

Smoke Damper

Motorized Damper / Control Damper



THE FLOWTECH GROUP

● TAIPEI

19F-5, No.1, Baosheng Rd., Yonghe dist. New Taipei City 234, Taiwan
Tel: +886 2-2232-8066 Fax: +886 2-2231-0285~6
E-mail: ydc28066@ms36.hinet.net , flow.tech@msa.hinet.net
<http://www.flowtech.com.tw>

● Lab

No.102, Neihu 1st Rd., Dongshan Township,
Yilan County, Taiwan 269
Tel: +886 3-9612-449 Fax: +886 3-9614-413

● Factory

No.658, Meilin Rd., De-an Village, Dongshan Shiang,
Yilan County, Taiwan 269
Tel: +886 3-9612-449 Fax: +886 3-9614-413

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AGENT :





_globally recognized certifications and standards



Ventilation Performance and Smoke management Laboratory

Any series of ventilation products such as fans, dampers required performance and quality requirements, can be provided by the laboratory for a full range of testing services. Technical requirements with an independent and impartial implementation for each test was supervision under by TAF, hence, all the domestic public works and fire safety related with ventilation products, do not have to shift the products to oversea for testing, and those owners and consultants would not have the trouble for witnessed commuting to foreign countries any more, this even saving more time and costs.



The only UL certification LAB. in ASIA.



TUV certificates



TAF LAB certificates



Fan Performance Testing Facility

- Standards
- AMCA 210
 - ISO 5801
 - BS 848-1
 - DIN 24163-2

Smoke Damper Leakage Testing Facility

- Standards
- AMCA 500
 - UL 555S
 - ISO 10294
 - GB 15930

Louver Pressure Drop Testing Facility

- Standards
- AMCA 500

Silencer / Acoustical Louver Testing Facility

- Standards
- ASTM-E477
 - ISO 7235

Jet Fan Thrust Testing Facility

- Standards
- ISO 13350
 - BS 848-10

Fire Damper Testing Facility

- Standards
- UL 555

Standards

- AMCA 210
- AMCA 300
- AMCA 500
- AS 4429
- ASTM-E477
- ASHRAE 149
- DIN 24163-2
- BS 7346-2
- BS 848-1
- BS 848-2
- BS 848-10
- GA 211
- GB 15930
- EN 12101-3
- ISO 5801
- ISO 7235
- ISO 10294
- ISO 13350
- UL 555
- UL 555S



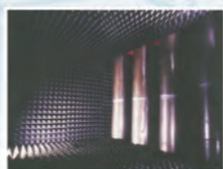
Exhaust Duct exit of Reverberant



Multiple Nozzles for Flow Measurement



Reverberant Room
360° Routing Microphone in Reverberant



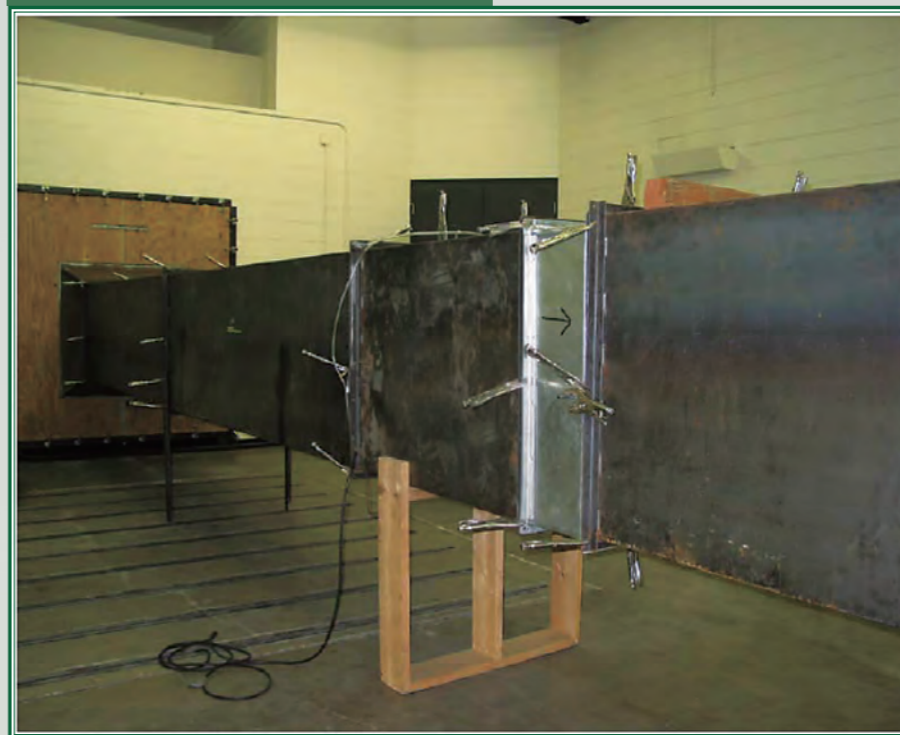
Silencer in Exhaust Duct



Figure 5.4-Leakage Test



Figure 5.3-Ducted Intake Test

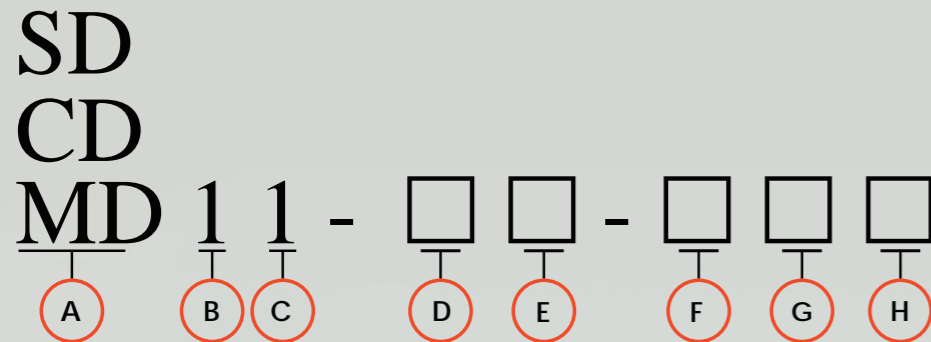




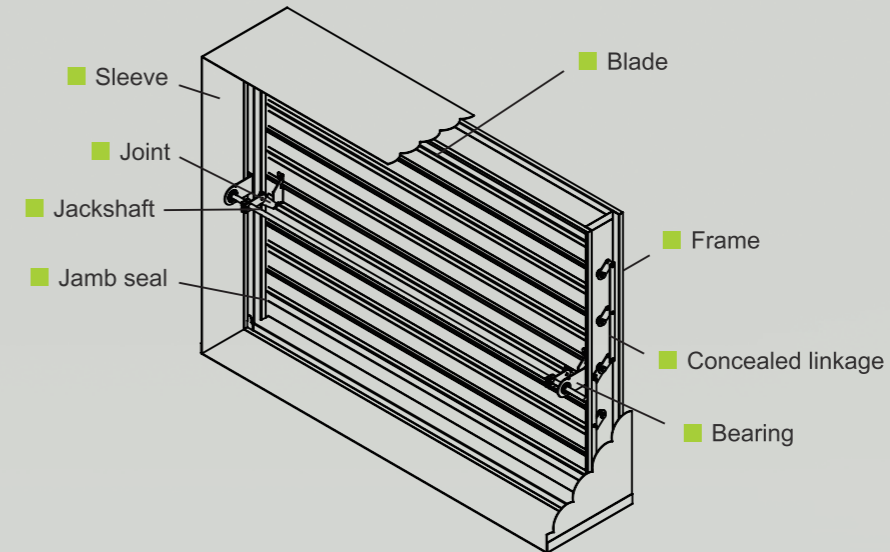
Application and design

The SD-11 smoke damper employs triple-V blades and hat channel frame for point-of origin control of smoke in static and dynamic smoke management systems. The SD-11 is qualified to 2,000 ft/min (10.2 m/s) and 4.in.wg. (1.0 kPa) and may be installed in, or adjacent to vertical walls or partitions, or horizontally in, or adjacent to floors or assemblies.

Both CD-11 control damper and MD-11 motorized damper application in the HVAC systems for automatic air control and manual balancing.



A. Product Type		F. Max. Velocity(For UL Recognize)	
SD	Smoke Damper	1	10.2m/s(2000 fpm)
CD	Control Damper		
MD	Motorized Damper		
B. Blade Type		2	15.2m/s(3000 fpm)
0.	None	3	20.2m/s(4000 fpm)
1.	Triple-V Blade	G. Max. Pressure(For UL Recognize)	
C. Air Leakage		A.	0.5 kPa (2 in-Wg)
1	Class I	B.	1.0 kPa (4 in-Wg)
2	Class II	C.	1.5 kPa (6 in-Wg)
3	Class III	H. Temperature(For UL Recognize)	
D. Fire Rating(For UL Recognize)		A.	74°C (165°F) operating
0	None	B.	100°C (212°F) operating
E. Mounting(For UL Recognize)		C.	121°C (250°F) operating
V	Vertical	D.	141°C (285°F) operating
M	Horizontal	E.	177°C (350°F) operating

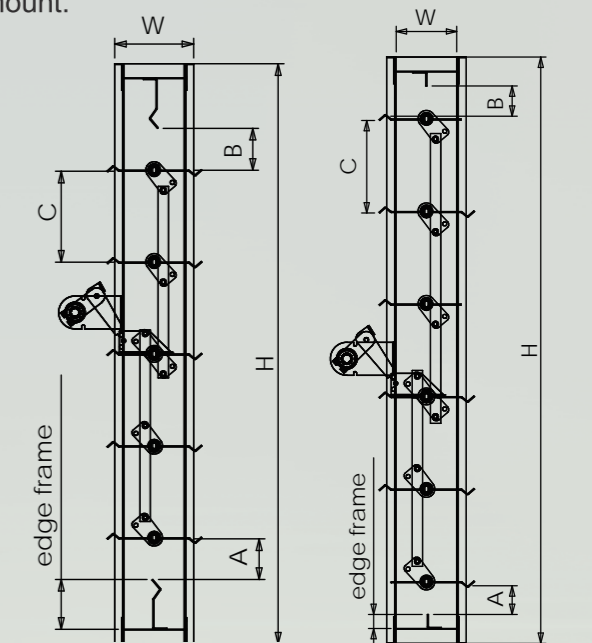


Standard construction

- **Frame** : 5" × 1" (123mm×23mm) galvanized steel hat channel with interlocking corner gusset.
- **Blades** : 6" × 16 gauge (153mm×1.6mm) galvanized steel —triple—V.
- **Side-Plate** : 12" × 16 gauge (300mm×1.6mm) galvanized steel.
- **Jackshaf** : 1/2" (12.5mm) diameter plated steel hex.
- **Linkage** : Concealed in frame.
- **Bearings** : Stainless steel oilite, sleeve-type.
- **Seals** : Silicone blade edge seals and flexible metal mount.
- **Minimum Size** : 12" × 12" (305mm × 305mm)
Maximum Size : 48" × 48" (1220 x 1220 mm)
Multiple Size : 96" × 96" (2440 x 2440 mm)

For UL Certification

- **Ratings**
UL 555 Fire Resistance Rating: 3 hour (vertical)
UL 555S Leakage Class: 1 [8 cfm/sq.ft. @ 4 in.wg.]
[(0.04 m3/s/m2 @ 1.0 kPa)]
Maximum Dynamic Closure Velocity: 2,000 fpm (10.2 m/s)
Maximum UL555S Rated Pressure: 6 in.wg. (1.5 kPa)
Maximum Temperature: 350°F (177°C)
- **Listings**
UL 555 and 555S listing: R26192
Meets NFPA Standards: 90A, 92A, 92B and 101
Minimum Size: 8" × 8" (203x203mm);
Maximum Size: 36" × 36" (914x914mm)



Type 1 ≥ 914mm×914mm
 Type 2 < 914mm×914mm
 (UL Certification)



Options

Alternate actuator

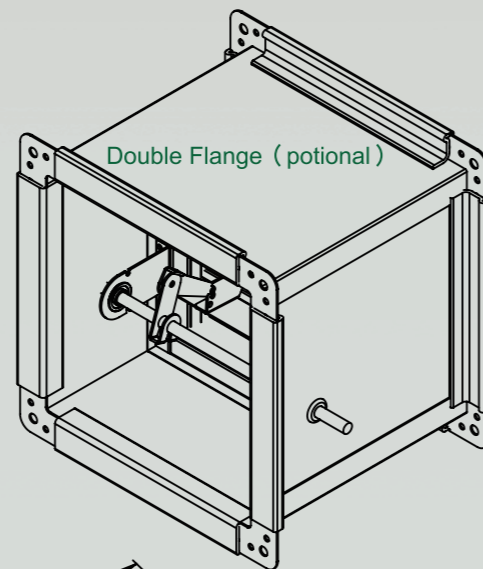
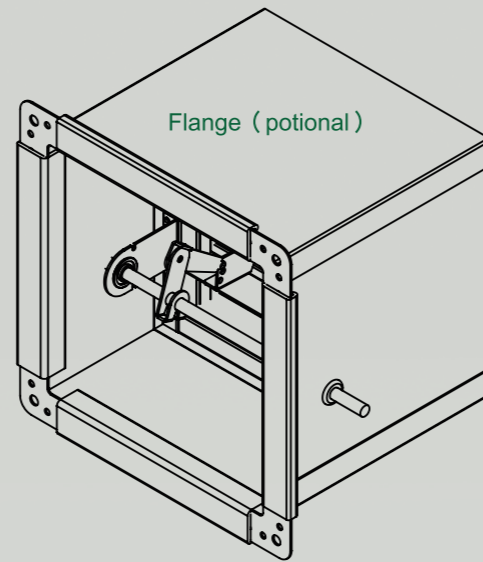
- 24V DC
- 110V AC
- 220V AC
- 7 N-m
- 13N-m
- 20N-m
- Other

Factory installed sleeve

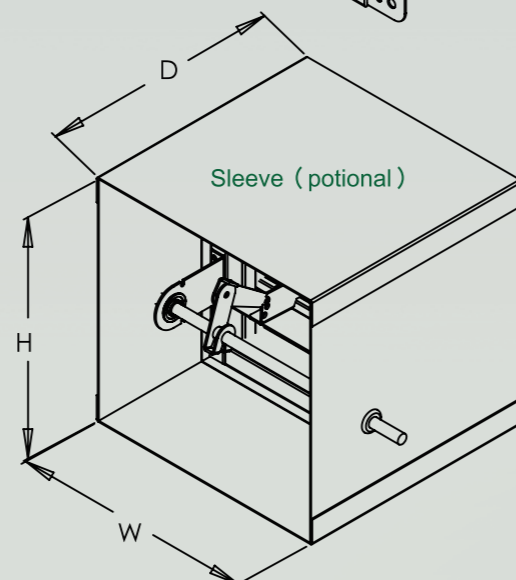
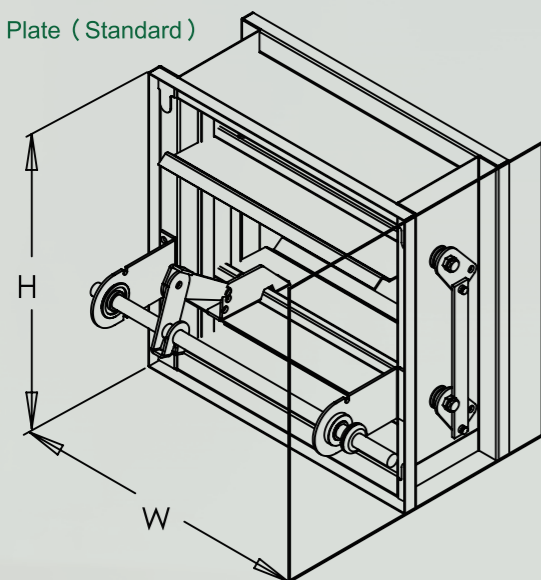
- Gauge: 19# (1.2mm) 16# (1.6mm)
- Length: 12" (305mm) 16" (406mm) Other

Factory installed

- Side plate (Standard)
- Flange
- Double Flange
- Sleeve



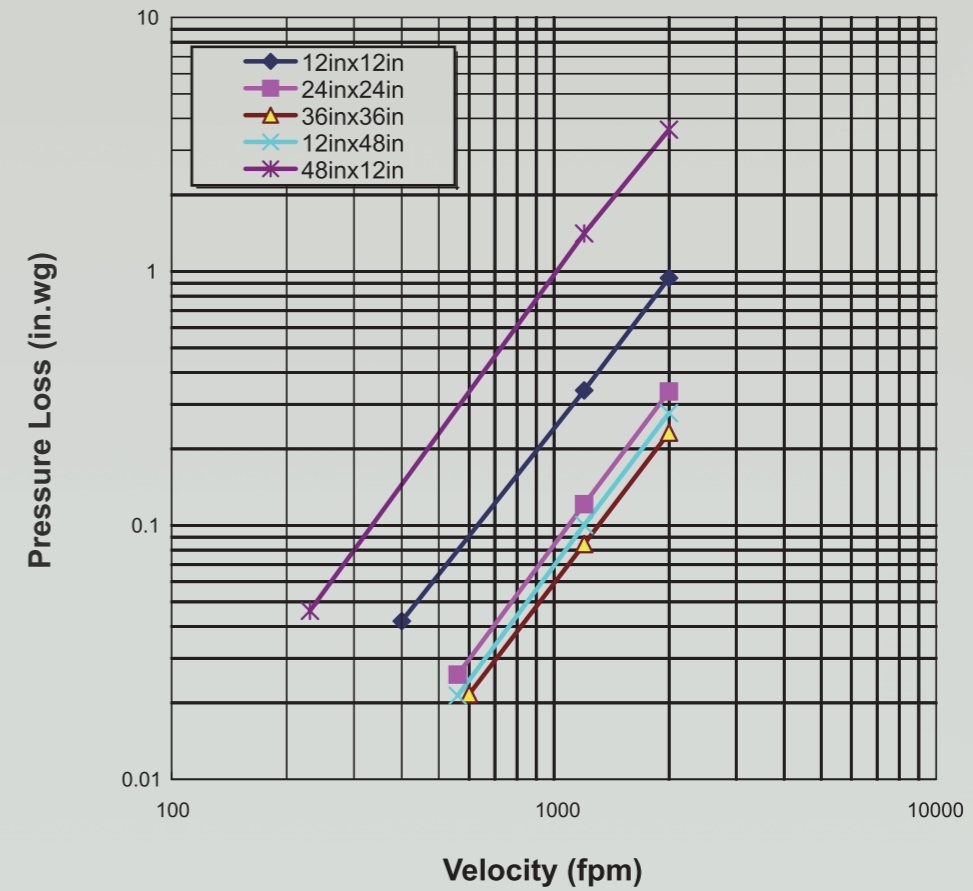
Side Plate (Standard)



Performance Data

Pressure Loss

Figure 5.3-Ducted Intake Test



Ducted Inlet and Outlet

AMCA Figure 5.3 Illustrates a fully ducted damper. This configuration represents the lowest pressure drop of the three test configurations because entrance and exit losses are minimized by straight duct runs upstream and downstream of the dampers.



Leakage Data

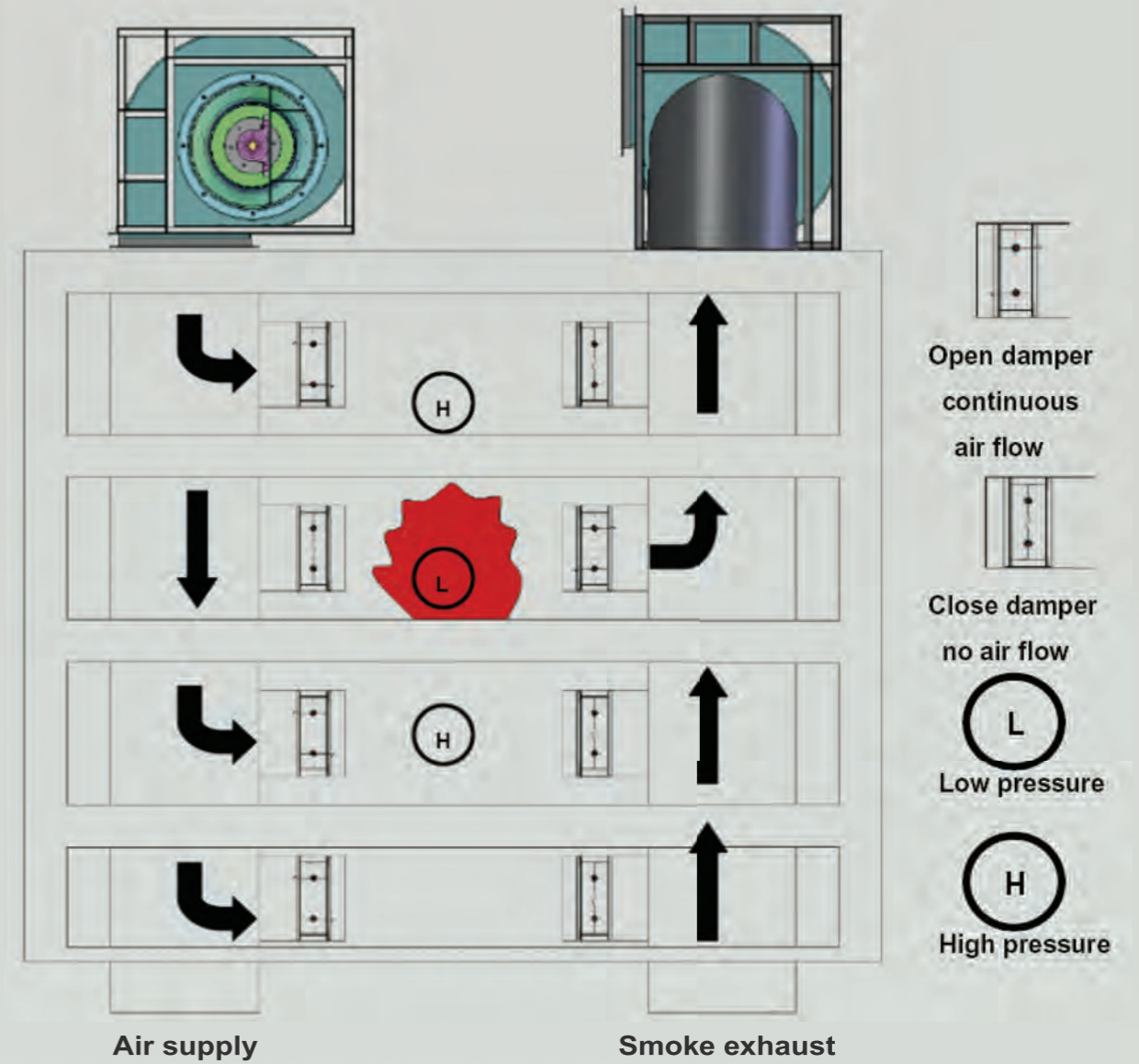
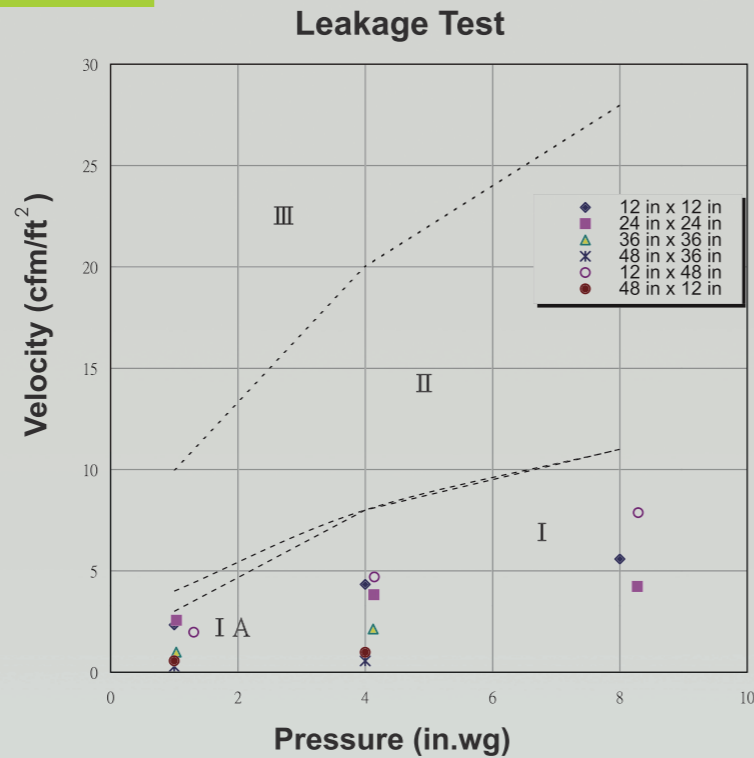
SD-11 series dampers have pass AMCA Certification, the damper can to fit class I leakage under 1 kPa and 2 kPa pressure conditions. Besides, the SD-11 require to ultra low leakage (class I A) under the 250Pa pressure.



FLOWTECH CO., LTD. Certifies that SD-11 shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed

in accordance with AMCA Publication 511 and comply with requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air Leakage and air performance ratings.

- * Tested for air leakage in accordance with ANSI/AMCA Standard 500-D, Figure 5.4.
- * Air leakage is based on operation between 10°C - 40°C (50°F - 104°F).
- * Data are based on a torque of 8.6 N.m/m² (7.1 in-lb/ft²) applied to close and seat the damper during the test.



Damper Installation

(1) Smoke Damper may be vertical the installment or the level installment.

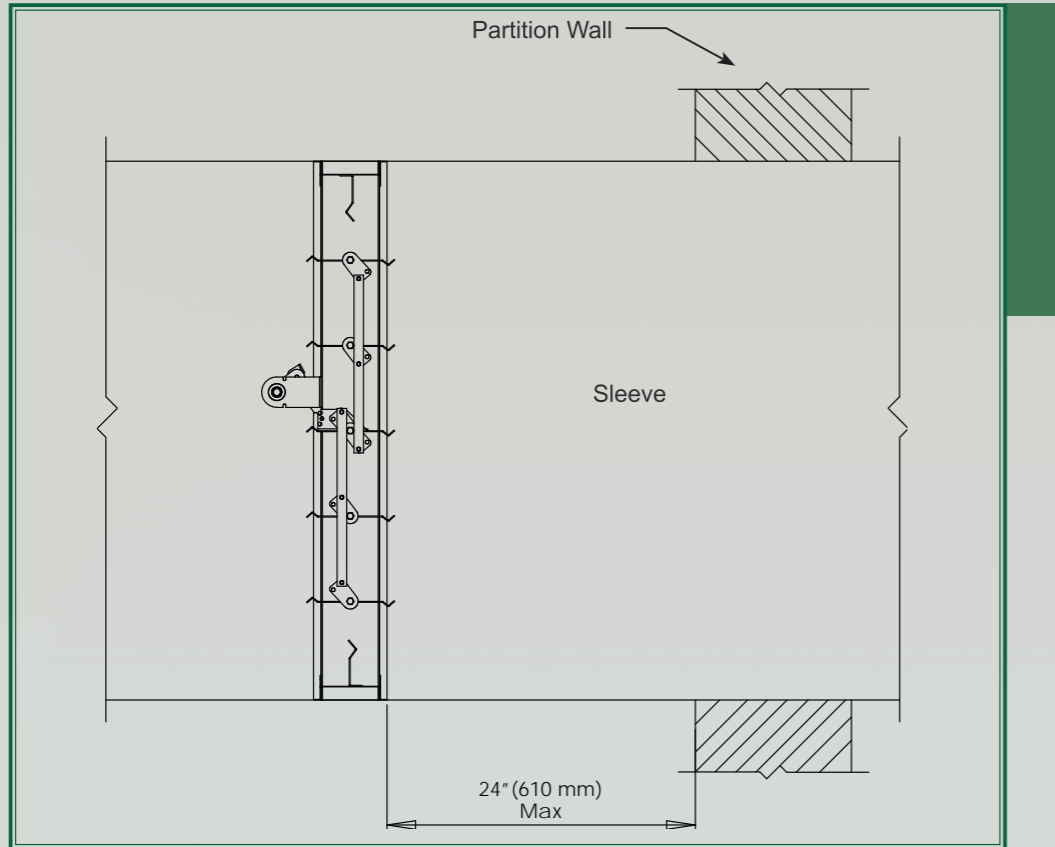
Damper in vertical installs when should not surpass the partition wall 24" (610mm) ° Damper installs in the level when should not be lower than the ceiling 31.5" (800mm) or installment in duct when should not surpass the duct base.

Damper Size	Leakage Class Test Results	Leakage Class Test Results	Leakage Class Test Results
Damper Width mm(in.)×Height	250Pa (1 in. wg) Class	1kPa (4 in. wg) Class	2kPa (8 in. wg) Class
305 (12)×305 (12)	IA	I	I
610 (24)×610 (24)	IA	I	I
910 (36)×910 (36)	IA	I	N/A
305 (12)×1220 (48)	IA	I	I
1220 (48)×305 (12)	IA	I	N/A
1220 (48)×910 (36)	IA	I	N/A

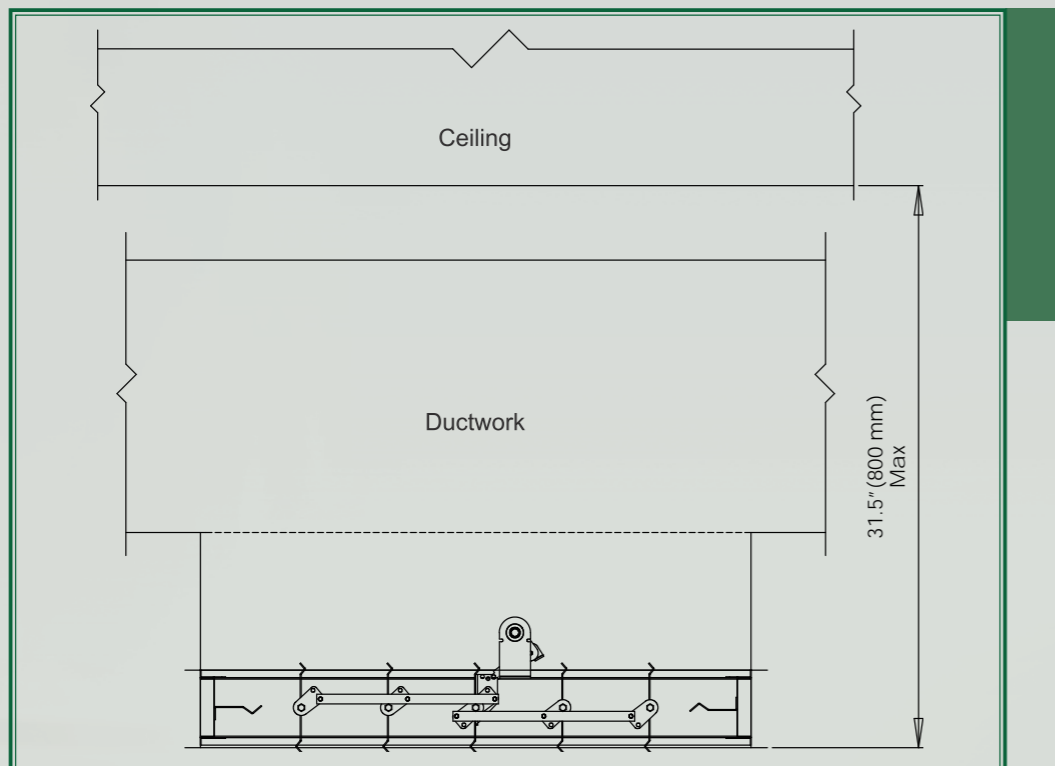
Damper Leakage Class	Damper Leakage Class	Damper Leakage Class
250Pa (1 in. wg)	1kPa (4 in. wg)	2kPa (8 in. wg)
1A	1	1



Vertical installation

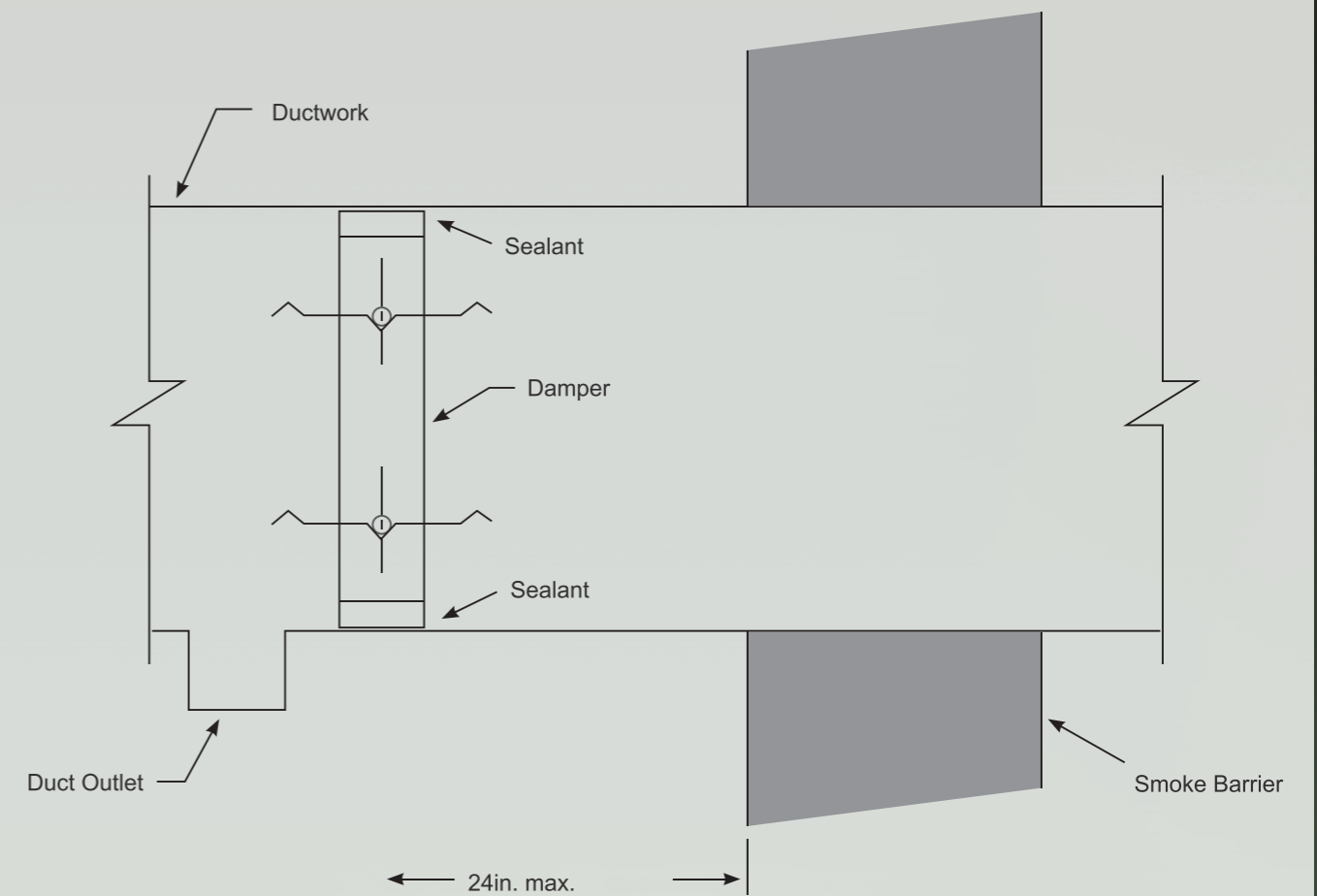


Horizontal installation



(2) SEALING THE INSTALLATION

After installing the damper in ductwork, seal the joint between the damper frame and the duct using GE1200 Silicone Construction Sealant or Dow Corning RTV732 Sealant. Make sure to press the Sealant into the joint to guarantee proper seal. Use minimum amount of material required to completely seal the joint. Figure as follows,

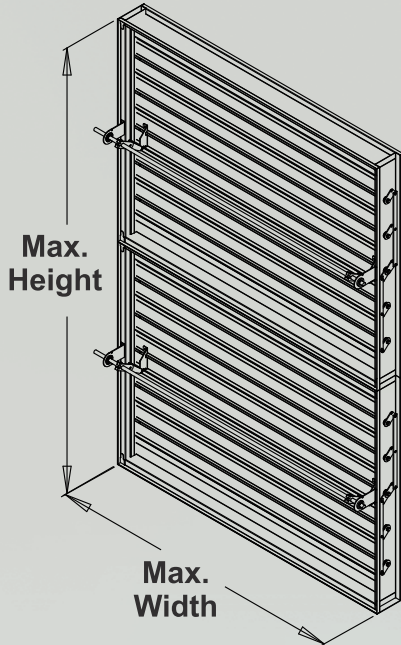


Smoke Damper

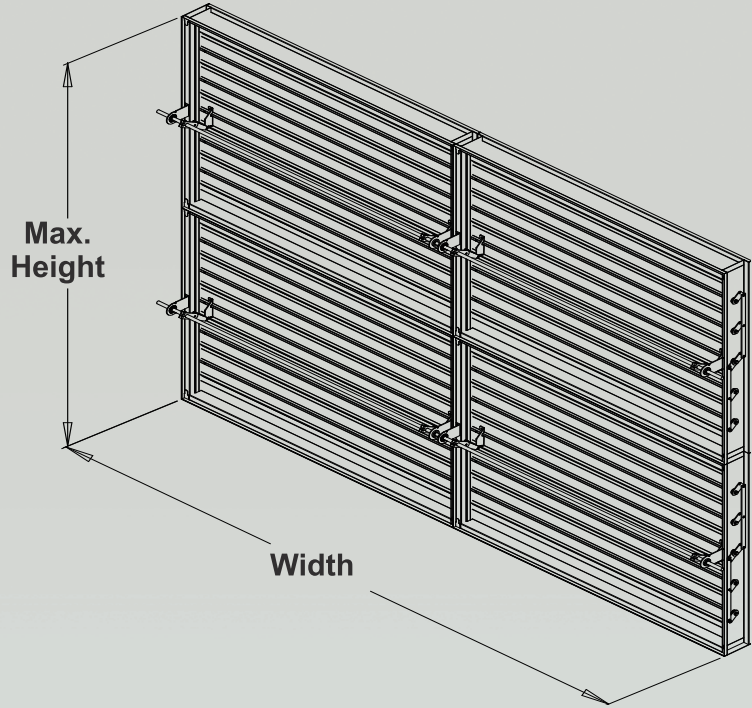
Motorized Damper / Control Damper



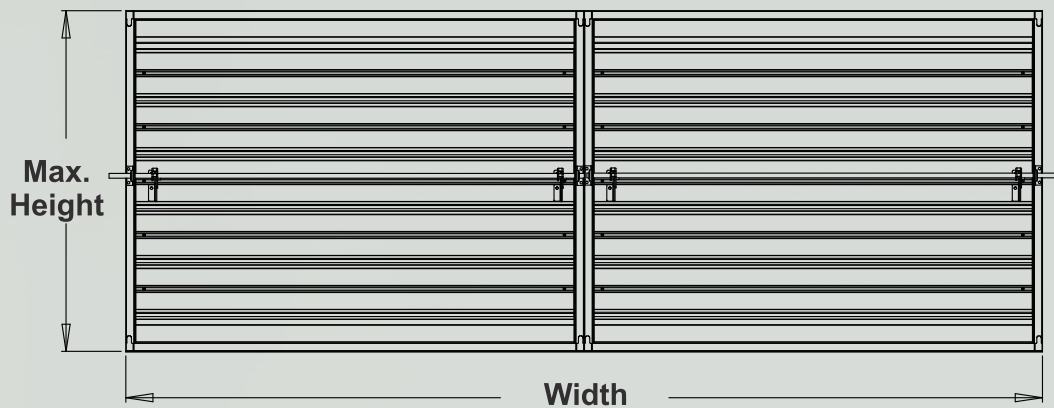
Max Height × Max Width (optional)



Max Height × Max Width (optional)



Max Height × Max Width (optional)



(3) Assembly damper installation

If the size of area surpasses the sole damper size(48" × 48" or 1220mm × 1220mm), shall be to use assembly damper. In the each of sole damper size, do not bigger than the product size specification (48" × 48" or 1220mm × 1220mm), and to install individual actuator. During assembly damper linking should by steel rivet, quick lock contact, spot welding, attacks screw, bolt or welds fixedly.