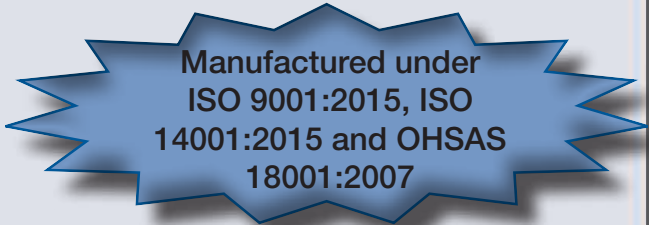


HTD Series

Damper Product Overview



Underground road and metro tunnels are some of the most difficult environments in the world. High humidity, dust-laden air, and limited access can make the installation and operation of ventilation systems problematic. However, these issues become insignificant in the event of an emergency — the dampers and fans that make up the ventilation system simply must operate when lives are on the line. Greenheck's tunnel specific dampers, the HTD series, were designed to meet these challenges.

Models

HTD-630

- 250°C (482°F)/1 hour per NFPA-130 and NFPA-502
- 250°C (482°F)/2 hours
- 300°C (572°F)/1 hour

HTD-636

- Rated for BS476, Part 20 for fire integrity
- 250°C/1 hour per NFPA-130 and NFPA-502
- 250°C/2 hours
- 400°C/1 hour

Damper Performance

- Tested in accordance with BS 476, Part 20 at Warrington Fire
- Temperature degradation compliant as required for each job specification
- Compliant with damper pressure reversals due to train impulse pressures
- Thermal shock capabilities
- Pressure drop performance as low as 0.1 in. wg at 2000 fpm and 70°F (25 Pa at 10.2 m/s and 21°C)
- Leakage to UL 555S Class I - 11 cfm/ sq. foot at 8.5 in. wg (0.1 m³/s/m²)



Material Choices

- Galvanized steel
- 304 or 316 stainless steel

Bearing Choices

- Stainless steel sleeve type
- 2-bolt bronze bearings
- 2-bolt relubricable ball bearings
- 2-bolt carbon graphite bearings

Actuator Types

- Spring return, fail safe electric actuators
- Power open, power closed, fail as is, electric actuators
- Spring return, fail safe pneumatic actuators
- All meet 250°C (482 °F)/1 hour requirements of NFPA-130 and NFPA-502 or better

Power Supply

- 24V - AC or DC
- 110V, 230V, single phase
- 3 phase options, if required
- 80 PSI pneumatic supply actuators

Tunnel Ventilation Damper



Other Options

- Actuators can be mounted internal to the airstream in tight space applications or external to maximize airflow
- Thermal blanket for actuators when needed
- If required, thermal overloads in the actuators can be wired to be bypassed during an emergency event
- Actuators can be supplied with isolation relays if required
- Rubbish or debris screen in galvanized steel or stainless steel
- Perimeter mounting gaskets
 - capable of 250°C (482°F) continuous temperatures
 - delivered with pre-punched holes to match the damper mounting pattern
- Structural mullion supports for larger openings
 - designed to withstand full systems pressures as specified
 - maintaining structural integrity of the damper assembly to L/360 deflections
 - hot dipped galvanized steel construction for longevity in the harsh tunnel environments
- Intermediate junction boxes
 - pre-wired and installed in the factory (sometimes dismantled for shipments, but extremely easy to reassemble)
 - cast aluminum, cast iron or sheet metal boxes
 - fully compliant with NFPA-130 and NFPA-502 temperature requirements
 - weatherproof fittings and gaskets for tunnel environment
 - wiring in accordance with UL 508 standards

Project References

Project	Shipment
Taiwan MRT (Taipei, Taiwan)	2019
Lytle Tunnel (Cincinnati, OH)	2016
Contract CS-179 (NYC, NY)	2015
Hauma Station (Jerusalem, Israel)	2014-2015
NYCTA 72nd Street Station (NYC, NY)	2014-2015
BART Warm Springs (San Francisco, CA)	2014
Mount Royal Tunnel (Montreal, QB)	2014
NYCTA Greenpoint (NYC, NY)	2014
Denver Union Station (Denver, CO)	2013
Washington Metro (Washington DC)	2007, 2010, 2012
North Shore Connector (Pittsburgh, PA)	2010-2011
Taiwan MRT (Taipei, Taiwan)	2010
Wawona Road (Yosemite National Park, CA)	2009

For more information regarding the Greenheck Tunnel Transit Dampers, visit www.greenheck.com or consult your local Greenheck sales representative.



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