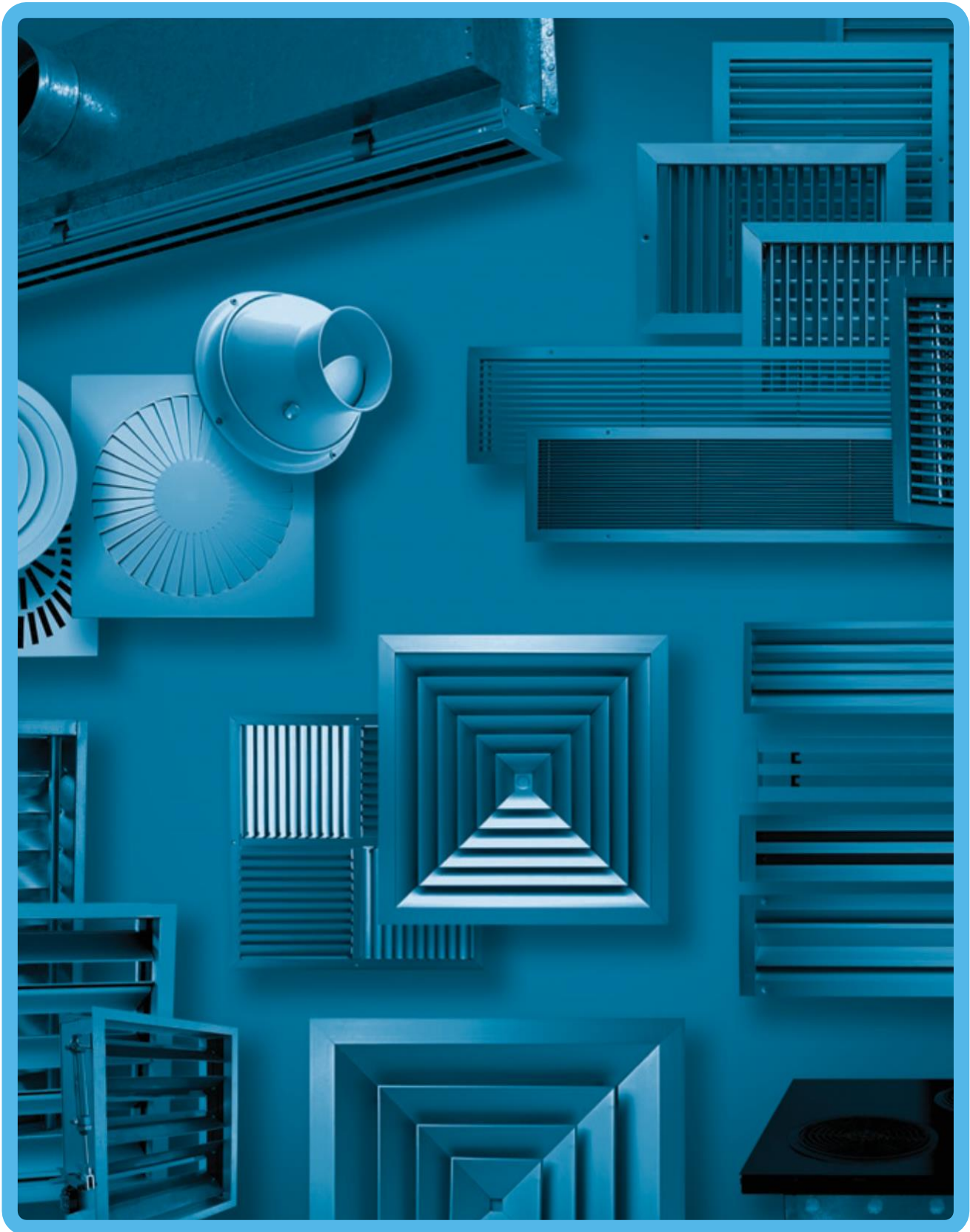




# Tropical Air Diffusion



# TROPICAL

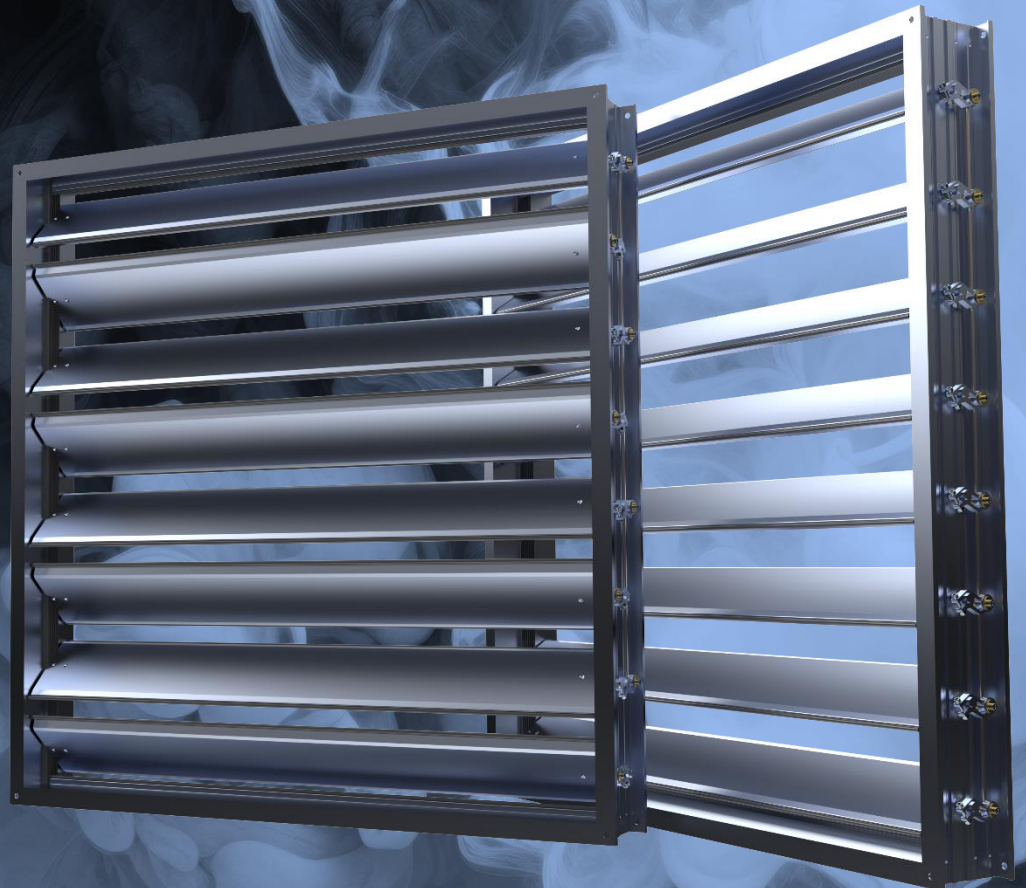
AR SOB CONTROLE



## DCV-AE

Air Flow Control Damper – High Tightness

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# DAMPERS

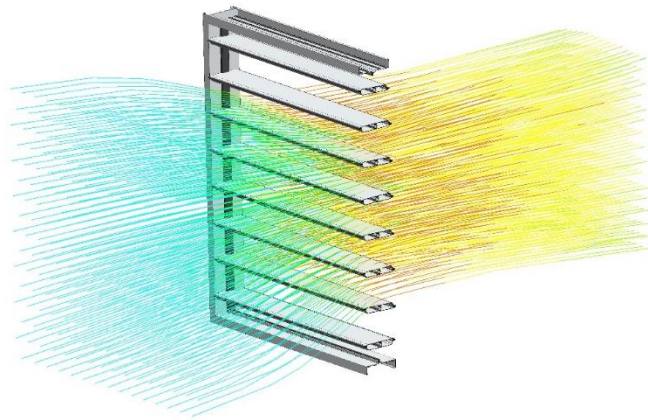


## DCV-AE

### Air Flow Control Damper – High Tightness

#### APPLICATION

Tropical’s DCV-AE model is a high-tightness “Damper”, with extruded aluminum blades specially designed for reliable performance. Tropical’s DCV-AE meets the leakage requirements of the International Energy Conservation Code (IECC).



#### CONSTRUCTION STANDARD

<b>Structure</b>	Frames in extruded aluminum alloy 6063-T5 with a nominal thickness of 2mm and side sealing for greater air tightness.
<b>Blade(s)</b>	Extruded in 6063-T5 aluminum alloy with Parallel or Opposite opening options for double sealing and side finishing that increases the tightness and useful life of the side seal.
<b>Axies</b>	1/2" Zinc Plated H11 carbon steel hexagons.
<b>Bearings</b>	Snap-on bushings injected in Nylon with graphite additives to reduce friction generated between parts, their design provides greater reliability and precision.
<b>Drive device</b>	Levers in galvanized zinc-plated carbon steel.
<b>Seals</b>	Rubbers made from EPDM.
<b>Depth</b>	152mm (± 6").
<b>Assembly</b>	Mechanically fixed frames and drives.
<b>Finishing</b>	Natural or Anodized.





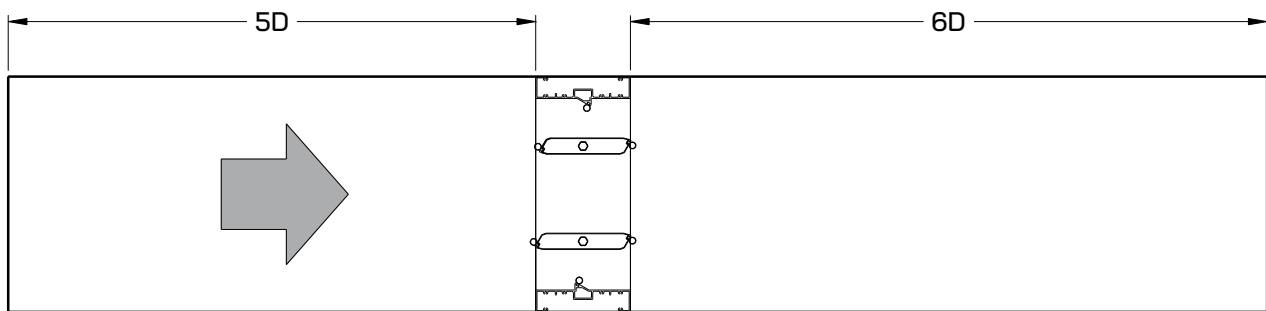
# DCV-AE

## Air Flow Control Damper – High Tightness

### AIR PERFORMANCE DATA

DCV-AE air performance testing is performed in accordance with AMCA Standard 500-D configurations 5.3 as illustrated below. All data has been corrected to standard air density of .075 lb/ft<sup>3</sup> (1.201 kg/m<sup>3</sup>).

AMCA figure 5.3 was established to represent a fully ducted damper with straight duct upstream and downstream. With entrance and exit losses minimized by this straight duct arrangement, this configuration has the lowest pressure drop.



12" x 12"		24" x 24"		36" x 36"		12" x 48"		48" x 12"	
Velocity (fpm)	Pressure Drop (in.hg)	Velocity (fpm)	Pressure Drop (in.hg)	Velocity (fpm)	Pressure Drop (in.hg)	Velocity (fpm)	Pressure Drop (in.hg)	Velocity (fpm)	Pressure Drop (in.hg)
500	0,014	500	0,005	500	0,004	500	0,006	500	0,008
1000	0,055	1000	0,021	1000	0,014	1000	0,024	1000	0,031
1500	0,124	1500	0,047	1500	0,032	1500	0,054	1500	0,071
2000	0,220	2000	0,084	2000	0,056	2000	0,096	2000	0,126
2500	0,344	2500	0,131	2500	0,088	2500	0,150	2500	0,196

The Tropical Department of Indústrias Tosi certifies that model DCV-AE damper shown herein is licensed to bear the AMCA seal. The AMCA Certified Ratings Seal applies to Air Leakage, Air Performance. The ratings shown are based on tests and procedures performed in accordance with AMCA publication 511 and comply with the requirements of the AMCA Certified Ratings Program.





## DCV-AE

### Air Flow Control Damper – High Tightness

#### LEAKAGE DATA

Leakage testing is performed in accordance with ANSI/AMCA Standard 500-D, figure 5. Air performance testing is performed in accordance with ANSI/AMCA Standard 500-D, figure 5.3.

Data are based on a closing torque of 106 lb-in for the 12”X48” and 177 lb-in for the 60”X36”.

DCV-AE	Leakage Class				
Damper Tested	1” w.g	4” w.g	8” w.g	10” w.g	12” w.g
12” x 48”	1A	1	1	1	1
60” x 36”	1A	1	1	1	1

#### LEAKAGE CLASS DEFINITION

As defined by AMCA, the maximum allowable leakage is as follows.

Pressure Class	Maximum Allowable Leakage (cfm/ft <sup>2</sup> )				
	1” wg	4” wg	8” wg	10” wg	12” wg
1A	3	N/A	N/A	N/A	N/A
1	4	8	11,3	12,6	13,9



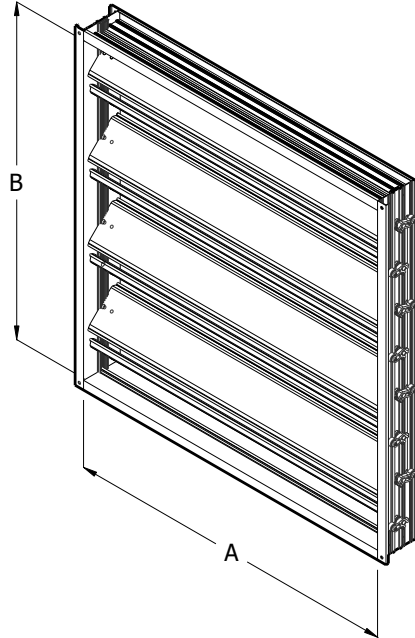
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## DCV-AE

### Air Flow Control Damper – High Tightness

#### DIMENSIONAL AND FREE AREA TABLE (m<sup>2</sup>)



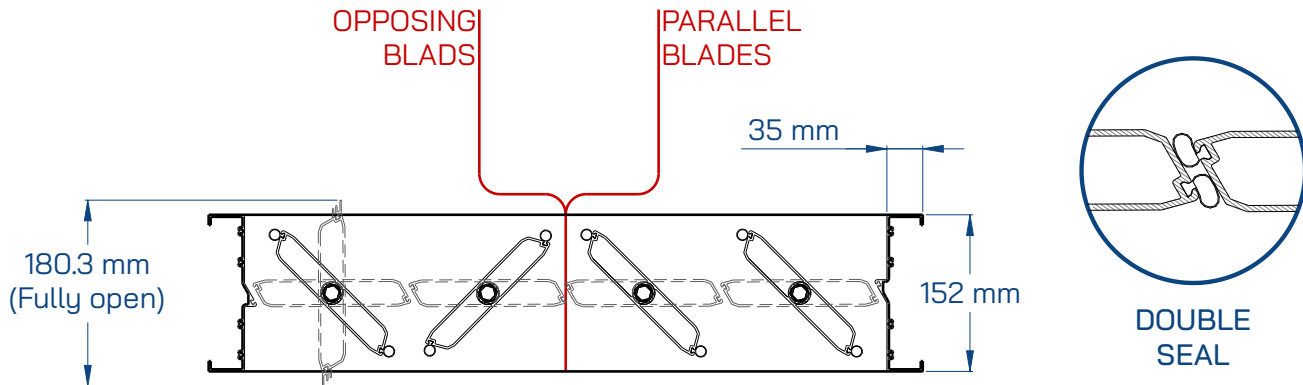
A \ B	0,10	0,20	0,30	0,40	0,50	0,60	0,70	0,80	0,90	1,00	1,10	1,20	1,30	1,40	1,50
0,16	0,01	0,03	0,04	0,05	0,07	0,08	0,09	0,10	0,12	0,13	0,14	0,16	0,17	0,18	0,20
0,31	0,03	0,05	0,08	0,10	0,13	0,15	0,18	0,20	0,23	0,26	0,28	0,31	0,33	0,36	0,38
0,46	0,04	0,08	0,11	0,15	0,19	0,23	0,27	0,31	0,34	0,38	0,42	0,46	0,50	0,53	0,57
0,61	0,05	0,10	0,15	0,20	0,25	0,30	0,36	0,41	0,46	0,51	0,56	0,61	0,66	0,71	0,76
0,76	0,06	0,13	0,19	0,25	0,32	0,38	0,44	0,51	0,57	0,63	0,70	0,76	0,82	0,89	0,95
0,92	0,08	0,15	0,23	0,30	0,38	0,46	0,53	0,61	0,68	0,76	0,84	0,91	0,99	1,06	1,14
1,07	0,09	0,18	0,27	0,35	0,44	0,53	0,62	0,71	0,80	0,89	0,97	1,06	1,15	1,24	1,33
1,22	0,10	0,20	0,30	0,40	0,51	0,61	0,71	0,81	0,91	1,01	1,11	<b>1,21</b>	1,32	1,42	1,52
1,37	0,11	0,23	0,34	0,46	0,57	0,68	0,80	0,91	1,02	1,14	1,25	1,37	1,48	1,59	1,71
1,52	0,13	0,25	0,38	0,51	0,63	0,76	0,88	1,01	1,14	1,26	1,39	1,52	1,64	1,77	1,90
1,68	0,14	0,28	0,42	0,56	0,70	0,83	0,97	1,11	1,25	1,39	1,53	1,67	1,81	1,95	2,09
1,83	0,15	0,30	0,45	0,61	0,76	0,91	1,06	1,21	1,36	1,52	1,67	1,82	1,97	2,12	2,27



## DCV-AE

### Air Flow Control Damper – High Tightness

#### CONSTRUCTION DETAILS



#### PRODUCT CODING

174	-	0	1219 X 1219	R1	N
1		2	3	4	5

##### DIGIT 1 – Product Line

174 – DCV-AE High Tightness Flow Controller Damper

##### DIGIT 2 – Blades

O – Opposing  
P – Parallel

##### DIGIT 3 – Dimension (mm)

Length x Height

##### DIGIT 4 – Drive Type

MX – Manual Lever  
PM – Ready to Motorize  
A0 – On/Off Actuator (AC/DC) 24V  
A2 – 220V On/Off Actuator  
A3 – Proportional Actuator (AC/DC) 24V  
A5 – 220V Proportional Actuator  
R1 – 24V Proportional Actuator with Spring Return  
R2 – 24V On/Off Actuator with Spring Return

##### DIGIT 5 – Finishing

N – Natural  
A – Anodized





