

# Damper Conveniences and Features

- Quick Build Products
- Convenient Accessories
- Installation Time Savers

**QUICK**  
DELIVERY



THE GREENHECK

# ADVANTAGE



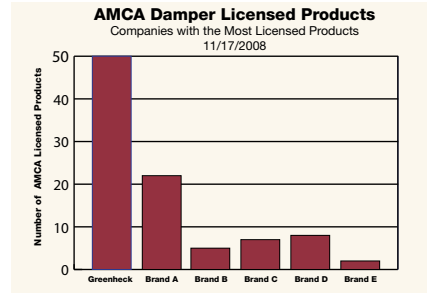
**GREENHECK**

*Building Value in Air.*

February  
2009

Greenheck dampers bring the same quality engineering and manufacturing that has earned Greenheck its position as an industry leader over the past 60 years.

- Most UL classified damper products in the industry
- Most AMCA licensed dampers which ensures accurate performance data
- Comprehensive ongoing product improvement and testing programs
- Aggressive research and development of new damper products



## In-House Testing

State-of-the-art laboratory and testing facilities have always been important to Greenheck's continuing business success. A laboratory facility devoted exclusively to development and testing of damper and louver related products for testing to the latest versions of AMCA, ANSI, ASHRAE, UL, Miami-Dade County, and other industry standards of performance.



## 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 product information, Installation, Operation, and Maintenance Instructions and more on the internet at [www.greenheck.com](http://www.greenheck.com)

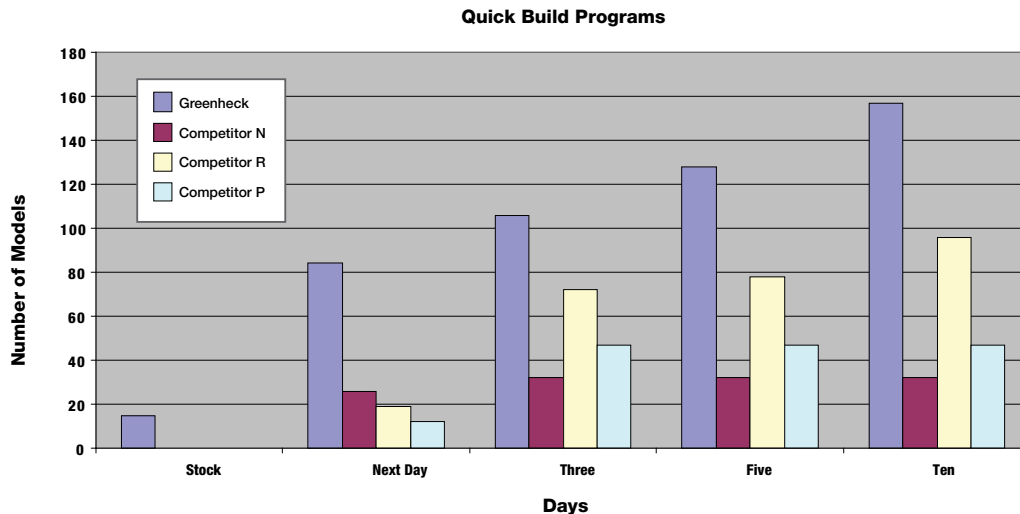


## Customer Service

Your local Greenheck representative has a wealth of industry and product knowledge to answer your questions. Our representatives receive the latest product information and can have orders processed direct to our factory. With our advanced order processing system, we can ship orders as fast as the next day. With Greenheck's experienced staff, we can answer questions and provide solutions to your unique damper application and our dedicated engineering staff will work to develop a custom solution to meet your needs.

## Quick Build and Delivery

Greenheck's Quick Build (QB) program, along with strategic manufacturing locations, ensure rapid response time. Quick Build products are manufactured on a one, three, five, or ten day schedule, then efficiently shipped to your jobsite.



This chart shows the quick build models available by lead time. Keep in mind, all models available the next day can be scheduled to ship in 3 days, 5 days or 10 days, depending on the needs at the jobsite.

Stock*	Next Day	3 Day	5 Day	10 Day
CAD-10	CFSD-211, 212	CRD-1, 1LP, 2, 60	BR-10, 11, 12	HB-110, 120***
CRD-1	DFDAF-310	DFD-155, 355	BR-30, 31, 32	HCD-120, 130, 135, 140***
CRD-2	DFD-110, 150	FD-155, 355	BR-40, 41, 42	ICD-45
DFD-150X12	DFD-150X10, X12, X14, X16	IMO-310, 311	CRD-60B, 60X	SEDFD-210
FSD-212	DFD-210, 230	ODFD-150	FD-100, 300	SEDFDR-510
HAD-10	DFD-310, 350	OFD-150	HB-110, 120**	SEFSD-211
MBDR-50	DFDR-510	SSFSD-211	HCD-120, 130, 135, 140**	SEFSDR-511
RAD	DFDTF-210	SSSMD-201		SEVCD-23, 33
VCD-23	EM-10, 11, 12, 30, 31, 32, 40, 41, 42	WD-100, 110, 120		SESMD-201
WD-90	ES-10, 11, 12, 30, 31, 32, 40, 41, 42	WD-200, 210, 220		SESMDR-501
WD-100	FD-110, 150, 310, 350	WD-300, 320, 323, 330, 340		SSDFD-150, 155, 350, 355
WD-200	FD-150X10, X12, X14, X16	WD-400, 410, 420, 430		SSDFDR-510
WD-300	FDR-510			SSFD-150, 155, 350, 355
WD-323	FSD-211, 212, 213, 231			SSFDR-510
WD-330	FSD-311, 311M, 312, 312M, 311V, 331			SSFSDR-511, 512
WD-340	FSDR-511, 512			SSIMO-310, 311
WD-410	MBD-10, 10M, 15			SSSMR-501, 502
	MBDR-50			VCDRM-50, 53
	OFSD-211, 212, 311, 312			WDR-53
	SMD-201, 202, 203			
	SMD-301, 301M, 301V, 302, 302M			
	SMD-401, 401M			
	SMDR-501, 502			
	VCD-15, 18, 20, 20V, 23, 23V, 33, 33V, 34, 40, 42, 42V, 43, 43V			
	VCDR-50, 53			

\* See Quick Delivery catalog for sizes

\*\* Unpainted

\*\*\* Painted

## Quick Connect Breakaway Connections

Greenheck was the first manufacturer to successfully UL qualify a universal breakaway duct connection that is compatible with TDC, TDF, Ductmate, Nexus or Ward flange systems. You now have the option to choose the Quick Connect Breakaway Connection on fire dampers, smoke, and combination fire smoke dampers. You can order your dampers with breakaway connection three different ways:

- Universal flange attached to one end of the sleeve
- Universal flange attached to both ends of the sleeve
- One end attached and one shipped loose



## Retaining Angle

Save time by letting Greenheck install retaining angles for you. Order retaining angles four different ways:

- Single Fastened - one retaining angle mounted in the location you want
- Single Wrapped - one retaining angle wrapped around the damper sleeve and wire tied
- Double Wrapped - the same feature as single wrapped, but with two sets of retaining angles
- Fastened & Wrapped - one retaining angle fastened and one angle wrapped around the damper



## Access Doors

According to NFPA 80 (2007 edition) & NFPA 90A (2002 edition), an access door must be provided in air ducts adjacent to each fire damper, smoke damper, or combination fire smoke damper for maintenance and inspection.

Save time and money by letting Greenheck install the access door in the sleeve to save on labor cost in the field.



## Tight Space Constraints – Use Firestop

Where standard retaining angle installations will not work, Greenheck has UL approved firestop and retaining clip installation, which allows contractors to meet UL requirements where space limits capabilities.

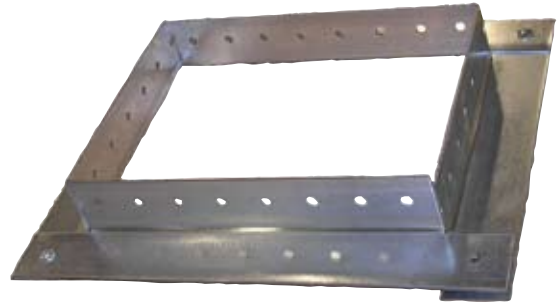
Firestop and Retaining Clip Installation Maximum Damper Size (Width x Height)	
Inches	Millimeters
72 x 96	1829 x 2438



## Single-Side Retaining Angle

To save time installing dampers, Greenheck has qualified the installation of a single-side retaining angle. The table provides the maximum size UL approved by mounting application.

Maximum Qualified Damper Size for Retaining Angle (Width x Height)		
Mounting	Inches	Millimeters
Vertical	80 x 50	2032 x 1270
	50 x 80	1270 x 2032
	40 x 100	1016 x 2540
Horizontal	144 x 96	3658 x 2438
Round Fire and Fire Smoke	24 diameter	610 diameter



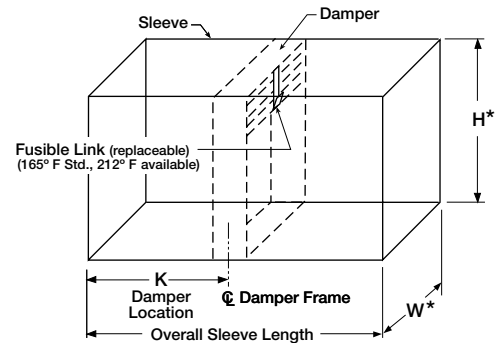
## Modulating Fire Smoke or Smoke Dampers

Greenheck offers UL approved modulating actuators on smoke and combination fire smoke dampers. A modulating actuator combines the functions of a control damper and a fire smoke or smoke damper into one unit reducing the number of dampers needed and the overall project cost.



## Integral Sleeve

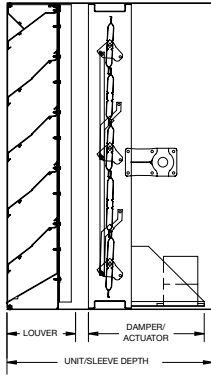
X-series dampers in the FD and DFD model lines have the sleeve and the fire damper frame formed as one piece, providing the most economical sleeved fire damper.



## Manual Balancing Fire Damper

Greenheck offers UL approved fire dampers that function as both a fire damper and manual balancing damper. DFD-210 and DFD-230 dampers are supplied with a manual quadrant so you can adjust the amount of airflow you need to balance that section of the system.



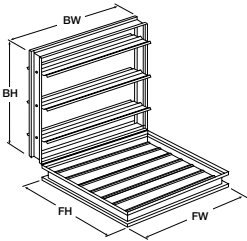


## Damper/Louver in a Common Sleeve

Greenheck can provide a damper and louver in a common sleeve for your application requiring a single unit assembly. This assembly is convenient for field installation as one unit, instead of dealing with multiple units (consult factory for more information).

## Grille Tabs

The grille tab option provides mounting tabs on the sleeve to ease installation of grilles in the field. These tabs are available on fire, combination fire smoke and smoke dampers.



Face & Bypass  
Right Angle

## Face and Bypass Dampers

Most control damper models (VCD series) can be supplied in a face and bypass configuration where the sections of the damper operate opposite from each other. Face and bypass dampers are available in vertical, horizontal, and right angle arrangements.

## Greenheck Test Switches

Greenheck test switches are used in dynamic smoke management systems containing combination fire smoke dampers equipped with a TOR (*Temperature Limited Override*) switch. These switches provide an easy way to perform testing and maintenance of motorized if safety dampers.

- **GTS-1** is a three position control switch (normal, closed, override). The control panel has a red indicator light for closed, green for open damper.
- **GTS-2** has a key switch, a red indicator light for a closed damper and a green light for an open damper.
- **GTS-3** can be used on combination fire smoke dampers with RRL/OCI (*Reusable Resettable Link/Open Close Indicator*) or on smoke dampers with OCI. It has open and close indicator lights with a momentary test switch.
- **GTS-4** can be used on combination fire smoke dampers with RRL/OCI or smoke dampers with OCI. It has open and closed indicator lights only.



GTS-1

## Installation Booklets and Tag Label

In every shipment of dampers, Greenheck includes installation booklets. These booklets include installation guidelines such as field supplied sleeves, single-side retaining angles, and much more to help with your installation needs.

Greenheck offers a new label on all dampers that include the tag information for your order. This tag gives you the damper model, size, actuator model, and purchase order number. This label will help save time in the field when you have multiple locations for the dampers on the jobsite.



## Momentary Test Switch

The momentary test switch is used with fire smoke dampers to test and cycle the damper on location for both start-up testing and maintenance. This UL qualified assembly ships factory-mounted and wired.

## Open Close Indicator (OCI)

The OCI option provides two switches, one set of contacts to close when the damper blades are at their open position and the other set to close when the damper blades are at their closed position. The switches are physically linked to a damper blade and therefore give a true representation of the damper's position.

## Pneumatic Relief Valve (PRV)

The PRV is a heat responsive device that activates when temperatures in excess of 165°F (74°C), 212°F (100°C), or 350°F (176°C) are detected. When the fusible link melts, air from the actuator is exhausted to close the damper without electrical requirements. Pneumatic actuators should be piped per local codes. The PRV must be installed at the factory.



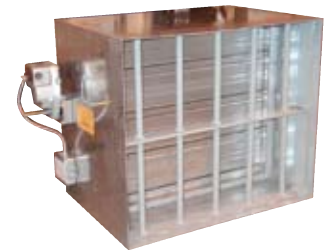
## Retaining Angles

Greenheck's one-piece retaining angle, the POC (literally named for being a "Piece of Cake") makes damper installation a breeze. The POC simply wraps around the sleeve of the damper, connections are made as described in our installation instructions, and that's it! Simple! Like their rectangular counterparts, round one-piece retaining plates easily wrap around the sleeve of the damper and tighten with the clamping screw for simplified installation.



## Sealed Transition and Sleeve

For medium pressure ductwork, Greenheck can seal the transition and sleeve seams to prevent air leakage.



## Security Bars

When a specification requires security bars, Greenheck can install the security bars within the damper sleeve for you. Installation of security bars into dampers reduces security risks and reinforces the equipment. The standard product is welded into the sleeve.

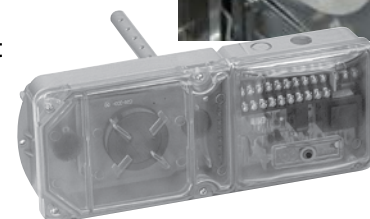


## Smoke Detector

The smoke detector's purpose is to sample air currents passing through a duct and upon alarm, provide management of fans, blowers, and combination fire smoke dampers.

**No Flow** - This smoke detector is rated for systems without a minimum operating velocity. No flow smoke detector (model 2151) is rated for air velocities 0 to 3000 fpm (0 to 15.2 m/s) and is mounted internally to the damper sleeve. No flow smoke detector has built-in test switch.

**Photoelectric** - This smoke detector samples air currents passing through a duct and gives dependable performance for management of smoke and combination fire smoke dampers. This smoke detector is rated for air velocities 100 to 4000 fpm (0.5 to 20.3 m/s). Duct smoke detection can also serve to protect the air conditioning itself from fire and smoke damage. The detectors are available factory mounted and wired or shipped loose.



# The Greenheck Difference

Greenheck has a complete line of Dampers for your needs!

- Life Safety Products
  - Fire dampers
  - Smoke dampers
  - Combination Fire Smoke dampers
  - Ceiling Radiation dampers
- Commercial Control Products
  - Volume Control dampers
  - Manual Balancing dampers
  - Air Measuring dampers
  - Insulated Thermally Broken dampers
- Heavy Duty/Industrial Products
  - Control dampers
  - Backdraft dampers
  - Pressure Relief dampers
  - Smoke dampers
- Backdraft
- Access Doors
- Marine
- Severe Environment
- Pressure Relief Doors
- Barometric Relief
- Tunnel Transit
- Bubble-Tight



## Energy Saving Products From Greenheck

The following models meet IECC (International Energy Conservation Code) requirements of damper leakage of 3 cfm/sq. ft. @ 1 in. wg or less:

ICD-44	ICD-45
IAQ-42	VCD-33
VCD-34	SEVCD-33
VCD-40	VCD-40X2
VCD-42	VCD-43



## 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

