adjustable device utilized to regulate the volume of air passing through an air outlet or inlet. It is mounted in the diffuser neck and can be adjusted through the diffuser neck itself.



Installation Details:

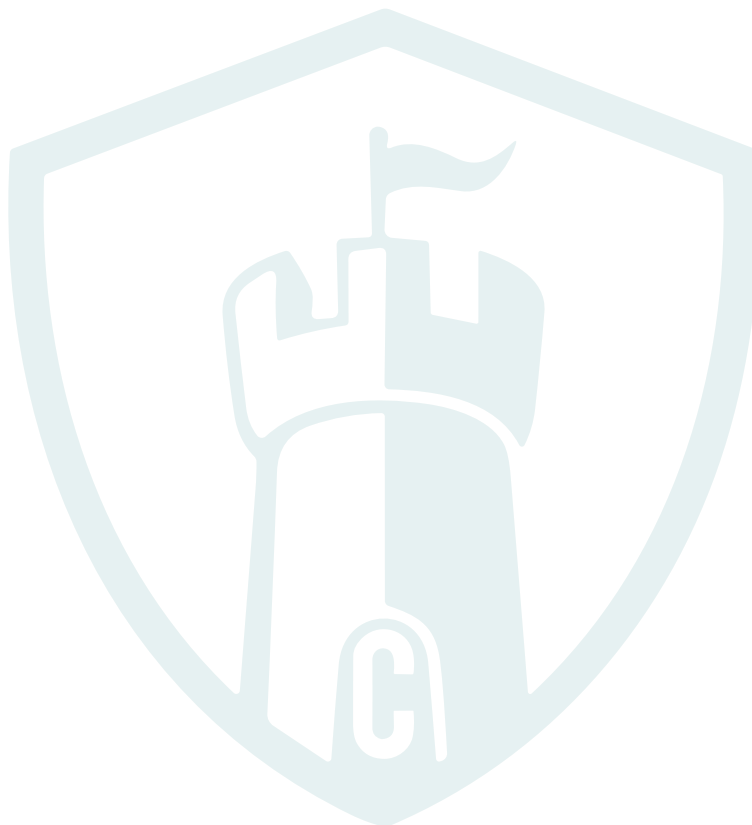
The Supply/Return diffuser, featuring an attractive shape, can be installed using a fixing clamp and central screw, as depicted below.



Ordering Data:

Please specify the following:

- Castle type and model
- Neck Size 'A' - in
- millimetre's (mm)
- Quantity
- Surface Finish
- Any Remarks or special
- instructions





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