

DAMPERS



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MANUAL



Quality Speaks For Itself



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MANUAL

Manual & Actuated Dampers are essential components of HVAC and air distribution systems, designed to regulate, control, and balance the movement of air within ducts and ventilation networks. Manual dampers are adjusted by hand to control air volume, while actuated dampers use electric or pneumatic actuators for automatic or remote operation. Manufactured using GI (Galvanized Iron) or aluminium, these dampers provide reliable performance, durability, and efficient air control in commercial, industrial, and institutional applications.

KEY FEATURES

1. **Efficient Air Control:** Regulates and balances air movement within HVAC ducting systems.
2. **Manual & Automatic Operation:** Available with hand-operated mechanisms or electric/pneumatic actuators.
3. **Durable Construction:** Manufactured using GI or aluminium for strength and corrosion resistance, depending on material and environment.
4. **Flexible Design:** Available in different sizes, shapes, and configurations to suit installation requirements.
5. **Smooth Operation:** Designed for reliable blade movement and easy adjustment.
6. **Remote Control Capability:** Actuated models can be integrated with building management systems (BMS), where compatible.
7. **Low Maintenance:** Designed for long-term operation with routine inspection and maintenance.
8. **Customizable Options:** Available with different blade arrangements, frames, linkages, and actuator options.

APPLICATIONS

1. **HVAC Systems:** Controls air movement in heating, ventilation, and air-conditioning duct networks.
2. **Commercial Buildings:** Suitable for offices, shopping malls, hotels, and business complexes.
3. **Industrial Facilities:** Supports ventilation and air distribution in factories and production areas.

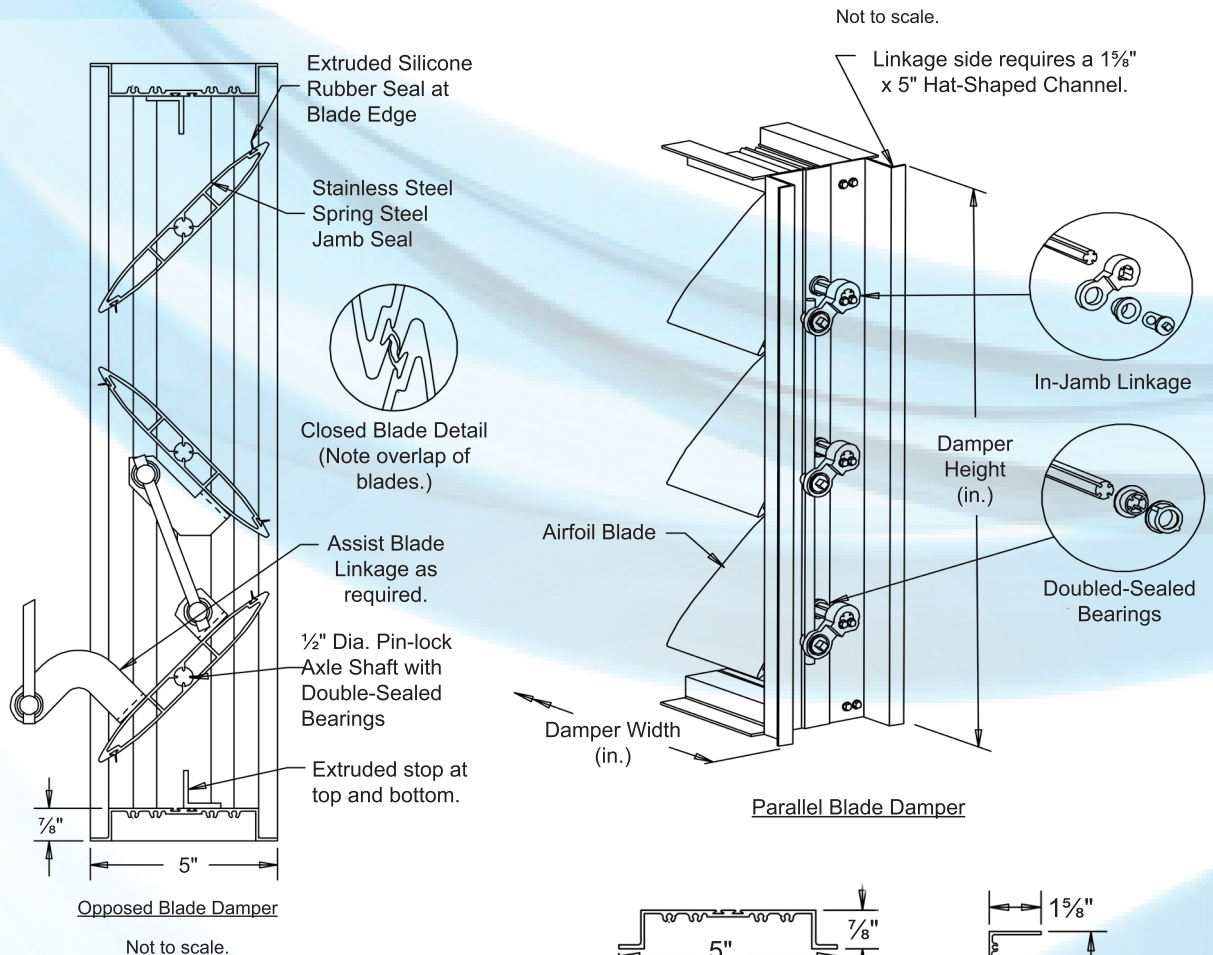
4. **Air Handling Units (AHUs):** Regulates air entering, leaving, or circulating through air handling equipment.
5. **Fresh Air & Exhaust Systems:** Controls outdoor air intake and exhaust air movement.
6. **Hospitals & Laboratories:** Supports controlled air distribution in suitable ventilation systems.
7. **Cleanrooms & Pharmaceutical Units:** Helps regulate air distribution in environments requiring controlled ventilation.
8. **Building Management Systems:** Actuated dampers enable centralized or automated control when integrated with compatible controls.

TECHNICAL SPECIFICATIONS

Parameter	Specification
Product Type	Manual & Actuated Damper
Primary Function	Air volume control and regulation
Frame Material	GI (Galvanized Iron) / Aluminium
Blade Material	GI / Aluminium
Operation Type	Manual / Motorized
Actuator Type	Electric / Pneumatic, as required
Blade Configuration	Parallel / Opposed Blade
Damper Shape	Rectangular / Square / Circular, as required
Control Type	Manual handle / ON-OFF / Modulating
Actuator Voltage	24V AC/DC or 230V AC, depending on selection
Control Signal	2-point / 3-point / Modulating, depending on actuator
Installation	Duct-mounted with flange or insertion arrangement
Sealing Option	Optional gasket for reduced air leakage
Finish	Galvanized / Natural Aluminium / Powder Coated
Size	Customized as per project requirements
Accessories	Handle, locking quadrant, linkage, actuator and gasket

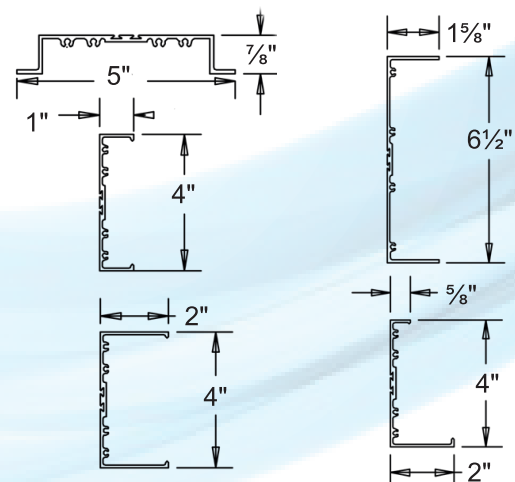
Notes

1. Nominal deductions will be made to the opening size given.
2. Approximate shipping weight is 5.5 lbs./sq.ft.



Damper Sizes

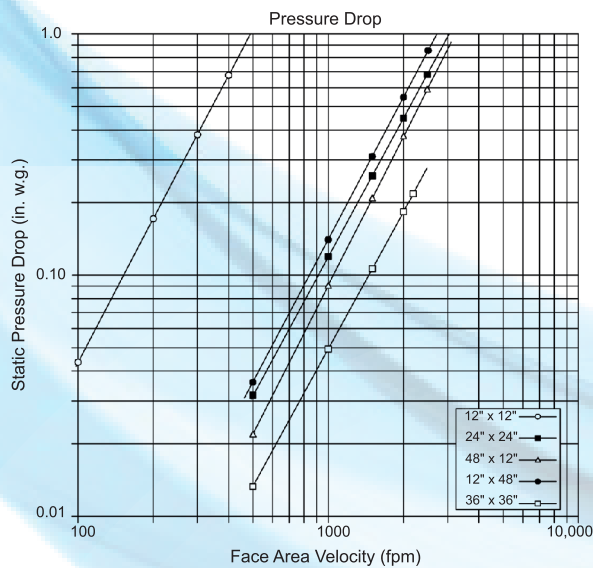
Model	Min Panel	Max Single Panel
Parallel	12"W x 12"H	60"W x 72"H
Opposed	12"W x 14 5/8"H	60"W x 72"H



Optional Frames Available

PERFORMANCE DATA

Pressure drop ratings are based on AMCA Standard 500-D using test set-up Fig. 5.3 for damper installed with duct upstream and downstream. Static pressures are corrected to .075 lb/cu.ft. air density.



Air Leakage requirements meet International Energy Conservation Code (IECC) by leaking less than 3 cfm/sq.ft. at 1 in. w.g. of static pressure and is AMCA licensed as a class "1A" damper.

Damper Size	1 in. w.g. Class	4 in. w.g. Class
12"W x 12"H	1A	1
24"W x 24"H	1A	1
36"W x 36"H	1A	1
12"W x 48"H	1A	1
48"W x 12"H	1A	1
60"W x 36"H	1A	1

Air Leakage ratings are based on Standard 500 using test set-up Fig. 5.5 at an operation temperature range between 50°F and 104°F. Data are based on a seating torque of 40 lb/in for dampers less than 4 sq.ft in size. Dampers above 4 sq.ft, 5 lb/in/sq.ft. is applied to hold the damper in the closed position.

LINEAR AIR PERFORMANCE

Test units were installed in ductwork with duct upstream and downstream in accordance with AMCA Standard 500-D test set-up Fig. 5.3. Using most common approach velocities and fan static pressures to conduct linear air flow test.

The results of the tests show that fan static pressure does have an effect on the linear air flow characteristics of a damper. These graphs will identify the simulated system conditions used for the single damper in duct system application.

12"W x 12"H		24"W x 24"H	
Face Area Velocity (fpm)	Pressure Drop (in. w.g.)	Face Area Velocity (fpm)	Pressure Drop (in. w.g.)
100	0.04	500	0.03
200	0.16	1000	0.12
300	0.38	1500	0.25
400	0.69	2000	0.45
500	1.00	2500	0.68

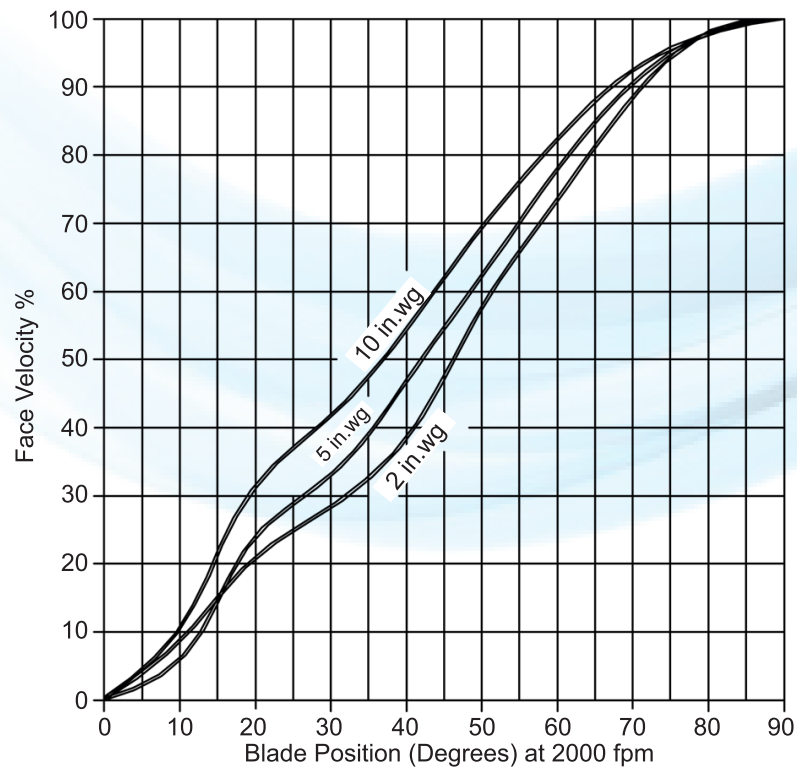
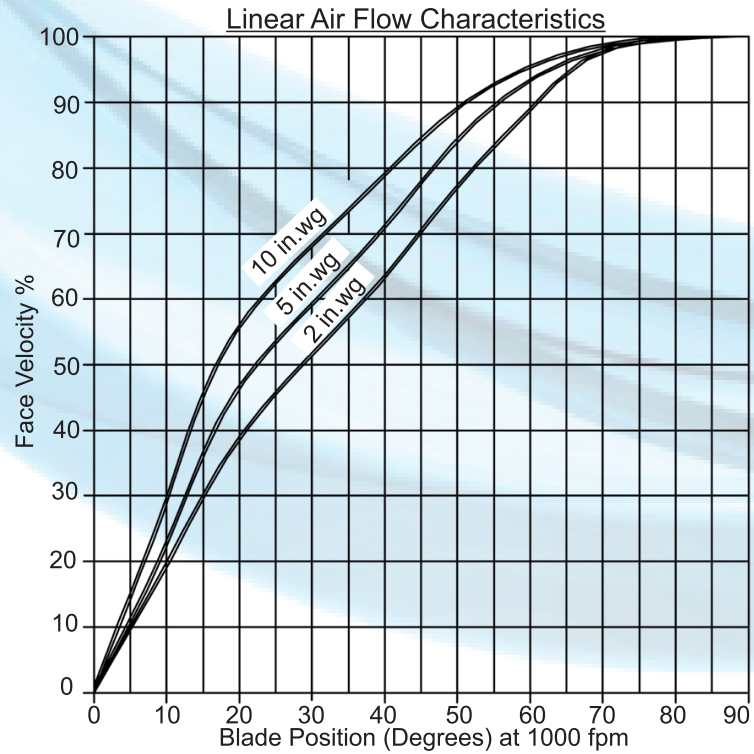
12"W x 48"H		48"W x 12"H	
Face Area Velocity (fpm)	Pressure Drop (in. w.g.)	Face Area Velocity (fpm)	Pressure Drop (in. w.g.)
500	0.04	500	.02
1000	0.14	1000	.09
1500	0.31	1500	.20
2000	0.56	2000	.38
2500	0.85	2500	.58

12"W x 48"H	
Face Area Velocity (fpm)	Pressure Drop (in. w.g.)
500	0.01
1000	0.05
1500	0.10
2000	0.18
2500	0.21

Damper Air Leakage Classification

Class/Pressure	Leakage cfm/ft ²	
	Required Rating	
	1 in. w.g.	4 in. w.g.
1A	3	NA
1	4	8
2	10	20
3	40	80

Curves shown in these graphs demonstrate that the Model AFD-20 opposed blade damper "as standardly built" is a very effective control damper for use in a variety of velocities and pressures.



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The intention of this brochure is to introduce you to, and acquaint you with the capabilities of the HUMIDIN organization in the offered product areas. It will not answer all your immediate questions, and indeed, it will no doubt raise others. We welcome your interest in our products and shall be very pleased to provide further information.

GUARANTEES

HUMIDIN guarantees its products to be free of defects in materials and workmanship for a period of one year from the date of delivery from the factory, provided motors are properly installed with overload protector. Humidin agrees to repair or replace defective parts or part to be returned to the factory, all transportation charges prepaid. Humidin does not guarantee against abrasion, corrosion or erosion. Humidin shall not be held responsible for any charges in connection with the removal or replacement of alleged defective equipment nor for incidental consequential damages

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