



KOBE
Adjustable Long Throw Linear Jet Diffusers



KOBE SERIES

Adjustable Long Throw Linear Jet Diffusers



KOBE
by MADEL®



Adjustable long throw, ideal for large rooms or high ceilings



Ideal solution to push air downwards and to cover windowed walls



Six different slot widths to answer requirements for a wide range of air volumes



Architecturally appealing linear diffuser



Easy clip mounting system available with PLKB plenum



Made in aluminium

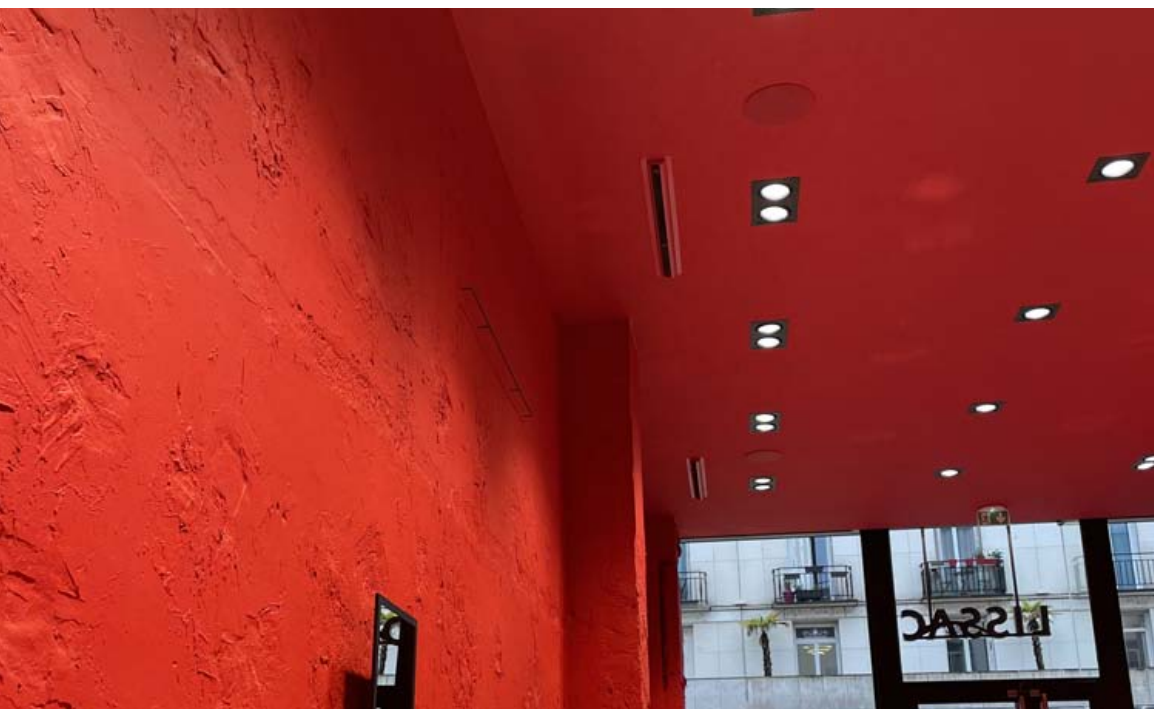
KOBE Long Throw Adjustable Linear Jet Diffusers have been designed to combine aesthetics with technical performance.

They can be mounted on the wall to diffuse the air horizontally in large spaces, or the ceiling to diffuse the air downward, for instance to cover high windowed walls.

With various slot sizes available and an adjustable supply angle of $\pm 30^\circ$, KOBE diffusers are suitable for all types of architectures and airflow requirements.

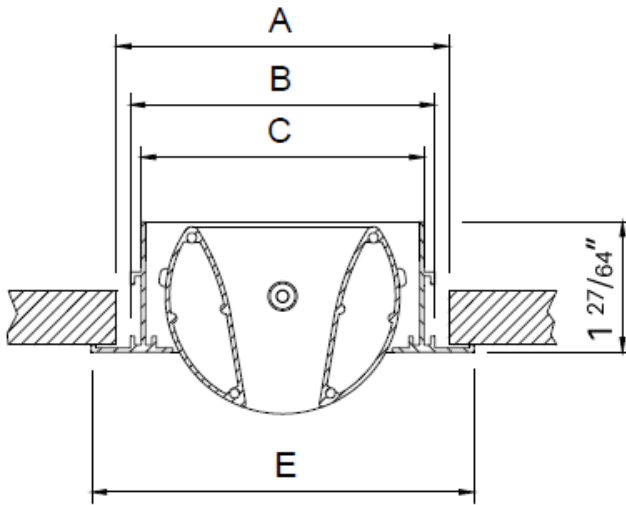
KOBE Long Throw Adjustable Linear Jet Diffusers are ideal for installation in large spaces such as shopping centers, airports, stations, sports halls, etc.

KOBE diffusers work with a high induction rate that minimizes stratification in large spaces. They can operate with a temperature differential of up to up to 22°F (12°C) and provide optimum performance with both variable and constant air flow.

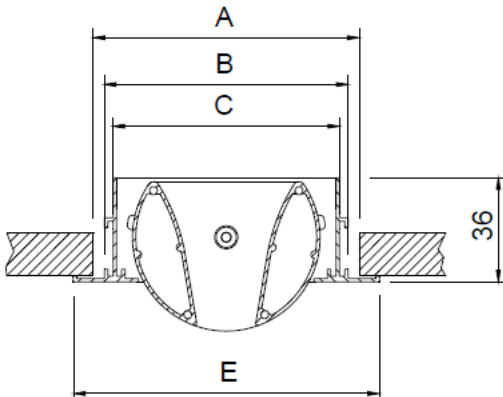


KOBE Slot Type and Width - Imperial Dimensions

Slot Width	A	B	C	B
15 (0.6")	3 11/16"	3 21/64"	3 3/32"	4 11/64"
20 (0.8")	3 11/16"	3 21/64"	3 3/32"	4 11/64"
25 (1")	3 11/16"	3 21/64"	3 3/32"	4 11/64"
30 (1.2")	3 11/16"	3 21/64"	3 3/32"	4 11/64"
40 (1.6")	4 15/64"	3 7/8"	3 41/64"	4 23/32"
50 (2")	4 43/64"	4 5/16"	4 5/64"	5 5/32"

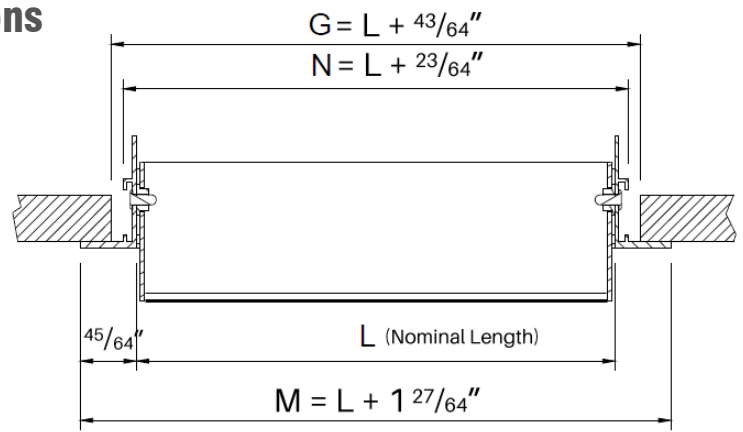


KOBE Slot Type and Width - Metric Dimensions



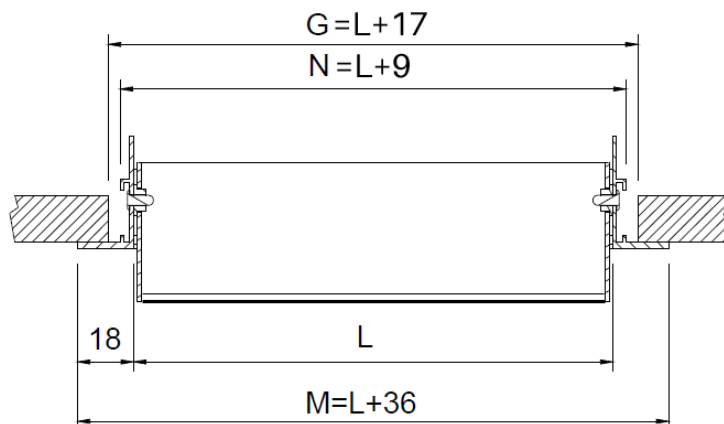
Slot Width	A	B	C	B
15	93.5	84.5	78.5	106
20	93.5	84.5	78.5	106
25	93.5	84.5	78.5	106
30	93.5	84.5	78.5	106
40	107.5	98.5	92.5	120
50	118.5	109.5	103.5	131

KOBE Nominal Lengths - Imperial Dimensions



Nominal Length	L (inches)	G	N	M
300	11 13/16"	12 31/64"	12 11/64"	13 15/64"
400	15 3/4"	16 27/64"	16 7/64"	17 11/64"
500	19 11/16"	20 23/64"	20 3/64"	21 7/64"
600	23 5/8"	24 19/64"	23 63/64"	25 3/64"
700	27 9/16"	28 15/64"	27 59/64"	28 63/64"
800	31 1/2"	32 11/64"	31 55/64"	32 59/64"
900	35 7/16"	36 7/64"	35 51/64"	36 55/64"
1000	39 3/8"	40 3/64"	39 47/64"	40 51/64"
1100	43 5/16"	43 63/64"	43 43/64"	44 47/64"
1200	47 1/4"	47 59/64"	47 39/64"	48 43/64"
1300	51 3/16"	51 55/64"	51 35/64"	52 39/64"
1400	55 1/8"	55 51/64"	55 31/64"	56 35/64"
1500	59 1/16"	59 47/64"	59 27/64"	60 31/64"
1600	62 63/64"	63 21/32"	63 11/32"	64 13/32"
1700	66 59/64"	67 19/32"	67 9/32"	68 11/32"
1800	70 55/64"	71 17/32"	71 7/32"	72 9/32"
1900	74 51/64"	75 15/32"	75 5/32"	76 7/32"
2000	78 47/64"	79 13/32"	79 3/32"	80 5/32"

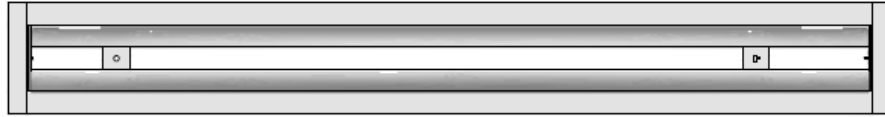
Metric Dimensions



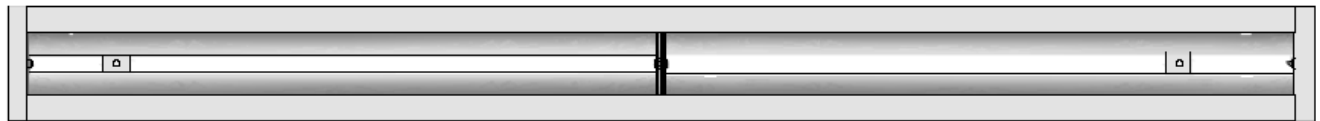
KOBE Nozzle Sections



Single Nozle
 $300 \leq L \leq 1000$



Split Nozle
 $1100 \leq L \leq 2000$

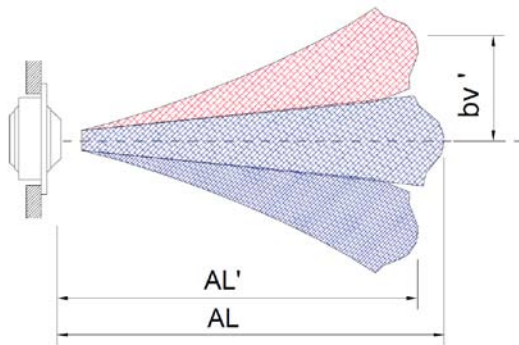


KOBE Performance Data - Horizontal Throw

15 0.6"	CFM / Linear Foot	10	30	50	70	90	110	130
	Pressure Loss (in.w.g.)	0.01	0.04	0.1	0.2	0.3	0.4	0.6
	NC	< 15	< 15	< 20	< 25	< 30	< 35	> 40
	Throw (ft) - Coanda Effect	5-8-12	13-23-33	23-37-55	31-51-76	39-65-97	47-78-117	56-92-138
	Throw (ft) - No Ceiling Effect	4-6-9	10-17-25	17-28-41	23-38-57	29-49-73	35-59-88	42-69-104
20 0.8"	CFM / Linear Foot	15	45	75	105	135	165	195
	Pressure Loss (in.w.g.)	0.01	0.04	0.1	0.2	0.3	0.4	0.6
	NC	< 15	< 15	< 20	< 30	< 35	> 40	> 40
	Throw (ft) - Coanda Effect	8-10-16	17-29-44	29-48-73	40-67-100	51-85-128	63-104-154	73-121-182
	Throw (ft) - No Ceiling Effect	6-8-12	13-22-33	22-36-55	30-50-75	38-64-96	47-78-116	55-91-137
25 1"	CFM / Linear Foot	20	60	100	140	180	220	260
	Pressure Loss (in.w.g.)	0.01	0.04	0.1	0.2	0.3	0.4	0.5
	NC	< 15	< 15	< 20	< 30	< 35	> 40	> 40
	Throw (ft) - Coanda Effect	7-12-17	20-35-51	33-56-84	47-77-116	59-97-146	72-118-178	84-140-209
	Throw (ft) - No Ceiling Effect	5-9-13	15-26-38	25-42-63	35-58-87	44-73-110	54-89-134	63-105-157
30 1.2"	CFM / Linear Foot	20	65	110	155	200	245	290
	Pressure Loss (in.w.g.)	0.004	0.03	0.1	0.1	0.2	0.3	0.4
	NC	< 15	< 15	< 20	< 25	< 30	> 40	> 40
	Throw (ft) - Coanda Effect	5-9-15	17-29-45	29-49-74	41-69-104	53-88-132	64-106-161	76-125-189
	Throw (ft) - No Ceiling Effect	4-7-11	13-22-34	22-37-56	31-52-78	40-66-99	48-80-121	57-94-142
40 1.6"	CFM / Linear Foot	25	90	155	220	285	350	415
	Pressure Loss (in.w.g.)	0.002	0.03	0.1	0.2	0.4	0.5	0.8
	NC	< 15	< 15	< 20	< 30	< 35	> 40	> 40
	Throw (ft) - Coanda Effect	5-9-13	21-36-53	39-64-96	56-93-140	73-122-184	92-152-229	109-182-274
	Throw (ft) - No Ceiling Effect	4-7-10	16-27-40	29-48-72	42-70-105	55-92-138	69-114-172	82-137-206
50 2"	CFM / Linear Foot	35	110	185	260	335	410	485
	Pressure Loss (in.w.g.)	0.003	0.03	0.1	0.2	0.3	0.5	0.7
	NC	< 15	< 15	< 20	< 25	< 30	> 40	> 40
	Throw (ft) - Coanda Effect	7-11-17	23-37-57	40-65-98	57-94-141	74-124-185	92-153-230	110-184-275
	Throw (ft) - No Ceiling Effect	5-8-13	17-28-43	30-49-74	43-71-106	56-93-139	69-115-173	83-138-207

- 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



$AL' = AL \times Kh$
 $bv' = AL \times Kv$

Kh = Correction Factor for Vertical Diffusion
 Kl = Throw Correction Factor
 AL = Throw

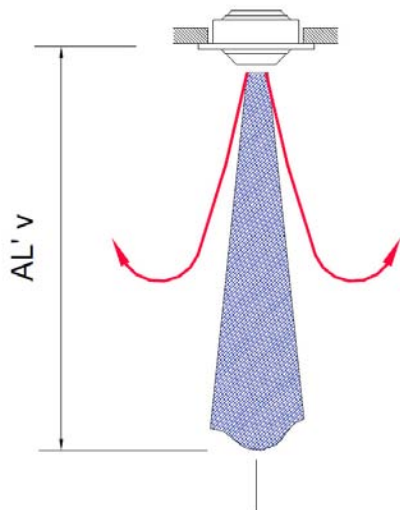
Δ T (F)	Kh	Kv (15, 20, 25, 30)	Kv (40, 50)
-25	-0.84	-0.49	-0.63
-20	-0.87	-0.4	-0.51
-15	-0.91	-0.3	-0.38
-10	-0.935	-0.2	-0.25
-5	-0.97	-0.1	-0.13
0	1	0	0
5	0.97	0.1	0.13
10	0.935	0.2	0.25
15	0.91	0.3	0.38
20	0.87	0.4	0.51
25	0.84	0.49	0.63

KOBE Performance Data - Vertical Throw

15 0.6"	CFM / Linear Foot	10	30	50	70	90	110	130
	Pressure Loss (in.w.g.)	0.01	0.04	0.1	0.2	0.3	0.4	0.6
	NC	< 15	< 15	< 20	< 25	< 30	< 35	> 40
	Throw (ft) - Coanda Effect	4-7-11	12-20-31	20-33-51	28-47-69	36-59-88	43-72-106	51-84-126
	Throw (ft) - No Ceiling Effect	3-5-8	9-15-23	15-25-38	21-35-52	27-44-66	32-54-80	38-63-95
20 0.8"	CFM / Linear Foot	15	45	75	105	135	165	195
	Pressure Loss (in.w.g.)	0.01	0.04	0.1	0.2	0.3	0.4	0.6
	NC	< 15	< 15	< 20	< 30	< 35	> 40	> 40
	Throw (ft) - Coanda Effect	5-9-15	16-27-40	27-44-67	36-61-92	47-77-116	56-94-141	67-110-165
	Throw (ft) - No Ceiling Effect	4-7-11	12-20-30	20-33-50	27-46-69	35-58-87	42-71-106	50-83-124
25 1"	CFM / Linear Foot	20	60	100	140	180	220	260
	Pressure Loss (in.w.g.)	0.01	0.04	0.1	0.2	0.3	0.4	0.5
	NC	< 15	< 15	< 20	< 30	< 35	> 40	> 40
	Throw (ft) - Coanda Effect	7-11-16	19-31-47	31-51-76	43-70-105	53-89-133	65-108-162	76-126-190
	Throw (ft) - No Ceiling Effect	5-8-12	14-23-35	23-38-57	32-53-79	40-67-100	49-81-122	57-95-143
30 1.2"	CFM / Linear Foot	20	65	110	155	200	245	290
	Pressure Loss (in.w.g.)	0.004	0.03	0.1	0.1	0.2	0.3	0.4
	NC	< 15	< 15	< 20	< 25	< 30	> 40	> 40
	Throw (ft) - Coanda Effect	5-9-13	16-27-41	27-45-68	37-63-94	48-80-120	59-97-146	69-114-172
	Throw (ft) - No Ceiling Effect	4-7-10	12-20-31	20-34-51	28-47-71	36-60-90	44-73-110	52-86-129
40 1.6"	CFM / Linear Foot	25	90	155	220	285	350	415
	Pressure Loss (in.w.g.)	0.002	0.03	0.1	0.2	0.4	0.5	0.8
	NC	< 15	< 15	< 20	< 30	< 35	> 40	> 40
	Throw (ft) - Coanda Effect	5-8-12	19-31-45	33-55-82	48-78-118	63-104-156	77-129-194	93-156-233
	Throw (ft) - No Ceiling Effect	4-6-9	14-23-34	25-41-62	36-59-89	47-78-117	58-97-146	70-117-175
50 2"	CFM / Linear Foot	35	110	185	260	335	410	485
	Pressure Loss (in.w.g.)	0.003	0.03	0.1	0.2	0.3	0.5	0.7
	NC	< 15	< 15	< 20	< 25	< 30	> 40	> 40
	Throw (ft) - Coanda Effect	5-9-15	19-32-48	33-56-84	48-80-120	63-105-158	78-130-196	93-156-234
	Throw (ft) - No Ceiling Effect	4-7-11	14-24-36	25-42-63	36-60-90	47-79-119	59-98-147	70-117-176

- 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

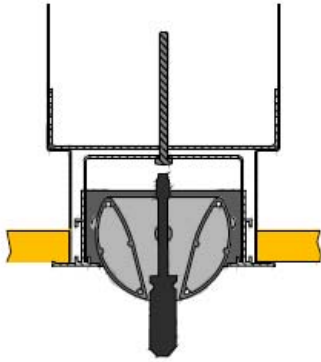


$$AL'v = \text{Throw} \times Kx$$

Delta T Correction Factor For Vertical Throw	
Δ T (F)	Kx
-25	1.445
-20	1.355
-15	1.27
-10	1.18
-5	1.09
0	1
5	0.915
10	0.82
15	0.73
20	0.645
25	0.555

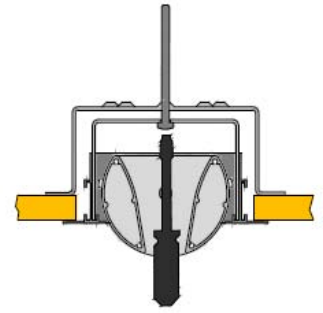
PL Mounting

PLKB-PL Plenum Mounting Clips



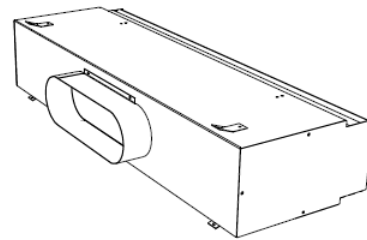
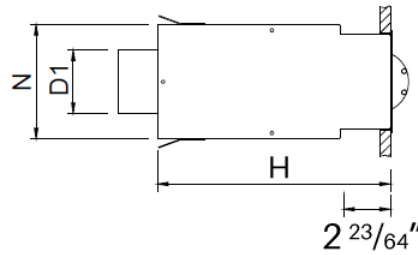
PM Mounting

Mounting Clips for PLKB-PM Plenum or no plenum

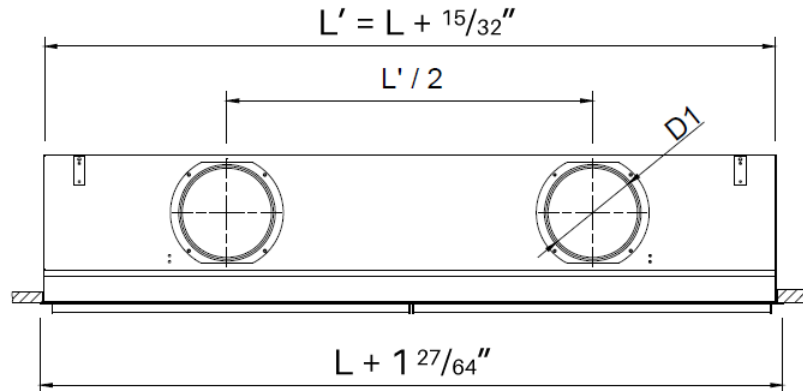


PLKB-PL Plenum

PLKB-T-PL



PLKB-S-PL

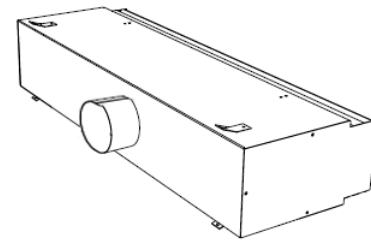
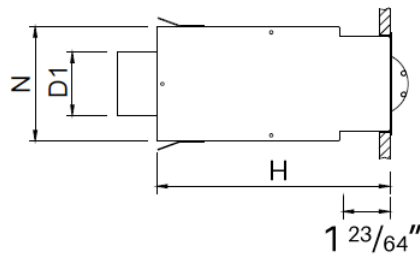


PLKB-PL	N	L <= 600		L <= 1000		L <= 1500		L <= 2000	
		D1	H	D1	H	D1	H	D1	H
KOBE 15	4 3/8	5 7/8	9 39/64	5 7/8	9 39/64	(2x) 5 7/8	9 39/64	(2x) 5 7/8	9 39/64
KOBE 20	4 3/8	5 7/8	9 39/64	5 7/8	9 39/64	(2x) 5 7/8	9 39/64	(2x) 7 7/8	11 3/16
KOBE 25	4 3/8	5 7/8	9 39/64	7 7/8	11 3/16	(2x) 7 7/8	11 3/16	(2x) 7 7/8	11 3/16
KOBE 30	4 3/8	7 7/8	11 3/16	7 7/8	11 3/16	(2x) 7 7/8	11 3/16	(2x) 7 7/8	11 3/16
KOBE 40	4 59/64	7 7/8	11 3/16	7 7/8	11 3/16	(2x) 7 7/8	11 3/16	(2x) 9 7/8	13 5/32
KOBE 50	5 5/16	7 7/8	11 3/16	7 7/8	11 3/16	(2x) 9 7/8	13 5/32	(2x) 9 7/8	13 5/32

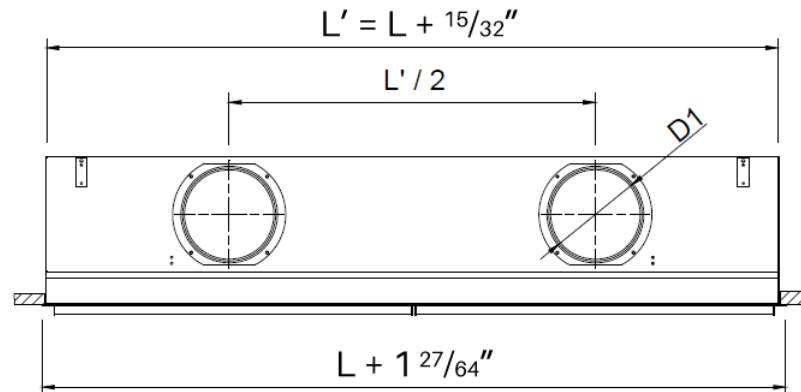
All dimensions in inches

PLKB-PM Plenum

PLKB-T-PM



PLKB-S-PM



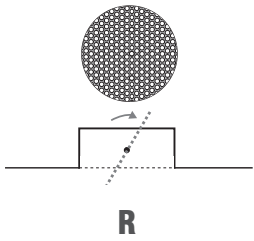
PLKB-S-PM	N	L <= 600		L <= 1000		L <= 1200		L <= 1500		L <= 2000	
		D1	H	D1	H	D1	H	D1	H	D1	H
KOBE 15	5	5 7/8	8 39/64	5 7/8	8 39/64	5 7/8	8 39/64	(2x) 5 7/8	8 39/64	(2x) 5 7/8	8 39/64
KOBE 20	5	5 7/8	8 39/64	5 7/8	8 39/64	7 7/8	10 3/16	(2x) 5 7/8	10 3/16	(2x) 7 7/8	10 3/16
KOBE 25	5	5 7/8	8 39/64	7 7/8	10 3/16	7 7/8	10 3/16	(2x) 7 7/8	10 3/16	(2x) 7 7/8	10 3/16
KOBE 30	5	7 7/8	10 3/16	7 7/8	10 3/16	7 7/8	10 3/16	(2x) 7 7/8	10 3/16	(2x) 7 7/8	10 3/16
KOBE 40	5 3/4	7 7/8	10 3/16	7 7/8	10 3/16	9 7/8	12 5/32	(2x) 7 7/8	12 5/32	(2x) 9 7/8	12 5/32
KOBE 50	6	7 7/8	10 3/16	7 7/8	10 3/16	9 7/8	12 5/32	(2x) 9 7/8	12 5/32	(2x) 9 7/8	12 5/32

All dimensions in inches

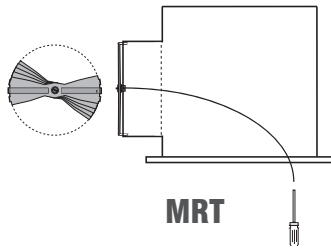
PLKB-T-PM	H	L <= 600		L <= 1000		L <= 1200		L <= 1500		L <= 2000	
		D1	N	D1	N	D1	N	D1	N	D1	N
KOBE 15	5 7/8	5 7/8	6 7/8	5 7/8	6 7/8	5 7/8	6 7/8	(2x) 5 7/8	6 7/8	(2x) 5 7/8	6 7/8
KOBE 20	5 7/8	5 7/8	6 7/8	5 7/8	6 7/8	7 7/8	8 7/8	(2x) 5 7/8	6 7/8	(2x) 7 7/8	8 7/8
KOBE 25	5 7/8	5 7/8	6 7/8	7 7/8	8 7/8	7 7/8	8 7/8	(2x) 7 7/8	8 7/8	(2x) 7 7/8	8 7/8
KOBE 30	5 7/8	7 7/8	8 7/8	7 7/8	8 7/8	7 7/8	8 7/8	(2x) 7 7/8	8 7/8	(2x) 7 7/8	8 7/8
KOBE 40	6 7/8	7 7/8	8 7/8	7 7/8	8 7/8	9 7/8	10 7/8	(2x) 7 7/8	10 7/8	(2x) 9 7/8	10 7/8
KOBE 50	6 7/8	7 7/8	8 7/8	7 7/8	8 7/8	9 7/8	10 7/8	(2x) 9 7/8	10 7/8	(2x) 9 7/8	10 7/8

All dimensions in inches

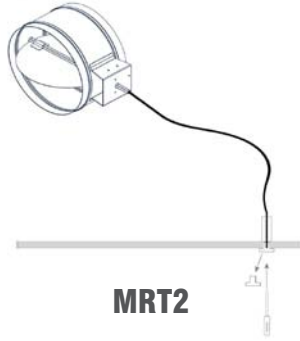
Integrated Air Volume Dampers



R
Perforated damper +
air equalizer



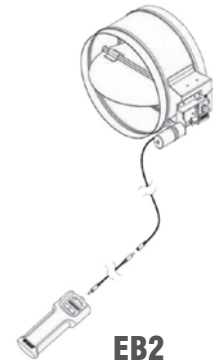
MRT
Manually operated
damper, cable inside
the plenum, adjustment
through face



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

Important Note: R, MRT, MRT2, EB and EB2 Damper Options are only available with PLKB-PM

Accessories

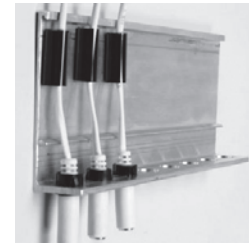
EB-SP1

Single Connector
Drywall
Termination Fixture
for EB dampers



EB-AB8

Eight Connector
Wall Bracket for EB
dampers



EB-SP8

Eight Connector
Drywall
Termination Fixture
for EB dampers



EB-REMOTE

Remote Control for
EB dampers



How to Specify KOBE Series

Supply and mounting of model KOBE adjustable long throw linear jet diffuser. Available in six different slot widths. Made in aluminum, powder coated in white M9016. Supply with PLKB plenum and concealed mounting system. By EffectiV HVAC / MADEL.

How to Order KOBE Series

KOBE	-PM	20	1200	/M9016	+ PLKB-S-PM 20 1200
			Finish	/M9016	White (RAL 9016 Traffic White)
				/RAL	Other RAL finish, please specify
		Length	Nominal length		
	Slot Width	15, 20, 25, 30, 40, 50			
Mounting	-PM	Concealed bracket			
	-PL	Concealed spring clips			

