Fusible link: UL Listed 165° F.

Fire Rating: 3 hr (Model BFD)

Max. Pressure: 4 IWG Max. Velocity: 2000 FPM

galvanized steel.

Vertical mounting.

Sleeve:

Mounting:

Quadrant:

Sizes:

MULTI-BLADE UL CLASSIFIED DYNAMIC FIRE DAMPER MODEL BFD (3 HR) / MODEL BEFD (I1/2 HR)

STANDARD CONSTRUCTION

Standards:	Designed and tested in accordance with UL555 for DYNAMIC applications. Meets NFPA 90A and SMACNA requirements for fire dampers.
Application:	For fire barriers in DYNAMIC systems.
Frame:	I33mm Roll formed hat-shaped made of I.4mm thick galvanized steel with
	reinforced corners, having integral bracing and 90° perpendicular overlap at a corner.
Blades:	Roll formed 3 V-shaped made of I.4mm thick galvanized steel.
Bushes:	Bronze bushes.
Axles:	%" Square axles made of galvanized steel.
Linkage:	Mechanical and concealed in frame.
Drive Mecha	nism:
	½" Round Jack Shaft made of galvanized steel.
Jamb Seals:	Stainless steel jamb seals.

Models BMFD-TF. BMFDLT-TF. **BEMFDLT-TF & BEMFD-TF**



Models BMFD/R. BMFDLT/R **BEMFDLT/R & BEMFD/R**



Manual locking quadrant made of galvanized steel (becomes option for motorized models).

Single Section: Max. 36" X 36" Multiple Section: Max. 72" X 72"



UL CLASSIFIED DAMPERS

MULTI-BLADE UL CLASSIFIED DYNAMIC FIRE DAMPER MODEL BFD (3 HR) / MODEL BEFD (I1/2 HR)

OPTIONS

- ☐ Fire Rating: I½ hr (Model BEFD)
- □ Without Sleeve. With one side plate only.
- Round spigots for models BFD/R and BEFD/R.
- UL Listed 212° F fusible link.
- □ Motorized by BELIMO & HONEYWELL actuators
- Manual locking quadrant made of galvanized steel (option for motorized models and standard for non motorized models).



Models BFD-XS & BEFD-XS (without sleeve)

- □ With UL Listed I65° F Thermal Responsive Device TRD instead of fusible link (BMFD-T & BEMFD-T).
- With BOTH UL Listed I65° F Thermal Responsive Device TRD and 212° F fusible link(BMFD-TF & BEMFD-TF).

	MODEL	BFD-F165	BFD-F212	BFD/R-F165	BFD/R-F212	BEFD-F165	BEFD-F212	BEFD/R-F165	BEFD/R-F212	BMFD-F165	BMFDLT-F165	BMFD-F212	BMFDLT-F212	BMFD/R-F165	BMFDLT/R-F165	BMFD/R-F212	BMFDLT/R-F212	BMFD-T	BMFDLT-T	BMFD/R-T	BMFDLT/R-T	BMFD-TF	BMFDLT-TF	BMFD/R-TF	BMFDLT/R-TF	BEMFD-F165	BEMFDLT-F165	BEMFD-F212	BEMFDLT-F212	BEMFD/R-F165	BEMFDLT/R-F165	BEMFD/R-F212	BEMFDLT/R-F212	BEMFD-T	BEMFDLT-T	BEMFD/R-T	BEMFDLT/R-T	BEMFD/TF	BEMFDLT-TF	BEMFD/R-TF BEMFDLT/R-TF
LICE	FIRE BARRIER	V	1	1	1	√	√	1	1	√	1	√	√	1	1	1	√	1	√	1	√	1	J	√	1	1	1	√	√	√	√	1	1	√	\checkmark	\checkmark	1	1	1	1 1
USE	SMOKE BARRIER																																							
SYSTEM	STATIC																																							
UTOTEM	DYNAMIC	V	V	1	√	√	√	√	√	√	V	√	√	V	√	1	√	√	√	√	√	1	V	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	1	√ √
AIR FLOW RATING	2000 FPM	1	1	1	1	1	1	1	1	√	1	√	√	√	1	1	√	1	√	1	1	1	J	1	1	1	1	1	1	1	√	√	1	√	1	1	1	1	1	v
PRESSURE RATING	4 IWG	1	V	1	1	1	1	1	1	√	1	√	√	1	1	V	1	1	√	1	√	1	J	1	1	1	1	1	1	1	√	√	1	1	1	1	1	1	1	1
LEAKAGE CLASS	CLASS 2 - 250°F																																							
FIRE RATING	3 HR	V	1	1	1					√	1	√	1	1	1	1	1	1	√	✓	√	1	1	√	1															
	1½ HR					√	√	√	\checkmark																	√	√	√	√	√	√	√	√	√	√	√	√	√	1	√ √
MOTORIZED	NO	√	V	1	√	√	√	√	\checkmark																															
MOTORIZED	YES									√	√	√	√	1	1	1	√	1	√	\checkmark	√	1	1	√	1	√	1	√	√	√	√	√	√	√	√	√	√	√	1	√ √
	WITH			1	√			√	1					√	1	1	√			1	√			√	√					√	√	√	√			√	√			√ √
SPIGOTS	WITHOUT	V	V			√	√			√	√							√	√			1	V			√	√	√	√					√	√			√	1	
TEMPERATURE RESPONSIVE DEVICE	165°F FUSIBLE LINK	√		1		√		√		√	√			V	1											√	√			√	√									
	212°F FUSIBLE LINK		1		√		√		√			√	√			√	√											٧	√			√	√							
	"165°F RESETTABLE																	,	,	,	,	,	,											1	1	1	1			
	THERMOELECTRIC TRD"																	v	v	v	v	v	v											v	v	v	v			
	165°F TRD & 212°F FUSIBLE LINK																					1	1	√	1													√	1	11
SI FEVE	WITH	√	1	1	√	√	√	V	√	√	√	√	√	√	√	√	√	√	√	√	√	1	1	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	1	√ √
	WITHOUT										A	BOVE	MOE	DELS	WITH	IOUT R	OUND	SPIG	OT CA	N BE	WITH	OUT SL	.EEVE	& W	тн о	NE SI	DE PL	ATE V	VHEN	THE	MOD	EL EN	DS B	("-XS	; "					







UL CLASSIFIED DAMPERS

MULTI-BLADE UL CLASSIFIED DYNAMIC FIRE DAMPER MODEL BFD (3 HR) / MODEL BEFD (I½ HR)



INSTALLATION

(A)

INSTALLATION AND OPERATING INSTRUCTIONS FOR MODELS BMFD-F, BMFDLT-F, BMFD/R-F, BMFDLT/R-F, BEMFD-F, BEMFDLT-F, BEMFD/R-F & BEMFDLT/R-F

- 1) The damper (1) should be installed vertical, centrally and resting on the bottom opening within the surrounding masonry / gypsum wall (7). Actuator should be out of wall / gypsum partition as shown in (figure 1).
- 2) The damper (1) should be installed in a rectangular galvanized steel sleeve (2) with a minimum thickness of 1.1mm. This sleeve should be attached to the damper using M6 bolts (5) and spaced at not more than 110 mm centers and 30 mm from corners.
- 3) Clearance requirements for damper sleeves within a wall opening are based on 1/8 inch per foot (10 mm per meter) of width or height unless otherwise stated in the listing of the assembly.
- 4) The sleeve (2) should be of suitable length to extend through the wall to enable the fitting of the cover angles and ductwork. Minimum of 90mm from the wall and total depth of the sleeve should not exceed more than 510mm.
- 5) The retaining angles (3) should be attached to the sleeve by 6 mm dia (4) bolts at a maximum of 110 mm centers, and should form a complete frame around the sleeve and cover over the expansion space (6) required between sleeve and wall opening. The four corner of the retaining angles are not to be welded. The bolts connecting the retaining angles to the sleeve to be 30 mm maximum from the corners. Retaining angles will be send in loose parts. Note: The retaining angles bolts should be out of the area of the damper frame.
- 6) The retaining angles (3) should be of such a size as always to form an overlap with the wall by 25mm minimum and should be manufactured from a minimum size of 35 x 35 x 1.5mm GI.
- 7) A fusible link –Elsle model-E rated at 165°F or 212°F used.
- 8) The duct sleeve connection to be of as per listed in UL 555. Connecting ducts shall not be continuous and shall terminate at the sleeve. Installation shall comply with NFPA 90A.
- 9) All fixing of frames must be positioned clear of the damper blade path so as not to Impede proper closure.







INSTALLATION

(B)

INSTALLATION AND OPERATING INSTRUCTIONS FOR MODELS BMFD-T, BMFDLT-T, BMFD/R-T, BMFDLT/R-T, BEMFD-T, BEMFDLT-T, BEMFD/R-T & BEMFDLT/R-T

- 1) The damper (1) should be installed vertical, centrally and resting on the bottom opening within the surrounding masonry / gypsum wall (7). Actuator should be out of wall / gypsum partition as shown in (figure 2).
- 2) The damper (1) should be installed in a rectangular galvanized steel sleeve (2) with a minimum thickness of 1.1mm. This sleeve should be attached to the damper using M6 bolts (5) and spaced at not more than 110 mm centers and 30 mm from corners.
- 3) Clearance requirements for damper sleeves within a wall opening are based on 1/8 inch per foot (10 mm per meter) of width or height unless otherwise stated in the listing of the assembly.
- 4) The sleeve (2) should be of suitable length to extend through the wall to enable the fitting of the cover angles and ductwork. Minimum of 90mm from the wall and total depth of the sleeve should not exceed more than 510mm.
- 5) The retaining angles (3) should be attached to the sleeve by 6 mm dia (4) bolts at a maximum of 110 mm centers, and should form a complete frame around the sleeve and cover over the expansion space (6) required between sleeve and wall opening. The four corner of the retaining angles are not to be welded. The bolts connecting the retaining angles to the sleeve to be 30 mm maximum from the corners. Retaining angles will be send in loose parts. Note: The retaining angles bolts should be out of the area of the damper frame.
- 6) The retaining angles (3) should be of such a size as always to form an overlap with the wall by 25mm minimum and should be manufactured from a minimum size of 35 x 35 x 1.5mm Gl.
- 7) Push the re-set button to reset the TRD 165°F.
- 8) The duct sleeve connection to be of as per listed in UL 555. Connecting ducts shall not be continuous and shall terminate at the sleeve. Installation shall comply with NFPA 90A.
- 9) All fixing of frames must be positioned clear of the damper blade path so as not to Impede proper closure.





INSTALLATION

(C)

INSTALLATION AND OPERATING INSTRUCTIONS FOR MODELS BMFD-TF, BMFDLT-TF, BMFD/R-TF, BMFDLT/R-TF, BEMFD-TF, BEMFDLT-TF, BEMFD/R-TF & BEMFDLT/R-TF

- 1) The damper (1) should be installed vertical, centrally and resting on the bottom opening within the surrounding masonry / gypsum wall (7). Actuator should be out of wall / gypsum partition as shown in (figure 3).
- 2) The damper (1) should be installed in a rectangular galvanized steel sleeve (2) with a minimum thickness of 1.1mm. This sleeve should be attached to the damper using M6 bolts (5) and spaced at not more than 110 mm centers and 30 mm from corners.
- 3) Clearance requirements for damper sleeves within a wall opening are based on 1/8 inch per foot (10 mm per meter) of width or height unless otherwise stated in the listing of the assembly.
- 4) The sleeve (2) should be of suitable length to extend through the wall to enable the fitting of the cover angles and ductwork. Minimum of 90mm from the wall and total depth of the sleeve should not exceed more than 510mm.
- 5) The retaining angles (3) should be attached to the sleeve by 6 mm dia (4) bolts at a maximum of 110 mm centers, and should form a complete frame around the sleeve and cover over the expansion space (6) required between sleeve and wall opening. The four corner of the retaining angles are not to be welded. The bolts connecting the retaining angles to the sleeve to be 30 mm maximum from the corners. Retaining angles will be send in loose parts. Note: The retaining angles bolts should be out of the area of the damper frame.
- 6) The retaining angles (3) should be of such a size as always to form an overlap with the wall by 25mm minimum and should be manufactured from a minimum size of 35 x 35 x 1.5mm Gl.
- 7) A fusible link –Elsle model-E rated 212°F used.
- 8) The duct sleeve connection to be of as per listed in UL 555. Connecting ducts shall not be continuous and shall terminate at the sleeve. Installation shall comply with NFPA 90A.
- 9) All fixing of frames must be positioned clear of the damper blade path so as not to Impede proper closure.
- 10) Push the re-set button to reset the TRD (optional).



INSTALLATION

(D) INSTALLATION AND OPERATING INSTRUCTIONS FOR MODELS BFD-F, BEFD-F, BFD/R-F & BEFD/R-F

- 1) The damper (1) should be installed vertical, centrally and resting on the bottom opening within the surrounding masonry / gypsum wall (7). Actuator should be out of wall / gypsum partition as shown in (figure 4).
- 2) The damper (1) should be installed in a rectangular galvanized steel sleeve (2) with a minimum thickness of 1.1mm. This sleeve should be attached to the damper using M6 bolts (5) and spaced at not more than 110 mm centers and 30 mm from corners.
- 3) Clearance requirements for damper sleeves within a wall opening are based on 1/8 inch per foot (10 mm per meter) of width or height unless otherwise stated in the listing of the assembly.
- 4) The sleeve (2) should be of suitable length to extend through the wall to enable the fitting of the cover angles and ductwork. Minimum of 90mm from the wall and total depth of the sleeve should not exceed more than 510mm.
- 5) The retaining angles (3) should be attached to the sleeve by 6 mm dia (4) bolts at a maximum of 110 mm centers, and should form a complete frame around the sleeve and cover over the expansion space (6) required between sleeve and wall opening. The four corner of the retaining angles are not to be welded. The bolts connecting the retaining angles to the sleeve to be 30 mm maximum from the corners. Retaining angles will be send in loose parts. Note: The retaining angles bolts should be out of the area of the damper frame.
- 6) The retaining angles (3) should be of such a size as always to form an overlap with the wall by 25mm minimum and should be manufactured from a minimum size of 35 x 35 x 1.5mm GI.
- 7) A fusible link –Elsle model-E rated at 165°F or 212°F used.
- 8) The duct sleeve connection to be of as per listed in UL 555. Connecting ducts shall not be continuous and shall terminate at the sleeve. Installation shall comply with NFPA 90A.
- 9) All fixing of frames must be positioned clear of the damper blade path so as not to Impede proper closure.
- 10) Lock the quadrant after adjusting the blade position / damper opening.







ASSEMBLY PROCEDURES:

WITH SLEEVE:

- I- Fix the damper A into the sleeve B matching their hole provision using rivets/bolts.
- 2- Fix the damper with sleev into the concrete/gypsum wall opening E using the front retaining angle C 35X35 and matching their hole provision using M6 Hex bolt & nut. The sleeve B must overhang by a minimum of 90mm and maximum of 152mm. Opening size should have clearance of 3mm per 305mm of width and height.
- 3- Finally, when the subassembly is already fitted to the wall, fix the back retaining angle D 35X35 using M6 Hex bolt & nut.

DUCT-SLEEVE CONNECTIONS



TDC AND TDF ROLL-FORMED 4-BOLT FLANGED CONNECTIONS ASSEMBLED PER THE MANUFACTURER'S INSTRUCTIONS USING GASKETS, METAL CLEATS AND FOUR 9.5 mm METAL NUTS AND BOLTS



MANUFACTURED SLIP ON 4-BOLT FLANGED CONNECTIONS ASSEMBLED PER THE MANUFACTURER'S INSTRUCTIONS USING GASKETS AND PLASTIC CLEATS AS SHOWN BELOW.





(D)

UL CLASSIFIED DAMPERS

MULTI-BLADE UL CLASSIFIED DYNAMIC FIRE DAMPER MODEL BFD (3 HR) / MODEL BEFD (I1/2 HR)

INSTALLATION / STEEL MULLIONS

MANUFACTURING AND FIELD INSTALLATION INSTRUCTIONS FOR **STEEL MULLIONS (as per SMACNA):**

The mullions are used / necessary whenever the fire damper is installed into and opening that is larger than the largest UL rated size for the damper. The damper fire rated 1-1/2 hours.

Vertical, horizontal or vertical and horizontal mullions can be used depending on the area at the opening. The opening must not exceed 120" (inch) height, but it can be any width provided a vertical support mullion is used a maximum of every 120" (inch).

The mullions must be kept out of the air stream. For ducted system each subdivided opening (e.g. A x B) must be ducted individually.

The mullions are for using concrete block or poured walls only. The thickness of the wall is min, 177mm and max, 300mm.

INSTALLATION

The END CAPS are attached to wall opening by means of 25mm long and 9mm Dia steel expansion anchor embedded with M6 list headed screws.

If a steel inlet are used then make welding 2 x 25mm long weld per length / each side of the mullions (eg. Before installing the End Caps make sure that they are inserted in the ends of the mullions.

NOTES:

(a) After installations of steel mullions refer installation page of the fire damper which is provided by the manufacturer.

(b) Do not fastened retaining angle to the wall or steel mullions. The steel mullions must be free to float.





Detail 1









Detail 4

na

Opening span



