



AX6

Adjustable Aluminum Round Swirl Diffusers

EFFECTIVE  TM

AX6 SERIES

Aluminum Adjustable Round Swirl Diffusers



Synchronously adjustable blades, horizontal to vertical airflow



Manual adjustment, thermodynamic or with actuator



Available with optional security grille for sports facilities



Integrated air equalizer



Heavy-gauge spun aluminum construction



Duct mounted or drywall mounted



Commercial and industrial applications



Huge energy savings in heating and cooling applications with high ceilings



AX6
by MADEL®

AX6 series swirl diffusers by EffectiV HVAC™ and MADEL® are designed to supply air in heating, air conditioning and ventilation applications, in premises with ceilings 8.5 feet (2.6 meters) and higher and with temperature differential up to 27°F (15°C). They are suitable for both industrial use and commercial areas.

Their round shape together with the helical design of their vanes cause a swirl diffusion of the air stream, obtaining a high induction rate and reducing the stratification.

The diffusion of the air can be varied by adjusting the supply air angle of the synchronously adjustable blades, changing from horizontal projection to vertical projection in accordance with the supply air temperature.

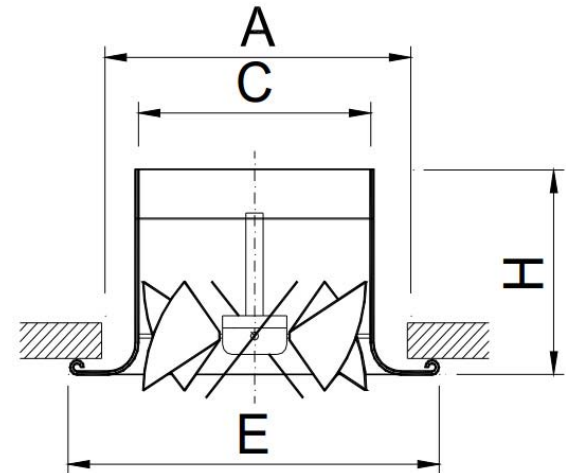
They can be mounted in false ceilings or ductwork or suspended from the ceiling.

Neck Diameter	Free Area (sqf)	Min cfm	Max cfm
10" (250 mm)	0.527	310	580
12.5" (315 mm)	0.839	500	755
16" (400 mm)	1.345	800	1295
20" (500 mm)	2.11	1175	1765
25" (630 mm)	3.358	1980	2945



AX6 Dimensions

	Duct Diameter	A	C	E	H
Imperial	10"	11 13/16	9 3/4	14 11/64	7 61/64
	12.5"	15 3/4	12 21/64	18 17/64	8 55/64
	16"	19 11/16	15 25/32	20 3/64	9 27/32
	20"	24 13/32	19 9/16	27 11/64	12 3/64
	25"	30 45/64	24 11/16	34 1/4	13 25/32
Metric	250 mm	300	248	360	202
	315 mm	400	313	464	225
	400 mm	500	401	560	250
	500 mm	620	497	690	306
	630 mm	780	627	870	350



Some Applications



Restaurants, Bars, Hotels



Indoor Pools and aquatic complex



Movie Theaters



Entrance halls (vertical blast)



Gymnasiums and sports facilities



Warehouses



Seasonal heating and/or cooling



Open ceilings/exposed ducts



High ceilings



Energy efficiency requirements



Industrial applications



Comfort-critical applications



Available Adjustment Mechanisms

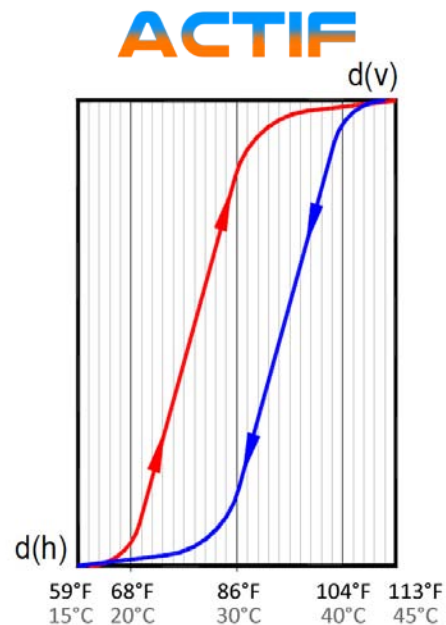
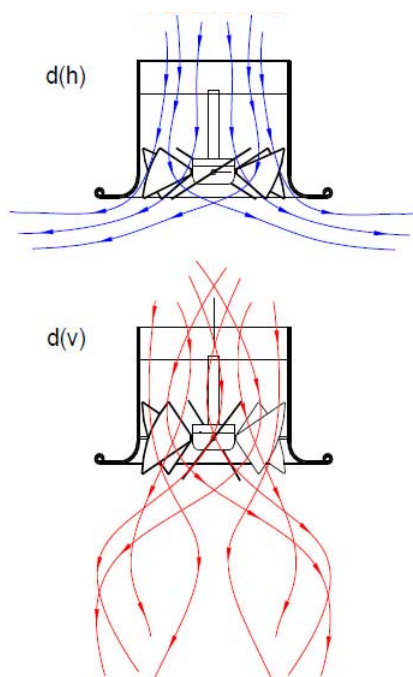
AX6-MA

Synchronously adjustable blades, manually operated.

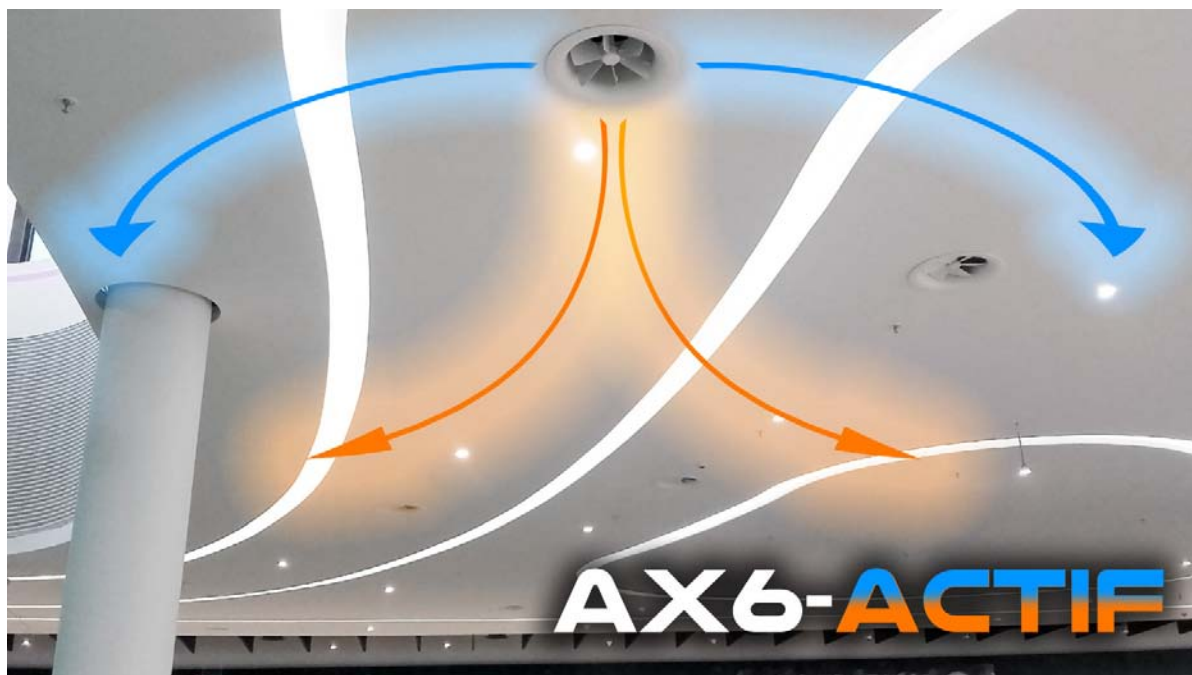
AX6-ACTIF

Synchronously adjustable blades, autonomous thermal adjustment in reaction to supplied air temperature, by means of a thermodynamic piston.

Energy Efficiency Product

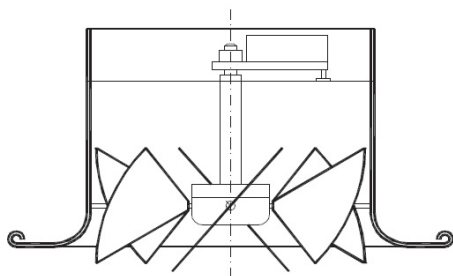


30 minutes adjustment time from
d(h) to d(v)
d(h) = 30 Degree Blades Adjustment
d(v) = 60 Degree Blades Adjustment



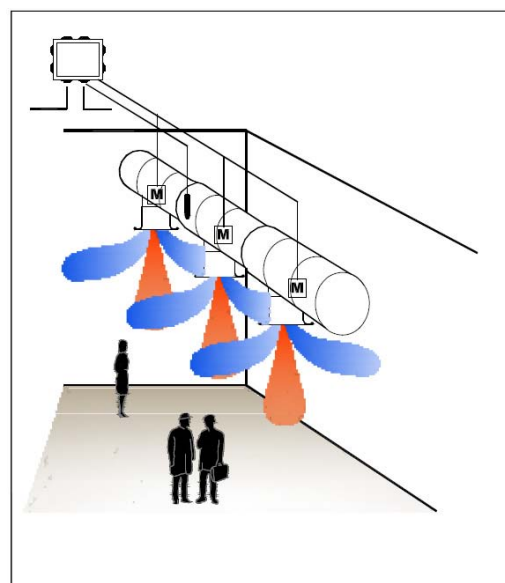
AX6-M0

Synchronously adjustable blades by means of an actuator.



Available With...

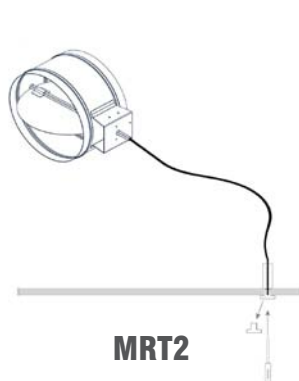
- Belimo On/Off Actuator, 24V or 230V
- Belimo Proportional Actuator, 24V
- Siemens On/Off Actuator, 24V or 230V
- Siemens Proportional Actuator, 24V



Integrated Air Volume Dampers

EB2 dampers are recommended for AX6 diffusers installed in high ceilings.

There is no maximum cable length for EB2 dampers, they can be adjusted from anywhere in the room or from the mechanical room.



MRT2

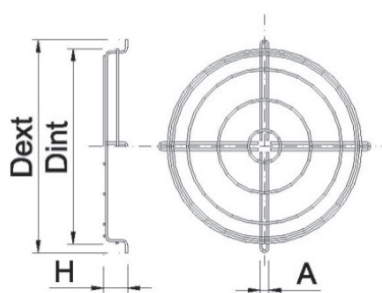
Manually operated damper, cable through drywall with termination fixture



EB2

Battery operated electro-balance damper with remote control, cable through drywall with termination fixture

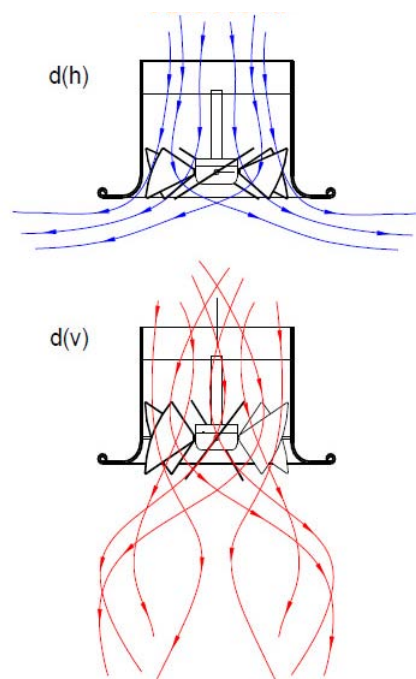
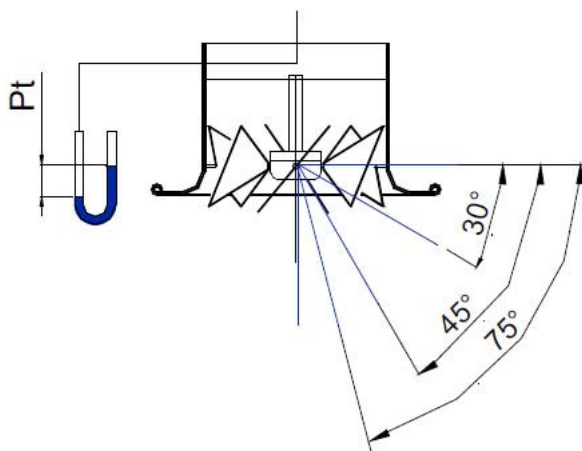
Optional Security Grille For Sports Facilities



CH6 for AX6

	Duct Diameter	Dext	Dint	A	H
Imperial	10"	13 25/32"	11 13/16"	35/64"	1 37/64"
	12.5"	17 23/32"	15 3/4"	35/64"	1 37/64"
	16"	21 21/32"	19 11/16"	43/64"	1 31/32"
	20"	25 25/32"	23 5/8"	43/64"	3 5/32"
	25"	33 55/64"	31 7/64"	25/32"	3 35/64"
Metric	250 mm	350	300	14	40
	315 mm	450	400	14	40
	400 mm	550	500	17	50
	500 mm	655	600	17	80
	630 mm	860	790	20	90

AX6 Performance Data



Isothermal Throw - Swirl 30 Degree Blade Adjustment

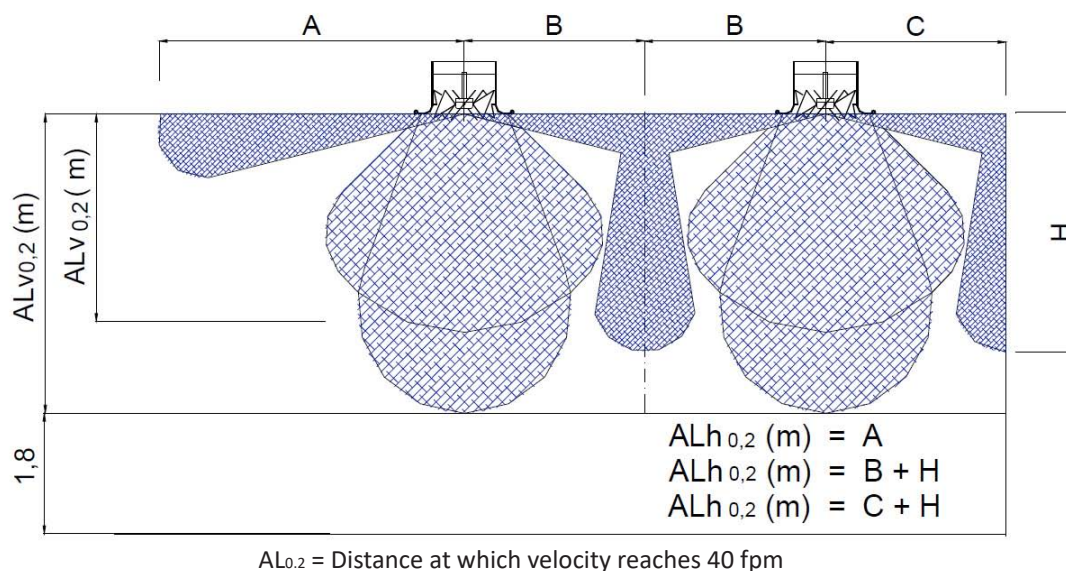
ACTIF
Cooling

Neck Size	Neck (fpm) Velocity	400	500	600	700	800	1000	1200	1400
	Velocity Pressure (H2O)	.010	.016	.022	.031	.041	.062	.090	.122
10" (250mm)	CFM	218	273	327	382	436	545	654	764
	Pressure Loss (in.w.g.)	0.161	0.258	0.376	0.522	0.687	1.099	1.099	2.227
	NC	21	27	31	35	38	44	48	52
	Throw (ft) - d(h)	3-6-8	4-7-11	5-9-13	6-10-15	7-12-18	9-15-23	11-19-28	13-22-33
12.5" (315mm)	CFM	335	419	503	587	671	839	1006	1174
	Pressure Loss (in.w.g.)	0.117	0.185	0.269	0.37	0.488	0.774	1.125	1.546
	NC	19	25	31	35	39	45	50	54
	Throw (ft) - d(h)	4-7-10	5-8-12	5-9-13	6-10-15	7-11-16	8-13-19	9-15-22	10-17-25
16" (400mm)	CFM	559	698	838	977	1117	1396	1676	1955
	Pressure Loss (in.w.g.)	0.111	0.174	0.251	0.342	0.448	0.702	1.015	1.384
	NC	< 15	21	27	31	35	42	48	53
	Throw (ft) - d(h)	5-8-11	5-9-13	6-10-14	6-10-16	7-11-17	8-13-19	8-14-21	9-15-23
20" (500mm)	CFM	873	1091	1309	1527	1745	2182	2618	3054
	Pressure Loss (in.w.g.)	0.139	0.213	0.301	0.403	0.519	0.795	1.123	1.506
	NC	26	31	34	37	40	44	48	51
	Throw (ft) - d(h)	5-8-13	6-10-15	7-11-17	8-13-19	8-14-21	10-16-24	11-18-27	12-20-31
25" (630mm)	CFM	1320	1650	1980	2310	2641	3301	3961	4621
	Pressure Loss (in.w.g.)	0.165	0.26	0.375	0.512	0.671	1.053	1.522	2.077
	NC	21	26	30	34	37	43	47	51
	Throw (ft) - d(h)	5-9-14	7-11-17	8-13-20	9-15-22	10-17-25	12-21-31	15-24-36	17-28-42

Performance Notes

- NC value based on 10 db room attenuation
- Horizontal Throw values are based on isothermal air and terminal velocities of **100 fpm, 60 fpm and 40 fpm** respectively

Downward Projection of Heated Air



Downward Projection of Heated Air - 45 Degree Blade Adjustment

Neck Size	Neck (fpm) Velocity	400	500	600	700	800	1000	1200	1400
	Velocity Pressure (H ₂ O)	.010	.016	.022	.031	.041	.062	.090	.122
10" (250mm)	CFM	218	273	327	382	436	545	654	764
	Pressure Loss (in.w.g.)	0.097	0.156	0.23	0.322	0.426	0.687	1.015	1.415
	NC	< 15	20	26	32	36	44	51	56
	Vertical Throw (ft) - d(v)	14-7-6-5	16-8-7-6	19-9-8-6	21-11-9-7	24-12-10-8	29-14-12-10	33-17-14-11	37-19-16-13
12.5" (315mm)	CFM	335	419	503	587	671	839	1006	1174
	Pressure Loss (in.w.g.)	0.084	0.132	0.192	0.264	0.348	0.55	0.798	1.096
	NC	< 15	18	26	32	37	47	54	61
	Vertical Throw (ft) - d(v)	12-7-5-4	16-9-7-5	19-12-9-6	23-14-10-7	27-16-12-8	35-20-15-10	42-25-19-12	50-30-22-15
16" (400mm)	CFM	559	698	838	977	1117	1396	1676	1955
	Pressure Loss (in.w.g.)	0.064	0.1	0.145	0.197	0.259	0.406	0.587	0.8
	NC	< 15	19	23	28	31	37	42	46
	Vertical Throw (ft) - d(v)	14-10-8-6	17-12-9-7	20-14-11-8	22-16-13-9	25-18-14-11	30-21-17-13	35-25-20-15	40-28-22-17
20" (500mm)	CFM	873	1091	1309	1527	1745	2182	2618	3054
	Pressure Loss (in.w.g.)	0.105	0.162	0.23	0.309	0.4	0.616	0.875	1.178
	NC	24	29	33	37	40	45	49	52
	Vertical Throw (ft) - d(v)	15-9-8-6	18-11-9-8	20-13-11-9	23-15-12-10	25-16-13-11	30-19-16-13	35-22-18-15	39-25-21-17
25" (630mm)	CFM	1320	1650	1980	2310	2641	3301	3961	4621
	Pressure Loss (in.w.g.)	0.082	0.129	0.187	0.257	0.338	0.533	0.773	1.059
	NC	17	24	29	33	37	43	48	53
	Vertical Throw (ft) - d(v)	18-11-8-6	21-13-10-7	25-15-12-8	28-17-13-9	32-19-15-10	38-23-18-13	45-27-21-15	51-31-24-17

Performance Notes

- Vertical throw values (in ft) are respectively for **isothermal** and temperature differences of **9°F (5°C)**, **18°F (10°C)** and **27°F (15°C)** in heating mode, all at **terminal velocity of 40 fpm**.

Downward Projection of Heated Air - 60 Degree Blade Adjustment



Neck Size	Neck (fpm) Velocity	400	500	600	700	800	1000	1200	1400
	Velocity Pressure (H ₂ O)	.010	.016	.022	.031	.041	.062	.090	.122
10" (250mm)	CFM	218	273	327	382	436	545	654	764
	Pressure Loss (in.w.g.)	0.073	0.118	0.173	0.242	0.32	0.517	0.763	1.064
	NC	< 15	19	24	28	32	38	43	48
	Vertical Throw (ft) - d(v)	24-12-10-8	28-14-12-10	33-16-14-11	37-19-16-13	41-21-17-14	50-25-21-17	58-29-24-20	65-33-27-22
12.5" (315mm)	CFM	335	419	503	587	671	839	1006	1174
	Pressure Loss (in.w.g.)	0.065	0.102	0.149	0.205	0.269	0.426	0.619	0.849
	NC	< 15	19	26	31	36	44	50	56
	Vertical Throw (ft) - d(v)	23-14-10-7	30-18-13-9	36-21-16-11	43-26-19-13	50-30-22-15	65-38-28-19	79-47-35-23	94-56-41-27
16" (400mm)	CFM	559	698	838	977	1117	1396	1676	1955
	Pressure Loss (in.w.g.)	0.053	0.083	0.12	0.163	0.214	0.335	0.485	0.661
	NC	< 15	17	21	25	28	34	38	42
	Vertical Throw (ft) - d(v)	25-17-14-10	30-21-17-12	35-24-19-15	39-28-22-17	44-31-25-18	53-37-30-22	62-43-35-26	70-49-39-29
20" (500mm)	CFM	873	1091	1309	1527	1745	2182	2618	3054
	Pressure Loss (in.w.g.)	0.078	0.12	0.17	0.229	0.296	0.456	0.648	0.934
	NC	23	28	33	36	40	45	50	54
	Vertical Throw (ft) - d(v)	25-16-13-11	29-19-16-13	34-21-18-14	38-24-20-16	42-27-22-18	50-32-27-21	58-36-31-25	65-41-34-28
25" (630mm)	CFM	1320	1650	1980	2310	2641	3301	3961	4621
	Pressure Loss (in.w.g.)	0.073	0.115	0.167	0.229	0.301	0.476	0.69	0.946
	NC	17	23	29	33	37	43	49	53
	Vertical Throw (ft) - d(v)	44-26-20-14	53-32-24-17	61-37-29-20	70-42-33-23	79-47-37-26	95-57-44-31	111-66-52-37	126-76-59-42

Performance Notes

- Vertical throw values (in ft) are respectively for **isothermal** and temperature differences of **9°F (5°C)**, **18°F (10°C)** and **27°F (15°C)** in heating mode, all at **terminal velocity of 40 fpm**.

How to Specify AX6-MA

Supply and mounting of manually adjustable round swirl diffuser AX6-MA with synchronously adjustable blades and integrated air equalizer. Constructed from aluminum powder coated in white M9016. By EffectiV HVAC.

How to Specify AX6-ACTIF

Supply and mounting of round swirl diffuser AX6-ACTIF with autonomously thermally adjustable blades by means of a thermodynamic piston. Comes with integrated air equalizer. Constructed from aluminum powder coated in white M9016. By EffectiV HVAC.

How to Specify AX6-MO

Supply and mounting of round swirl diffuser AX6-ACTIF with synchronously adjustable blades by means of an actuator. Comes with integrated air equalizer. Constructed from aluminum powder coated in white M9016. By EffectiV HVAC.

How to Order AX6 Series

AX6	-MA	-CH6	08		
				Imperial	Metric
Neck Diameter				10	10"D
				12	12.5"D
				16	16"D
				20	20"D
				25	25"D
Security Grille				CH6	Security grille for sports facilities
Adjustment Method				MA	Manually adjustable
				MO	Adjusted by means of an actuator
				ACTIF	Automatic thermal adjustment

