

INDUSTRIAL AIRFOIL CONTROL DAMPER
Model AH-620

Suggested Specifications:

Model **AH-620/621** is an industrial control damper with a heavy duty flanged frame and an airfoil shaped extruded aluminum blade. It is designed to control airflow and provide shut off in HVAC or industrial process control systems. Damper to meet the low pressure drop and low leakage equal to United Enertech Model **AH-620/621**. The dampers bear the AMCA seal for air performance and leakage. Manufacturer must have a series of six dampers certified.

Available in parallel (AH-621) or opposed (AH-620) blade action.

Standard Construction:

Frame: 8" x 2" x 10 ga. galvanized steel channel

Blade: Hollow Airfoil with 0.375" thick end nose (6063-T5) Extruded Aluminum

Axles: Zinc with Thrust Bushings

Bearings: Bronze Oilite

Linkage: Concealed in frame

Blade seals: Removable EPDM (250° F)

Jamb seals: Stainless steel (compression)

Size Limitations

Maximum size: 60"w x 96"h (single section)

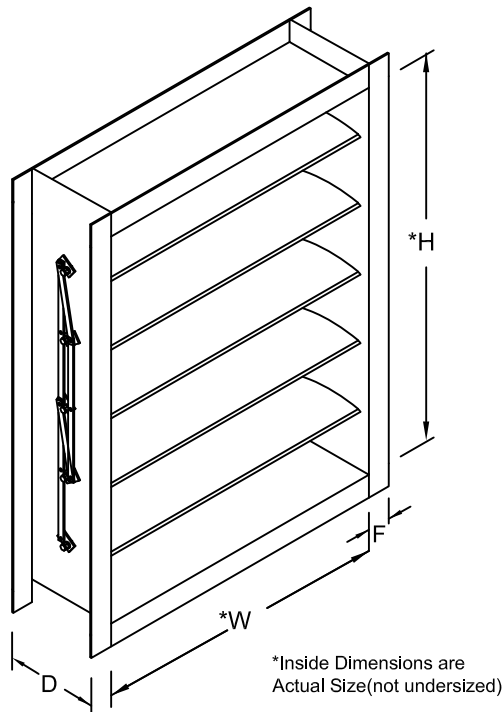
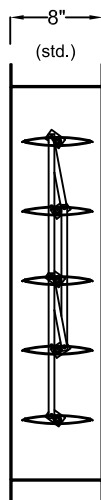
Minimum size: 8"w x 8"h (single blade)

Options:

- ☐ Bolt holes in flanges
- ☐ Actuator mounting plate
- ☐ Electric or pneumatic actuator
- ☐ Hand Quadrant
- ☐ Weather shield enclosure for actuator
- ☐ Explosion-proof enclosure for actuator
- ☐ Insulated (Foam Filled Blades)

AVAILABLE FINISHES:

- ☐ Epoxy Powder
- ☐ Heresite Coat
- ☐ Mill Galvanized with High Temp Touch Up



NOTE: Damper blades **always** run horizontal and are always the first dimension (W) when ordering (example: alway order W" x H").



Quantity	Max. Temp. (if higher than 250°F)	"W" Width	"H" Height	Frame Depth "D" (8" Std.)	Flange Width "F" (2" Std.)	Bolt Hole Information (See page 3)							Remarks
						J	N1	L Spacing	M Dia.	K	N2	C	

Job Name:	<input type="checkbox"/> MODEL AH-620 (Opposed) <input type="checkbox"/> MODEL AH-621 (Parallel)		
Location:			
Architect:	DRAWN BY: CLJ	DATE: June 2003	REV. DATE: 10-18-13
Engineer:			
Contractor:	REV. NO. 14	APPROVED BY: BGT	DWG. NO.: C-9

MODEL AH-620, AH621 PERFORMANCE DATA

Imperial Units (AH-620 Opposed Blade, Forward Flow)

Damper Width X Height	1 in. w.g.	4 in. w.g.	8 in. w.g.	*Torque (per sq. ft.)
36" X 36"	Class 1A	Class 1	Class 1	10 lbs-in
12" X 48"	Class 1	Class 1	Class 1	17.5 lbs-in
48" X 36"	Class 1A	Class 1	Class 2	10 lbs-in
60" X 36"	Class 1A	Class 2		10 lbs-in

*Torque applied to close and seat damper in during the test.

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12" X 48"	Class 1A	Class 1	Class 1	17.5 lbs-in
48" X 36"	Class 1A	Class 1	Class 2	10 lbs-in
60" X 36"	Class 1A	Class 1		10 lbs-in

*Torque applied to close and seat damper in during the test.

Imperial Units (AH-621 Parallel Blade, Forward Flow)

Damper Width X Height	1 in. w.g.	4 in. w.g.	8 in. w.g.	*Torque (per sq. ft.)
36" X 36"	Class 1	Class 1	Class 1	32.5 lbs-in
12" X 48"	Class 1	Class 1	Class 1	32.5 lbs-in
48" X 36"	Class 1A	Class 1	Class 2	32.5 lbs-in
60" X 36"	Class 1A	Class 2		16 lbs-in

*Torque applied to close and seat damper in during the test.

Imperial Units (AH-621 Parallel Blade, Reverse Flow)

Damper Width X Height	1 in. w.g.	4 in. w.g.	8 in. w.g.	*Torque (per sq. ft.)
36" X 36"	Class 1A	Class 1	Class 1	32.5 lbs-in
12" X 48"	Class 1	Class 1	Class 1	32.5 lbs-in
48" X 36"	Class 1A	Class 1	Class 2	32.5 lbs-in
60" X 36"	Class 2	Class 2		16 lbs-in

*Torque applied to close and seat damper in during the test.

United Enertech certifies that the AH-620 and AH-621 are licensed to bear the AMCA Seal. 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. The AMCA Certified Rating Seal applies to Air Performance and Air Leakage ratings.



Air leakage is based on operation between 50° F to 104° F. All data corrected to represent air density of 0.075 lbs/ft³.

Pressure Class	Leakage, ft³/min /ft²			
	Required Rating	Extended Ranges (optional)		
	1"	4"	8"	12"
1A	3	n/a	n/a	n/a
1	4	8	11	14
2	10	20	28	35
3	40	80	112	140

All data corrected to represent standard air at a density of 0.075 lbs/ft³

FRAME CONSTRUCTION OPTIONS

Flange (D Dim): Standard- 2"

Optional- 1-1/2"- 4"

Web (C Dim): Standard- 8"

Optional- 8" - 12"

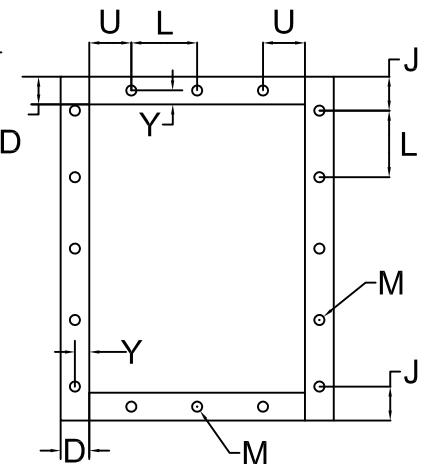
Bolt holes: (Standard does not include bolt holes)

Optional- United Enertech recommended standard pattern.

7/16" dia. holes (M dimension) - Spaced 6" C-C (L dimension)

Optional- Customer may specify within limits shown in table below.

Dim.	Standard (Min./Max)	Description
J	(D/2 min.)	First/Last Space in Jamb
F	(1 min.)	No. of holes in Jamb
L	6" (2"/12")	Hole Spacing
M	7/16" (1/4"/11/16")	Mounting hole Diameter
U	(3/4" min.)	First/Last Space in Head/Sill
V	(1 min.)	No. of holes in Head/Sill
Y	D/2M (3/4"/D-3/4")	Centerline of bolt hole from inside edge of frame



MODEL AH-620, AH621 PERFORMANCE DATA

Metric Units (AH-620 Opposed Blade, Forward Flow)

Damper Width X Height (mm)	0.25 kPa	1.0 kPa	2.0 kPa	*Torque (per sq. m.)
915 X 915	Class 1A	Class 1	Class 1	12 N-m
305 X 1220	Class 1	Class 1	Class 1	22 N-m
1220 X 915	Class 1A	Class 1	Class 2	12 N-m
1524 X 915	Class 1A	Class 2		12 N-m

*Torque applied to close and seat damper in during the test.

Metric Units (AH-620 Opposed Blade, Reverse Flow)

Damper Width X Height	0.25 kPa	1.0 kPa	2.0 kPa	*Torque (per sq. m.)
915 X 915	Class 1A	Class 1	Class 1	12 N-m
305 X 1220	Class 1A	Class 1	Class 1	22 N-m
1220 X 915	Class 1A	Class 1	Class 2	12 N-m
1524 X 915	Class 1A	Class 1		12 N-m

*Torque applied to close and seat damper in during the test.

Metric Units (AH-621 Parallel Blade, Forward Flow)

Damper Width X Height	0.25 kPa	1.0 kPa	2.0 kPa	*Torque (per sq. m.)
915 X 915	Class 1	Class 1	Class 1	40 N-m
305 X 1220	Class 1	Class 1	Class 1	40 N-m
1220 X 915	Class 1A	Class 1	Class 2	40 N-m
1524 X 915	Class 1A	Class 2		20 N-m

*Torque applied to close and seat damper in during the test.

Metric Units (AH-621 Parallel Blade, Reverse Flow)

Damper Width X Height	0.25 kPa	1.0 kPa	2.0 kPa	*Torque (per sq. m.)
915 X 915	Class 1A	Class 1	Class 1	40 N-m
305 X 1220	Class 1	Class 1	Class 1	40 N-m
1220 X 915	Class 1A	Class 1	Class 2	40 N-m
1524 X 915	Class 2	Class 2		20 N-m

*Torque applied to close and seat damper in during the test.

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Air leakage is based on operation between 50° F to 104° F. All data corrected to represent air density of 0.075 lbs/ft³.

Leakage, L / s / m²				
Pressure Class	Required Rating		Extended Ranges (optional)	
	0.25 kPa	1.0 kPa	2.0 kPa	3.0 kPa
1A	15.2	n/a	n/a	n/a
1	20	41	56	71
2	51	102	142	178
3	203	406	569	711

All data corrected to represent standard air at a density of 1.2 kg/m³

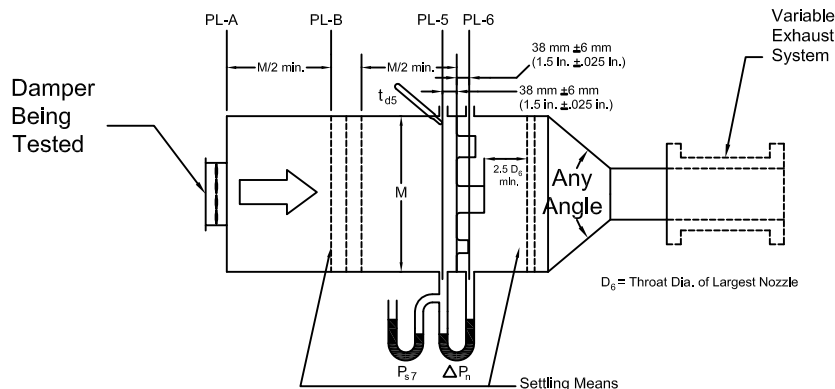
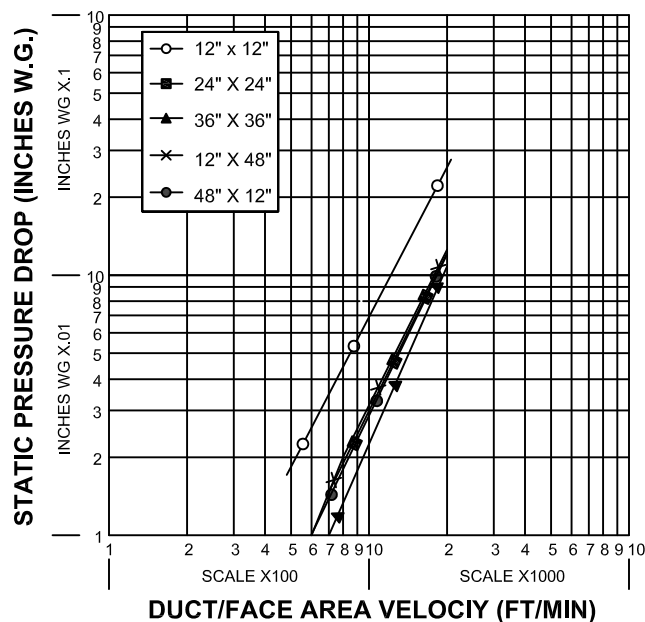


Figure 6.3- Airflow Rate Measurement Setup- Multiple Nozzle Chamber on Fan Inlet

MODEL AH-620, AH621 PERFORMANCE DATA

PRESSURE DROP



Based on STANDARD AIR- .075 lb. per cubic foot.
AH-620, 621 sizes: 12" x 12", 24" x 24", 48" x 12", 12" x 48", 36" x 36"
(305 x 305mm, 610 x 610mm, 1219 x 305mm, 305 x 1219mm, 914 x 914mm)

Pressure drop test per AMCA Standard 500-D, Figure 5.3.



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12" x 12" (305mm x 305mm)

Face Velocity ft/min (m/s)	Pressure Drop in. w.g. (Pa)
1000 (5.08)	0.07 (17)
1500 (7.62)	0.16 (39)
2000 (10.16)	0.28 (69)

24" x 24" (610mm x 610mm)

Face Velocity ft/min (m/s)	Pressure Drop in. w.g. (Pa)
1000 (5.08)	0.03 (8)
1500 (7.62)	0.07 (18)
2000 (10.16)	0.13 (32)

48" x 12" (1219mm x 305mm)

Face Velocity ft/min (m/s)	Pressure Drop in. w.g. (Pa)
1000 (5.08)	0.03 (8)
1500 (7.62)	0.07 (17)
2000 (10.16)	0.12 (31)

12" x 48" (305mm x 1219mm)

Face Velocity ft/min (m/s)	Pressure Drop in. w.g. (Pa)
1000 (5.08)	0.03 (8)
1500 (7.62)	0.07 (18)
2000 (10.16)	0.13 (32)

36" x 36" (914mm x 914mm)

Face Velocity ft/min (m/s)	Pressure Drop in. w.g. (Pa)
1000 (5.08)	0.03 (7)
1500 (7.62)	0.06 (15)
2000 (10.16)	0.11 (27)

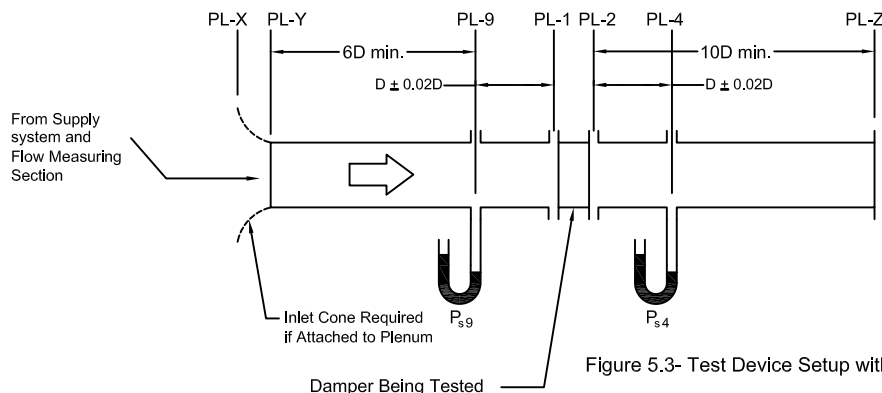
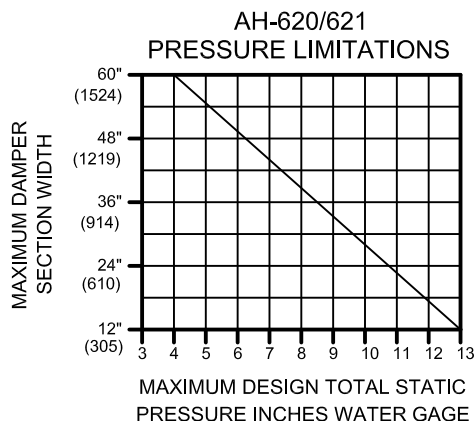


Figure 5.3- Test Device Setup with Inlet and Outlet Ducts