

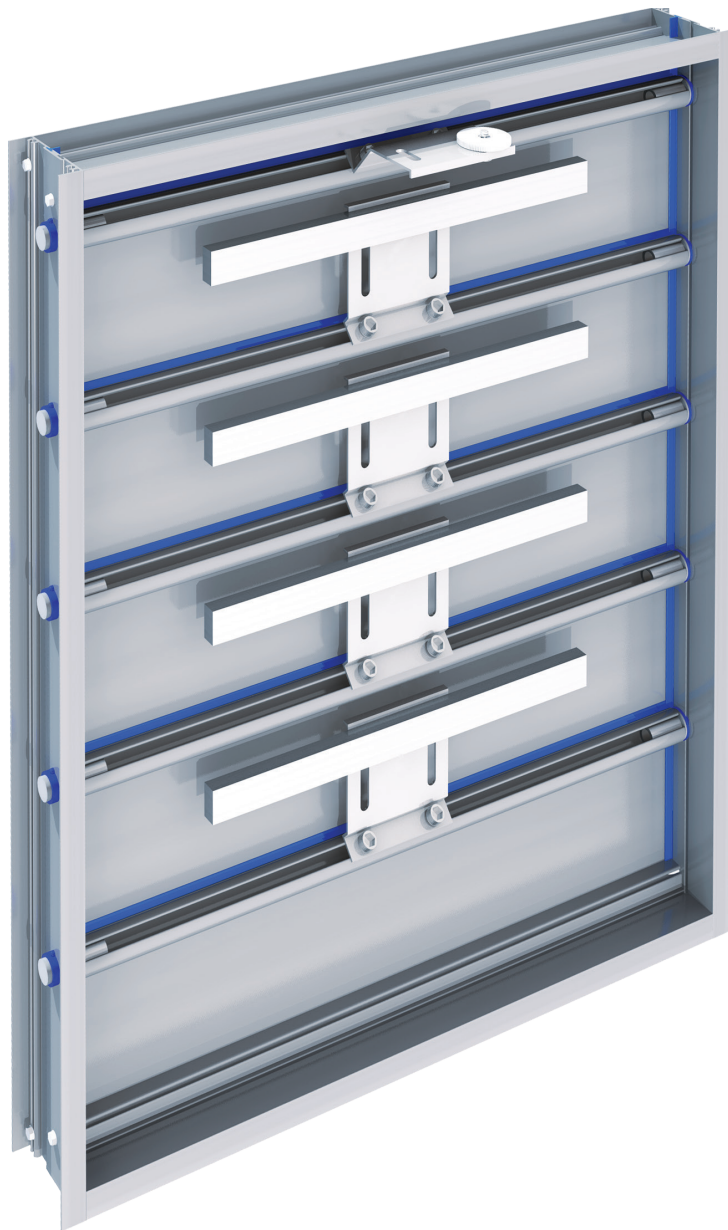
SERIES 7100 CW

MEDIUM-DUTY ADJUSTABLE

COUNTERWEIGHTED BACKDRAFT DAMPERS – NO LINKAGE

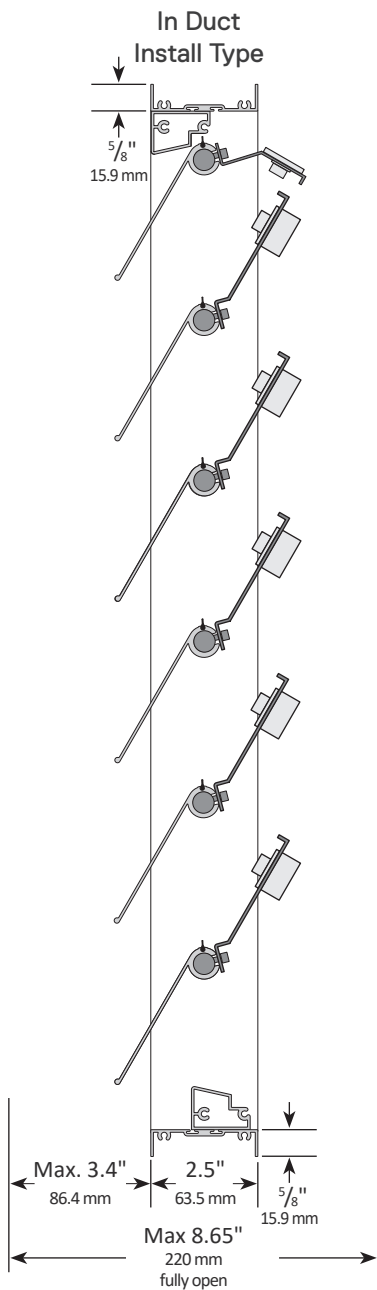
FOR LAMINAR, NON-TURBULENT AIRFLOW

engineering data
and specifications

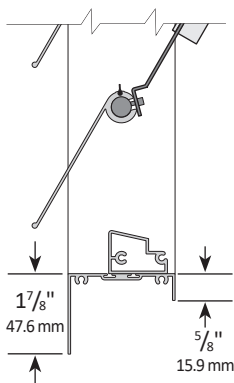


Medium-Duty Adjustable Counterweighted Backdraft Damper – No linkage

For Laminar, Non-Turbulent Airflow



**Front Flange
Install Type**



1. Extruded aluminum (6063-T5) counterweighted 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" (25.4 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. Blades are not connected to each other and thus operate independently.
3. Aluminum (6061-T6) counterbalance weights are mounted on each blade. Counterweights are fully adjustable and can be set to relieve air pressure differentials less than .01 in. w.g. (3 Pa).
4. 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.
5. Blade axles are composed of 1/2" (12.7 mm) aluminum pivot points, rotating on Celcon bearings.
6. Counterweighted backdraft dampers are designed for operation in temperatures ranging from -40°F (-40°C) to 212°F (100°C).
7. Air leakage through a 24" x 24" (610 mm x 610 mm) counterweighted backdraft damper does not exceed 5.55 cfm/ft² (28.2 l/s/m²) against 1 in. w.g. (0.25 kPa) differential static pressure at standard air. Tested in accordance with ANSI/AMCA Standard 500-D.
8. Pressure drop for a unit measuring 24" x 24" (610 mm x 610 mm) shall not exceed 0.082 in. w.g. at 500 fpm (0.02 kPa at 2.54 m/s).
9. Counterweighted backdraft dampers are custom manufactured to required size, without blanking off free area.
10. Counterweighted 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 counterweighted backdraft dampers.
11. Counterweighted backdraft dampers are available in three install types: Installed In Duct, Rear Flange, or Front Flange. (See *Install Types* page for details.)
12. Counterweighted backdraft dampers are to be mounted vertically for horizontal airflow operation only.
13. Installation of counterweighted backdraft dampers must be in accordance with TAMCO's current on-line installation guidelines.
14. 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) counterweighted 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" (25.4 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.

SW - SALT WATER RESISTANCE OPTION:

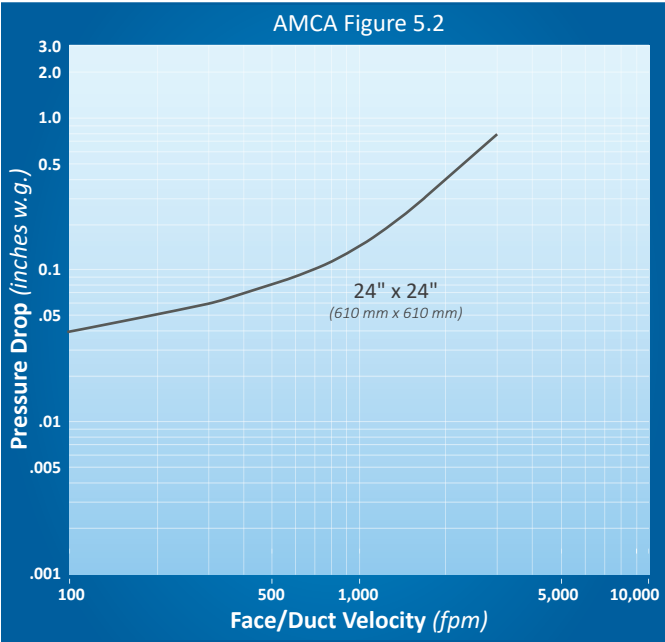
1. Extruded aluminum (6063-T5) counterweighted backdraft damper frame is not less than 0.060" (1.52 mm) in thickness. Frame is 2.5" (63.5 mm) deep x 5/8" (15.9 mm), with mounting flanges on both sides of frame. Frame has a 1" (25.4 mm) mounting flange on either the front or rear of the damper, when ordered 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). Blades are not connected to each other and thus operate independently.

PERFORMANCE DATA | Series 7100 CW

Medium-Duty Adjustable Counterweighted Backdraft Damper – No linkage

For Laminar, Non-Turbulent Airflow

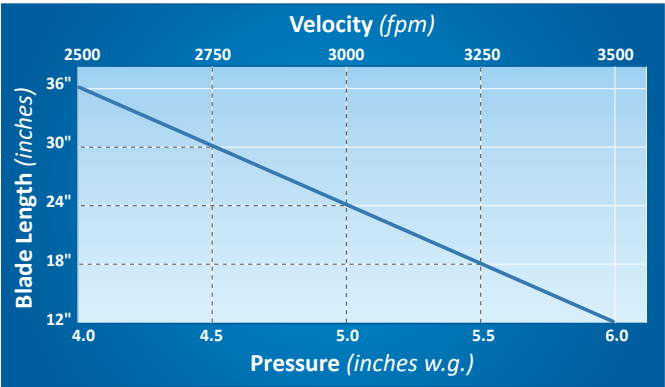
VELOCITY VS. PRESSURE DROP



Air Performance testing was conducted in accordance with ANSI/AMCA Standard 500-D, Figure 5.2. Vertically mounted test damper is located at the end of 5 diameters of a duct run, exhausting into an open area. Both duct and test damper are downstream from air supply.

A 24" x 24" (610 mm x 610 mm) TAMCO Series 7100 CW Medium-Duty Adjustable Counterweighted Backdraft Damper with no linkage was tested.

BLADE DESIGN PRESSURE & VELOCITY LIMITATIONS



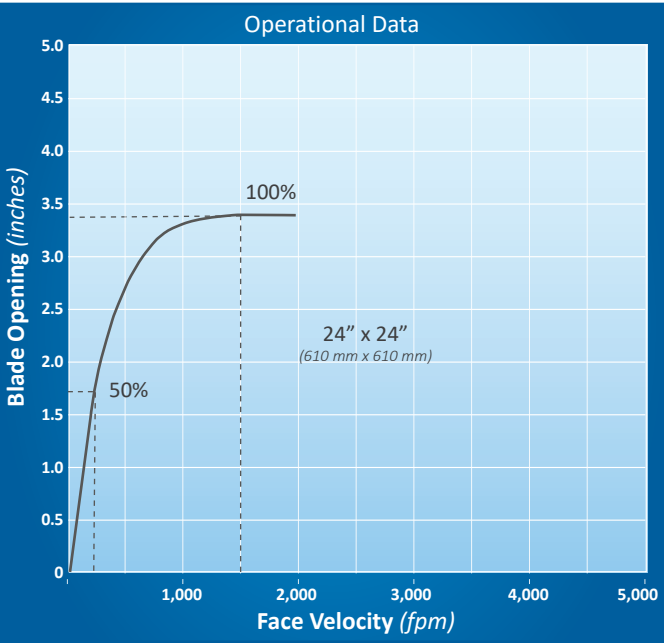
Series 7100 CW Medium-Duty Adjustable Counterweighted Backdraft Dampers with no linkage that exceed the maximum design pressure or velocity due to blade length may be used by reducing the width of the backdraft damper section(s) and increasing the number of sections to maintain a blade length compatible with the stated system pressure or velocity. Appropriate intermediate structural support will be required for all multiple-section backdraft damper assemblies. (Refer to line 14 of the Submittal Data and to TAMCO's Medium-Duty Backdraft Damper Installation Guidelines.)

Example:

A single section Series 7100 CW Medium-Duty Adjustable Counterweighted 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).

TAMCO OPERATIONAL DATA

| Blades | Velocity | | Δ P | |
|---------------|----------|---------|---------|---------|
| | fpm | (m/s) | in w.g. | (kPa) |
| Begin to open | 5 | (0.025) | 0.01 | (0.003) |
| Fully open | 800 | (4.060) | 0.11 | (0.027) |



TAMCO LEAKAGE RATES

| Static Pressure | | 24"x 24" (610 mm x 610 mm) | |
|-----------------|---------|----------------------------|----------|
| in w.g. | (kPa) | cfm/ft² | (l/s/m²) |
| 0.5 | (0.124) | 4.45 | (22.60) |
| 1.0 | (0.249) | 5.55 | (28.20) |
| 2.0 | (0.498) | 8.36 | (42.50) |
| 4.0 | (1.000) | 12.67 | (64.40) |

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.

A 24" x 24" (610 mm x 610 mm) TAMCO Series 7100 CW Medium-Duty Adjustable Counterweighted Backdraft Damper with no linkage was tested.

INSTALL TYPES | Series 7100 CW

Medium-Duty Adjustable Counterweighted Backdraft Damper – No linkage For Laminar, Non-Turbulent Airflow

- 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.

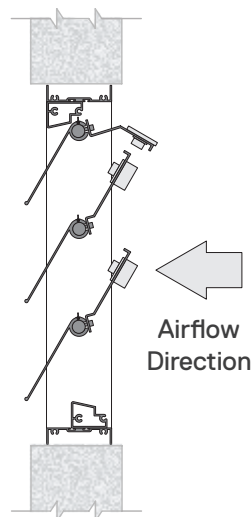
MINIMUM SECTION SIZE:

12" w x 10" h (305 mm x 254 mm)

MAXIMUM SECTION SIZE:

12.15 ft² (1.1 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.

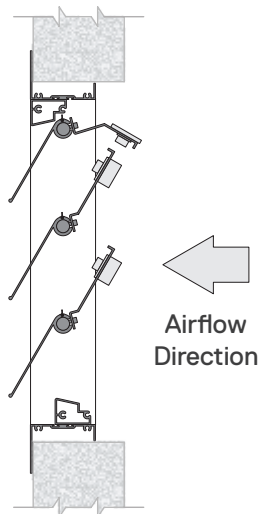
MINIMUM SECTION SIZE:

12" w x 10" h (305 mm x 254 mm)

MAXIMUM SECTION SIZE:

12.15 ft² (1.1 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.

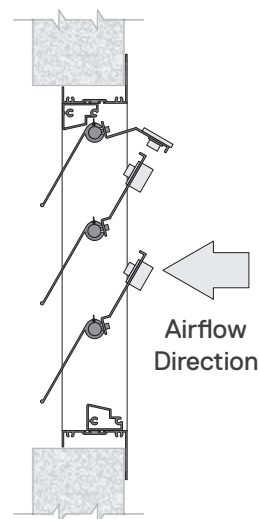
MINIMUM SECTION SIZE:

12" w x 10" h (305 mm x 254 mm)

MAXIMUM SECTION SIZE:

12.15 ft² (1.1 m²)

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



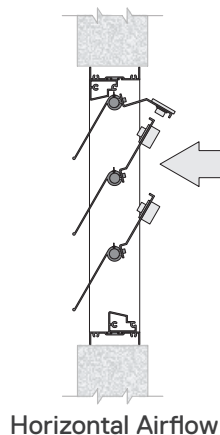
AIRFLOW DIRECTION | Series 7100 CW

Medium-Duty Adjustable Counterweighted Backdraft Damper – No linkage
For Laminar, Non-Turbulent Airflow

- Always provide airflow direction when ordering.

AIRFLOW DIRECTION

- Series 7100 CW Medium-Duty Adjustable Counterweighted Backdraft Dampers with no linkage are manufactured for Horizontal Airflow operation.



NOTE:

- Suitable for operation in breathable air environments within stated temperature range.
- $\frac{1}{4}$ " (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.

FOR ADDITIONAL INFORMATION REFER TO:



INSTALLATION GUIDELINES
UNDER THE DOCUMENTS TAB

SERIES 7100 CW

ENGINEERING DATA AND SPECIFICATIONS

SPX ENGINEERED AIR MOVEMENT

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