

Greenheck offers a wide variety of products for industrial and severe environment applications. This product selection guide is a quick reference to our heavy-duty/industrial damper offering. In addition to the standard products, Greenheck's experienced staff can also work with you to develop custom products to meet your application needs. For more information on heavy-duty/industrial dampers, visit our website at www.greenheck.com, or contact your local Greenheck representative.

Industries Served

- Dirty Air Applications
- General Industry
- Heat Recovery
- Heavy Manufacturing
- Laboratories
- Medical/Pharmaceutical
- Nuclear - Including AG-1 Class 0A
- Paint Booths
- Pollution Control
- Power Generation
- Processing Applications
- High Temperature Application

Backdraft - HB/HBR series

The HB family of products is designed to prevent backflow in the ventilation system. Every HB unit has counterweights for easy operation.

Applications

- Blower Outlets
- Branch Duct Isolation
- Industrial Process Isolation
- Emergency Generator Radiator Outlets



Pressure Relief - HPR series

The HPR family of dampers is designed to prevent an over pressurization and backflow of a system. The HPR dampers have counterweights for easy operation and pressure set weights for the proper start-to-open pressure desired.

Applications

- Fume Exhaust
- Duct/Plenum Protection
- Nominal Pressure Control



Models	Max. Back Pressure	Start - Open Pressure	Pressure Relief	Velocity	Temperature Ranges
		in. wg (kPa)			
HBR-050	6 (1.5)	0.12 (0.03)	-	3000 (15.2)	-20 to 250 (-29 to 121)
HBR-150	6 (1.5)	0.25 (0.06)	-	4000 (20.3)	-20 to 250 (-29 to 121)
HB-110	5 (1.2)	0.02 (0.005)	-	3900 (20)	-20 to 180 (-29 to 82)
HB-120	8.5 (2.1)	0.045 (0.11)	-	5150 (26)	-20 to 250 (-29 to 121)
HB-230	13.5 (3.4)	0.04 (0.01)	-	5150 (26)	-20 to 250 (-40 to 121)
HB-240	13.5 (3.4)	0.04 (0.01)	-	5150 (26)	-40 to 250 (-40 to 121)
HB-330	20 (5)	0.25 (0.06)	-	6400 (33)	-40 to 250 (-40 to 121)
HPR-120	8.5 (2.1)	User Selected	0.1 - 2 (0.02 - 0.5)	5150 (26)	-20 to 250 (-29 to 121)
HPR-230	13.5 (3.4)	User Selected	0.25 - 4 (0.06 - 1)	5150 (26)	-40 to 250 (-40 to 121)
HPR-330	20 (5)	User Selected	0.50 - 6 (0.12 - 1.5)	6400 (33)	-40 to 250 (-40 to 121)

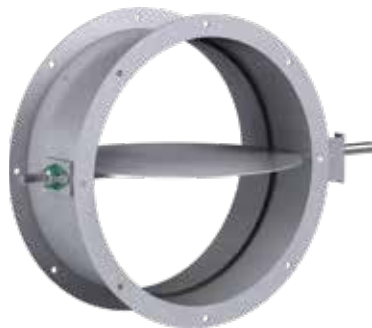
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Industrial Round Control - HCD/HCDR series

The HCD and HCDR products are designed for control and shut-off applications.

Applications

- Process Control
- Flue Gas Stack
- System Isolation
- Spiral Duct for Larger Sizes
- Dust Collection Systems
- Pneumatic Conveying Systems



Applications

- Air Handling
 - Makeup
 - Return
 - Supply
- Process Control
- Pressure Control
- Isolation - Duct/Fan



Models	Blade Type	Max. Velocity	Max. Pressure*	Temperature Ranges
		fpm (m/s)	in. wg (kPa)	°F (°C)
HCD-120	3-V	3000 (15.2)	8.5 (2.1)	-40 to 400 (-40 to 204)
HCD-130	Airfoil	4000 (20.3)	8.5 (2.1)	-40 to 400 (-40 to 204)
HCD-135	Airfoil-Insulated	4000 (20.3)	8.5 (2.1)	-40 to 250 (-40 to 121)
HCD-220	3-V	4000 (20.3)	15 (3.7)	-40 to 600 (-40 to 121)
HCD-230	Airfoil	5000 (25.4)	15 (3.7)	-40 to 600 (-40 to 121)
HCD-240	Airfoil	5000 (25.4)	15 (3.7)	-40 to 400 (-40 to 204)
HCD-324	Airfoil-High Temp	5000 (25.4)	25 (6.2)	-40 to 1000 (-40 to 538)
HCD-330	Airfoil	5000 (25.4)	25 (6.2)	-40 to 600 (-40 to 315)
HCD-430	Airfoil	6000 (30.5)	35 (8.7)	-40 to 600 (-40 to 315)
HCD-524	Airfoil-High Temp	5000 (25.4)	45 (11.2)	-40 to 1000 (-40 to 538)
HCD-530	Airfoil	6000 (30.5)	45 (11.2)	-40 to 600 (-40 to 315)
HCDR-050	Round	3000 (15.2)	6 (1.5)	-40 to 250 (-40 to 121)
HCDR-150	Round	4000 (20.3)	6 (1.5)	-40 to 400 (-40 to 204)
HCDR-152	2-Blade Round	4000 (20.3)	6 (1.5)	-40 to 400 (-40 to 204)
HCDR-250	Round	5150 (26.2)	13.5 (3.4)	-40 to 600 (-40 to 315)
HCDR-350	Round	6400 (32.5)	20 (5)	-40 to 1000 (-40 to 538)
HCDR-450	Round	7000 (35.6)	30 (7)	-40 to 400 (-40 to 204)

Smoke- HSD series

The HSD-401 is a UL 555S Leakage Class I heavy-duty smoke damper specifically for smoke control systems.

Applications

- Smoke Containment
- Personnel Protection



Models	Max. Velocity	Max. Pressure*	Temperature Ranges	UL555S Leakage Class
	fpm (m/s)	in. wg (kPa)	°F (°C)	
HSD-401	3000 (15.2)	6 (1.5)	-40 to 250 (-40 to 121)	I

* Maximum pressure and velocity are size-dependent.
Contact Greenheck for specific information.

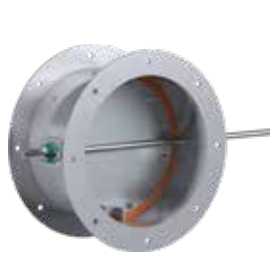
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Isolation Control - HCD-221, HCDR-351, HBT, & HBTR Series

These dampers are designed to provide tight shut-off with leakage as low as zero. Each is equipped with shaft seals to prevent leakage through the damper frame and silicone blade seals.

Applications

- Clean Room
- Data Centers
- Bag in Bag out (BIBO) filtration
- Microelectronic Manufacturing
- Manufacturing (automotive, solar panel, chemical, etc.)
- Chemical and Treatment Plants
- Dust Collection
- BSL3 and BSL4 Laboratories
- Medical Facilities
- Nuclear Power Plants



HCDR-351

- Less than 1½ cfm/ft² at 10 in. wg
- Silicone blade seal (field replaceable for easy maintenance)
- Wide variety of actuators available
- ASME AG-1 leakage class 1B

HBTR-151, 451, & 551

- Zero leakage up to 30 in. wg
- Silicone blade seal (field replaceable for easy maintenance)
- Wide variety of actuators available
- Bubble-tight leakage per AMCA 500D and ASME AG-1 leakage class 0A



Low Leakage ←

→ Zero Leakage



HCD-221

- 2½ cfm/ft² at 10 in. wg
- Wide variety of actuators available
- ASME AG-1 leakage class 1B

HBT-221

- Zero leakage up to 10 in. wg
- Wide variety of actuators available
- Bubble-tight leakage per AMCA 500D and ASME AG-1 leakage class 0A



		HCDR-351	HCD-221	HBT-221	HBTR-151	HBTR-451	HBTR-551
Pressure in. wg (kPa)	Maximum	20 (5)	10 (2.5)	10 (2.5)	10 (2.5)	30 (7.5)	30 (7.5)
Velocity ft./min. (m/s)	Maximum	6500 (33)	4000 (20.3)	4000 (20.3)	3900 (19.8)	6500 (33)	6500 (33)
Leakage* cfm/ft² (cmh/m²)	Maximum	Less than 1½ at 10 in. wg (27.4 at 2.5 kPa)	Less than 1 at 1 in. wg (18.3 at .25 kPa)	0	0	0	0
Temperature Ranges °F (°C)	Maximum	-40 to 400 (-40 to 204)	-40 to 400 (-40 to 204)	-40 to 250 (-40 to 121)	-40 to 250 (-40 to 121)	-40 to 250 (-40 to 121)	-40 to 250 (-40 to 121)

* Bubble-tight leakage per AMCA 500D and ASME AG-1. For comparison, AMCA class 1A is 3 cfm/sq. ft. at 1in. wg. For more information on the bubble-tight leakage test, go to www.greenheck.com.

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Blast - HBS series

In the event of an explosion, the HBS reacts to the shockwave by closing the damper, helping to contain the explosion and help protect equipment and personnel downstream of the blast.

Applications

- Personnel Protection
- Equipment Protection
- Blast Containment



Tornado - HTOD series

In the event of a tornado, the HTOD products reacts to rapid pressure changes.

Applications

- Personnel Protection
- Duct Protection



Models	Max. Velocity	Temperature Ranges	Pressure Rise/ Decrease
	fpm (m/s)	°F (°C)	
HBS-330	6400 (32.5)	-40 to 250 (-40 to 121)	5.77 psi
HBS-331	6400 (32.5)	-40 to 250 (-40 to 121)	5.77 psi
HBS-430	4000 (20.3)	-40 to 250 (-40 to 121)	15 psi
HBS-431	4000 (20.3)	-40 to 250 (-40 to 121)	15 psi
HTOD-330	6400 (32.5)	-40 to 250 (-40 to 121)	3 psi
HTOD-331	6400 (32.5)	-40 to 250 (-40 to 121)	3 psi

Shut Off and Toxic Gas - HSV and HTG series

Heavy-duty shut-off and toxic gas dampers comply with the requirements of the United States Department of the Navy; MIL-S-901D Shock Tests, High Impact Shipboard Machinery, Equipment, and Systems.

Applications

- Naval Vessels



HSV-230/HTG-230



HSVR-250/HTGR-250

Models	Max. Velocity	Temperature Ranges	Pressure
	fpm (m/s)	°F (°C)	in. wg (kPa)
HSV-230	5000 (25.4)	-40 to 250 (-40 to 121)	15 (3.7)
HSVR-250	4000 (20.3)	-40 to 250 (-40 to 121)	15 (3.7)
HTG-230	5000 (25.4)	-40 to 250 (-40 to 121)	13.5 (3.4)
HTGR-250	4000 (20.3)	-40 to 250 (-40 to 121)	13.5 (3.4)

