

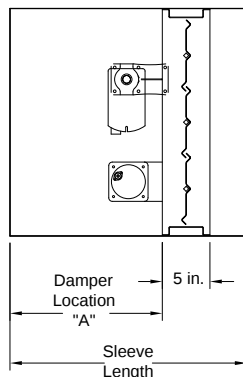
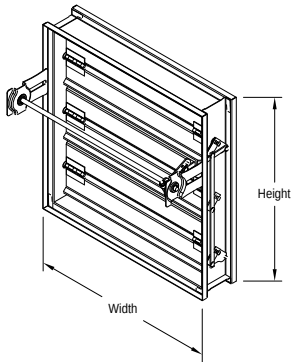
Model: FSD-211

Ratings and General Construction

Mounting:	Vertical	Axle/Linkage Material:	Steel	Axle Bearings:	Bronze
Velocity (ft/min):	2,000	Pressure Rtg. (in. wg):	4	Sizing:	Nominal
Closure Device:	RRL	Closure Temp (°F):	212	Sealed Trans/Slv.:	No
Frame Thickness (ga):	16	Blade Action:	Parallel	Blade Seal:	Silicone
Clean Wrap:	No	FM Approved Label:	No		

Actuator

Actuator Type:	120 VAC	Actuator Mounting:	External	Actuator Location:	Right Side
Actuator Mfr.:	All	Fail Position:	Closed	Operating Mode:	Two Position
Actuator Temp. (°F):	250	Cycle Time:	Standard	NEMA Enclosure:	1
Auxiliary Switch:	No				



Notes: All dimensions shown are in units of inches.

Width & Height furnished approximately 0.25 under size.

(Add sleeve thickness for overall sleeved damper dimension)

If the actuator is contained, then it does not extend more than 1.5 inches above or below the damper sleeve.

*Compact Configuration

Submittal Notes

Open Closed Indicators or Auxillary Switches not included.

Application & Design

Model FSD-211 is a combination fire smoke damper with 3V style blades. The FSD-211 has been qualified to 2,000 ft/min and 6 in. wg for operation and dynamic closure in emergency fire smoke situations. This model may be installed vertically (with blades running horizontal) or horizontally and is rated for airflow and leakage in either direction.

Ratings

UL 555 Fire Resistance Rating

Fire Rating:	1½ hours
Max. Pressure:	Consult Factory

UL555S Leakage Rating

Leakage Class:	I
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Codes Approved

Model FSD-211 meets the requirements for fire dampers, smoke dampers and combination fire smoke dampers established by:

National Fire Protection Association:

NFPA Standards 80, 90A, 92A, 92B, 101, 105

IBC International Building Codes

New York City (MEA listing #260-91-M)

CSFM (Fire Damper Listing)

Listing #:3225-0981:103

CSFM (Leakage Smoke Damper Listing)

Listing #:3230-0981:104

FM Approval Specification Tested Product

Underwriters Laboratories

UL Classified to U.S. and Canadian safety standards

Standard 555 & 555S (Listing #R13317)

Installation instructions available at www.greenheck.com.



Selected Accessories

- Retaining Angles: Mounting - Single-Side Loose For UL Sizes, 2 Sets for Larger Sizes, Steel Stud/Masonry, Size - Minimum allowable by UL

Access doors that are smaller than 12 in. x 12 in. supplied on dampers with internal actuators, fusible links or more than one section high are intended for visual inspection.

Row ID	Tag	Qty	Width (in.)	Height (in.)	Compact*	Actuator Contained	Drive Arrangement	Actuator Model	Act. Qty.	Sleeve Length (in.)	Sleeve Gauge (ga)	"A" Dim. (in.)
24-1	FS 001	1	72.000	36.000	No	Yes	Drive-MLS-21-1FER-1	MS4120F1006	1	16.000	16	7.188
24-2	FS 002	1	84.000	48.000	No	Yes	Drive-MLS-31-2FER-1-PIGGY	FSNF120	2	16.000	16	7.188
24-3	FS 101	1	50.000	16.000	No	Yes	Drive-MLS-21-1FER-1	FSNF120	1	16.000	16	7.188
24-4	FS 102	1	50.000	20.000	No	Yes	Drive-MLS-21-1FER-1	FSNF120	1	16.000	16	7.188
24-5	FS 104	1	14.000	14.000	Yes	Yes	Drive-MLS-11-1FER-1	MS4104F1010	1	16.000	16	7.188
24-6	FS 201	1	48.000	24.000	No	Yes	Drive-MLS-21-1FER-1	MS4109F1010	1	16.000	16	7.188

Row ID	Tag	Qty	Width (in.)	Height (in.)	Compact*	Actuator Contained	Drive Arrangement	Actuator Model	Act. Qty.	Sleeve Length (in.)	Sleeve Gauge (ga)	"A" Dim. (in.)
24-7	FS 202	1	36.000	20.000	No	Yes	Drive-MLS-11-1FER-1	GND 221.1	1	16.000	16	7.188
24-8	FS 203	1	12.000	8.000	Yes	Yes	Drive-MLS-11-1FER-1	MS4104F1010	1	21.000	16	12.000
24-9	FS 301	1	60.000	24.000	No	Yes	Drive-MLS-21-1FER-1	FSNF120	1	16.000	16	7.188
24-10	FS 302	1	56.000	26.000	No	Yes	Drive-MLS-21-1FER-1	FSNF120	1	16.000	16	7.188
24-11	FS 303	1	12.000	8.000	Yes	Yes	Drive-MLS-11-1FER-1	MS4104F1010	1	21.000	16	12.000
24-12	FS 401	1	54.000	24.000	No	Yes	Drive-MLS-21-1FER-1	FSNF120	1	16.000	16	7.188
24-13	FS 402	1	72.000	36.000	No	Yes	Drive-MLS-21-1FER-1	MS4120F1006	1	16.000	16	7.188
24-14	FS 403	1	24.000	14.000	Yes	Yes	Drive-MLS-11-1FER-1	MS4104F1010	1	16.000	16	7.188
24-15	FS 404	1	12.000	8.000	Yes	Yes	Drive-MLS-11-1FER-1	MS4104F1010	1	21.000	16	12.000

Total Qty: 15
 Total Number of Actuators: 16

Shop Drawing Submittal Review

Transmitted To: Cannon Design

Date: December 16, 2016

Attention: stl-cac@cannondesign.com

Contact Person / WTA Field Inspector:
Patrick Garner

Project Name: Webster University-**ISB**

Reviewed by: Mike Nolte

Project No. WT 14127.01

☐

UPS

☐

Courier

☒

Email

Copies	No.	Description
1 PDF	238800M07A	(Submittal No.'s:) (R&B-CxSRC)
		(Cannon #238800-10 REV002) - (Paric #15051-0371) – (WES #607)
		➤ Duct Work Accessories - Resubmittal

Remarks:

c: **Kelvin Patel**
Kpatel@cannondesign.com

☒ **Furnish as Submitted**

☐ Furnish as Noted

☐ Rejected

☐ Revise & Resubmit

☐ Reviewed

☐

Corrections or comments made on shop drawings during this review do not relieve contractor from compliance with requirements of drawings and specifications. This check is only for review of general conformance with the design concept of project and general compliance with information given in contract documents. Contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner.

**14127.01 - 238800 M07A
RESUBMITTAL -
MTN TO REVIEW
12/07/16**

WTASHOP - Webster ISB - 23 8800-010 REV002

From: STL-CAC <STL-CAC@CANNONDESIGN.COM>
To: 'Patrick Garner' <pgarner@wmtao.com>, "WTASHOP (WTASHOP@wmtao.com)" <WTA...>
Date: 12/7/2016 2:07 PM
Subject: Webster ISB - 23 8800-010 REV002
Cc: "Patel, Kelvin" <kpatel@CANNONDESIGN.COM>
Attachments: 233880-010 Duct Work Accessories Product Data REV 1.pdf

Attached for review.

Melissa Pirtle

CANNONDESIGN

1100 Clark Ave
St. Louis, Missouri 63102
T [314.425.8797](tel:314.425.8797)
cannondesign.com



77 Westport Plaza
Suite 250
St. Louis, MO 63146

TRANSMITTAL

No. 15051-0371

Paric Corporation

PROJECT: 15051-Webster University Interdisciplinary Science Building

DATE: 12/06/2016

TO: Cannon Design
1100 Clark Ave
St Louis MO 63102

Fax;
314-241-2203

RE: Duct Work Accessories Product Data
REV1

ATTN: Kelvin Patel

JOB: 15051

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
☐ Shop Drawings	☒ Approval	☐ Approved as Submitted
☐ Letter	☐ Your Use	☐ Approved as Noted
☐ Prints	☐ As Requested	☐ Returned After Loan
☐ Change Order	☐ Review and Comment	☐ Resubmit
☐ Plans		☐ Submit
☐ Samples	SENT VIA:	☐ Returned
☐ Specifications	☐ Attached	☐ Returned for Corrections
☒ Other: Product Data	☐ Separate Cover Via:	☐ Due Date:

<i>Item</i>	<i>Package</i>	<i>Code</i>	<i>Rev.</i>	<i>Copies</i>	<i>Date</i>	<i>Description</i>	<i>Status</i>
Submittal		238800-010	2		12/06/2016	Duct Work Accessories Product Data REV1	Submitted

NOTES:

CC:

Signed: _____
Devin Gates



Mechanical

LETTER OF TRANSMITTAL

TO: Paric Corporation

77 West Port Plaza #250

St. Louis, MO 63146

ATTN: Jason Szachnieski, Devin Gates

DATE: 11/30/16

JOB #: 5768

RE: Webster ISB

We are sending you

☒

Shop drawings

☐ Attached

☐ Prints

☐ Change order

☐ Under separate cover

☐ Plans

☐ Other

☐ Samples

☐ Specifications

☐ Copy of letter

COPIES	DATE	NO.	DESCRIPTION
1	11/30/16	238800	Fire & Combination Fire Smoke Damper Resubmit

These are transmitted as checked below:

☐ For signature

☐ For your use

☐ As requested

☐ For bids due

☒

For review and comment

☐ Approved as submitted

☐ Approved as noted

☐ Returned for corrections

☐ Prints returned after loan to us

☐ Other

☐ Resubmit

☒ Submit

☐ Return

☐ copies for approval

☐ copies for distribution

☐ corrected prints

Remarks: Please return by 12/6/16

Resubmittal based on ASI-32

COPY TO: file

SIGNED:

Alex Chambers



Mechanical

Webster University ISB Webster Groves, MO

Submittal #:

238800

Submittal Description:

Fire & Combination Fire Smoke Dampers

Return By:

12/6/16

Please Note: To avoid scheduling delays and equipment release delays, please submit by the "Return By" date.

CHECKED BY:			
DESIGNER:		ENGINEER:	
☒	NO EXCEPTION TAKEN	☐	MAKE CORRECTIONS NOTED
☐	SUBMIT SPECIFIED ITEM	☐	REVISE AND RESUBMIT
☐	REJECTED	☐	
Checking is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the requirements of the plans and specifications. Equipment supplier is responsible for: dimensions which shall be confirmed and correlated at the job site; fabrication processes and techniques of construction; coordination of his work with that of all other trades; and satisfactory performance of his work.			
		Job #:	5768
		Date:	11/30/16
		By:	ARC

Shop Drawing Submittal Review

Transmitted To: Cannon Design

Date: October 20, 2016

Attention: stl-cac@cannondesign.com

Contact Person / WTA Field Inspector:
Patrick Garner

Project Name: Webster University-**ISB**

Reviewed by: Mark Schaefer

Project No. WT 14127.01

☐

UPS

☐

Courier

☒

Email

Copies	No.	Description
1 PDF	238800M07	(Submittal No.'s) (R&B CxSRC)
		(Cannon #238800-010) - (Paric #15051-0284) - (WES #607)
		➤ Duct Work Accessories

Submittal Review Comments

1. **Product material is acceptable, however we would like to confirm and clarify the type, sizes, and quantities required.**
2. **For clarifications see attached fire and smoke damper schedule. This information will be issued in ASI-032/ESI-008.**
3. **Confirm sizes with sheet metal fabrication drawings.**

c: **Kelvin Patel**
Kpatel@cannondesign.com

☐ Furnish as Submitted

☐ Furnish as Noted

☐ Rejected

☒ ***Revise & Resubmit**

☐ Reviewed

☐

Corrections or comments made on shop drawings during this review do not relieve contractor from compliance with requirements of drawings and specifications. This check is only for review of general conformance with the design concept of project and general compliance with information given in contract documents. Contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner.

14127.01 - 238800 M07
MWS TO REVIEW
10/14/16

From: STL-CAC <STL-CAC@CANNONDESIGN.COM>
To: 'Patrick Garner' <pgarner@wmtao.com>, "WTASHOP (WTASHOP@wmtao.com)" <WTA...>
CC: "Patel, Kelvin" <kpatel@CANNONDESIGN.COM>
Date: 10/14/2016 10:52 AM
Subject: Webster ISB - 23 8800-010
Attachments: 238800-010 Duct Work Accessories Product Data.pdf

Attached for review.

Melissa Pirtle

[cid:image001.png@01D22608.FE712EF0]
1100 Clark Ave
St. Louis, Missouri 63102
T 314.425.8797
cannondesign.com



77 Westport Plaza
Suite 250
St. Louis, MO 63146

TRANSMITTAL

No. 15051-0284

Paric Corporation

PROJECT: 15051-Webster University Interdisciplinary Science Building

DATE: 10/13/2016

TO: Cannon Design
1100 Clark Ave
St Louis MO 63102

RE: Duct Work Accessories Product Data

ATTN: Kelvin Patel

JOB: 15051

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
☐ Shop Drawings	☒ Approval	☐ Approved as Submitted
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☐ Specifications	☐ Attached	☐ Returned for Corrections
☒ Other: Product Data	☐ Separate Cover Via:	☐ Due Date:

Item	Package	Code	Rev.	Copies	Date	Description	Status
Submittal		238800-010	1			Duct Work Accessories Product Data	Submitted

NOTES:

CC:

Signed: _____
Devin Gates

SUBMITTAL

Job Title: **ICON - Webster Univ - ISB**

Job Site: Webster University
547 Garden Ave
Saint Louis , MO 63119
United States

Contractor: **ICON MECHANICAL**

Elevation: (ft) 709

Date: 11/30/16

Submitted By: Mark Haas

H C SHARP COMPANY INC
8301D CREST INDUSTRIAL DR
SAINT LOUIS , MO 63123-2509
US

Phone: (314)351-6900

Fax: (314)351-6901

Email Address: Bob@HCSharpco.com



P.O. Box 410 Schofield, WI 54476 (715) 359-6171 FAX (715) 355-2399 www.greenheck.com