

LIFE SAFETY & CONTROL DAMPERS HVAC fact sheet



DAYTON VENTILATION

Dayton has a complete line of quality dampers for your building needs and can be used in Office Buildings, Hospitals, Hotels, Restaurants, Schools, Arena's, Shopping Malls and more. Damper products include Life Safety Dampers, Low-Leakage Volume Control Dampers, Balancing Dampers and Access Doors.

LIFE SAFETY DAMPERS

Intended to protect openings in walls and/or partitions to prevent the spread of fire and/or smoke. They include:

- *Fire Dampers* — Required by all building codes to maintain the required fire resistance ratings of walls, partitions and floors when they are penetrated by air ducts or other air transfer openings.
- *Smoke Dampers* — Used in two ways:
Passive Smoke Control System — dampers close to prevent the circulation of air and smoke through a duct or a ventilation opening in a smoke barrier.
Engineered Smoke Control System — designed to control the spread of smoke using walls and floors as barriers and using the building's HVAC system and/or dedicated fans to create pressure differences.
- *Combination Fire Smoke Dampers* — Perform the function of both a fire damper and a smoke damper. Building layouts and designs often combine fire and smoke rated partitions and barriers requiring the installation of both a fire damper and a smoke damper at the same location.

LOW-LEAKAGE VOLUME CONTROL DAMPERS

Volume Control Dampers regulate the volume of air moving through a duct system. Varying blade types, frames, linkages and actuators along with Dayton's air measuring products are available to achieve desired velocity and pressure control of a system.









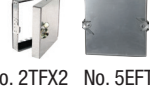
BALANCING DAMPERS

Manual and Remote Balancing Dampers regulate airflow balance and are not used where positive shut off or automatic control is needed. Galvanized round, square and rectangular balancing dampers are available in common sizes to fit most ductwork systems.

- *Manual Balancing Dampers* — feature a hand-adjustable quadrant, to easily set once your system flow is achieved.
- *Remote Balancing Dampers* — offer the ability to control damper remotely (using No. 48C165) by connecting to the wall/ceiling plate or diffuser.







The Grainger Choice badge signals a broad selection of products that deliver quality and value, brought to you by Grainger.

CATEGORY	APPLICATIONS	PRODUCT FEATURES AND BENEFITS
LIFE SAFETY DAMPERS		
FIRE		
Dynamic	No. 2TGE6  No. 2TFZ7	Dayton dynamic-rated fire dampers are designed to protect duct penetrations and transfer openings in fire rated walls, barriers, partitions or floor/ceiling assemblies. Dynamic dampers are used in systems intended to maintain airflow in the event of a fire. <ul style="list-style-type: none"> • Fire resistance rating of 1-1/2 hours • Rated up to 4" wg pressure and 2,000 fpm velocity • Maximum temperature 165°F • Blades close with the aid of a steel spring • Round dampers have single blade closure and include a retaining plate for installation <ul style="list-style-type: none"> • Square dampers have curtain blade style • Vertical/horizontal mount configurations accommodate airflow in either direction • UL, NFPA, IBC, NYC MEA, CSFM Standards*
Sleeved Dynamic	 No. 20CK19	
Static	 No. 2TGA2 No. 2TGC9	Dayton static-rated fire dampers are designed to protect duct penetrations and transfer openings in fire rated walls, barriers, partitions or floor/ceiling assemblies. Static dampers are used in systems intended to shutdown in the event of a fire. <ul style="list-style-type: none"> • Fire resistance rating of 1-1/2 hours • Vertical mount models close via gravity or spring-assist; horizontal models have spring-assist closing • Maximum temperature 165°F <ul style="list-style-type: none"> • Curtain blade style • Vertical and horizontal mount configurations accommodate airflow in either direction • UL, NFPA, IBC, NYC MEA, CSFM Standards*
Sleeved Static	 No. 20CK13	
Fusible Link	 No. 2TGJ3 No. 2TGJ2	For round and curtain style dampers. <ul style="list-style-type: none"> • 165°F Fusible Link Temperature • Two configurations available <ul style="list-style-type: none"> • UL Standard 555
SMOKE		
Motorized	No. 3HGG2  No. 3HGH4	For use in HVAC system applications where emergency smoke control is required. (UL 555S). <ul style="list-style-type: none"> • Qualified to UL Standard 555S leakage class of II • Rated up to 2,000 fpm (square); 3,000 fpm (round) velocity • Factory installed actuator <ul style="list-style-type: none"> • 3V blade style • Square and round dampers accommodate airflow in either direction • UL, NFPA, IBC, NYC MEA, CSFM Standards*
FIRE SMOKE		
Motorized	No. 3HGJ4  No. 3HGK8	For use in HVAC system applications where emergency fire/smoke control is required. (UL 555S). <ul style="list-style-type: none"> • Qualified to UL Standard 555 as a 1-1/2 hour fire damper and UL Standard 555S leakage class of II • Rated up to 2,000 fpm (square); 3,000 fpm (round) velocity • Factory installed actuators wired to a single junction box provide easy, single point wiring <ul style="list-style-type: none"> • Round dampers include retaining plate for easy installation • Square and round dampers accommodate airflow in either direction • UL, NFPA, IBC, NYC MEA, CSFM Standards*
ACCESSORIES		
Retaining Angles	No. 2TGG4  No. 2TGH9	For use with Dayton square and rectangular fire dampers in vertical and horizontal applications. NFPA 80 requires retaining angles (rectangular) or plate (round) in fire damper installations. <ul style="list-style-type: none"> • Sides are riveted together and have pre-punched mounting holes for easy installation • 20-ga steel with 1-1/2" x 1-1/2" legs <ul style="list-style-type: none"> • Meets UL 555 requirements
Insulated Access Doors	 No. 2TFX2 No. 5EFT0	Provides a durable, practical and inexpensive means of gaining access to components inside the ductwork. Fire dampers are required to have access per NFPA 80. <ul style="list-style-type: none"> • Rated up to 4" wg • Single Cam Lock with piano style hinge and Double Cam Lock configurations <ul style="list-style-type: none"> • 1" fiberglass insulation • Mounting tabs for a secure installation



* UL 555, UL 555S, NFPA 80, 90A & 101, International Building Code (IBC), New York City MEA, California State Fire Marshall (CSFM)

CATEGORY	APPLICATIONS	PRODUCT FEATURES AND BENEFITS
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LOW-LEAKAGE VOLUME CONTROL DAMPERS

3V Blade	 No. 2LR7	Designed for low leakage HVAC systems or systems requiring modulating airflow. Typically installed inside ductwork of low to medium airflow velocity and static pressure capabilities. Blade designs maximize free area and increase performance, install with blade in horizontal position.	<ul style="list-style-type: none"> • Pressure rated up to 5.0" wg pressure and up to 3,000 fpm velocity • Blades are constructed of 16-gauge fabricated galvanized steel utilizing extruded thermoplastic elastomers (TPE) seals • Square structurally reinforced frame is constructed of 16-gauge galvanized steel and stainless steel jamb seals • Maximum temperature 180°F • Meets AMCA Class IA and Class I Leakage
Airfoil Blade	 No. 3HGN3		<ul style="list-style-type: none"> • Pressure rated up to 10" wg pressure and up to 4,000 fpm velocity • Blades are airfoil style 14-gauge equivalent galvanized steel utilizing extruded thermoplastic elastomers (TPE) seals • Square structurally reinforced frame is constructed of 16-gauge galvanized steel and stainless steel jamb seals • Maximum temperature 180°F • Meets AMCA Class IA and Class I Leakage
Extruded Blade	 No. 3HGP4		<ul style="list-style-type: none"> • Pressure rated up to 10" wg pressure and up to 6,000 fpm velocity • Blades are extruded aluminum utilizing thermoplastic elastomers (TPE) seals • Square structurally reinforced frame is constructed of 16-gauge aluminum • Aluminum frame with stainless steel jamb seals • Maximum temperature 180°F • Meets AMCA Class IA and Class I Leakage
Single Blade	 No. 3HGN8		<ul style="list-style-type: none"> • Pressure rated up to 4.0" wg pressure and up to 6,000 fpm velocity • Single blade is constructed of galvanized steel utilizing silicone seal • Round structurally reinforced frame is constructed of 16-gauge galvanized steel • Max air temperature 250°F



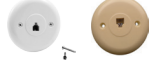

ACCESSORIES

Actuators	 No. 2LRZ2	Spring-return actuators designed for operation of dampers in HVAC systems. Upon applying power, the actuator drives the damper to the open position. If power fails, the spring will return damper to its preset/closed position. Modulating actuators are used to position the damper to any position between open and closed.	<ul style="list-style-type: none"> • Grainger Approved Vendor (GAV) • Power Open/Spring Close • Modulating • 24 VAC and 120 VAC • Operates dampers up to 5 square feet • 0-10VDC control signal
Airflow Measuring Stations	 No. 36MG31	Air measuring products help buildings meet the minimum outdoor air requirements by providing accurate monitoring and control of outside air.	<ul style="list-style-type: none"> • Includes properly sized pressure transducer that outputs a signal proportional to cfm • Compatible with a field-supplied controller to indicate airflow volume • Helps meet requirements of ASHRAE Standard 62 or California Title 24

BALANCING DAMPERS

Manual	 No. 2TFX7 No. 22CV77	Single blade manual balancing dampers are designed to regulate the flow of air in an HVAC system.	<ul style="list-style-type: none"> • Constructed of galvanized steel frames and blades • Includes external manual hand quadrant • Install with blade in horizontal position
Remote	 No. 48C160	Single blade remote balancing dampers are designed to regulate airflow in applications where it is difficult to get access to manually adjust the dampers and balance the airflow.	<ul style="list-style-type: none"> • Constructed of galvanized steel • Factory-mounted remote powered 9-volt actuator • Synthetic (acetal) sleeve type bearings • Maximum temperature 180°F

ACCESSORIES (For Remote Balancing Dampers Only)

Quick Control Remote Kit	 No. 48C165	Remote control operates the damper motor by connecting to RJ11 Connector. <ul style="list-style-type: none"> • Includes Hand Held Remote, 5 feet of RJ11 Cable and 9 Volt Battery 	Cable Coupler Kit	 No. 48C163	Cable connector. <ul style="list-style-type: none"> • Includes Connector and Double Sided Tape
Wall/Ceiling Plates	 No. 48C167 No. 48C166	Round plate with single port. <ul style="list-style-type: none"> • Available in ivory and white 	Cable Assemblies	 No. 48C168	Plenum and non-plenum rated cables. <ul style="list-style-type: none"> • Available in 14 and 50 foot lengths




* UL 555, UL 555S, NFPA 80, 90A & 101, International Building Code (IBC), New York City MEA, California State Fire Marshall (CSFM)







BLADE PROFILE				APPLICATIONS			PERFORMANCE			MOUNTING		MATERIAL		ACCESSORIES				
CURTAIN	AIRFOIL	SQUARE 3V	ROUND	FIRE RESISTANCE 1-1/2 HR	SMOKE LEAKAGE CLASS II	CLOSURE TEMPERATURE 165°F/74°C	VELOCITY SQUARE/RECTANGLE	VELOCITY ROUND	PRESSURE RATING (IN. WG)	HORIZONTAL	VERTICAL	GALVANIZED STEEL	EXTRUDED ALUMINUM	RETAINING ANGLES	ACCESS DOORS	ACTUATORS	FUSIBLE LINK	AIRFLOW MEASURING STATION

CHOOSING A DAMPER

LIFE SAFETY

Fire		x			x		x		2000	2000	4	x	x	x		x	x		x
Smoke				x	x	x	x	x	2000	3000	4			x		x	x	x	
Fire Smoke				x	x	x	x	x	2000	3000	4			x		x	x	x	

LOW-LEAKAGE VOLUME CONTROL

Square 3V Blade				x					2000-3000		2.5-6		x	x				x		x
Square Airfoil Blade			x						2500-4000		3-8		x	x				x		x
Square Extruded Blade				x					3000-3000		2-6		x		x			x		x
Round Single Blade					x					3000	4		x	x				x		x

BALANCING

Manual					x				2000	2000	1	x	x	x						
Remote*					x					2000	1	x	x	x				x		

* Accessories for remote balancing dampers include Quick Control Remote Kit, Actuator Kit, Cable Assemblies and Wall/Ceiling Plates.



Call or visit your local branch or go to grainger.com/dayton for complete product line information.

