



KAM

Aluminum Adjustable Long Throw Nozzle Jet Diffusers

EFFECTIVE  **TM**

KAM SERIES

Aluminum Adjustable Long Throw Nozzle Jet Diffusers

-  Adjust core to redirect the air jet
-  Long throw ideal for large rooms or very high ceilings
-  Manual adjustment, thermodynamic or actuator controlled
-  Architecturally appealing lines and finish
-  Heavy-gauge spun aluminum construction
-  Duct mounted or drywall mounted with invisible screws
-  Ideal for heating and cooling applications
-  Available in metric standard dimensions

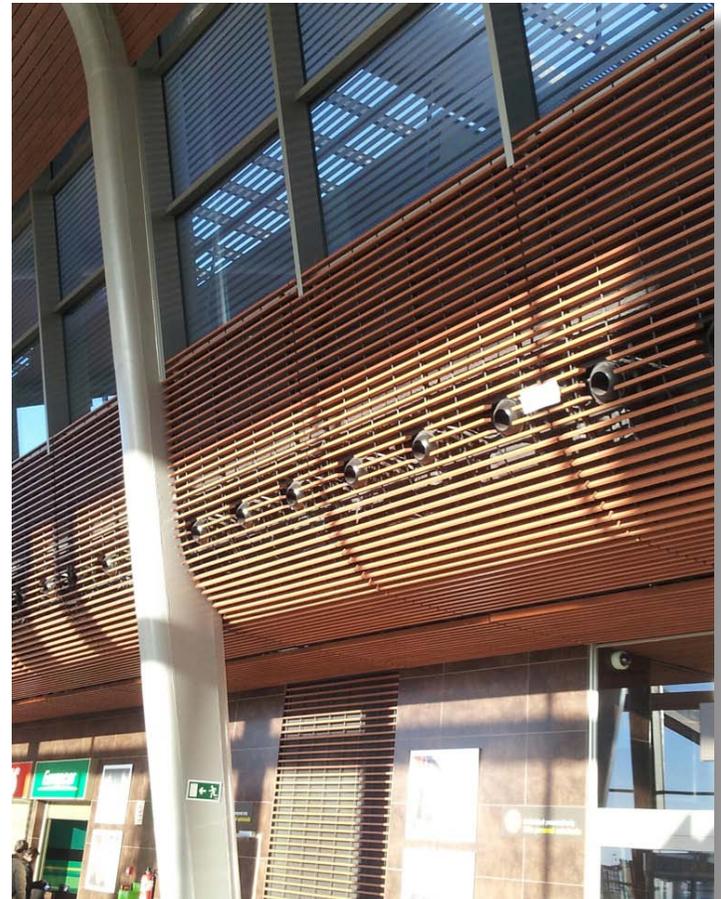


KAM-W
by MADEL®

PATENTED

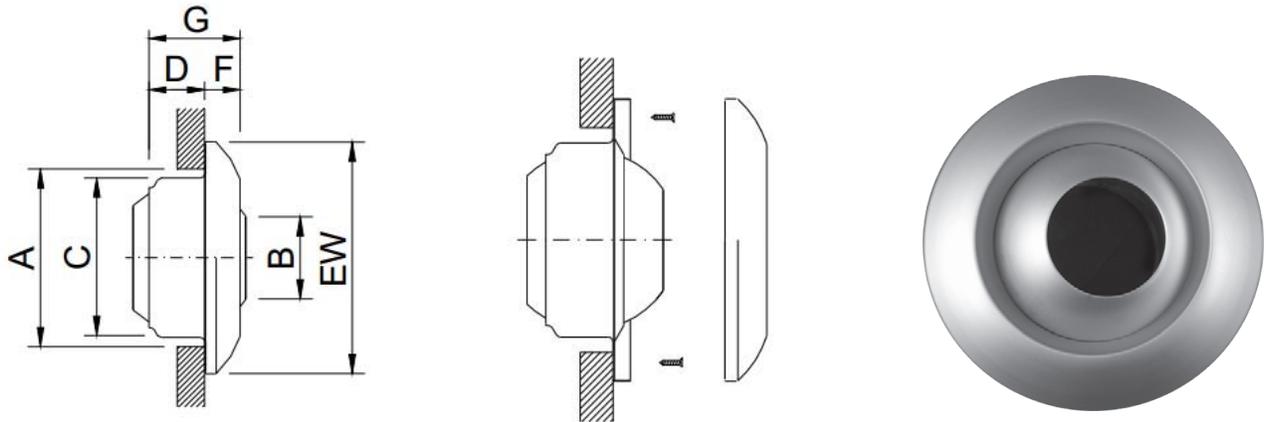
The KAM Series jet nozzle diffusers by EffectiV HVAC™ and MADEL® have been designed specifically to provide air diffusion into large spaces. They can achieve a very long throw for both heating and cooling whilst given flexibility in direction.

The design is the result of a collaboration of MADEL® and Benedito Design with the goal to provide a diffuser that encompasses smooth modern aesthetic lines appealing to the architectural market while providing a unique performance for specific applications.



List Imperial	List Metric	Actual Neck Diameter	Free Area (sqf)	Min cfm	Max cfm
05	125	4.85" (123 mm)	0.132	16	129
06	160	6.22" (158 mm)	0.216	26	179
08	200	7.8" (198 mm)	0.338	54	303
10	250	9.76" (248 mm)	0.529	100	465
12	315	12.32" (313 mm)	0.839	191	665
16	400	15.67" (400 mm)	1.345	294	897

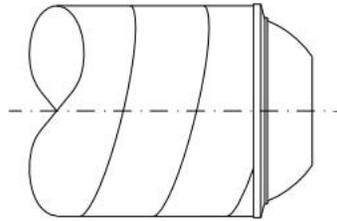
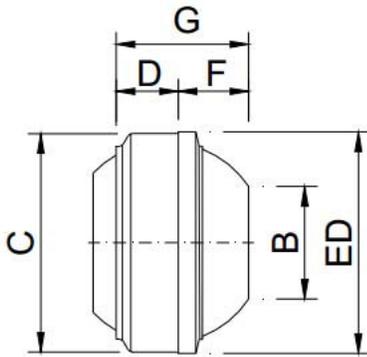
KAM-W - Surface Mounted



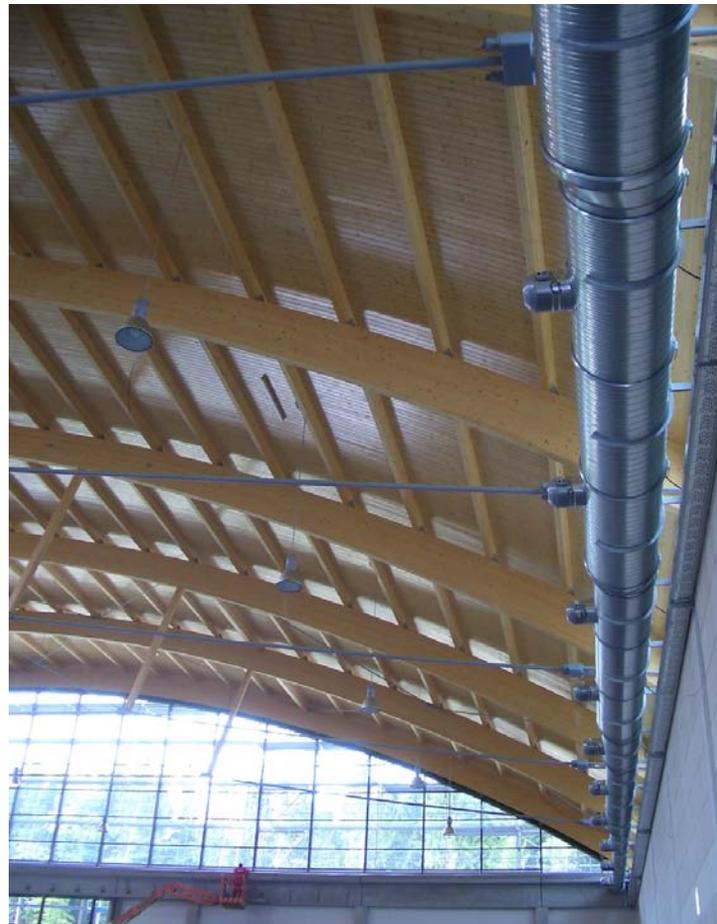
Model	Duct Size	B	C	D	EW	F	G
KAM-W 05	5"D	2 13/32"	4 27/32"	2 11/64"	7 1/8"	1 1/16"	3 11/32"
KAM-W 06	6"D	3 5/32"	6 7/32"	2 11/64"	9 3/32"	1 11/32"	3 5/8"
KAM-W 08	8"D	4 1/64"	7 51/64"	2 29/32"	11 3/8"	1 37/64"	4 51/64"
KAM-W 10	10"D	5 1/8"	9 49/64"	3 57/64"	14 9/64"	1 57/64"	6 7/32"
KAM-W 12	12.5"D	6 17/32"	12 21/64"	4 61/64"	17 53/64"	2 1/4"	7 23/32"
KAM-W 16	16"D	8 11/32"	15 43/64"	6 3/8"	22 41/64"	2 61/64"	10 9/32"



KAM-D - Duct Mounted



Model	Duct Size	B	C	D	ED	F	G
KAM-D 05	5"D	2 13/32"	4 27/32"	2 11/64"	4 61/64"	1 1/16"	3 11/32"
KAM-D 06	6"D	3 5/32"	6 7/32"	2 11/64"	6 3/8"	1 11/32"	3 5/8"
KAM-D 08	8"D	4 1/64"	7 51/64"	2 29/32"	7 63/64"	1 37/64"	4 51/64"
KAM-D 10	10"D	5 1/8"	9 49/64"	3 57/64"	9 61/64"	1 57/64"	6 7/32"
KAM-D 12	12.5"D	6 17/32"	12 21/64"	4 61/64"	12 19/32"	2 1/4"	7 23/32"
KAM-D 16	16"D	8 11/32"	15 43/64"	6 3/8"	15 29/32"	2 61/64"	10 9/32"



Some Applications



High ceilings and/or very large spaces



Seasonal heating and/or cooling



When precise, directional jets are required



Restaurants, Bars, Reception Halls, Car Dealers, Showrooms, Indoor Pools, Movie Theaters, Stores, Hotels, Casinos



Entrance halls (vertical blast)



Corrosion-sensitive applications



Available Adjustment Mechanisms

KAM

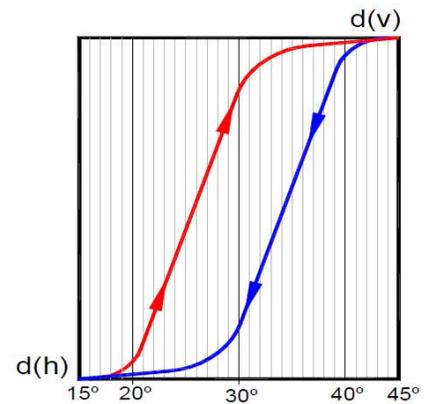
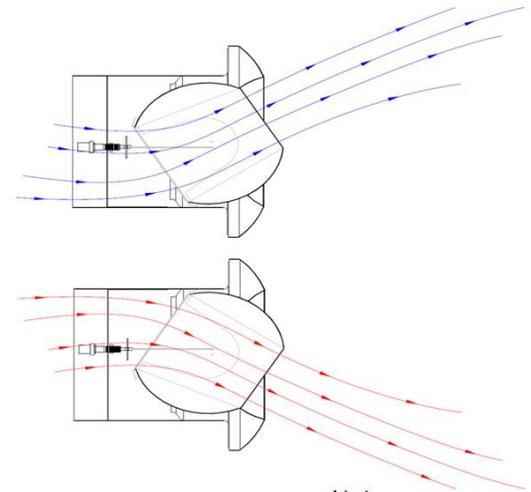
Manually adjustable.

KAM-ACTIF

Energy Efficiency Product

Jet nozzle diffuser that is autonomously thermally adjustable by means of a thermodynamic piston. The supply air angle of the air jet varies in accordance with the supply air temperature, to significantly reduce stratification and improve comfort and efficiency.

ACTIF

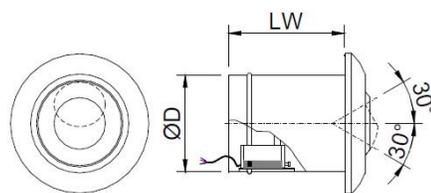


30 minutes adjustment time from d(h) to d(v)

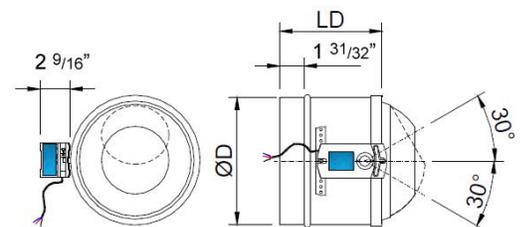
KAM-M5

Regulable diffuser by means of an On/Off servomotor.

Duct Diameter	LW	LD
10"D	5 1/8"	9 49/64"
12.5"D	6 17/32"	12 21/64"
16"D	8 11/32"	15 43/64"



KAM-W-M5



KAM-D-M5

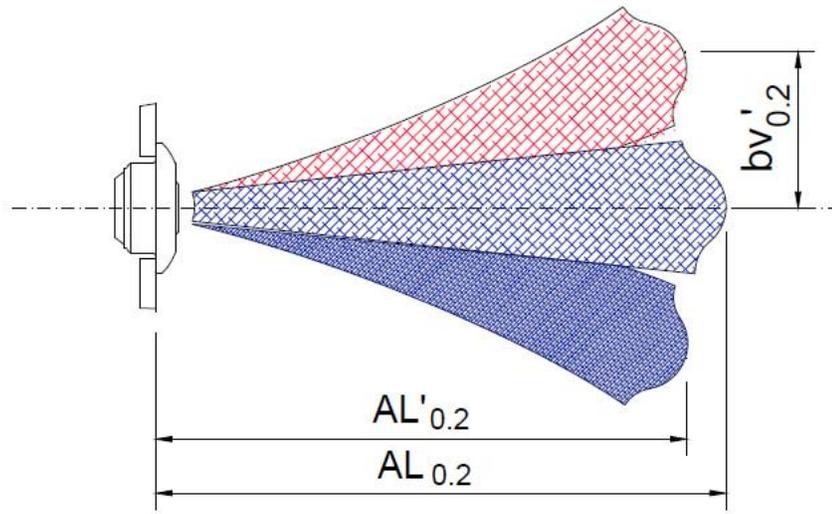
KAM Performance Data

Neck Size	Neck (fpm) Velocity	300	400	500	600	700	800	1000	1200
	Velocity Pressure (H2O)	0.006	.010	.016	.022	.031	.041	.062	.090
5" (125mm)	CFM	41	55	68	82	95	109	136	164
	Pressure Loss (in.w.g.)	0.141	0.231	0.328	0.444	0.573	0.715	1.037	1.422
	NC	< 15	< 15	19	24	28	31	37	41
	Throw (ft) - Coanda Effect	21-35-53	28-46-70	34-57-85	40-67-101	47-78-116	53-88-132	65-109-163	78-130-195
	Throw (ft) - No Ceiling Effect	16-26-40	21-35-52	25-42-64	30-50-76	35-58-87	40-66-99	49-81-122	59-97-146
6" (160mm)	CFM	61	81	101	122	142	162	203	244
	Pressure Loss (in.w.g.)	0.117	0.187	0.27	0.368	0.475	0.592	0.865	1.178
	NC	< 15	17	22	26	30	33	38	42
	Throw (ft) - Coanda Effect	21-35-53	28-46-69	34-57-85	41-68-102	47-78-117	53-89-133	66-110-165	78-131-196
	Throw (ft) - No Ceiling Effect	16-26-40	21-35-52	26-43-64	30-51-76	35-59-88	40-66-100	49-82-124	59-98-147
8" (200mm)	CFM	105	140	175	209	244	279	349	419
	Pressure Loss (in.w.g.)	0.132	0.213	0.31	0.415	0.538	0.673	0.978	1.328
	NC	< 15	20	24	28	31	33	38	41
	Throw (ft) - Coanda Effect	29-48-72	38-63-94	47-78-117	55-92-138	64-106-159	72-121-181	89-149-224	106-177-266
	Throw (ft) - No Ceiling Effect	22-36-54	28-47-71	35-58-87	41-69-103	48-80-120	54-90-136	67-112-168	80-133-199
10" (250mm)	CFM	164	218	273	327	382	436	545	654
	Pressure Loss (in.w.g.)	0.105	0.17	0.247	0.334	0.433	0.54	0.785	1.064
	NC	15	20	24	28	31	34	38	41
	Throw (ft) - Coanda Effect	37-62-93	49-81-122	60-101-151	72-119-179	83-138-207	94-157-235	116-194-290	138-230-345
	Throw (ft) - No Ceiling Effect	28-47-70	37-61-92	45-75-113	54-90-134	62-104-156	70-117-176	87-145-218	103-172-259
12" (315mm)	CFM	244	325	406	487	568	649	812	974
	Pressure Loss (in.w.g.)	0.087	0.141	0.204	0.277	0.359	0.448	0.652	0.883
	NC	17	23	26	30	32	35	39	42
	Throw (ft) - Coanda Effect	37-61-92	48-80-120	59-99-148	71-118-176	82-136-204	93-154-232	114-191-286	136-227-340
	Throw (ft) - No Ceiling Effect	28-46-69	36-60-90	45-74-111	53-88-132	61-102-153	69-116-174	86-153-215	102-170-255
16" (400mm)	CFM	419	559	698	838	977	1117	1396	1676
	Pressure Loss (in.w.g.)	0.075	0.121	0.176	0.238	0.308	0.385	0.559	
	NC	27	32	36	39	42	44	48	
	Throw (ft) - Coanda Effect	44-74-111	58-97-146	72-120-180	85-142-214	99-165-247	112-187-280	138-231-346	
	Throw (ft) - No Ceiling Effect	33-55-83	44-73-109	54-90-135	64-107-160	74-123-185	84-140-210	104-173-260	

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

Correction Factors for Horizontal Throw



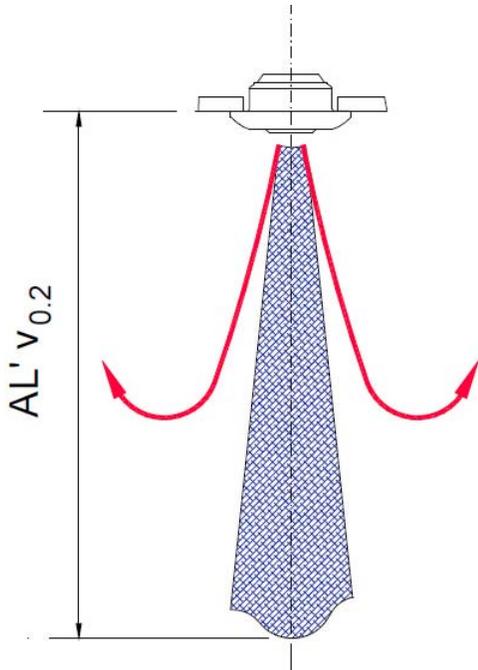
$$bv = kh \times \text{Throw}$$

$$\text{Throw}'(\Delta T) = KI \times \text{Throw}$$

Kh = Correction Factor for Vertical Diffusion
 KI = Throw Correction Factor
 AL_{0.2} = Distance at which velocity reaches 40 fpm

Delta T Correction Factors						
	125 - 160		200-250		315 - 400	
Δ T (F)	Kh	KI	Kh	KI	Kh	KI
-25	-0.385	0.84	-0.54	0.84	-0.7	0.84
-20	-0.315	0.87	-0.43	0.87	-0.55	0.87
-15	-0.23	0.91	-0.325	0.91	-0.42	0.91
-10	-0.155	0.935	-0.22	0.935	-0.28	0.935
-5	-0.08	0.97	-0.105	0.97	-0.14	0.97
0	0	1	0	1	0	1
5	0.08	0.97	0.105	0.97	0.14	0.97
10	0.155	0.935	0.22	0.935	0.28	0.935
15	0.23	0.91	0.325	0.91	0.42	0.91
20	0.315	0.87	0.43	0.87	0.55	0.87
25	0.385	0.84	0.54	0.84	0.7	0.84

Correction Factors for Vertical Throw



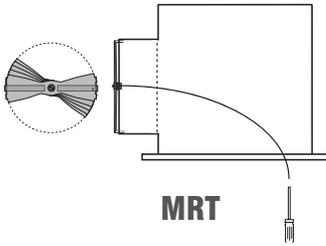
Throw'(ΔT)= Kv x Throw

Kv = Correction Factor for Vertical Diffusion

$AL'v_{0.2}$ = Vertical distance at which velocity reaches 40 fpm

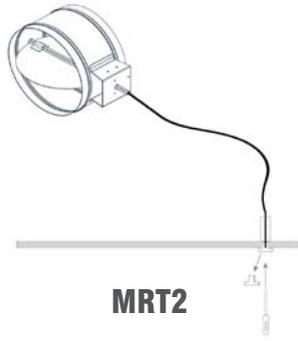
ΔT (F)	Kv
-25	1.445
-20	1.36
-15	1.27
-10	1.18
-5	1.08
0	1
5	0.91
10	0.82
15	0.73
20	0.65
25	0.555

Air Volume Dampers



MRT

Manually operated damper, cable inside the plenum, adjustment through face



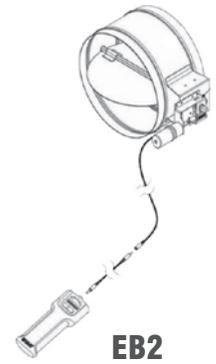
MRT2

Manually operated damper, cable through drywall with termination fixture



EB

Battery operated electro-balance damper with remote control, cable through face



EB2

Battery operated electro-balance damper with remote control, cable through drywall with termination fixture, no distance limite

Accessories

EB-SP1

Single Connector Drywall Termination Fixture for EB and EB2 dampers



EB-AB8

Eight Connector Wall Bracket for EB and EB2 dampers



EB-SP8

Eight Connector Drywall Termination Fixture for EB and EB2 dampers



EB-REMOTE

Remote Control for EB and EB2 dampers



How to Specify KAM Series

Supply and mounting of model KAM aluminum long throw jet nozzle diffuser with adjustable core which can be rotated to adjust direction of the airflow. Constructed from spun aluminum, powder coated in white M9016 or metallic grey M9006. By EffectiV HVAC / MADEL.

How to Specify KAM-ACTIF

Supply and mounting of model KAM-ACTIF aluminum long throw jet nozzle diffuser. Autonomously thermally adjustable by means of a thermodynamic piston. Constructed from spun aluminum, powder coated in white M9016 or metallic grey M9006. By EffectiV HVAC / MADEL.

How to Specify KAM-M5

Supply and mounting of model KAM-M5 aluminum long throw jet nozzle diffuser. Adjustable by means of an On/Off actuator. Constructed from spun aluminum, powder coated in white M9016 or metallic grey M9006. By EffectiV HVAC / MADEL.

How to Order KAM Series

Model	KAM	-W	200	/M9016			
				Finish			
				/M9006	Grey (RAL 9006 White Aluminum)		
				/M9016	White (RAL 9016 Traffic White)		
				Imperial	Metric		
			Neck Diameter	05	5"D	125	125 mm
				06	6.5"D	160	160 mm
				08	8"D	200	200 mm
				10	10"D	250	250 mm
				12	12.5"D	315	315 mm
			16	16"D	400	400 mm	
		Mounting	D	Duct			
			W	Surface			
	KAM			Manually adjustable			
	KAM-ACTIF			Autonomously thermally adjustable			
	KAM-M5			Adjustable by means of an On/Off actuator			

