



# ALPHA DUCTS

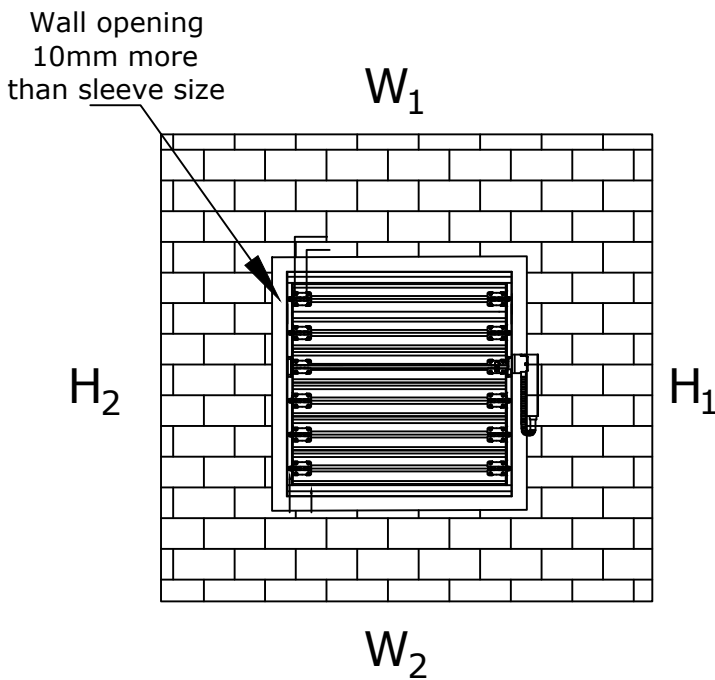
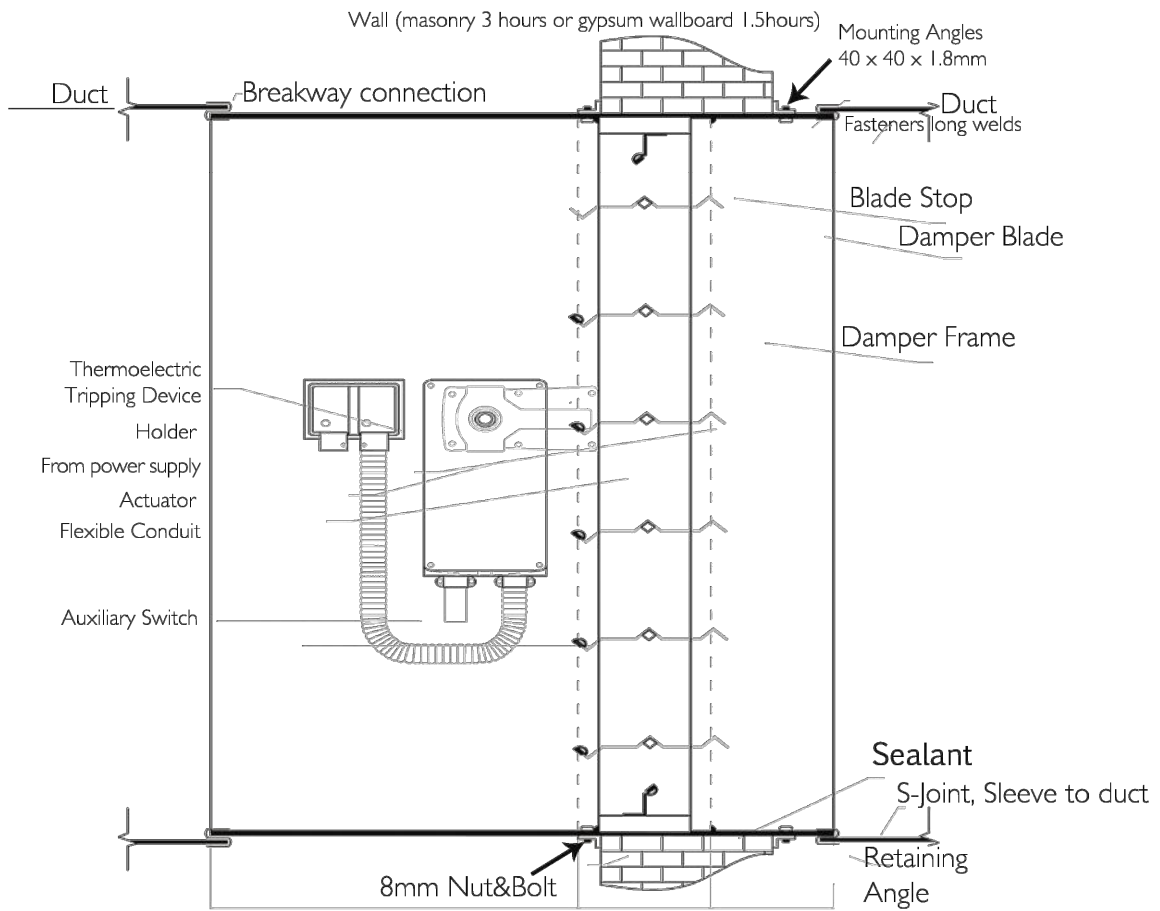
## MOTORIZED FIRE DAMPER DYNAMIC CATALOGUE & INSTALLATION GUIDELINES

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**INSTALLATION DETAILS (VERTICAL)**

**MODEL:ALPHA MFDD**



**Notes:**

1. All dimensions are in millimeter.
2. Unless otherwise specified all dimension tolerance to be +/- 5mm.

**Clearance of MFD (Front View)**

Notes:

1. The type of wall can be masonry 3hrs and gypsum wallboard 1 ½ hrs
2. The clearance required for the expansion of motorized fire damper dynamic will be 10mm from all for side
3. Sleeve field assembly must be done at factory not at site. Sleeve thickness 1.5mm and min. length 500mm and max. 600mm.
4. Retaining angle fixed on Motorized Fire Damper Dynamic sleeve by using 8mm nut & bolt, max 50mm from left and right & 100mm max. from net to other net.
5. Galvanized retaining angle size 40x40mm,thickness 1.8mm. Overlap 40mm to the wall opening on all sides of damper sleeve and not to be fastened at the corners.
6. The connecting ducts will be not continue and the breakway joint connections to be joint on the sleeve only.Refer to breakway connection types below.
7. The actuator and ERL BAE 165 US can be located in either side of the wall.
8. Power supply 220-240 direct connect to the actuator or 24V with UL transformer
9. Airflow can be at opposite direction.



PLAIN "S" SLIP



DOUBLE "S" SLIP



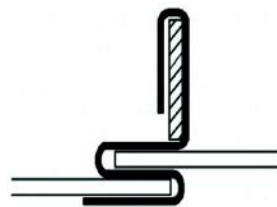
INSIDE SLIP JOINT



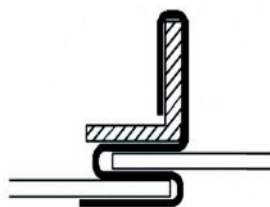
HEMMED "S" SLIP



STANDING "S" SLIP



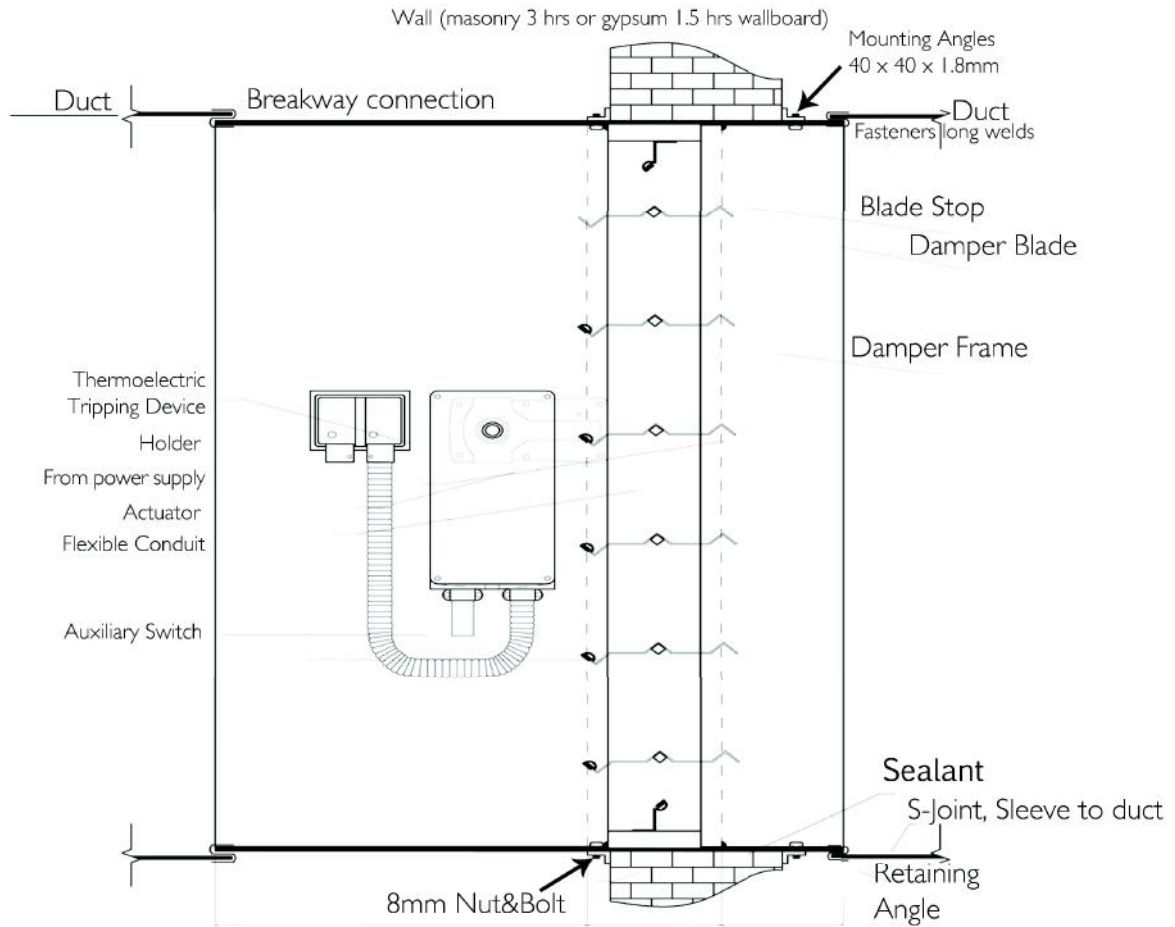
STANDING "S" SLIP  
(BAR REINFORCED)



STANDING "S"  
(ANGLE REINFORCED)

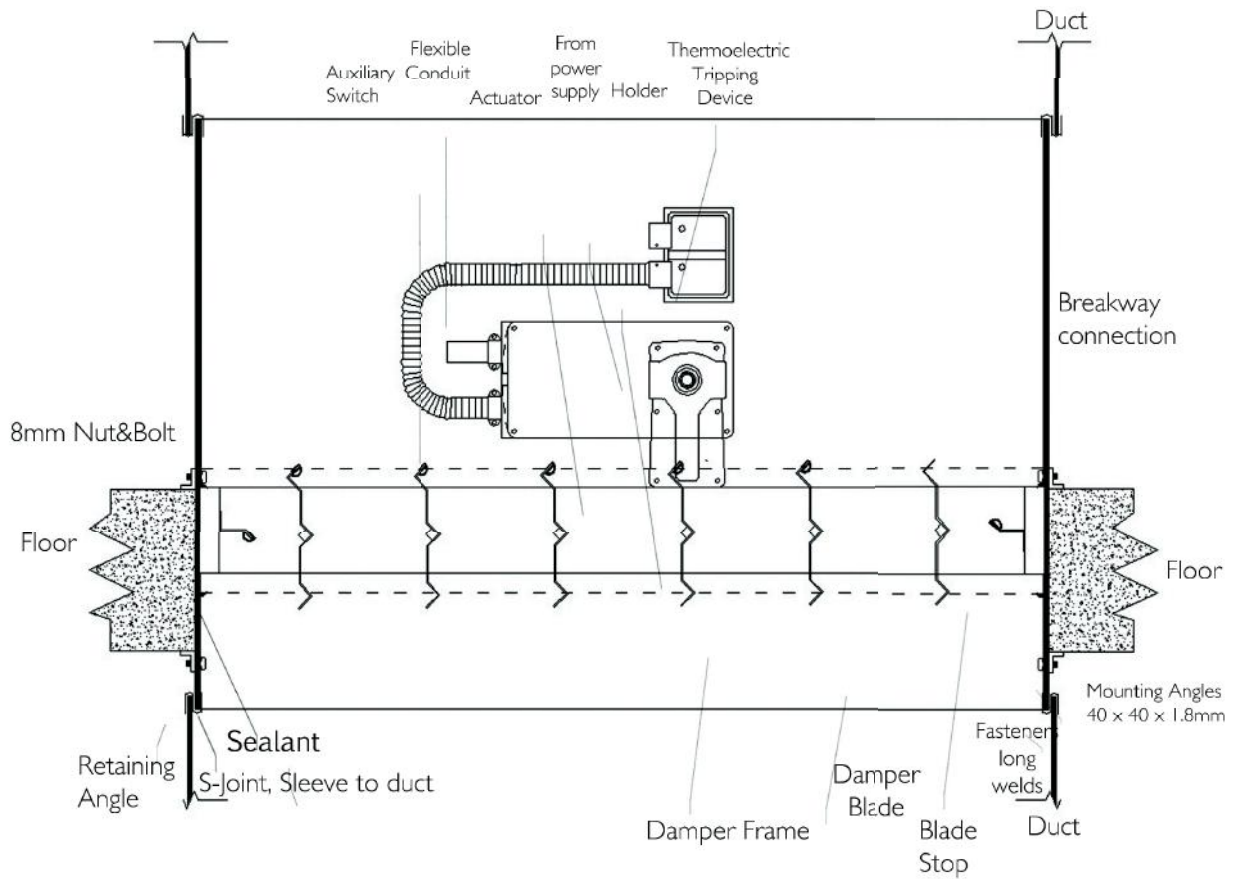


STANDING "S" (ALT.)

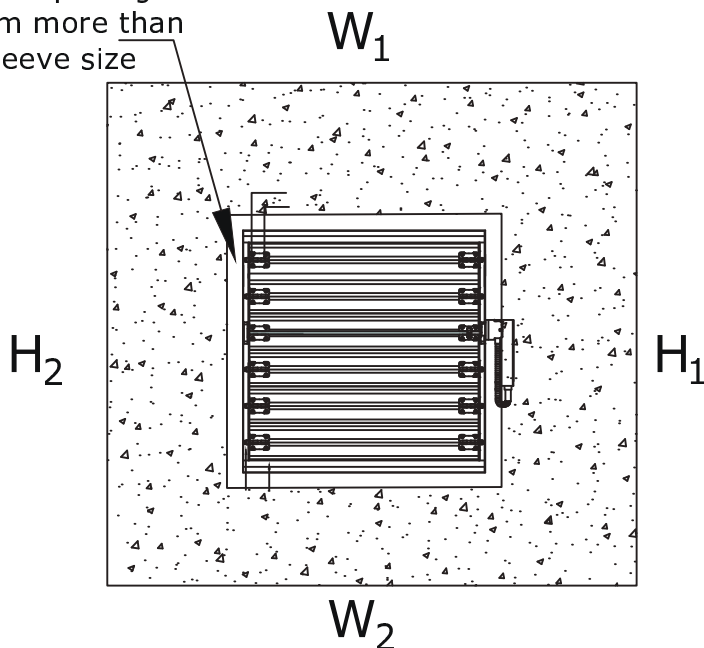


**MATERIAL SPECIFICATIONS:**

1. UL LISTED MOTORIZED FIRE DAMPER DYNAMIC TYPE VERTICAL, 3HOURS
2. FRAME MADE FROM GALVANIZED THICKNESS 1.5, BLADE MADE FROM GALVANIZED THICKNESS 1.5, SLEEVE MADE FROM GALVANIZED THICKNESS 1.5
3. SLEEVE LENGTH MIN. 500, MAX. 600
4. HONEYWELL ACTUATOR MS4604F,MS4104F,MS8104F FOR 300X300; MS4609F, MS4109F,MS8109F FOR 600X600; MS8120F, MS4620F, MS4120F FOR 900X900.
5. TEMP RESPONSE DEVICE - BELIMO BAE 165 US



Wall opening  
10mm more than  
sleeve size



Clearance of MFD (Top View)

Notes:

1. All dimensions are in millimeter.
2. Unless otherwise specified all dimension tolerance to be +/- 5mm.

Notes:

1. The type of floor can be concrete.
2. The clearance required for the expansion of motorized fire damper dynamic will be 10mm from all for side
3. Sleeve field assembly must be done at factory not at site. Sleeve thickness 1.5mm and min. length 500mm and max. 600mm.
4. Retaining angle fixed on Motorized Fire Damper Dynamic sleeve by using 8mm nut & bolt, max 50mm from left and right & 100mm max. from net to other net.
5. Galvanized retaining angle size 40x40mm,thickness 1.8mm. Overlap 40mm to the floor opening on all sides of damper sleeve and not to be fastened at the corners.
6. The connecting ducts will be not continue and the breakway joint connections to be joint on the sleeve only.Refer to breakway connection types below.
7. The actuator and ERL BAE 165 US can be located in either side of the floor.
8. Power supply 220-240 direct connect to the actuator or 24V with UL transformer
9. Airflow can be at opposite direction.



PLAIN "S" SLIP



DOUBLE "S" SLIP



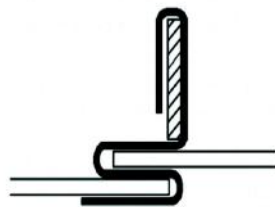
INSIDE SLIP JOINT



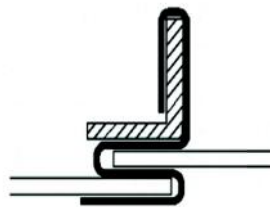
HEMMED "S" SLIP



STANDING "S" SLIP



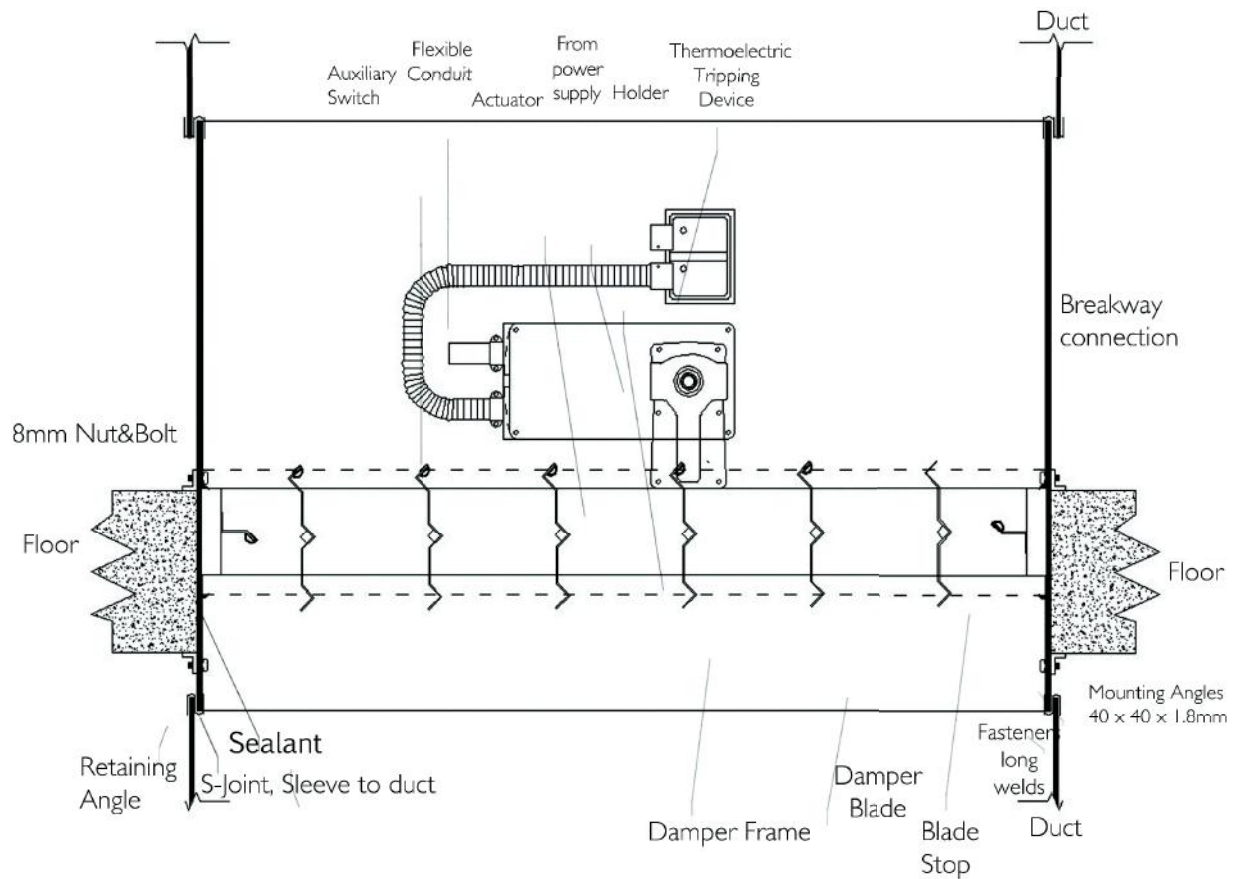
STANDING "S" SLIP  
(BAR REINFORCED)



STANDING "S"  
(ANGLE REINFORCED)



STANDING "S" (ALT.)



**MATERIAL SPECIFICATIONS:**

1. UL LISTED MOTORIZED FIRE DAMPER DYNAMIC TYPE HORIZONTAL, 3HOURS
2. FRAME MADE FROM GALVANIZED THICKNESS 1.5, BLADE MADE FROM GALVANIZED THICKNESS 1.5, SLEEVE MADE FROM GALVANIZED THICKNESS 1.5
3. SLEEVE LENGTH MIN. 500, MAX. 600
4. HONEYWELL ACTUATOR MS4604F,MS4104F,MS8104F FOR 300X300; MS4609F, MS4109F,MS8109F FOR 600X600; MS8120F, MS4620F, MS4120F FOR 900X900.
5. TEMP RESPONSE DEVICE - BELIMO BAE 165 US

## DESCRIPTION

## PRODUCT COVERED:

USC - Fire Dampers for Use in Static Systems, Model MFD  
**USC - Fire Dampers for Use in Dynamic Systems, Model MFDD**  
**USC - Combination Fire and Smoke Dampers, Model MFSD**  
**USC - Smoke Dampers, Model MSD**

## GENERAL:

Model MFD dampers are of Motorized multibladed type construction for vertical and horizontal installation for static applications. **Blades are of single skin 3V blade type construction and parallel blade operation.**

Model MFDD dampers are of Motorized multibladed type construction for vertical and horizontal installation for Dynamic applications. **Blades are of single skin 3V blade type construction and parallel blade operation.**

Model MFSD dampers are of Motorized fire and smoke damper multibladed type construction for vertical and horizontal installation. **Blades are of single skin 3V blade type construction and parallel blade operation.**

Model MSD dampers are of Motorized smoke dampers multibladed type construction for vertical and horizontal installation. **Blades are of single skin 3V blade type construction and parallel blade operation.**

The dampers are intended for use in heating, ventilating and air conditioning duct systems passing through fire resistive walls, partitions, and floors in accordance with the Standard for Installation of Air Conditioning and Ventilating Systems, NFPA 90A.

## TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

Products designated USC have been investigated using requirements contained in UL 555 **and UL 555S.**

## SIZE:

The following sizes are covered:

FIRE DAMPER FOR USE IN STATIC SYSTEMS  
TABLE 1

Model	Installation	Maximum Single section Size		Maximum Multiple Assembly Size	
		Width, in.	Height, in.	Width, mm. (In.)	Height, mm. (In.)
MFD	V/H	36	36	-	-

\*



**FIRE DAMPER FOR USE IN DYNAMIC SYSTEMS**  
**TABLE 1a**

<u>Model</u>	<u>Installation</u>	<u>Maximum Single section Size</u>		<u>Maximum Multiple Assembly Size</u>	
		<u>Width, in.</u>	<u>Height, in.</u>	<u>Width, mm. (In.)</u>	<u>Height, mm. (In.)</u>
MFDD	V/H	36	36	-	-

**COMBINATION FIRE AND SMOKE DAMPERS**  
**TABLE 1b**

<u>Model</u>	<u>Installation</u>	<u>Maximum Single section Size</u>		<u>Maximum Multiple Assembly Size</u>	
		<u>Width, in.</u>	<u>Height, in.</u>	<u>Width, mm. (In.)</u>	<u>Height, mm. (In.)</u>
MFSD	V/H	36	36	-	-

**SMOKE DAMPERS**  
**TABLE 1c**

<u>Model</u>	<u>Installation</u>	<u>Maximum Single section Size</u>		<u>Maximum Multiple Assembly Size</u>	
		<u>Width, in.</u>	<u>Height, in.</u>	<u>Width, mm. (In.)</u>	<u>Height, mm. (In.)</u>
MSD	V/H	36	36	-	-

**MODEL NOMENCLATURE:**

MFD - Motorized Fire Damper Static Rating  
 MFDD - Motorized Fire Damper Dynamic Rating  
 MFSD - Motorized Fire and Smoke Dampers  
 MSD - Motorized Smoke Dampers

**RATINGS:****FIRE RATINGS:**

The damper models MFD, MFDD and MFSD are rated for 3 H.

**LEAKAGE RATINGS:**

The damper models MFSD and MSD are rated for Class III at 250 deg. F

**FLOW AND PRESSURE:**

The flow and pressure ratings of the dampers size, operator and temperature response device are as covered in Tables 2a and 2b.

\*

**OPERATORS:**

General - Each damper is intended to be provided with one of the damper operators shown below.

**TABLE 2  
FIRE DAMPER FOR STATIC RATING**

Damper Model	Operator	Mounting Position	Temp Response Device	Maximum Single Section Damper Size (W x H), in.	Max Units Used in Assembly	Maximum Multiple Assembly Size (W x H), in.
MFD	MS8120F, MS4620F, MS4120F	External	Belimo BAE 165 US	36 x 36	-	-
MFD	MS4609F, MS4109F, MS8109F	External	Belimo BAE 165 US	24 x 24	-	-
MFD	MS4604F, MS4104F, MS8104F	External	Belimo BAE 165 US	12 x 12	-	-

**TABLE 2a  
COMBINATION FIRE AND SMOKE DAMPERS  
FIRE DAMPER FOR DYNAMIC SYSTEMS**

Damper Model	Operator	Mounting Position	Temp Response Device	Maximum Single Section Damper Size (W x H), in.	Max Units Used in Assembly	Maximum Multiple Assembly Size (W x H), in.	FLOW RATING CFM/FT <sup>2</sup>	STATIC PRESSURE IN. WC	Minimum Leakage Class
MFDD	MS8120F, MS4620F, MS4120F	External	Belimo BAE 165 US	36 x 36	-	-	2000	4	-
MFDD	MS4609F, MS4109F, MS8109F	External	Belimo BAE 165 US	24 x 24	-	-	2000	4	-
MFDD	MS4604F, MS4104F, MS8104F	External	Belimo BAE 165 US	12 x 12	-	-	2000	4	-
MFSD	MS8120F, MS4620F, MS4120F	External	Belimo BAE 165 US	36 x 36	-	-	2000	4	CLASS-III at 250 deg.F
MFSD	MS4609F, MS4109F, MS8109F	External	Belimo BAE 165 US	24 x 24	-	-	2000	4	CLASS-III at 250 deg.F
MFSD	MS4604F, MS4104F, MS8104F	External	Belimo BAE 165 US	12 x 12	-	-	2000	4	CLASS-III at 250 deg.F

\*

**TABLE 2b**  
**SMOKE DAMPERS**

Damper Model	Operator	Mounting Position	Temp Response Device	Maximum Single Section Damper Size (W x H), in.	Max Units Used in Multiple Assembly	Maximum Multiple Assembly Size (W x H), in.	FLOW RATING CFM/FT <sup>2</sup>	STATIC PRESSURE IN. WC	Minimum Leakage Class
MSD	MS8120F, MS4620F, MS4120F	External	-	36 x 36	-	-	2000	4	CLASS-III at 250 deg.F
MSD	MS4609F, MS4109F, MS8109F	External	-	24 x 24	-	-	2000	4	CLASS-III at 250 deg.F
MSD	MS4604F, MS4104F, MS8104F	External	-	12 x 12	-	-	2000	4	CLASS-III at 250 deg.F

**INSTALLATION INSTRUCTIONS:**

Each shipping container of the below mentioned damper models shall be provided with the appropriate installation instructions as follows:

Damper Models	Illustration
MFD	A
MFDD	B
MFSD	C
MSD	D

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