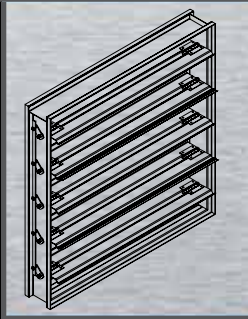
Severe Environment Dampers

- **Corrosion-Resistant**
- **316 Stainless Steel**



GREENHECK®

Building Value in Air.

October 2009

The Greenheck Difference

What makes Greenheck different from other damper manufacturers? Perhaps it's having the most UL Certified dampers, or our industry-leading testing capabilities. Most Greenheck dampers also meet California State Fire Marshal and New York Materials and Equipment Acceptance (MEA) Index requirements. Aggressive research and development also keeps Greenheck ahead of other competitors in the damper industry.

Unparalleled In-House Testing Capabilities

In-house testing capabilities are directly related to product quality and the ability to meet stringent code requirements. With industry-leading testing abilities, Greenheck can introduce new products faster and can quickly develop qualified products for your unique applications. Our dampers are qualified to UL 555, UL 555S, BS476, and tested to meet AMCA 500D test standards.

Quick Build and Delivery

Greenheck's Quick Build (QB) program, along with strategic manufacturing locations, ensure rapid response time. Greenheck damper products are manufactured and efficiently shipped to your jobsite in the time you need them!

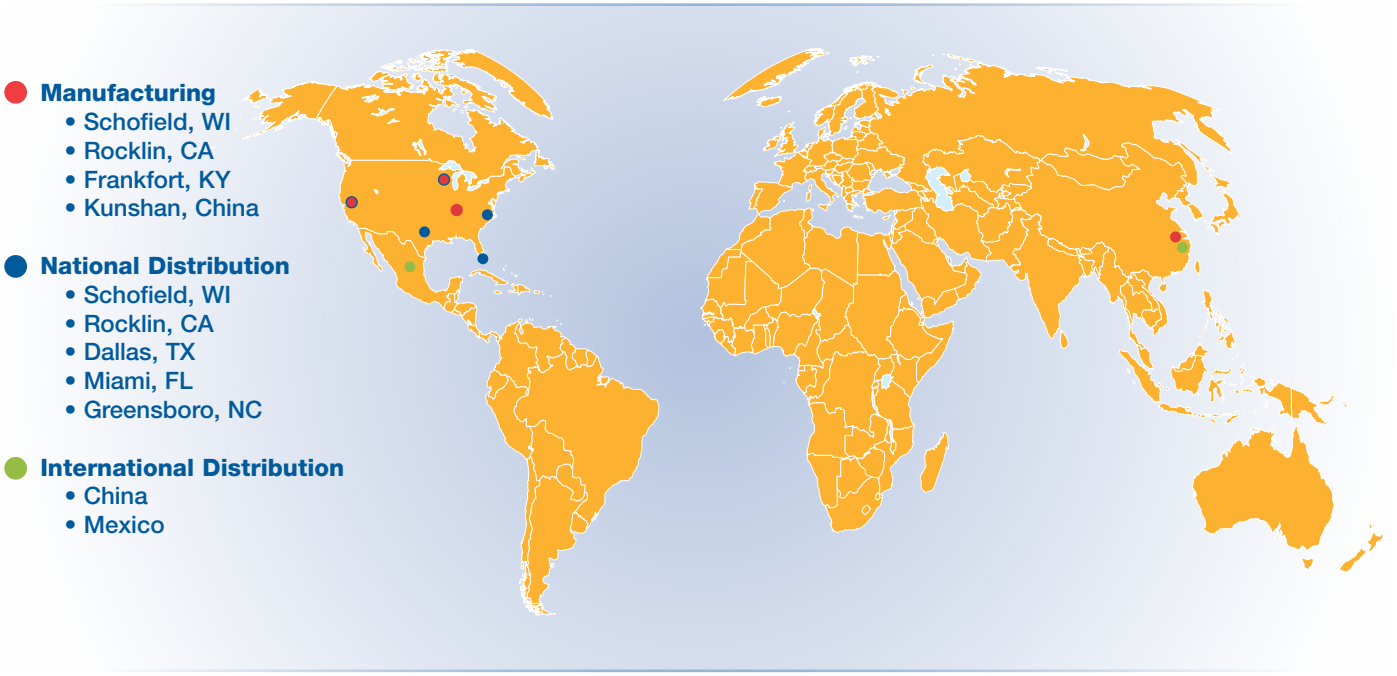
Leading Edge Technical Support

All Greenheck products are supported by the industry's best product literature, electronic media, and Computer Aided Product Selection program (CAPS). You'll also find extensive technical and installation information on our Web site www.greenheck.com.

You can always count on the personal service and expertise of our national and international representative organizations. To locate your nearest Greenheck representative, call 715-359-6171, or visit our Web site at www.greenheck.com

A Global Presence

Greenheck operates four damper manufacturing locations, five national distribution centers, and two international distribution centers.



Why 316 Stainless Steel Material?

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Severe Environment Dampers

Greenheck was the first manufacturer to have a complete line of dampers made from all 316 stainless steel material as a standard product offering. We have over 20 models, including dynamic fire dampers, smoke dampers, combination fire smoke dampers, commercial control dampers, barometric relief dampers, industrial control dampers, and industrial backdraft dampers. This new line of severe environment dampers offers an excellent corrosion-resistant option for a variety of applications.

- Paper mills
- Wastewater treatment plants
- Natatoriums
- Laboratories
- Coastal locations
- Maritime
- Computer clean rooms

Labs

Maritime

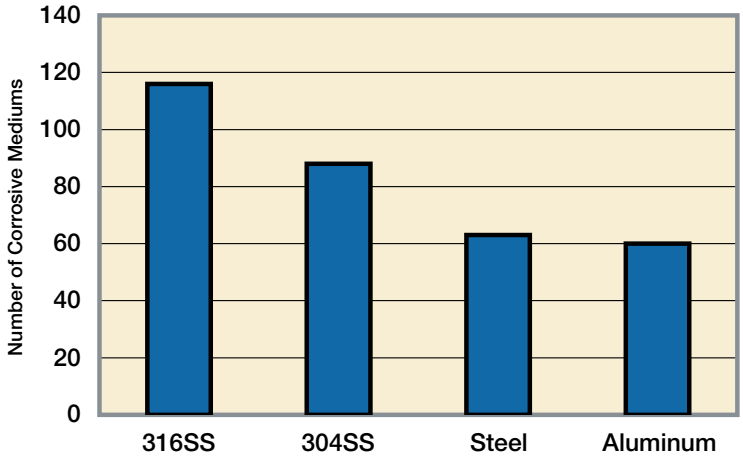
Natatoriums

Paper Mills

Food Processing

Materials with Excellent Corrosion Resistance

When tested against 140 different corrosive mediums, 316 stainless steel received an excellent rating for over 115 of those mediums.



Combination Fire Smoke Dampers and Smoke Dampers

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Features:

- 316 stainless steel construction is standard (heat responsive device is UL compliant, not 316 stainless steel)
- UL 555 (fire) Classified
- UL 555S (smoke) Classified
- Pressure up to 6 in. wg *(1.5 kPa)*
- Velocity up to 2000 fpm *(10.2 m/s)*
- SEFSD-211 & SESMD-201
  - Minimum size: 8 x 6 in. *(203 x 152 mm)*
  - Maximum multisection size: SEFSD-211 88 x 72 in. *(2235 x 1829 mm)*; SESMD-201 144 x 100 in. *(3658 x 2540 mm)* or 288 x 50 in. *(7315 x 1270 mm)*
  - AMCA Licensed to bear the AMCA Air Performance seal
- SEFSDR-511 & SESMDR-501
  - Minimum size: 6 in. *(152 mm)*
  - Maximum size: 24 in. *(610 mm)*

Available upon request:

- NEMA 7 housing for actuators
  - Explosion-proof enclosure
  - Aluminum housing

SEFSDR-511/SESMDR-501

SEFSD-211/SESMD-201

Quick Reference Combination Fire Smoke and Smoke Dampers

		SEFSD-211	SEFSDR-511	SESMD-201	SESMDR-501
Blade Profile	3V	X		X	
	Round		X		X
Closure Temperature	165°F (74°C)	X	X		
	212°F (100°C)	O	O		
	250°F (121°C)	O	O		
	286°F (141°C)	O	O		
	350°F (176°C)	O	O		
Closure Device	Fusible Link	O	X		
	RRL	X	O		
	TOR	O	O		
	PRV	O	O		
Accessories	Retaining Angles	O		O	
	Retaining Plate		X		O
	Smoke Detector	O	O	O	O
	Momentary Switch	O	O	O	O
	OCI	O	O	O	O
	Transformer	O	O	O	O
	GTS-1, 2, 3, 4	O	O	O	O

X = Standard O = Optional

Fire Dampers

Features:

- 316 stainless steel construction is standard (heat responsive device is UL compliant, not 316 stainless steel)
- Dynamic closure for use in HVAC systems that are operational in the event of a fire
- UL 555 Classified
- Pressure up to 4 in. wg *(1 kPa)*
- Velocity up to 2000 fpm *(10.2 m/s)*
- UL rated retaining angles or plates
- SEDFD-210
  - Minimum size: 8 x 6 in. *(203 x 152 mm)*
  - Maximum multisection size: 48 x 30 in. *(1219 x 762 mm)*
  - AMCA Licensed to bear the AMCA Air Performance seal
- SEDFDR-510
  - Minimum size: 6 in. *(152 mm)*
  - Maximum size: 24 in. *(610 mm)*

SEDFDR-510

SEDFD-210

Quick Reference for Fire Dampers

		SEDFDR-510	SEDFD-210
Blade Profile	3V		X
	Round	X	
Closure Temperature	165°F (74°C)	X	X
	212°F (100°C)	O	O
	286°F (141°C)	O	O
	350°F (176°C)	O	O
Accessories	Retaining Angles		O
	Retaining Plate	X	

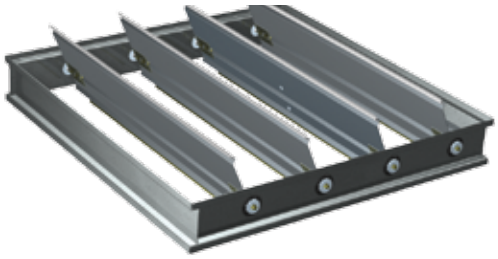
X = Standard O = Optional

Barometric Dampers

Features:

- 316 stainless steel construction is standard
- Back pressure up to 2 in. wg *(.5 kPa)*
- Selectable start to open pressure from .05 to .13 in. wg *(.01 to .03 kPa)*
- Velocity up to 2000 fpm *(10.2 m/s)*
- SEBR series
  - Minimum size: 8 x 6 in. *(203 x 152 mm)*
  - Maximum size: 48 x 74 in. *(1219 x 1880 mm)*

Airflow Direction	Insert Type Flange (no flange)	Flange on Discharge	Flange on Intake
Vertical Up	SEBR-10	SEBR-11	SEBR-12
Horizontal	SEBR-30	SEBR-31	SEBR-32
Vertical Down	SEBR-40	SEBR-41	SEBR-42



Features:

- 316 stainless steel construction is standard
- Pressure rating up to 8 in. wg (2 kPa)
- Velocity up to 4000 fpm (20.3 m/s)
- Blade styles
  - 3V (SEVCD-23). The 3V blades are fabricated from a single thickness of 316 stainless steel incorporating three lengthwise structural V grooves running the length of the blade.
  - Airfoil (SEVCD-33). The airfoil blades are constructed of double skin 316 stainless steel. This blade design presents a lower resistance to airflow.
- SEVCD-23
  - Minimum size: 6 x 6 in. *(152 x 152 mm)*
  - Maximum multisection size: Unlimited
  - AMCA licensed to bear the AMCA Air Performance seal
- SEVCD-33
  - Minimum size: 6 x 6 in. *(152 x 152 mm)*
  - Maximum multisection size: Unlimited

SEVCD-23

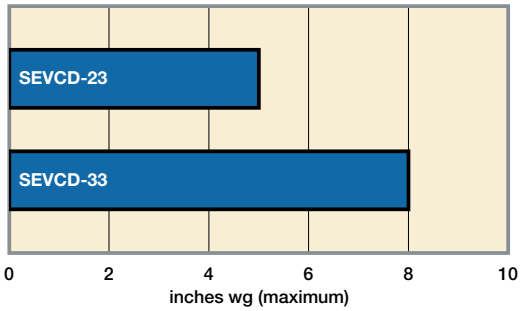
SEVCD-33

Available upon request:

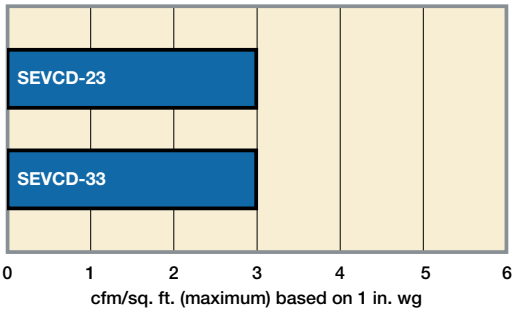
- NEMA 4X housing for actuators
  - Watertight, corrosion-resistant, and dust tight indoor or outdoor enclosure
  - Plastic housing
- NEMA 7 housing for actuators
  - Explosion-proof enclosure
  - Stainless steel housing

NEMA 4X

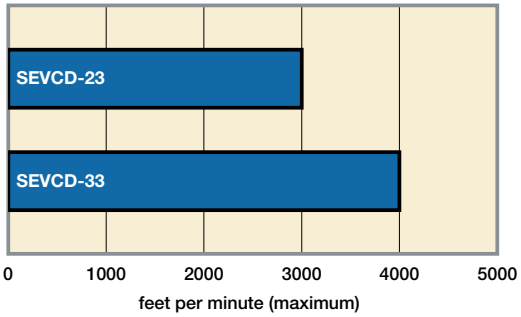
Pressure



Leakage



Velocity



Industrial Control and Backdraft Dampers

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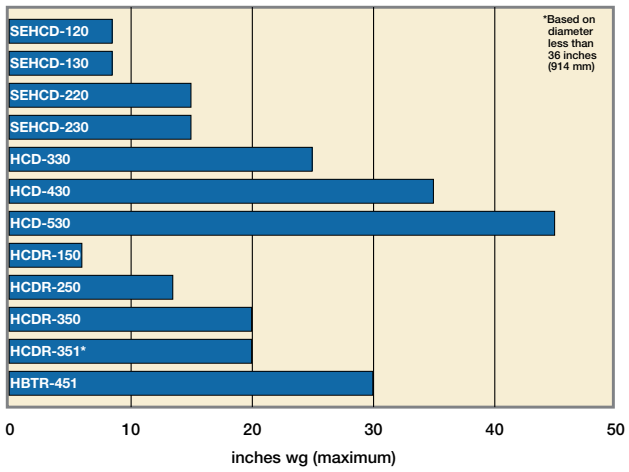
Industrial Control Dampers

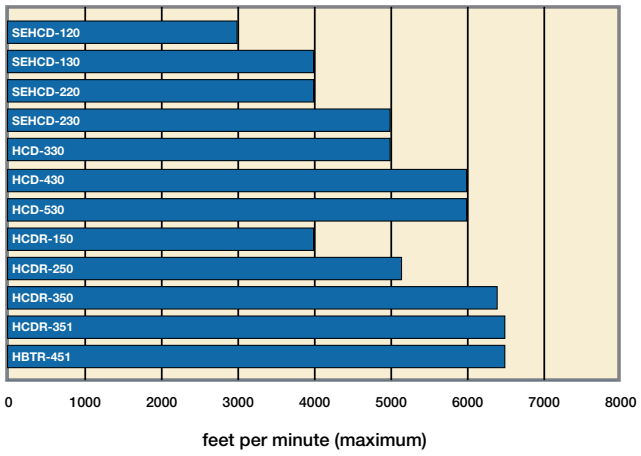
Features:

- 316 stainless steel
  - Standard on SEHCD-120, 130, 220, and 230
  - Optional on HBTR-451, HCD-330, 430, 530 and HCDR-150, 250, 350, and 351
- Pressure rating up to 45 in. wg *(11.2 kPa)*
- Velocity up to 6000 fpm *(30.5 m/s)*

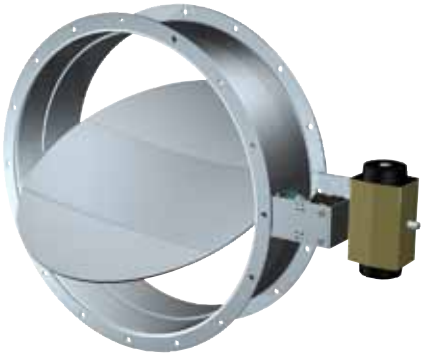
Pressure



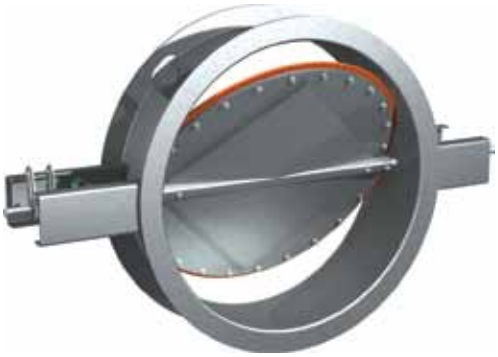
Velocity



HCD



HCDR

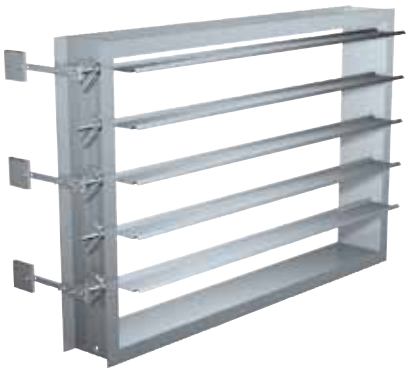


HBTR-451

Industrial Backdraft Dampers

Features:

- Model HB-120 and HB-230
- 316 stainless steel option
- Pressure up to 13.5 in. wg *(3.4 kPa)*
- Velocity up to 5150 fpm *(26 m/s)*
- Temperature -40° to 250°F *(-40° to 121°C)*



HB-230

Test Standards & Certifications

UL 555

The UL 555 standard governs fire dampers which are intended for use where air ducts penetrate or terminate at openings in walls or partitions, in air transfer openings in partitions, and where air ducts extend through floors as specified in the Standard for Installation of Air-Conditioning and Ventilating Systems, NFPA 90A. In a fire emergency the fire damper is designed to close and prevent the spread of fire from one side of the wall or partition to the other. Testing includes cycling, salt spray, dynamic closure, fire endurance, and hose stream.

UL 555S

The UL 555S standard governs smoke dampers which are intended to prevent the spread of smoke when HVAC systems shutdown during a fire emergency and those which control the movement of smoke within a building when the HVAC system functions in a smoke control mode. Leakage rated dampers are intended for installation in accordance with NFPA 90A. Testing includes salt spray, cycling, temperature degradation, operation while under heated airflow, and elevated temperature leakage.

AMCA

The AMCA Certified Ratings Program seal assures you that a product line has been tested to the appropriate AMCA standards in accordance with a legal license agreement and that the manufacturer's catalogued certified ratings have been submitted to the AMCA staff for approval prior to publication.

Greenheck Fan Corporation certifies that the models SEDFD-210, SEFSD-211, SESMD-201, and SEVCD-23 shown herein 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 Programs. The AMCA Certified Ratings Seal applies to air performance only.

Our Warranty

Greenheck warrants this equipment to be free from defects in material and workmanship for a period of one year from the shipment date. Any units or parts which prove defective during the warranty period will be replaced at our option when returned to our factory, transportation prepaid. Motors are warranted by the motor manufacturer for a period of one year. Should motors furnished by Greenheck prove defective during this period, they should be returned to the nearest authorized motor service station. Greenheck will not be responsible for any removal or installation costs.

As a result of our commitment to continuous improvement, Greenheck reserves the right to change specifications without notice.

Prepared to Support Green Building Efforts

GREENHECK
Building Value in Air.

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