air master

Chapter **10**

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ISO 9002 certified company

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Fixed round ceiling diffuser

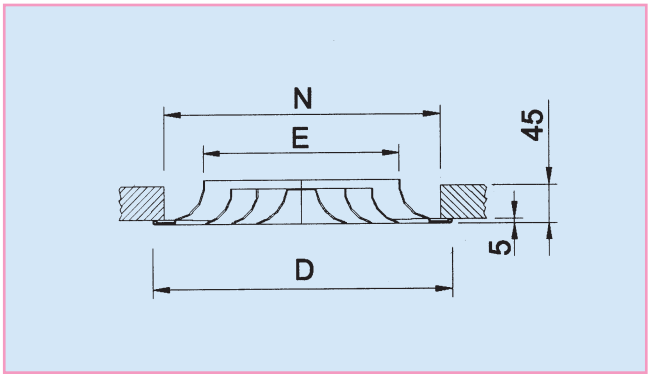
Model: ARDF

Construction:

- **Frame and inner cones:** High quality aluminium construction.
- **Damper frame and blades:** Steel sheet with black matt finish.

Description:

- Frame and inner cones are constructed from high quality aluminium sheet.
- Inner cones fixed rigidly to the frame.
- The butterfly damper in supply diffuser can be easily adjusted through the face of the unit by means of screw driver.
- The diffuser can be used for ceiling or exposed duct mounting and has a fixed horizontal air pattern.
- Foam gasket is sealed around the back of the frame as option to avoid air leakage.



Standard finishes:

- Aluminium construction with white powder coated finish (RAL 9010).
- Powder coated color finish as per other RAL color codes available as option.

	D	N	E
160	263	223	154
200	303	263	194
250	353	313	244
315	418	378	309
355	458	418	349
400	503	463	394

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Fixed round ceiling diffuser

Model: ARDF

Table 10.1 Air flow data

Neck dia in mm	Face velocity in m/sec	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
160	Cfm M^3/sec P_s in mm H_2O Throw in m NC	51 0.0241 0.20 0.9-0.5 <15	66 0.0311 0.264 1.1-0.7 15	78 0.037 0.387 1.3-0.9 20	91 0.043 0.536 1.6-1.1 24	106 0.050 0.680 2.0-1.5 29	125 0.059 0.810 2.5-2.0 31	137 0.065 0.950 2.9-2.4 36	152 0.072 1.120 3.4-2.8 42	172 0.081 1.40 4.0-3.3 49
200	Cfm M^3/sec P_s in mm H_2O Throw in m NC	72 0.034 0.230 1.3-0.85 <15	93 0.044 0.279 1.5-1.0 15	117 0.055 0.447 1.8-1.3 20	136 0.064 0.677 2.1-1.5 23	155 0.073 0.850 2.5-1.9 28	174 0.082 1.050 2.9-2.2 31	195 0.092 1.250 3.4-2.6 35	218 0.103 1.510 4.0-3.1 42	248 0.117 2.1 4.8-3.7 50
250	Cfm M^3/sec P_s in mm H_2O Throw in m NC	116 0.055 0.301 1.6-1.1 <15	146 0.067 0.362 1.9-1.4 15	176 0.083 0.487 2.4-1.8 18	203 0.096 0.661 2.7-2.0 23	231 0.109 1.080 3.0-2.2 29	258 0.122 1.290 3.5-2.5 33	288 0.136 1.530 4.2-3.0 38	320 0.151 2.0 5.0-3.6 45	358 0.167 2.40 6.0-4.4 53
315	Cfm M^3/sec P_s in mm H_2O Throw in m NC	177 0.083 0.410 1.8-1.3 <15	222 0.105 0.480 2.2-1.6 15	267 0.126 0.653 2.5-2.0 21	314 0.148 1.020 3.1-2.5 25	354 0.167 1.260 3.6-3.0 30	392 0.185 1.820 4.2-3.2 34	437 0.206 2.20 4.9-3.8 38	487 0.230 2.60 5.8-4.6 45	542 0.257 3.20 7.0-5.6 55
355	Cfm M^3/sec P_s in mm H_2O Throw in m NC	244 0.115 0.194 2.0-1.4 <15	297 0.140 0.229 2.5-1.7 15	350 0.165 0.390 3.1-2.4 19	413 0.195 0.586 3.6-2.7 26	466 0.220 0.809 4.2-3.0 30	530 0.250 1.160 4.7-2.3 35	583 0.275 1.40 5.6-3.9 43	639 0.301 1.680 6.7-4.6 52	699 0.330 2.020 8.1-5.6 60
400	Cfm M^3/sec P_s in mm H_2O Throw in m NC	270 0.127 0.163 2.1-1.5 <15	333 0.157 0.192 2.5-1.8 15	396 0.187 0.309 3.0-2.3 20	460 0.217 0.469 3.6-2.7 25	530 0.250 0.589 4.1-3.0 29	591 0.279 0.827 4.6-3.2 34	654 0.308 1.10 5.4-3.8 41	719 0.339 1.40 6.5-4.6 50	789 0.372 1.70 7.9-5.4 61

- Neck size measured in mm dia.
- P_s - Static pressure loss is in mm of H_2O.
- Throw (meters) is measured for a terminal velocities of 0.25 & 0.5 m/sec.
- Noice criteria (NC) is based on a room attenuation of 10dB.

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Round ceiling diffuser

-adjustable pattern

Model: ARD

Construction:

- **Frame & inner cones:** High quality aluminium sheet as standard. Steel construction as option.
- **Damper frame and blade:** Steel sheet with black matt finish.

Description:

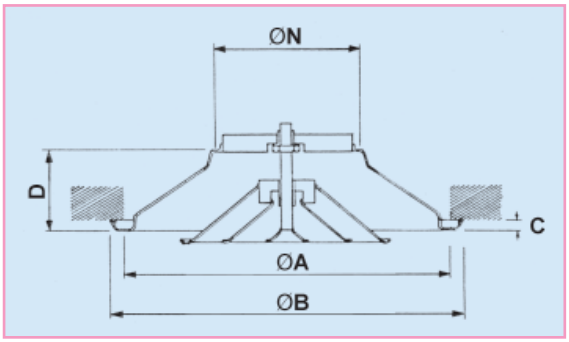
- Frame and inner cones are made of high quality aluminium sheet construction with the advantages of corrosion resistance and rigidity.
- By means of its inner adjustable cones, air pattern can be adjusted from horizontal projection to vertical projection.
- Inner cones fixed centrally to the frame. Cones can be easily removed and fixed. This provides easy installation, maintenance and access to the duct.
- The butterfly damper in supply diffuser can be easily adjusted through the face of the unit by means of screw driver after removing the inner cones.
- Discharge pattern can be adjusted for horizontal flow by extending the cones and for vertical flow by retracting the cones.
- Can be used for ceiling or exposed duct mounting especially in installation when an adjustable pattern is required.

Standard finishes:

- Aluminium construction with white powder coated finish(9010).
- Steel construction with white powder coated finish(9010).
- Powder coated color finish as per other RAL color codes available as option.

ARD	N in mm dia	A	B	C	D
160	160	295	320	9.5	46
200	200	390	428	11	60
250	250	483	536	12.7	81
315	315	573	645	15.9	95
355	355	663	746	19	114
400	400	755	863	22	130
450	450	848	978	19	147
500	500	940	4092	22	166

- Nominal size.
- All the dimension are in mm



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Round ceiling diffuser

-adjustable pattern

Model: ARD

Table 10.2 Air flow data

Neck dia in mm	Face velocity in m/sec	2.0	2.5	3.0	4.0	5.0	6.0	7.0
160	Cfm M^3/sec P_s in mm H_2O Throw in m NC	60 0.028 0.36 0.3-0.5-0.8 <15	74 0.035 0.55 0.4-0.6-1.2 16	89 0.042 0.78 0.5-0.7-1.6 22	119 0.056 1.43 0.7-1.2-1.8 30	148 0.07 2.24 0.9-1.4-2.4 35	178 0.084 3.26 1.2-1.7-2.9 40	207 0.098 4.28 1.4-2.0-3.4 45
200	Cfm M^3/sec P_s in mm H_2O Throw in m NC	110 0.052 0.36 0.5-0.7-1.3 15	138 0.065 0.55 0.6-0.9-1.7 19	165 0.078 0.78 0.7-1.2-2.0 24	220 0.104 1.43 1.0-1.6-2.5 31	275 0.13 2.24 1.3-1.9-3.3 37	330 0.156 3.26 1.6-2.4-4.0 41	385 0.182 4.28 1.9-2.8-4.8 47
250	Cfm M^3/sec P_s in mm H_2O Throw in m NC	178 0.084 0.36 0.7-0.9-1.7 15	222 0.105 0.55 0.8-1.3-2.3 21	267 0.126 0.78 1.0-1.5-2.5 26	356 0.168 1.43 1.3-2.0-3.4 32	445 0.21 2.24 1.7-2.4-4.0 38	534 0.252 3.26 2.0-3.0-5.0 43	622 0.294 4.28 2.3-3.6-6.2 48
315	Cfm M^3/sec P_s in mm H_2O Throw in m NC	263 0.124 0.36 0.8-1.2-2.0 15	328 0.155 0.55 0.9-1.4-2.2 22	394 0.186 0.78 1.2-1.7-2.8 26	525 0.248 1.43 1.4-2.2-3.8 34	656 0.31 2.24 2.0-3.0-5.0 39	788 0.372 3.26 2.2-3.5-5.7 44	920 0.434 4.28 2.8-4.4-6.8 49
355	Cfm M^3/sec P_s in mm H_2O Throw in m NC	360 0.17 0.36 0.9-1.3-2.3 16	450 0.213 0.55 1.1-1.6-2.8 23	540 0.255 0.78 1.3-2.0-3.4 27	720 0.34 1.43 1.8-2.8-4.4 35	900 0.425 2.24 2.2-3.5-5.7 41	1080 0.51 3.26 2.8-4.4-6.8 45	1260 0.595 4.28 3.4-5.0-8.6 50
400	Cfm M^3/sec P_s in mm H_2O Throw in m NC	475 0.224 0.36 1.0-1.6-2.6 17	593 0.28 0.55 1.3-2.0-3.2 23	711 0.336 0.78 1.6-2.4-4.0 27	949 0.448 1.43 2.1-3.2-5.2 36	1186 0.56 2.24 2.6-4.0-5.6 41	1423 0.672 3.26 3.1-4.8-7.6 46	1660 0.784 4.28 3.6-5.6-9.6 51
450	Cfm M^3/sec P_s in mm H_2O Throw in m NC	605 0.286 0.36 1.3-1.8-3.0 19	758 0.358 0.55 1.5-2.4-3.6 25	908 0.429 0.78 1.8-2.7-4.5 29	1210 0.572 1.43 2.4-3.6-6.0 37	1514 0.715 2.24 3.0-4.5-7.5 43	1817 0.858 3.26 3.5-5.4-8.6 48	2117 1.0 4.28 4.0-6.0-10.0 52
500	Cfm M^3/sec P_s in mm H_2O Throw in m NC	750 0.354 0.36 1.4-2.0-3.4 20	938 0.443 0.55 1.8-2.6-4.4 26	1125 0.531 0.78 2.0-3.0-5.0 31	1500 0.708 1.43 2.7-4.0-5.4 38	1874 0.885 2.24 3.5-5.2-8.4 44	2245 1.06 3.26 4.2-6.2-10 48	2623 1.239 4.28 4.8-7.6-12.0 53

- Neck size measured in mm dia.
- P_s - Static pressure loss is in mm of H_2O.
- Throw (meters) is measured for a terminal velocities of 0.25 & 0.5 m/sec.
- Noice criteria (NC) is based on a room attenuation of 10dB.