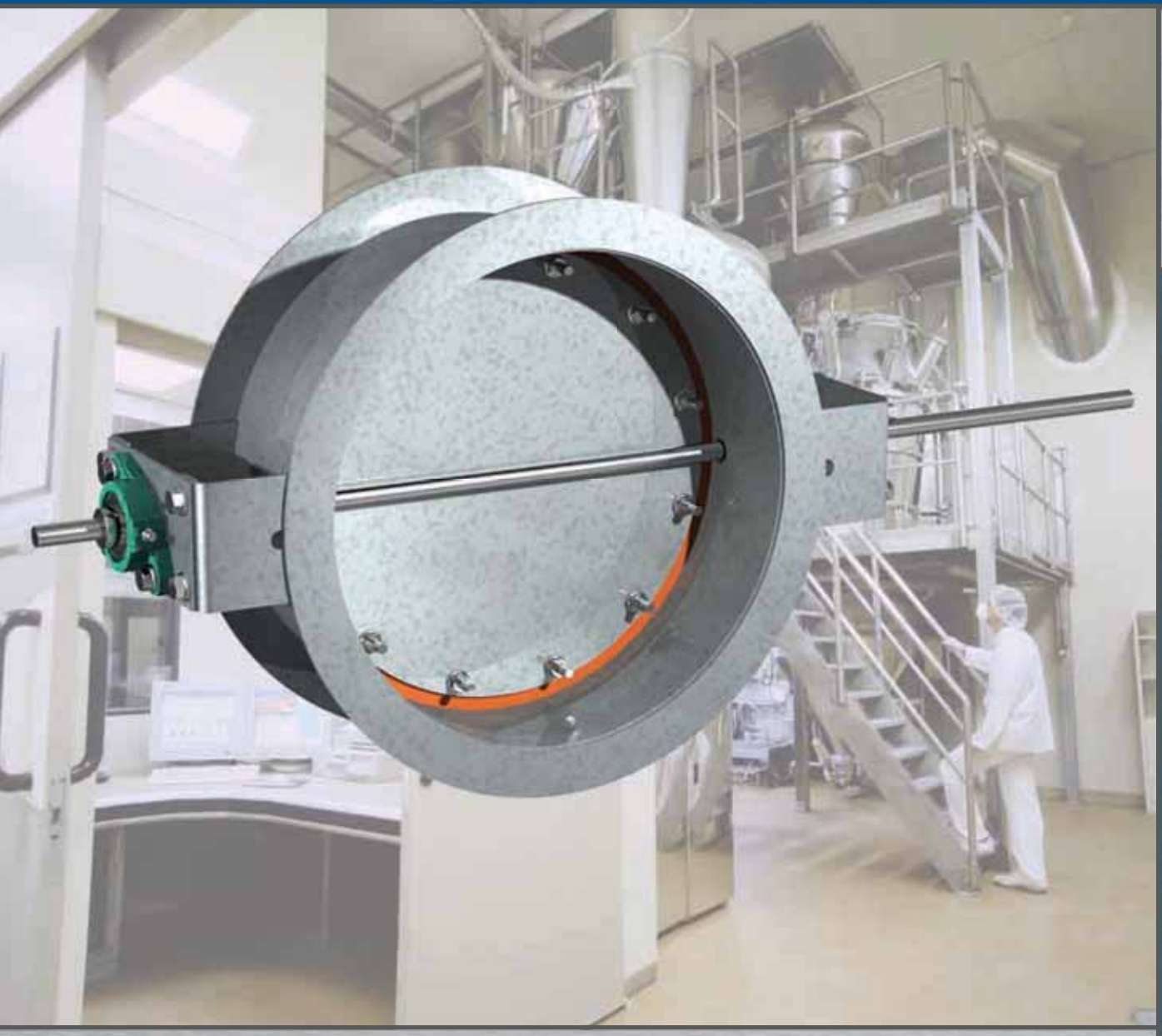
Bubble-Tight Dampers

HBTR Series

- Zero Leakage





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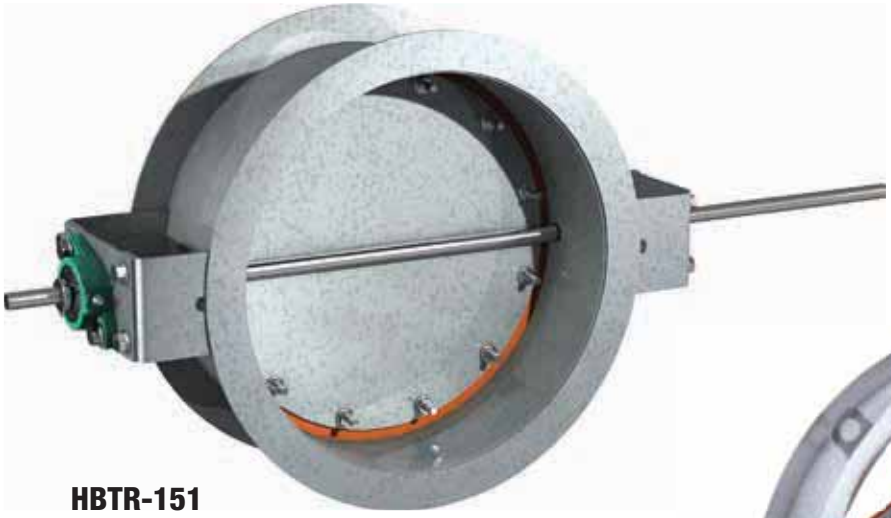
June
2013

Bubble-Tight Construction Features

The HBTR series is a bubble-tight damper that is designed for isolation applications. Bubble-tight means the damper has the lowest possible leakage rating: zero. The silicone blade seal and double-gland axle seals provide bubble-tight performance.

Common bubble-tight applications include:

- Medical facilities
- Food processing
- Microelectronic manufacturing
- Laboratories
- Federal buildings
- Clean rooms



HBTR-151



HBTR-451

Frame

The heavy duty flanged frame is available with optional mounting holes which can be customized to match your mating flange.

Axle Seal

Double-gland seals are standard and prevent leakage around the damper's axles.



Blade Stops

On the HBTR-451, externally mounted blade stops allow for simple field adjustment of the blade's maximum open and closed positions.

Blade

The round, butterfly style blade is engineered to be rigid for the rated pressures.

Blade Seals

A silicone rubber blade seal is standard and eliminates leakage around the blade. The seal is field removable for easy maintenance.

Bearings

Ball bearings with grease zerks are standard. The bearing is bolted external to the damper frame for easy access.



Actuators

Greenheck offers a long line of commercial and industrial actuators that can be factory mounted to the HBTR series. Fast acting, spring return actuators are recommended for most bubble tight applications. Manual operators are also available. Contact your Greenheck damper expert for more actuator information.

Quick Reference

		HBTR-151	HBTR-451
Maximum Pressure		10 in. wg (2.5 kPa)	30 in. wg (7.5 kPa)
Maximum Velocity		3900 ft/min. (33 m/s)	6500 ft/min. (33 m/s)
Minimum Temperature		-40°F (°C)	-40°F (°C)
Maximum Temperature		250°F (121°C)	250°F (121°C)
Maximum Leakage		Zero at 10 in. wg (2.5 kPa)	Zero at 30 in. wg (7.5 kPa)
Minimum Size		6 in. (152 mm)	6 in. (152 mm)
Maximum Size		24 in. (610 mm)	48 in. (1219 mm)
Material	Painted Steel	•	•
	304SS	O	O
	316SS	O	O
Paint Finishes	Mill Finish SS	O	O
	Permatector™	•	•
	Hi Pro Polyester	O	O
	Industrial Epoxy	O	O
	Epoxy	O	O

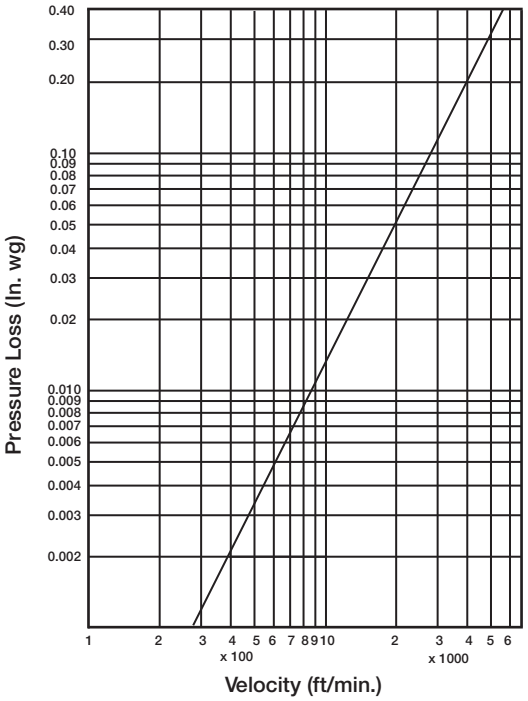
• Standard O Optional

Pressure Drop Data

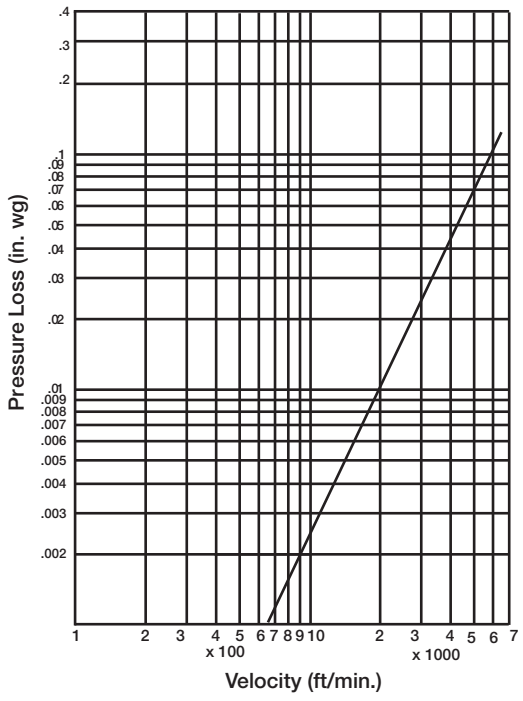
This pressure drop data was conducted in accordance with AMCA Standard 500-D using Test Figure 5.3. All data has been corrected to represent standard air at a density of 0.075 lb/ft^3(1.2 kg/m^3).

Actual pressure drop found in any HVAC system is a combination of many factors. This pressure drop information along with an analysis of other system influences should be used to estimate actual pressure losses for a damper installed in a given HVAC system.

HBTR-151
Pressure Drop
12 in. (305 mm) dia. Damper



HBTR-451
Pressure Drop
36 in. (914 mm) dia. Damper



Testing

Factory Tested

Every HBTR series damper is leakage tested in accordance with AMCA 500-D figure 5.8 before it leaves the factory to ensure bubble-tight performance.























In-house Testing

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



Our Commitment

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

Specific Greenheck product warranties are located on greenheck.com within the product area tabs and in the Library under Warranties.

U.S. GREEN BUILDING COUNCIL MEMBER

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