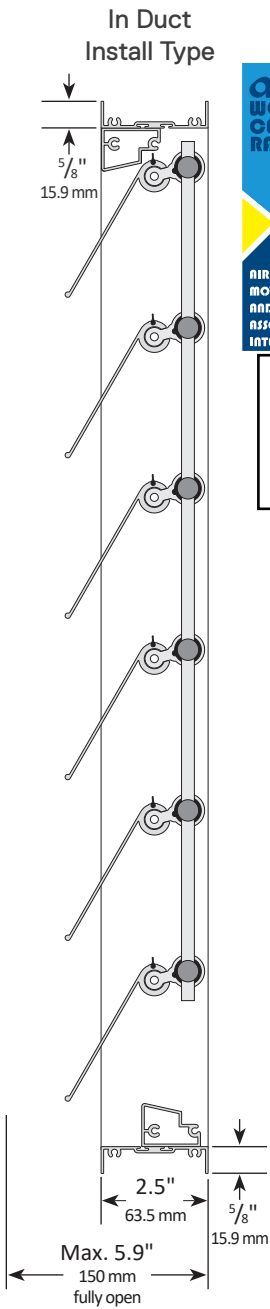


SERIES 7000

MEDIUM-DUTY
BACKDRAFT DAMPERS

engineering data
and specifications





| | |
|-----------------|---|
| Leakage: | TAMCO Series 7000 complies with the International Energy Conservation Code (IECC) and ASHRAE 90.1 leakage requirements for non-motorized dampers. |
|-----------------|---|

1. Extruded aluminum (6063-T5) backdraft damper frame is not less than 0.060" (1.52 mm) in thickness. Frame is 2.5" (63.5 mm) deep x 5/8" (15.9 mm), with mounting flanges on both sides of frame. Frame has a 1 7/8" (47.6 mm) mounting flange on either the front or rear of the damper, when ordered as either Front Flange or Rear Flange install type.
2. Blades are extruded aluminum (6063-T5) profiles not less than 0.060" (1.52 mm) in thickness.
3. Blade and frame seals are extruded silicone, secured in an integral slot within the aluminum extrusions. Seals are mechanically fastened to prevent shrinkage and movement over the life of the damper.
4. Bearings are composed of 1/2" (12.7 mm) aluminum pivot points, rotating on Celcon bearings.
5. Linkage system consists of hard aluminum alloy (6005-T6) crank arms fastened to aluminum pivot rods and doubly secured within a channel at the top of the blade. Large diameter 1 1/32" (8.73 mm) hard aluminum alloy (6005-T6) linkage rod connects the crank arms by means of a trunnion.
6. Trunnions are zinc-plated steel. These provide a hard, smooth, and long-lasting rotating surface.
7. Cup-point trunnion screw allows for a penetrating grip of the linkage rod. (Cup-point trunnion set screw creates a compression hard spot where it secures to the linkage rod.)
8. Backdraft dampers are designed for operation in temperatures ranging from -40°F (-40°C) to 212°F (100°C).
9. Air leakage for backdraft dampers with a width and height of 24" (610 mm) or greater does not exceed 6.93 cfm/ft² (35.20 l/s/m²) against 1 in. w.g. (0.25 kPa) differential static pressure. Air leakage for backdraft dampers with a width or height of less than 24" (610 mm) does not exceed 11.38 cfm/ft² (57.81 l/s/m²) against 1 in. w.g. (0.25 kPa) differential static pressure. Standard air leakage data is certified under the AMCA Certified Ratings Program.
10. Backdraft dampers are custom manufactured to required size, without blanking off free area.
11. Backdraft dampers with dimensions greater than maximum section size will be manufactured in multiple sections. (See Install Types page for maximum section dimensions.) Multiple sections are not interlinked or connected. To install, each section must be individually fastened to a structural frame prepared on site. Jumpers and jackshafts are not available for multiple-section backdraft dampers.
12. Backdraft dampers are available in three install types: Installed In Duct, Rear Flange, or Front Flange. (See Install Types page for details.)
13. Backdraft dampers can be mounted for either Horizontal Airflow or Airflow Up operation.
14. Installation of backdraft dampers must be in accordance with TAMCO's current on-line installation guidelines.
15. Intermediate structural support is required to resist applied pressure loads for medium-duty backdraft dampers that consist of two or more sections in both height and width. (See TAMCO Medium-Duty Backdraft Damper Installation Guidelines.)

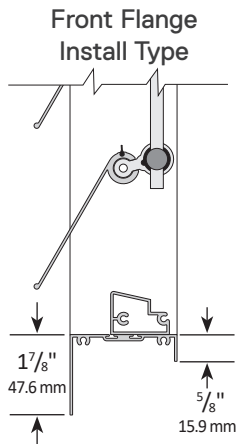
OPTIONS: For each option listed, replace the lines above with their corresponding lines below.

MR - MOISTURE RESISTANCE OPTION:

1. Extruded aluminum (6063-T5) backdraft damper frame is not less than 0.060" (1.52 mm) in thickness. Frame is 2.5" (63.5 mm) deep x 5/8" (15.9 mm), with mounting flanges on both sides of frame. Frame has a 1 7/8" (47.6 mm) mounting flange on either the front or rear of the damper, when ordered as either Front Flange or Rear Flange install type. Frame is assembled using stainless steel screws.
6. Trunnions are stainless steel. They protect against rust in high humidity environments, and provide a hard, smooth, and long-lasting rotating surface.
7. Stainless steel cup-point trunnion screw allows for a penetrating grip of the linkage rod. (Cup-point trunnion set screw creates a compression hard spot where it secures to the linkage rod.)

SW - SALT WATER RESISTANCE OPTION:

1. Extruded aluminum (6063-T5) backdraft damper frame is not less than 0.060" (1.52 mm) in thickness. Frame is 2.5" (63.5 mm) deep x 5/8" (15.9 mm), with mounting flanges on both sides of frame. Frame has a 1 7/8" (47.6 mm) mounting flange on either the front or rear of the damper, when ordered as either Front Flange or Rear Flange install type. Aluminum frame is clear anodized to a minimum depth of 0.7 mil (18 microns). Frame is assembled using stainless steel screws.
2. Blades are extruded aluminum (6063-T5) profiles not less than 0.060" (1.52 mm) in thickness, and are clear anodized to a minimum depth of 0.7 mil (18 microns).
5. Linkage system consists of hard aluminum alloy (6005-T6) crank arms fastened to aluminum pivot rods and doubly secured within a channel at the top of the blade. Large diameter 1 1/32" (8.73 mm) hard aluminum alloy (6005-T6) linkage rod connects the crank arms by means of a trunnion. Aluminum linkage components are clear anodized.
6. Trunnions are stainless steel. They protect against rust in high humidity or salt spray environments, and provide a hard, smooth, and long-lasting rotating surface.
7. Stainless steel cup-point trunnion screw allows for a penetrating grip of the linkage rod. (Cup-point trunnion set screw creates a compression hard spot where it secures to the linkage rod.)



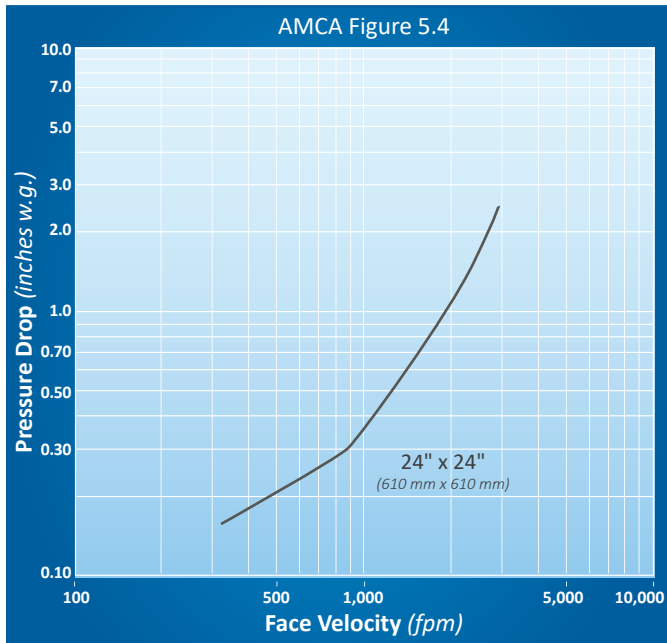
Medium-Duty Backdraft Damper



T.A. Morrison & Co. Inc. certifies that the TAMCO Series 7000 Medium-Duty Backdraft Damper shown herein is 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 Ratings Seal applies to air leakage and air performance ratings.



VELOCITY VS. PRESSURE DROP



Air Performance testing was conducted in accordance with ANSI/AMCA Standard 500-D, Figure 5.4. Data are based on a vertically mounted damper.

TAMCO MAXIMUM LEAKAGE RATES

| Static Pressure in w.g. (kPa) | Width or height less than 24" (610 mm) | | Width and height greater than 24" (610 mm) | |
|----------------------------------|---|-----------------------|---|-----------------------|
| | cfm/ft ² | (l/s/m ²) | cfm/ft ² | (l/s/m ²) |
| 0.5 (0.124) | 10.13 | (51.46) | 5.05 | (25.65) |
| 1.0 (0.249) | 11.38 | (57.81) | 6.93 | (35.20) |
| 1.5 (0.374) | 12.97 | (65.89) | 8.44 | (42.88) |
| 2.0 (0.498) | 14.05 | (71.37) | 9.86 | (50.09) |
| 2.5 (0.623) | 14.99 | (76.15) | 11.09 | (56.34) |

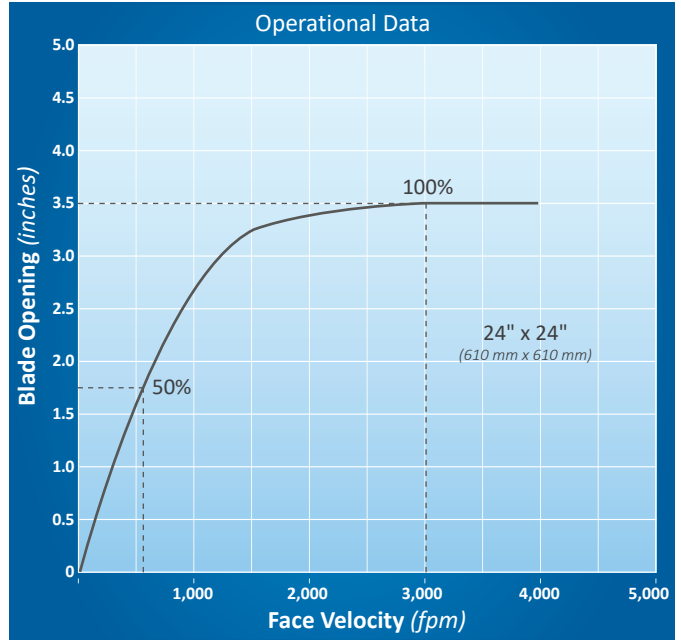
Leakage testing was conducted in accordance with ANSI/AMCA Standard 500-D, Figure 5.4. Data are based on a vertically mounted damper, with gravity used as the only closing torque. Air leakage is based on operation between 32°F (0°C) and 120°F (49°C) and converted to standard air density.

The following sizes of TAMCO Series 7000 Medium-Duty Backdraft Dampers were tested:

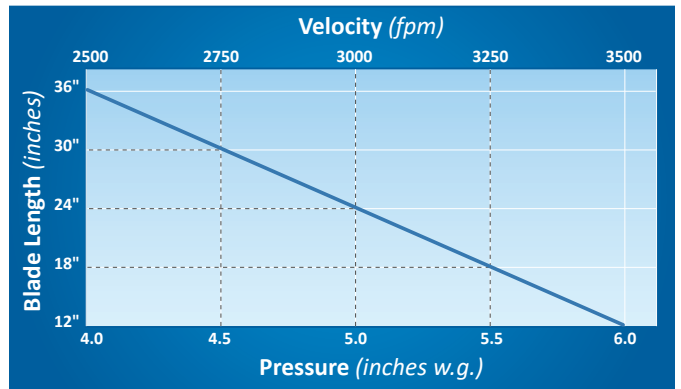
- 6" x 48" (152 mm x 1220 mm), 36" x 6" (915 mm x 152 mm), 36" x 48" (915 mm x 1220 mm).

TAMCO OPERATIONAL DATA

| Blades | Velocity | | Δ P | |
|---------------|----------|----------|---------|---------|
| | fpm | (m/s) | in w.g. | (kPa) |
| Begin to open | 10 | (0.051) | 0.02 | (0.005) |
| Fully open | 3010 | (15.291) | 0.76 | (0.189) |



BLADE DESIGN PRESSURE & VELOCITY LIMITATIONS



Series 7000 Medium-Duty Backdraft Dampers that exceed the maximum design pressure or velocity due to blade length may be used by reducing the width of the backdraft damper section(s) and increasing the number of sections to maintain a blade length compatible with the stated system pressure or velocity. Appropriate intermediate structural support will be required for all multiple-section backdraft damper assemblies. (Refer to line 15 of the Submittal Data and to TAMCO's Medium-Duty Backdraft Damper Installation Guidelines.)

Example:

A single section Series 7000 Medium-Duty Backdraft Damper of 36" w x 36" h (915 mm x 915 mm) at more than 4 in w.g. (1 kPa) or 2500 fpm (12.7 m/s) would need to be built in two sections of 18" w x 36" h (458 mm x 915 mm).

INSTALL TYPES | Series 7000

Medium-Duty Backdraft Damper

- Always provide opening width and height dimensions, when ordering.
- Width dimension is always parallel to blades.
- Height dimension is always perpendicular to blades.

INSTALLED IN DUCT TYPE

- Finished damper O.D. is $\frac{1}{4}$ " (6.4 mm) less than opening width and height dimensions.

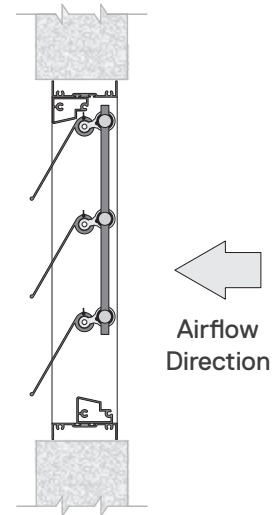
MINIMUM SECTION SIZE:

6" w x 6" h (153 mm x 153 mm)

MAXIMUM SECTION SIZE:

12.15 ft² (1.2 m²)

36" w x 48.625" h (915 mm x 1235 mm)



FRONT FLANGE TYPE

- Finished damper O.D. is 2.25" (57.2 mm) greater than opening width and height dimensions.

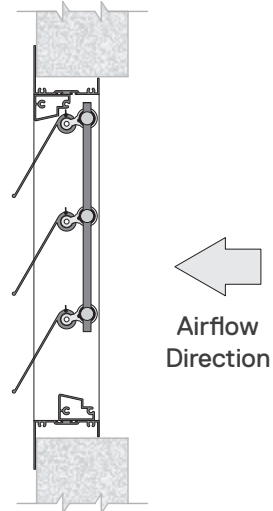
MINIMUM SECTION SIZE:

6" w x 6" h (153 mm x 153 mm)

MAXIMUM SECTION SIZE:

12.15 ft² (1.2 m²)

36" w x 48.625" h (915 mm x 1235 mm)



REAR FLANGE TYPE

- Finished damper O.D. is 2.25" (57.2 mm) greater than opening width and height dimensions.

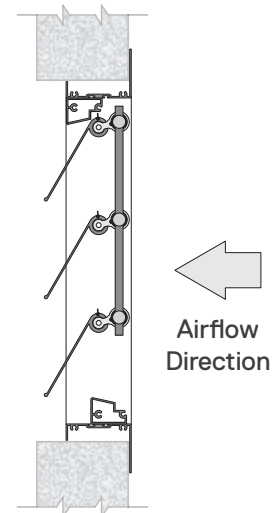
MINIMUM SECTION SIZE:

6" w x 6" h (153 mm x 153 mm)

MAXIMUM SECTION SIZE:

12.15 ft² (1.2 m²)

36" w x 48.625" h (915 mm x 1235 mm)

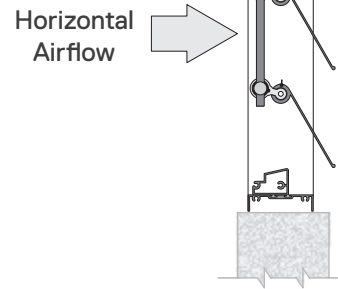
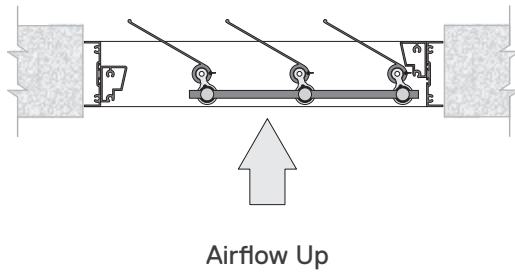


Medium-Duty Backdraft Damper

- Always provide airflow direction when ordering.

AIRFLOW DIRECTION

- Series 7000 Medium-Duty Backdraft Dampers are manufactured for Airflow Up and Horizontal Airflow operation.



NOTE:

- Suitable for operation in breathable air environments within stated temperature range.
- For Airflow Down mounting, specify TAMCO Series 7000 CW Medium-Duty Adjustable Counterweighted Backdraft Dampers.
- $\frac{1}{4}$ " (6.4 mm) is deducted from the opening dimensions to allow for clearance for all install types.
- The clearance deducted from Front Flange and Rear Flange install types affects the effective flange.

SERIES 7000

ENGINEERING DATA AND SPECIFICATIONS

FOR ADDITIONAL INFORMATION REFER TO:



SERIES 7000 WT SUBMITTAL DATA
MEDIUM-DUTY ADJUSTABLE
WEIGHTED BACKDRAFT DAMPER
UNDER THE DOCUMENTS TAB



INSTALLATION GUIDELINES
UNDER THE DOCUMENTS TAB



SERIES 7000 CW SUBMITTAL DATA
MEDIUM-DUTY ADJUSTABLE
COUNTERWEIGHTED BACKDRAFT DAMPER
UNDER THE DOCUMENTS TAB

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