

Quality People. Building Solutions.

Comfort Systems USA (Arkansas), Inc.
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Date: 5/17/2024

Return Request: 5/27/2024

Project: CALS Main Library Renovations

Supplier: Powers of Arkansas

Manufacturer: Dace

Submittal: Diffusers, Registers, & Grilles

Submittal Number: 23 37 13-01

Drawing # and Installation: Mechanical Drawings

ARCHITECT

Polk Stanley Wilcox
801 South Spring St.
Little Rock, AR 72201
501-378-0878

ENGINEER

Bernhard
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Little Rock, AR 72202
501-666-6776

GENERAL CONTRACTOR

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Little Rock, AR 72202
501-5666-4300

MECHANICAL SUBCONTRACTOR

Comfort Systems USA (Arkansas), Inc.
9924 Landers Rd.
N. Little Rock, AR 72117
501-834-3320

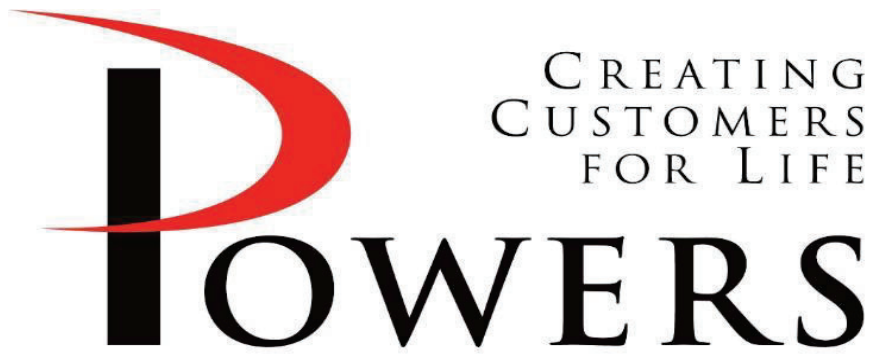
Notes:

CSUSA PROJECT NO.

23-8016

dpierce@comfortar.com

9924 Landers Rd.
No. Little Rock, AR 72117

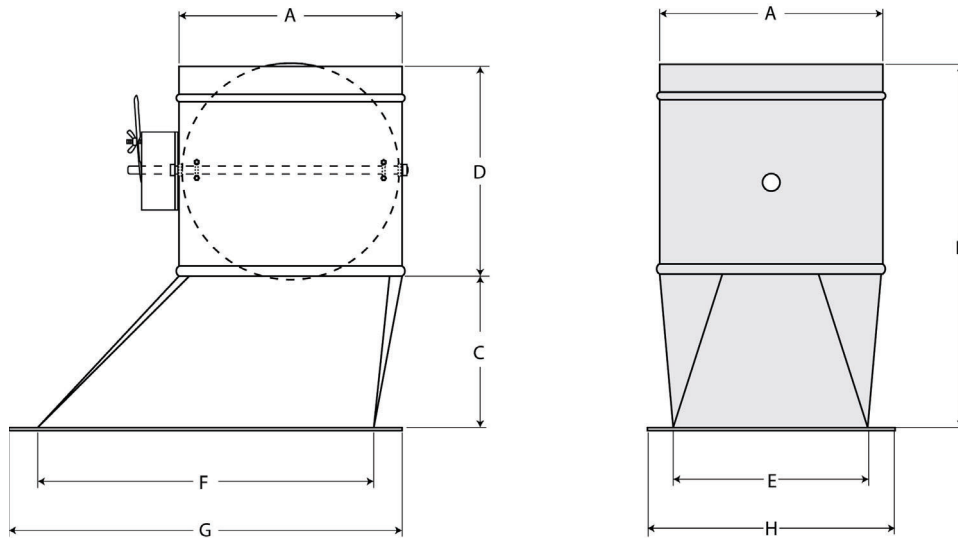


SUBMITTAL

PRODUCT	Takeoff Fittings & Round Balancing Dampers
MANUFACTURER	Dace
JOB NAME	CALS Main Library Renovation
LOCATION	Little Rock, AR
ENGINEER	Bernhard TME
CONTRACTOR	Knight & Wilson
DATE	5/6/2024
SUBMITTED BY	Chris Atwood

5440 Northshore Drive - North Little Rock, Arkansas 72118 - Tel: 501.374.5420 Fax: 501.370.9298

HIGH EFFICIENCY SIDE TAKEOFF FITTINGS



SIZE	A	B	C	D	E	F	G	H
5"	4 7/8	13	5 1/2	7 1/2	5	9	11	7
6"	5 7/8	13	5 1/2	7 1/2	5	9	11	7
7"	6 7/8	13	5 1/2	7 1/2	5	11	13	7
8"	7 7/8	13	5 1/2	7 1/2	6	12	14	8
9"	8 7/8	13	5 1/2	7 1/2	7	13	15	9
10"	9 7/8	13	5 1/2	7 1/2	8	14	16	10
12"	11 7/8	13	5 1/2	7 1/2	10	16	18	12
14"	13 7/8	13	5 1/2	7 1/2	12	18	20	14
16"	15 7/8	13	5 1/2	7 1/2	14	20	22	16
18"	17 7/8	13	5 1/2	7 1/2	16	22	24	18
20"	19 7/8	13	5 1/2	7 1/2	18	24	26	20

STANDARD CONSTRUCTION DETAILS

- 26 gauge G90/60 galvanized steel
- 1" flange with die formed corners & pre punched mounting holes
- entire unit is spot welded, SMACNA 3" WG minimum
- adhesive coated rubber perimeter gasket

OPTIONS IN CONSTRUCTION

- material 24 ga, 22 ga galvanized steel,
- all aluminum or all stainless steel
- optional damper—26—16 ga galvanized steel, aluminum, stainless steel
- CO3 damper control is a 2" raised locking quadrant, 3/8" sq. axle, nylon bearings fastened to the damper with U bolts.

Dace Mfg.

orders@dacemfg.co

SUBMITTAL

Feb 2015

ROUND MANUAL BALANCE DAMPER

MODEL: RMBD CO3

Purpose Description:

The round manual balancing damper is used to regulate air flow in pipe.

CONSTRUCTION:

BARREL: (B) 6" long, beaded & tapered.

ALL DIAMETERS: (A) sized 1/8" under nominal

BODY MATERIAL:

26 gauge standard

OPTIONS:

24 gauge steel

22 gauge steel

SS 304

DAMPER BLADES:

26 gauge standard

OPTIONS:

24 GA,

22 GA steel,

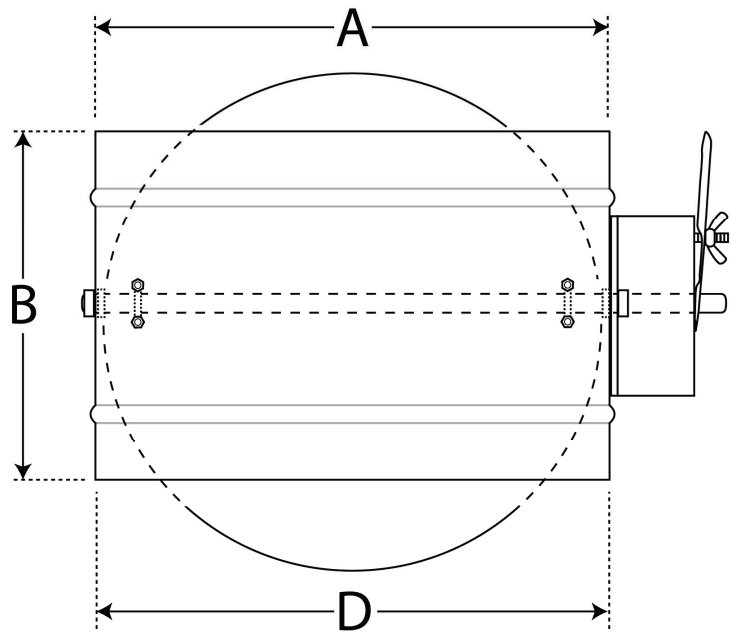
20 gauge—16 gauge steel

SS 304

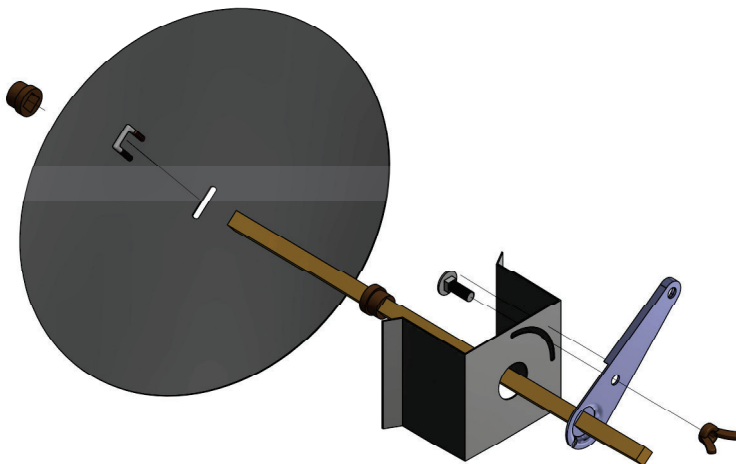
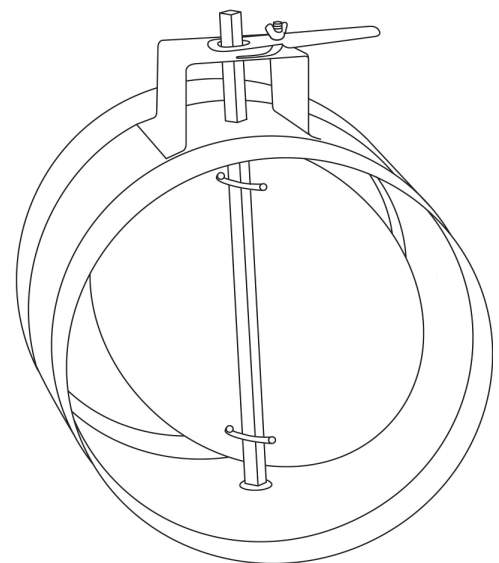
DAMPER CONTROL:

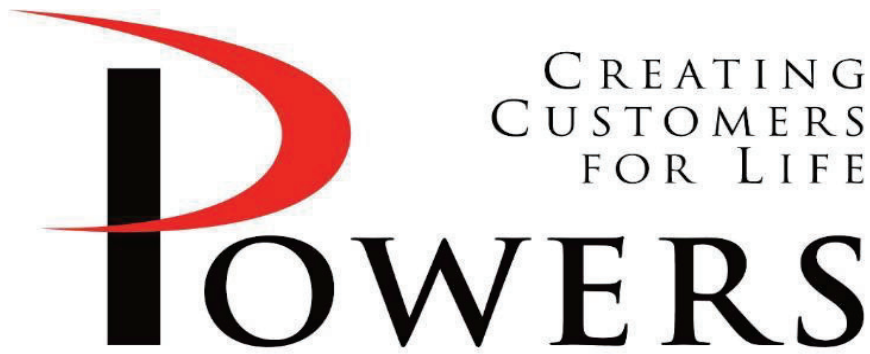
CO3 - 2" raised handle, locking quadrant, 3/8" square continuous rod, 'U' bolts, nylon bearings

All stainless steel option



RMBD-CO3





SUBMITTAL

PRODUCT	Fire Smoke Dampers
MANUFACTURER	Pottorff
JOB NAME	CALS Main Library Renovation
LOCATION	Little Rock, AR
ENGINEER	Bernhard TME
CONTRACTOR	Knight & Wilson
DATE	5/6/2024
SUBMITTED BY	Chris Atwood

5440 Northshore Drive - North Little Rock, Arkansas 72118 - Tel: 501.374.5420 Fax: 501.370.9298

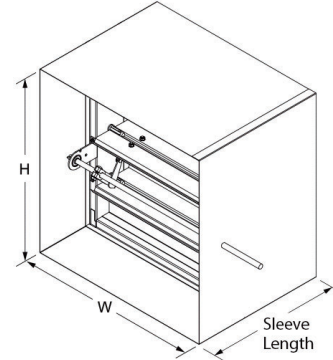
Submittal

Model FSD-141

Combination fire smoke damper, 1-1/2 hour, UL class 1, triple-V blade

General construction

- Dimensions:** Nominal (approximately 1/4" (6) undersize, sleeve thickness not included)
- Material:** Galvanized steel
- Mount:** Vertical
- Frame:** 5" x 1" (127x25) hat channel, 13 gauge equivalent
- Blade style:** 6" x 16 gauge, triple-v
- Blade action:** Parallel
- Sleeve:** Type: Sleeve
- Axles:** 1/2" (13) diameter plated steel hex
- Linkage:** Concealed in frame
- Bearings:** Stainless steel oilite, sleeve-type
- Seals:** Blade: Silicone; Jamb: Flexible stainless steel
- Fire closure device:** HS-10
- Fire closure temperature (°F):** Primary: 165



Options

- Angles:** Type: Picture frame, 20 ga (2 sides)

Ratings

- UL 555 fire resistance rating:** 1-1/2 hour
- UL 555S leakage class:** 1 [8 cfm/sq.ft. @ 4 in.wg.] [(0.04m³/s/m²@1.0 kPa)]
- UL HNLJ.V-5:** Ventilation Duct Assemblies
- Dynamic closure velocity (fpm):** 2000
- UL555S rated pressure (in.wg.):** 4
- Application temperature (°F):** 250

Model FSD-141 with sleeve



Air Performance

Pottorff certifies that the model FSD-141 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 the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance ratings only.

Listings

- UL 555 and 555S listing:** R11767
- CSFM listing:** 3225-0368:110 and 3230-0368:111



Details

Line item	Tag	Qty	Dimensions (in.xxxx)		Sections	Sleeve or Side Plate			Actuator							
			W x H	D		Wide x High	L (in)	Gauge	Clr (in)	Qty	Model	Volt	Pos	Orien	Loc	Power consumption (per actuator)
5	FIRE SMOKE DAMPER	1	8 x 8		1 x 1	16	20	6	1	FSTF120-S	120V	PO	Perp	Ext/int	3.5VA	3.5
6	FIRE SMOKE DAMPER	1	16 x 8		1 x 1	16	20	6	1	FSTF120-S	120V	PO	Perp	Ext/int	3.5VA	3.5
7	FIRE SMOKE DAMPER	1	14 x 14		1 x 1	16	20	6	1	FSTF120-S	120V	PO	Perp	Ext/int	3.5VA	3.5
8	FIRE SMOKE DAMPERS	2	18 x 18		1 x 1	16	20	6	1	FSNF120-S	120V	PO	Perp	Ext/int	23VA	27
9	FIRE SMOKE DAMPER	1	30 x 12		1 x 1	16	20	6	1	FSNF120-S	120V	PO	Perp	Ext/int	23VA	27

This submittal sheet reflects only the construction and options selected and is not indicative of all constructions and options that are available for the product. For more information, please contact your local representative or visit us at www.pottorff.com.

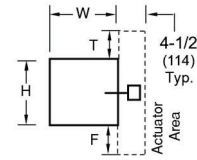
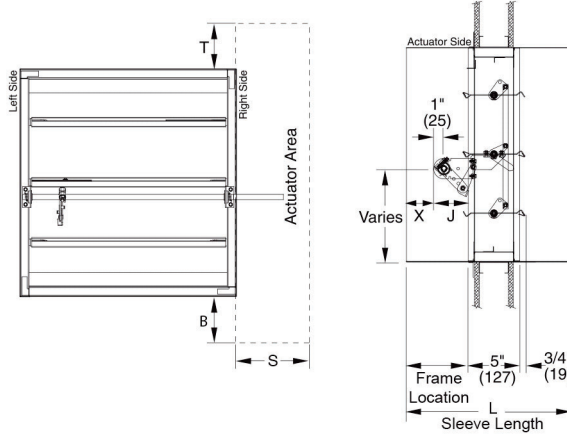
Information is subject to change without notice or obligation.

Note: Dimensions in parentheses () are millimeters.

Submittal

Model FSD-141

Actuator and Sleeve Interference Details



Detail #11-1

Model FSD-141

The drawings and corresponding table illustrate the position of the damper when mounted in a factory sleeve and the relative space required for a given actuator. The standard mounting locations provide enough space for installation of retaining angles and duct connections.

Dimensional Data

Line item	Tag	Qty	Dimensions (in.xxxx)		Sections Wide x High	Sleeve or Side Plate		Actuator			Dimensional data (in)				
			W x H	D		L (in)	Clr (in)	Qty	Model	Detail	F	T	S	X	J
5	FIRE SMOKE DAMPER	1	8 x 8		1 x 1	16	6	1	FSTF120-S	#11-1	4	1	4.5	2.625	3.375
6	FIRE SMOKE DAMPER	1	16 x 8		1 x 1	16	6	1	FSTF120-S	#11-1	4	1	4.5	2.625	3.375
7	FIRE SMOKE DAMPER	1	14 x 14		1 x 1	16	6	1	FSTF120-S	#11-1	0	1	4.5	2.625	3.375
8	FIRE SMOKE DAMPERS	2	18 x 18		1 x 1	16	6	1	FSNF120-S	#11-1	0	1	4.5	2.625	3.375
9	FIRE SMOKE DAMPER	1	30 x 12		1 x 1	16	6	1	FSNF120-S	#11-1	3	2	4.5	2.625	3.375

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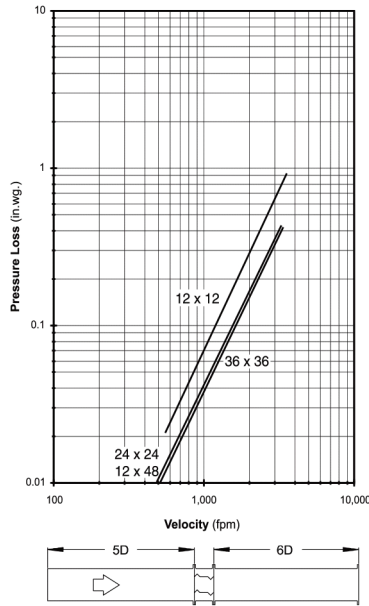
Information is subject to change without notice or obligation.

Note: Dimensions in parentheses () are millimeters.

Submittal Model FSD-141 Performance

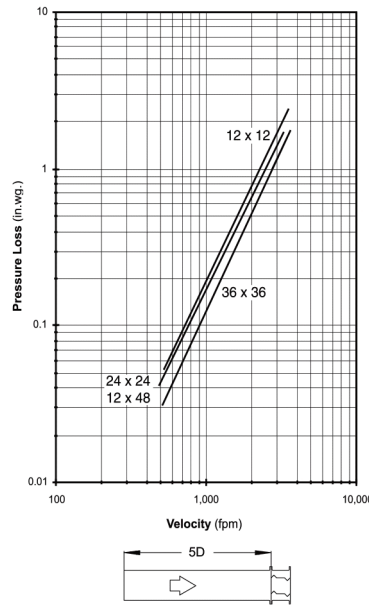
Pressure drop testing

Pressure drop testing was performed in accordance with AMCA Standard 500-D using the three configurations shown. All data has been corrected to represent air density of 0.075 lb/ft. Actual pressure drop in any ducted HVAC system is a combination of many elements. This information, along with analysis of other system influences, should be used to estimate actual pressure losses for a damper installed in a given HVAC system.



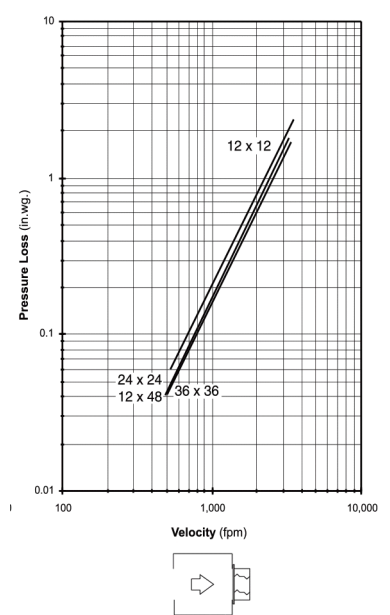
Ducted inlet and outlet

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 damper.



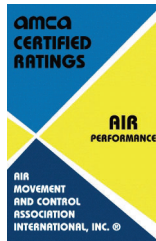
Ducted inlet

AMCA Figure 5.2 illustrates a ducted damper exhausting air into an open area. This configuration has a lower pressure drop than Figure 5.5 because entrance losses are minimized by a straight duct run upstream of the damper.



Plenum mount

AMCA Figure 5.5 illustrates a plenum mounted damper. This configuration has the highest pressure drop because of extremely high entrance and exit losses due to the sudden changes of area in the system.



Air Performance

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Note: Dimensions in parentheses () are millimeters.

Application

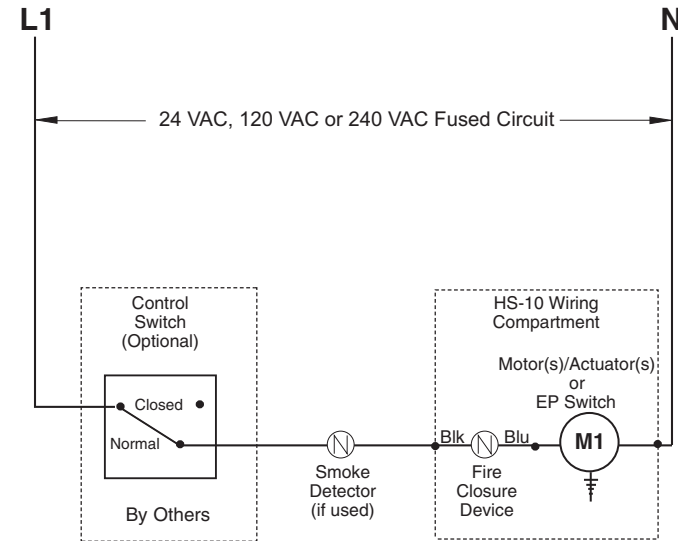
The HS-10 fire closure device employs a one-temperature, manually resettable, electric thermostat sensor to interrupt the electrical power to actuators used on fire/smoke dampers to permit the controlled closure of the dampers. The HS-10 is designed to replace the fusible link. The HS-10 allows for damper testing per all NFPA specifications. The damper will close once power is removed from the HS-10 and will automatically reopen once power is restored.

Wiring Diagram

Control Switch Function

Normal

Hot



The damper remains open except in either of the following situations:

- 1 - The smoke detector cuts the power to the "Power-Open" motor/actuator.
- 2 - An elevated duct temperature causes the fire closure device to cut power to the "Power-Open" motor/operator.
The damper will remain closed until the duct temperature has returned to a safe level. At that point the fire closure device can be manually reset, allowing the damper to be reopened.

Closed

The damper closes and remains closed regardless of any sensor signal.

Listings

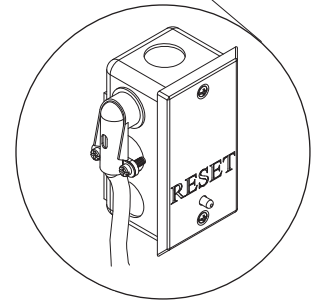
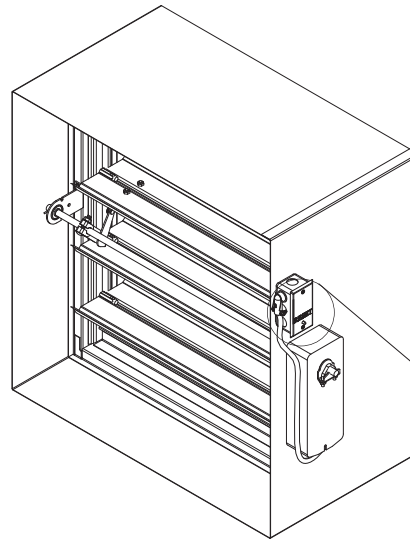
UL 555 listing: R11767

CSFM listing: 3225-0368:110, 3225-0368:111, 3225-0368:112, 3225-0368:113, 3225-0368:115, and 3225-0368:116.

New York City MEA listing: 295-98-E

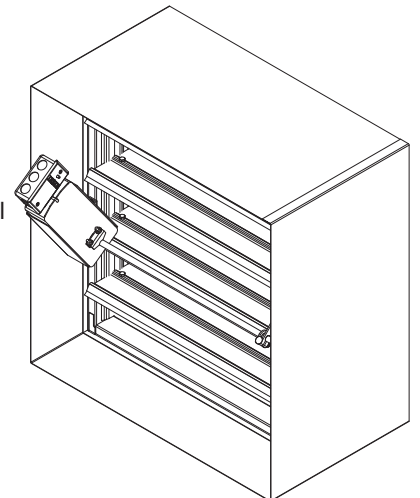
Meets NFPA Standards: 80, 90A, 92A, 92B, 101, and 105

Meets Building Code Standards: IBC, NBC, NFPA, SBC and UBC



Model **HS-10** external

Model **HS-10** internal





Technical Data		FSNF24(-S)(-FC) US, FSNF120(-S)(-FC) US	
Power supply	FSNF24(-S)(-FC) US	24 VAC ± 20%, 50/60 Hz	
	FSNF120(-S)(-FC) US	120 VAC ± 10%, 50/60 Hz	
Power consumption	running	17 W, 24 VA	
		24 VAC holding	4 W, 6.5 VA
	120 VAC	running	19 W, 23 VA, 0.19 A
		holding	6 W, 8.5 VA, 0.07 A
Fusing*	FSNF24	2.5 amp slow blow	
	FSNF120	0.5 amp slow blow	
Transformer sizing		40 VA per 24 VAC actuator	
Electrical connection	FSNF24 US	3 ft, 18 ga, 2 color coded leads	
	FSNF120 US	3 ft, 18 ga, 3 color coded leads	
	FSNF...-S US	3 ft, 18 ga, appliance cable	
Overload protection		electronic throughout 0 to 95° rotation grounded enclosure, 120V	
Control		microprocessor	
Angle of rotation		95°	
Torque		70 in-lb [7.9 Nm] minimum from 32°F to 350°F [0°C to 177°C]	
Direction of rotation	spring	can be selected by CCW/CW mounting	
Position indication		visual indicator, 0° to 95°	
Running time		between 32°F and 350°F [0°C to 177°C] <15 seconds at rated voltage and torque	
Humidity		5 to 95% RH non-condensing	
Ambient temperature		32°F to 122°F [0°C to 50°C]	
Storage temperature		-40°F to 176°F [-40°C to 80°C]	
Housing		NEMA type 1	
Housing material		zinc coated steel	
Gears		steel, permanently lubricated	
Agency listings		cULus listed to UL873 and CAN/CSA C22.2 No. 24 NYC Department of Buildings Materials and Equipment Acceptance Division MEA 197-07-M California State Fire Marshal Listing 3210-1593:101	
Servicing		maintenance free	
Quality standard		ISO 9001	
Weight	FSNF24(-S) US	6.0 lbs [2.75 kg], (+ 0.5 lbs [+ .23 kg])	
	FSNF120(-S) US	6.7 lbs [3.0 kg], (+ 0.5 lbs [+ .23 kg])	

FSNF24-S US, FSNF120-S US, FSNF24-S-FC, FSNF120-S-FC	
Auxiliary switch	2xSPST 7A resistive, 2.5A inductive at 120V or 250V, UL Approved, double-insulated, one switch at 10°, one at 85°

Application

The type FSNF spring-return actuator is intended for the operation of smoke and combination fire and smoke dampers in ventilation and air-conditioning systems. The actuator will meet requirements of UL555 and UL555S when tested as an assembly with the damper and will open and close in 15 seconds at 350°F. Square footage of damper operated will depend on make and model of damper and the temperature 250°F or 350°F.

Operation

Mounting of the actuator to the damper axle shaft or jackshaft (3/8" to 1.05") is via a cold-weld clamp. Teeth in the clamp and V-bolt dig into the metal of both solid and hollow shafts maintaining a perfect connection. The specially designed clamp will not crush hollow shafts. The bottom end of the actuator is held by an anti-rotation strap or by a stud provided by the damper manufacturer.

The actuator is mounted in its fail safe position with the damper blade(s) closed. Upon applying power, the actuator drives the damper to the open position. The internal spring is tensioned at the same time. If the power supply is interrupted, the spring moves the damper back to its fail-safe position.

-FC Models have the same electrical and mechanical characteristics except instead of a 1/2" conduit connector a 3/8" screw flex connector is supplied.

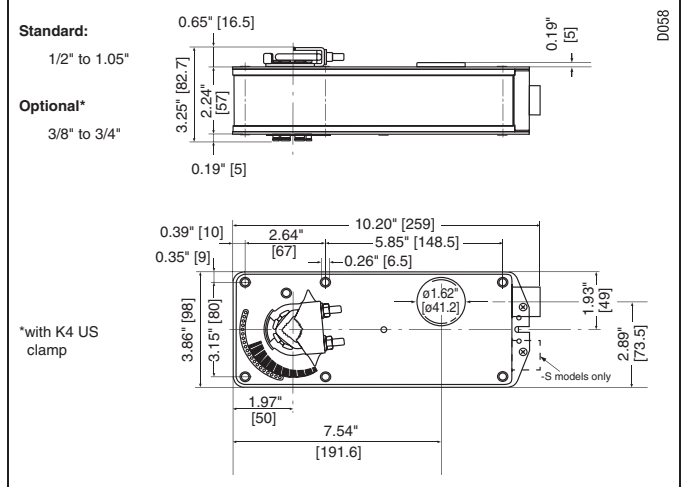
SAFETY NOTES

The actuator contains no components which the user can replace or repair.

1/2" Threaded Connector – Screw a conduit fitting into the actuator's metal bushing. Jacket the actuator's input wiring with suitable flexible conduit. Properly terminate the conduit in a suitable junction box.

3/8" Flexible Connector Models (-FC Screw Connector) – Mount the flexible conduit into the actuator's metal bushing by means of the provided screw with a torque of 0.9 ft-lb. Jacket the actuator's input wiring with suitable flexible conduit. Properly terminate the conduit in a suitable junction box.

Dimensions (Inches [mm])



Accessories

All AF/NF linkages and parts except ZG-102 may be employed.

*** Individual Fusing or Breakers are not required by Belimo.**

The FSNF24 draws higher peak current when driving against any type of stop. Given the technology of fuses & breakers, this requires the value of fuse or breaker to be increased to avoid nuisance opening or tripping. A 2.5 amp slow blow should be used for 24VAC. A 0.5 amp slow blow should be used for 120VAC.

Transformers

Note that while a 100VA transformer would handle 2 actuators, a 4A breaker is insufficient.

FSNF24(-S)(-FC) US, FSNF120(-S)(-FC) US

On/Off, Spring Return, 350°F for Half Hour, 15 Seconds Cycle Time

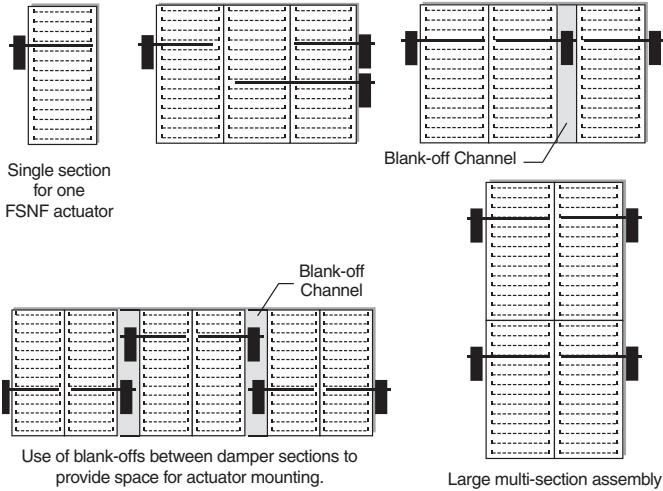


Typical Applications

Multi-section Damper Assemblies

The typical fire and smoke damper requires from 5-15 in-lb of torque per square foot at 250°F – 350°F under dynamic load (2400 fpm velocity). The FSNF will operate multi-section dampers using multiple actuators for multiple sections. Some of the methods used are shown below.

This is a direct coupled actuator. If linkages are needed use those for the FSAF series. Do not use the ZG-102 as close coupled actuators have a shortened life due to the high speed of the FSNF. Mounting at opposite ends of a jackshaft is OK.



Typical Specification

Smoke Control and Combination Fire and Smoke Control Damper Actuators

All smoke and combination fire and smoke dampers shall be provided with Belimo FSTF, FSLF, FSNF, or FSAF actuators. No substitutions allowed.

Damper and actuator shall have UL555S Listing for 250°F (350°F) and shall comply with UBC if required by local codes.

Where proof of closure switches are required, blade switches, actuator auxiliary switches, or proximity switches are allowed if permitted by local codes.

Replacement Applications

The number one "equal or better" requirement for use as a replacement for obsolete defective motors is the UL555S listing of the Belimo actuator with the damper for the application. The local authority having jurisdiction sets the requirements. In some cases a permit and inspection may be required.

Go to www.belimo.us/firesmoke for a Cross Reference from old damper actuators to Belimo. Extensive retrofit installation instructions are available, along with technical training information.

CAUTION

Caution must be used when replacing failed motors with new Belimo actuators. Many old motors did not have internal springs and depended on external springs on the side of the damper or wrapped around the damper shaft to close the damper. Old motor springs must be removed or disabled. Do not remove fusible link springs if they had only fire and no smoke functions

In some cases, a BAE 165 or equal thermal sensor must be installed.

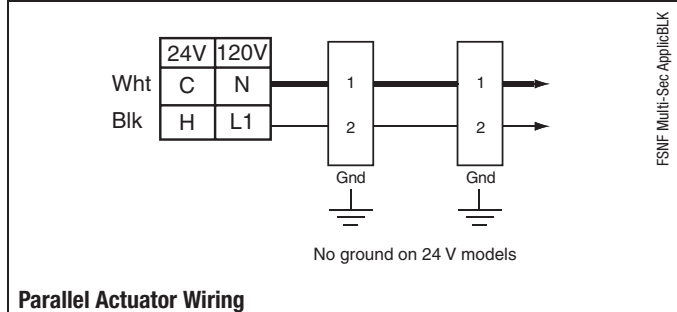
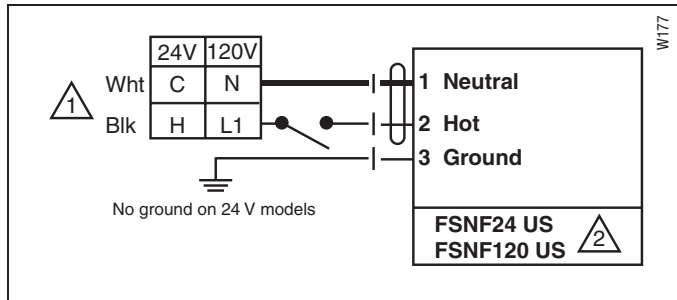
Wiring Diagrams

INSTALLATION NOTES

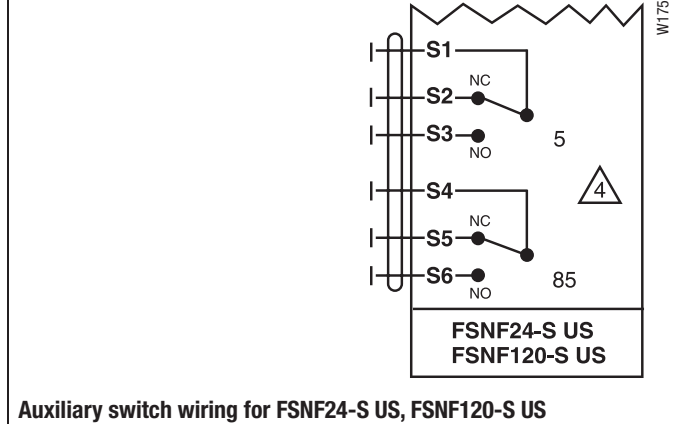
- 1 Provide overload protection and disconnect as required.
- 2 **CAUTION Equipment Damage!**
Actuators may be connected in parallel.
Power consumption and input impedance must be observed.
- 4 For end position indication, interlock control, fan startup, etc., FSNF24-S US and FSNF120-S US incorporate two built-in auxiliary switches:
2 x SPDT, 7A (2.5A inductive)@125/250 VAC, UL Approved, 10° and 85°.
Switch rating is for 250°F 1/2 hour only.

WARNING Live Electrical Components!

During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.



Parallel Actuator Wiring



Auxiliary switch wiring for FSNF24-S US, FSNF120-S US

Subject to change. © Belimo Aircontrols (USA), Inc.



Technical Data		FSTF120(-S) US
Power supply	nominal	120 VAC, 60 Hz
	tolerance	108 to 132 VAC, 60 Hz
Power consumption	running	2 W, 3.5 VA
	holding	1.5 W, 2.5 VA
max. inrush current		2.1A
Electrical connection (-S models have 2 cables)		3 ft, 18 GA appliance cable
		1/2" conduit connector
Overload protection		electronic throughout 0 to 95° rotation
Electrical protection		actuators are double insulated
Angle of rotation		max 95°, adjust. with mechanical stop
Torque		min. 18 in-lb [2 Nm]
Direction of rotation		reversible with cw/ccw mounting
Position indication		visual indicator, 0° to 95° (0° spring return position)
Running time	motor	< 75 sec (0 to 18 in-lb)
	spring	< 25 sec @32°F to 122°F [0°C to 50°C]
Humidity		5 to 95% RH non-condensing
Ambient temperature		32°F to 122°F [0°C to 50°C]
Operating temperature		Up to 250°F for 1/2 hour per UL555S test
Housing		NEMA type 2 / IP42, UL enclosure type 2
Housing material		UL94-5VA. UL2043 Listed for plenum use
Agency listings†		cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02). UL2043 smoke rated
Noise level (max)	running	< 50 db (A)
	spring return	62 db (A)
	holding	inaudible
Servicing		maintenance free
Quality standard		ISO 9001
Weight	FSTF120 US	1.26 lbs (0.57 kg)
	FSTF120-S US	1.5 lbs (0.68 kg)

† Rated Impulse Voltage 4kV, Type of action 1.AA (1.AA.B for -S version), Control Pollution Degree 3.

FSTF120-S US

Auxiliary switch	2 x SPST 3A (0.5A) @ 120 VAC, UL approved One fixed at 10° and one fixed at 80°
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Torque min. 18 in-lb, for control of fire and smoke dampers

Application

The type FSTF spring-return actuator is intended for the operation of smoke and combination fire and smoke dampers in ventilation and air-conditioning systems. The actuator will meet requirements of UL555 and UL555S when tested as an assembly with the damper Square footage of damper operated will depend on make and model.

Operation

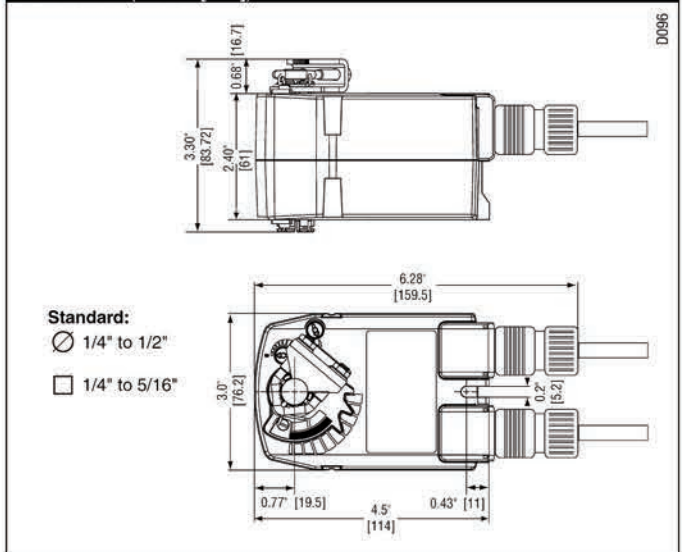
Mounting of the actuator to the damper axle shaft or jackshaft is via a cold-weld clamp. Teeth in the clamp and V-bolt dig into the metal of both solid and hollow shafts maintaining a perfect connection. The specially designed clamp will not crush hollow shafts. The bottom end of the actuator is held by an anti-rotation strap or by a stud provided by the damper manufacturer.

The actuator is mounted in its fail safe position with the damper blade(s) typically closed. Upon applying power, the actuator drives the damper to the open position. The internal spring is tensioned at the same time. If the power supply is interrupted, the spring moves the damper back to its fail-safe position.

SAFETY NOTE

Screw a conduit fitting into the actuator's bushing. Jacket the actuator's input and output wiring with suitable flexible conduit. Properly terminate the conduit in a suitable junction box.

Dimensions (Inches [mm])



FSTF120(-S) US

On/Off, Spring Return, 120 VAC



Accessories

Tool-06	8mm and 10 mm wrench
KH-TF	Crank arm for up to 1/2" round shaft
ZG-TF2	Crank arm adaptor kit for FSTF
ZG-TF112	Mounting bracket, kit for FSTF
ZS-100	Weather shield (metal)
ZS-150	Weather shield (polycarbonate)
10379-00001	Limit stop

NOTE: When using FSTF120 US and FSTF120-S US actuators, only use accessories listed on this page or those provided by damper manufacturers.

For actuator wiring information and diagrams, refer to Belimo Wiring Guide.

Typical Specification

On/Off fire and smoke spring return damper actuators shall be direct coupled type which require no crank arm and linkage and be capable of direct mounting to a shaft up to a 1/2" diameter and center a 1/2" shaft. The actuators must be designed so that they may be used for either clockwise or counterclockwise fail-safe operation. Actuators shall be protected from overload at all angles of rotation. If required, two SPDT auxiliary switches shall be provided. Actuators shall be cULus listed and have a 5 year warranty, and be manufactured under ISO 9001 International Quality Control Standards. Actuators shall be as manufactured by Belimo.

Wiring Diagrams

✂️ INSTALLATION NOTES

1 Provide overload protection and disconnect as required.

2 **CAUTION Equipment Damage!**
Actuators may be connected in parallel.
Power consumption must be observed.

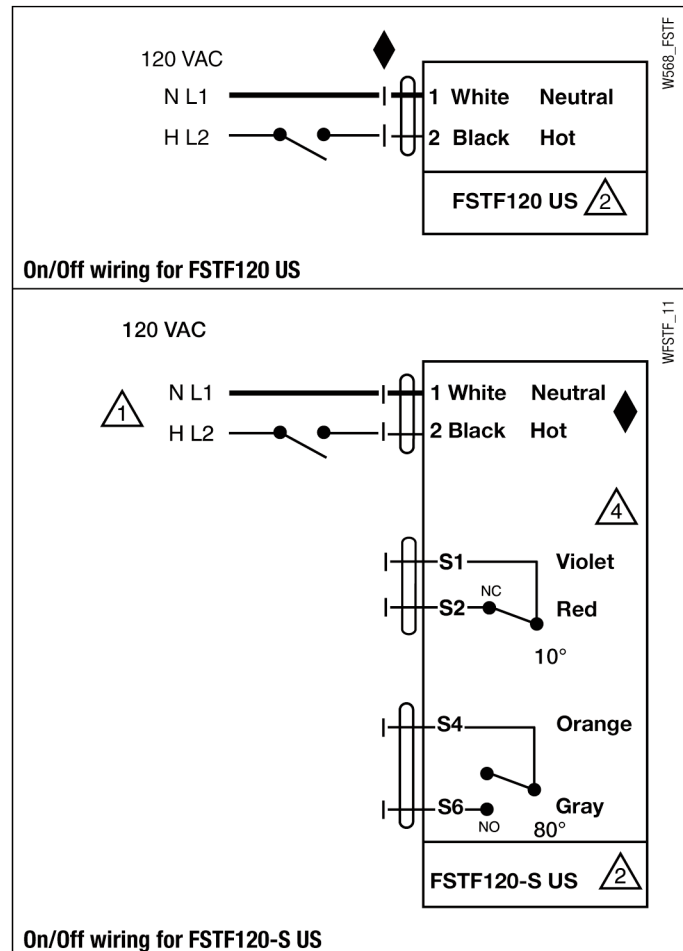
4 Two SPST auxiliary switches for position indication. NC switch opens at 10° and NO switch closes at 80°

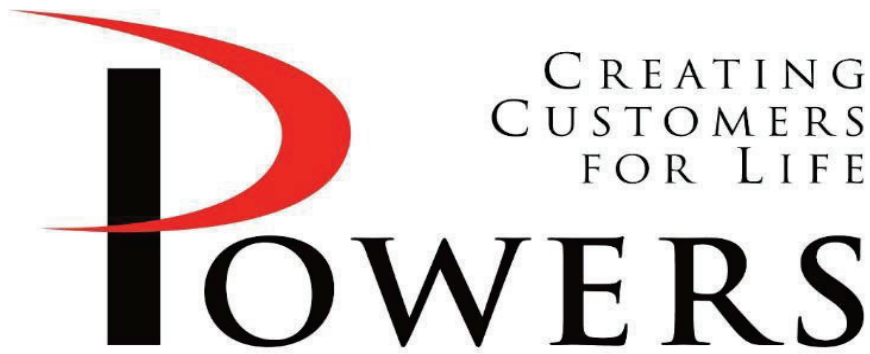
📄 APPLICATION NOTES

◆ Meets cULus requirements without the need of an electrical ground connection.

⚠️ WARNING Live Electrical Components!

During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.





SUBMITTAL

PRODUCT	Access Doors
MANUFACTURER	Pottorff
JOB NAME	CALS Main Library Renovation
LOCATION	Little Rock, AR
ENGINEER	Bernhard TME
CONTRACTOR	Knight & Wilson
DATE	5/6/2024
SUBMITTED BY	Chris Atwood

5440 Northshore Drive - North Little Rock, Arkansas 72118 - Tel: 501.374.5420 Fax: 501.370.9298

Submittal

Model HAD

Duct access door, insulated panel

General construction

Material: Galvanized steel

Door panel: 24 gauge - double wall, insulated

Insulation: 1" thick fiberglass

Gasket: Compressible closed cell neoprene - door to frame and frame to duct

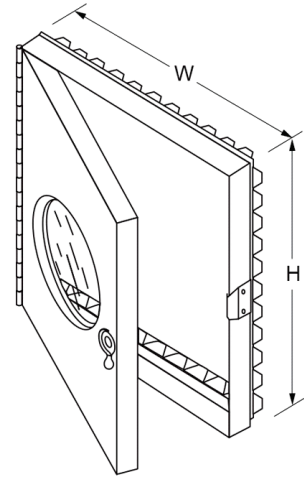
Latches: Cam

Options

Window: Yes

Ratings

Operating temperature range: -20°F to 200°F



Model HAD with window

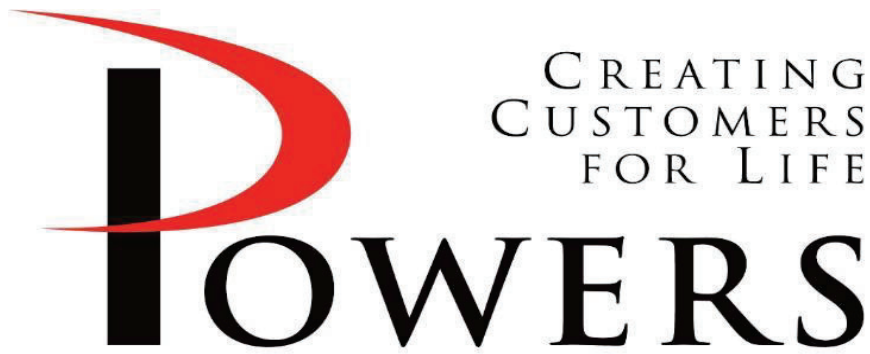
Details

Line Item	Tag	Qty	Frame gauge	Door Size (in.xxxx)	Duct Opening Size	Window Size	Qty Latches	Ratings
				W x H	W x H (in)	D (in)	W x H	Press (in.w.g.)
10	ACC DOORS	1	24	8 x 8	7 x 7	3	0 x 1	3
11	ACC DOORS	5	24	12 x 12	11 x 11	6	0 x 1	3

This submittal sheet reflects only the construction and options selected and is not indicative of all constructions and options that are available for the product. For more information, please contact your local representative or visit us at www.pottorff.com.

Information is subject to change without notice or obligation.

Note: Dimensions in parentheses () are millimeters.



SUBMITTAL

PRODUCT	Manual Volume Dampers
MANUFACTURER	Pottorff
JOB NAME	CALS Main Library Renovation
LOCATION	Little Rock, AR
ENGINEER	Bernhard TME
CONTRACTOR	Knight & Wilson
DATE	5/6/2024
SUBMITTED BY	Chris Atwood

5440 Northshore Drive - North Little Rock, Arkansas 72118 - Tel: 501.374.5420 Fax: 501.370.9298

Submittal

Model MD-41

Manual balancing damper, triple-V parallel blade

General construction

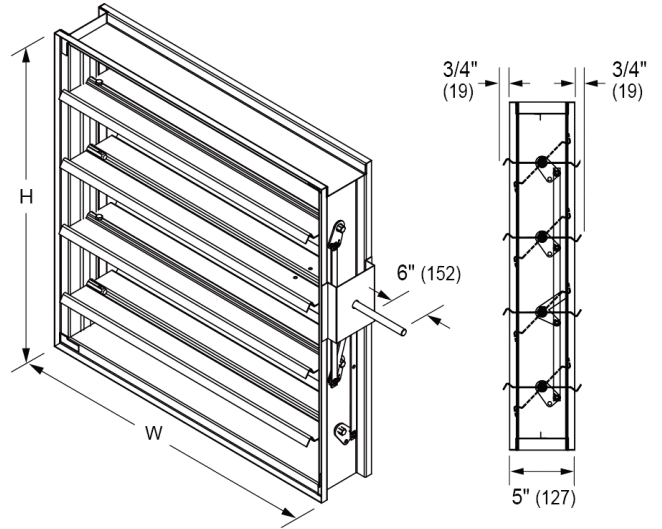
- Dimensions:** Nominal (approximately 1/4" (6) undersize)
- Material:** Galvanized steel
- Frame:** 5" x 1" (127 x 25) hat channel
- Blade style:** 6" x 16 gauge, triple-v
- BladeAction:** Parallel
- Axles:** 1/2" (13) diameter plated steel hex
- Linkage:** Concealed in frame
- Control shaft:** 1/2" x 6" (13 x 152) round drive axle
- Bearings:** Synthetic
- Top and bottom stops:** Yes

Options

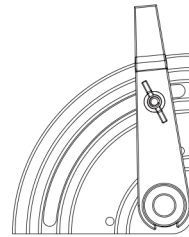
- Locking quadrant:** Manual locking quadrant, loose
- Standoff:** Actuator/quadrant standoff bracket

Ratings

Operating temperature range: -25°F to 180°F



Model MD-41



Manual locking quadrant (supplied loose)

Details

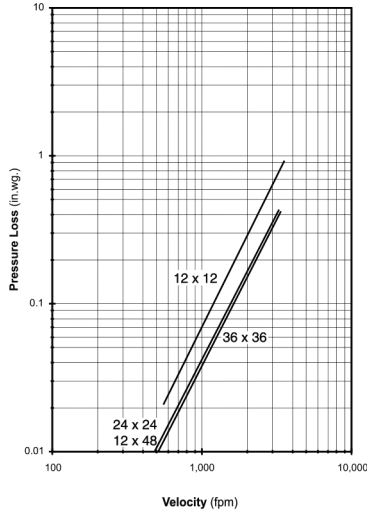
Line item	Tag	Qty	Dimensions (in.xxxx)	Sections	Ratings		J (in)
			W x H	Wide x High	Vel (fpm)	Press (in.w.g.)	
1	MVD	10	8 x 6	1 x 1	2000	5	
2	MVD	2	12 x 6	1 x 1	2000	5	
3	MVD	1	16 x 8	1 x 1	2000	4	
4	MVD	1	18 x 10	1 x 1	2000	4	

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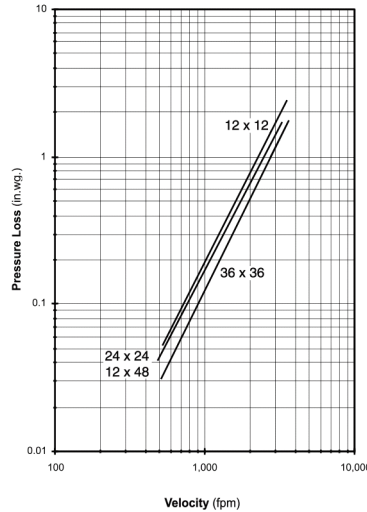
Note: Dimensions in parentheses () are millimeters.

Submittal Model MD-41 Performance



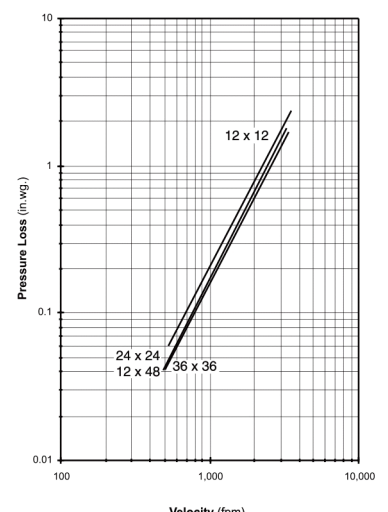
Ducted inlet and outlet

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 damper.



Ducted inlet

AMCA Figure 5.2 illustrates a ducted damper exhausting air into an open area. This configuration has a lower pressure drop than Figure 5.5 because entrance losses are minimized by a straight duct run upstream of the damper.



Plenum mount

AMCA Figure 5.5 illustrates a plenum mounted damper. This configuration has the highest pressure drop because of extremely high entrance and exit losses due to the sudden changes of area in the system.

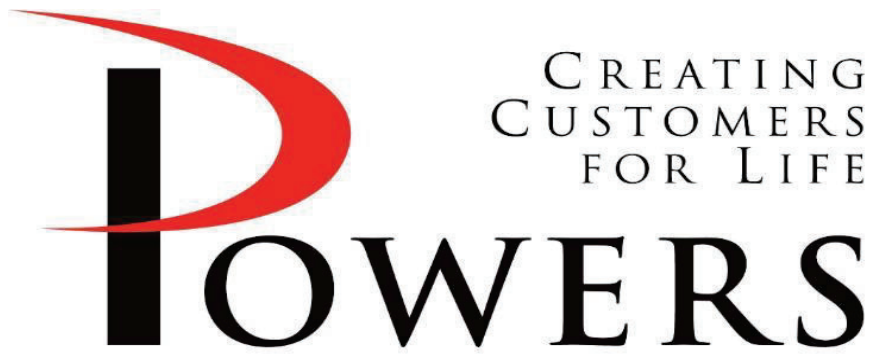
Pressure drop testing

Pressure drop testing was conducted in accordance with AMCA Standard 500-D using the three configurations shown. All data has been corrected to represent air density of 0.075 lb/ft. Actual pressure drop in any ducted HVAC system is a combination of many elements. This information, along with analysis of other system influences, should be used to estimate actual pressure losses for a damper installed in a given HVAC system.

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Information is subject to change without notice or obligation.

Note: Dimensions in parentheses () are millimeters.



SUBMITTAL

PRODUCT	Louver L-1
MANUFACTURER	Pottorff
JOB NAME	CALS Main Library Renovation
LOCATION	Little Rock, AR
ENGINEER	Bernhard TME
CONTRACTOR	Knight & Wilson
DATE	5/6/2024
SUBMITTED BY	Chris Atwood

5440 Northshore Drive - North Little Rock, Arkansas 72118 - Tel: 501.374.5420 Fax: 501.370.9298

Submittal

Model EFK-430

Extruded aluminum louver, 4" deep, 30 degree K-blade

General construction

Dimensions: Nominal (approximately 1/2" (12) undersized)

Material: 6063-T5 extruded aluminum

Material thickness (in): 0.081

Frame and blade attachment: Mechanically fastened

Frame: 4" deep channel

Blade: 30° k-style

Screen 1 configuration: Material: Aluminum; Type: Bird screen;
 Pattern: 1/2" x 0.063"

Options

Material: 6063-T5 extruded aluminum

Screen 1 finish: Match louver

Flange: Type: Flange frame, Width (in): 1.5

Installation hardware: Standard clip angles

Finish: Baked enamel, Standard color name: TBD

Finish warranty: 5 years

Ratings

Free area: [48" x 48" (1219 x 1219) unit]: 9.6 ft² (0.89 m²) 59.6% (1 side)

Velocity @ 0.15 in.wg. Pressure Loss: 960 fpm (4.88 m/s)

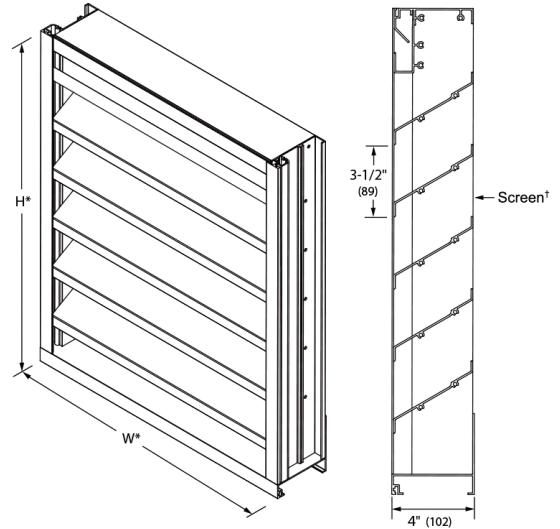
Std. Design Load: 30 psf

Performance at beginning point of water penetration

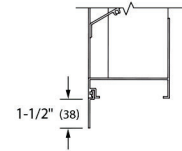
Free area velocity: 1002 fpm (5.09 m/s)

Air volume delivered: 9549 cfm (4.51 m³/s)

Pressure loss: 0.16 in.wg. (40 Pa)



Model EFK-430



EFK-430 with flange frame

Details

Line item	Tag	Qty	Louver size (in.xxx)	Sections	Ratings			Free area		Approx. weight (lbs)
			W x H	Wide x High	CFM	FPM	PD (in.w.g.)	ft ²	%	
12	LOUVER L-1	1	32 x 18	1 x 1				1.85	48.3	12

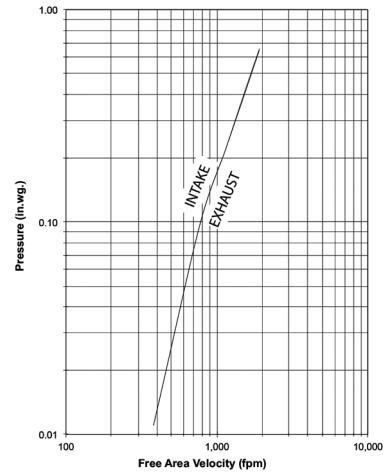
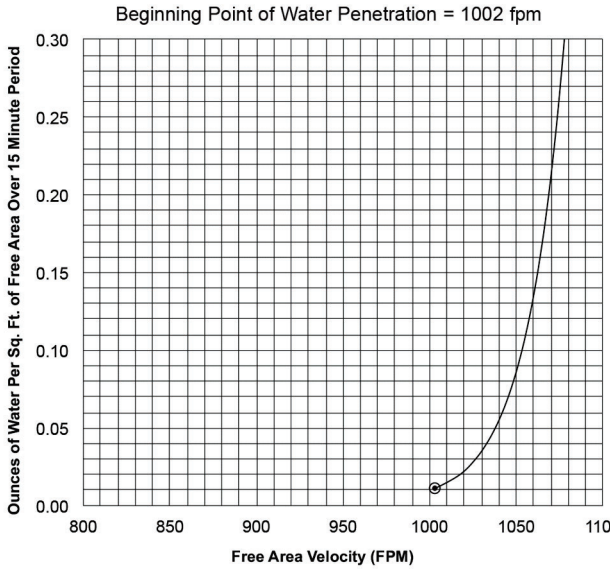
This submittal sheet reflects only the construction and options selected and is not indicative of all constructions and options that are available for the product. For more information, please contact your local representative or visit us at www.pottorff.com.

Note that performance data in the details section of this submittal are calculated values, and are not AMCA certified.

Information is subject to change without notice or obligation.

Note: Dimensions in parentheses () are millimeters.

Submittal Model EFK-430 Performance



Water penetration

AMCA defines the beginning point of water penetration as the free area velocity at the intersection of a simple linear regression of test data and the line of 0.01 ounces of water per square foot of free area and is measured through a 48" x 48" louver during a 15 minute period. The AMCA water penetration test provides a method for comparing louver models and designs as to their efficiency in resisting the penetration of rainfall under specific lab conditions. Pottorff recommends that intake louvers are selected with a reasonable margin of safety below the beginning point of water penetration in order to avoid unwanted penetration during severe storm conditions.

Pressure loss

Louver test size = 48" x 48" (1219 x 1219)

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Information is subject to change without notice or obligation.

Note: Dimensions in parentheses () are millimeters.

Application and Design

Minimum 1/2" (13), maximum 3" (76) width (height) variable flange. Optional no bottom flange for use typically when a bottom sill pan is required. For use with extruded aluminum and formed steel louver models. On extruded aluminum louvers, flanges greater than the standard 1-1/2" (38) are welded onto the louver.*

Standard Construction

Material: 0.081" (2) thick 6063-T5 extruded aluminum for aluminum louvers or 20 ga. (1.0) thick galvanized steel for formed steel louvers.

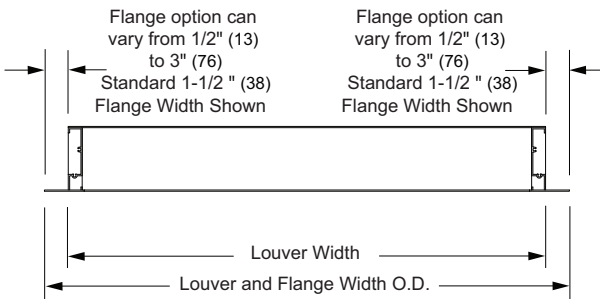
Finish: To match louver finish.

Minimum Size: See appropriate louver minimum.

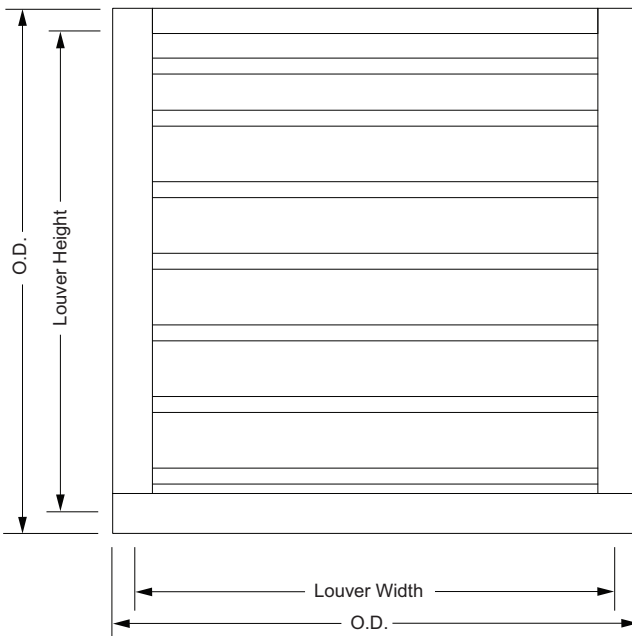
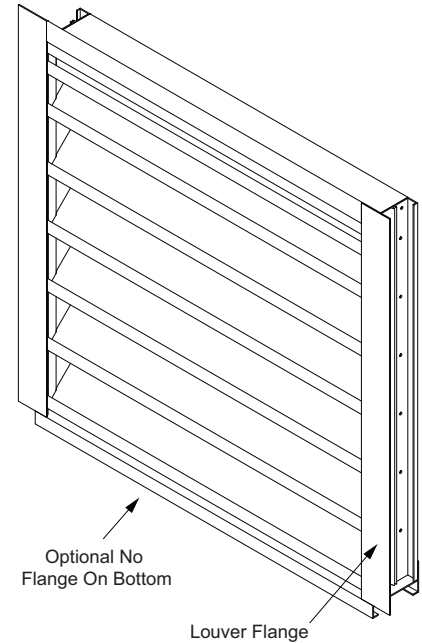
Maximum Size: See appropriate louver maximum.

Typical Details

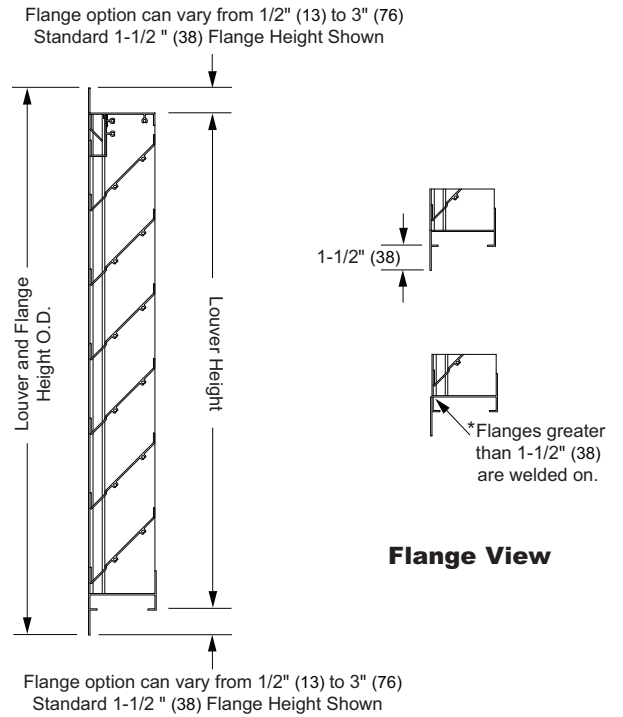
Top, Front, and Side view shown with standard flange on extruded aluminum louvers - formed steel louvers similar.



Top View



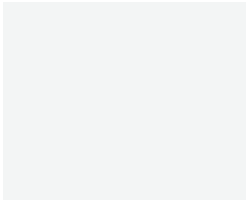


















Front View



Side View

(FROM DRYWALL)

Standard Finish colors for aluminum products and acoustical louvers

				
Apollo White M-18136 M-19136	Bone White M-18137 M-19137	Colonial White M-18138 M-19138	Ivory M-18162 M-19162	
				
Nantucket Dune M-18140 M-19140	Beige M-18141 M-19141	Seawolf M-18142 M-19142	Fashion Gray M-18143 M-19143	Colonial Gray M-18144 M-19144
				
Charcoal Gray M-18145 M-19145	Light Blue M-18146 M-19146	Interstate Blue M-18147 M-19147	Aged Copper M-18148 M-19148	Hartford Green M-18149 M-19149
				
Brick Red M-18150 M-19150	Burgundy M-18151 M-19151	Sage Brown M-18152 M-19152	Statuary Bronze M-18153 M-19153	Black M-18154 M-19154

The first M number is for the standard Fluoropolymer finish and the second number is for the same color in Polyester.

Premium Pearl finish colors for aluminum products and acoustical louvers

				
El Cajon Silver M-18155 M-19155	Champagne M-18156 M-19156	Light Bronze M-18157 M-19157	Medium Bronze M-18158 M-19158	Dark Bronze M-18159 M-19159

Premium Pearl colors use mica pigments to simulate the appearance of anodized finishes. The first M number is for the standard Fluoropolymer finish and the second number is for the same color in Polyester.

The color swatches shown are not the actual paint. The swatches are as close as possible to actual colors offered. Actual swatch samples are available upon request.

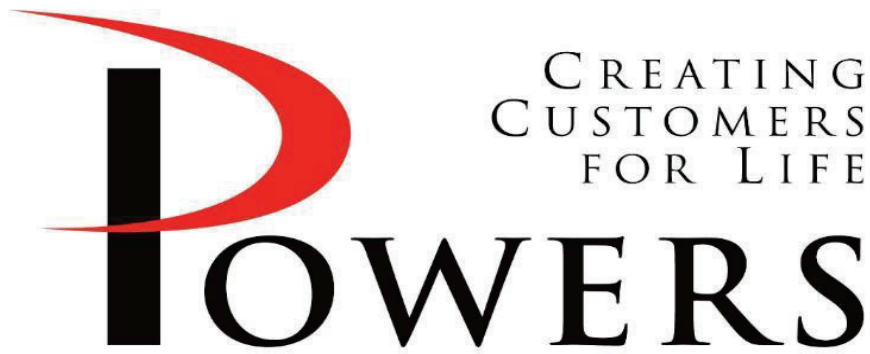
Our superior performance paint systems are available in a wide range of colors and we can also custom color match to any of your specifications. Our expertise in applying architectural coatings assures you of a high quality finish. With our color options, you get the color you need when you need it!

PRODUCT FACTS

Finish Type	Description/Application	Color Selection	Warranty
Fluoropolymer Decafion and Newlar meet AAMA 2605. Dry film thickness 2 mil. equivalent to Kynar 500®/Hylar 5000®, Duranar®, Fluoropon®	Our premier finish for extruded aluminum. Tough, long lasting, environmentally friendly powder coating has superior color retention and abrasive properties. Resists chalking, fading, chemical abrasion and weathering.	Standard Colors: 20 standard colors plus Premium Pearl finishes. Custom colors are available. Consult factory.	10 Years (consult factory for availability of extended warranty up to 20 years).
Polyester Powder Coat meets AAMA 2604 dry film thickness 2 mil. equivalent to Baked Enamel.	Environmentally friendly powder coating has good color retention and abrasive properties. Resists chalking, fading, chemical abrasion and weathering.	20 standard colors for aluminum products and acoustical louvers, 18 colors for steel. Custom colors are available. Consult factory.	5 Years
Integral Color Anodize AA-M10C22A42 (>0.7 mil)	Electrochemically deposited inorganic color pigment which is sealed to convert an aluminum oxidation into a corrosion resistant finish. Some shade variation will occur.	Champagne; Light, Medium or Dark Bronze; Black	5 Years
Clear Anodize 215 R-1 AA-M10C22A41 (>0.7 mil)	Electrochemically oxidized aluminum surface for uniform clear finish. More resistant to natural oxidizing. Improved luster and less glossy than mill finish.	Clear	5 Years
Alkyd Prime Coat	Preparation for field applied epoxy, vinyl, urethane, or other heavy-duty coatings. Must be finished within 6 months of application. Contamination can occur in transit and in the field; requires field cleaning prior to painting.	N/A	N/A
Mill	Aluminum or Galvanized Steel. Normal weathering will occur.	N/A	N/A



Finishes enhance louver appearance by matching or contrasting with adjacent surfaces and extending weather resistance. Color matching is available upon request.



SUBMITTAL

PRODUCT	Fabric Duct
MANUFACTURER	Prihoda
JOB NAME	CALS Main Library Renovation
LOCATION	Little Rock, AR
ENGINEER	Bernhard TME
CONTRACTOR	Knight & Wilson
DATE	5/6/2024
SUBMITTED BY	Chris Atwood

5440 Northshore Drive - North Little Rock, Arkansas 72118 - Tel: 501.374.5420 Fax: 501.370.9298

Fabric Duct Submittal Information
5/6/2024



Project Name: CALS Library

Vendor: Powers of Arkansas

Engineer: Bernhard

Architect: Polk Stanley Wilcox

Material:

100% Fire Retardant Polyester: UL Classified (NFPA90A 25/50) / ULC Listed, Report# R25183

- PMI (Permeable 2 (+2/-1) cfm, 6.5oz/yd²)
- PMS (Permeable 2 (+2/-1) cfm, 6.5oz/yd²)

- NMI (Non permeable 7.7oz/yd²)
- NLI (Non permeable 2.5oz/yd²)

Choose from following colors:

- White (RAL9016)
- Yellow (PANTONE 135/RAL 1017)
- Light Grey (PANTONE 420/RAL 7035)
- Dark Grey (PANTONE 424) (RAL 7037)
- Light Blue (PANTONE 2915 RAL 5012)

- Blue (PANTONE 7462) (RAL 5005)
- Green (PANTONE 341) (RAL 6024)
- Red (PANTONE 187) (RAL 3001)
- Black (PANTONE 419) (RAL 9017)
- Prihoda Art _____

Suspension/installation method:

- Single Track
- Cable (underfloor)

- Double Track
- Double Cable

Hold Open Method:

- Internal Rings - SS
- Internal Rings - ALU

- Internal Arcs
- None

Air Distribution method(s)

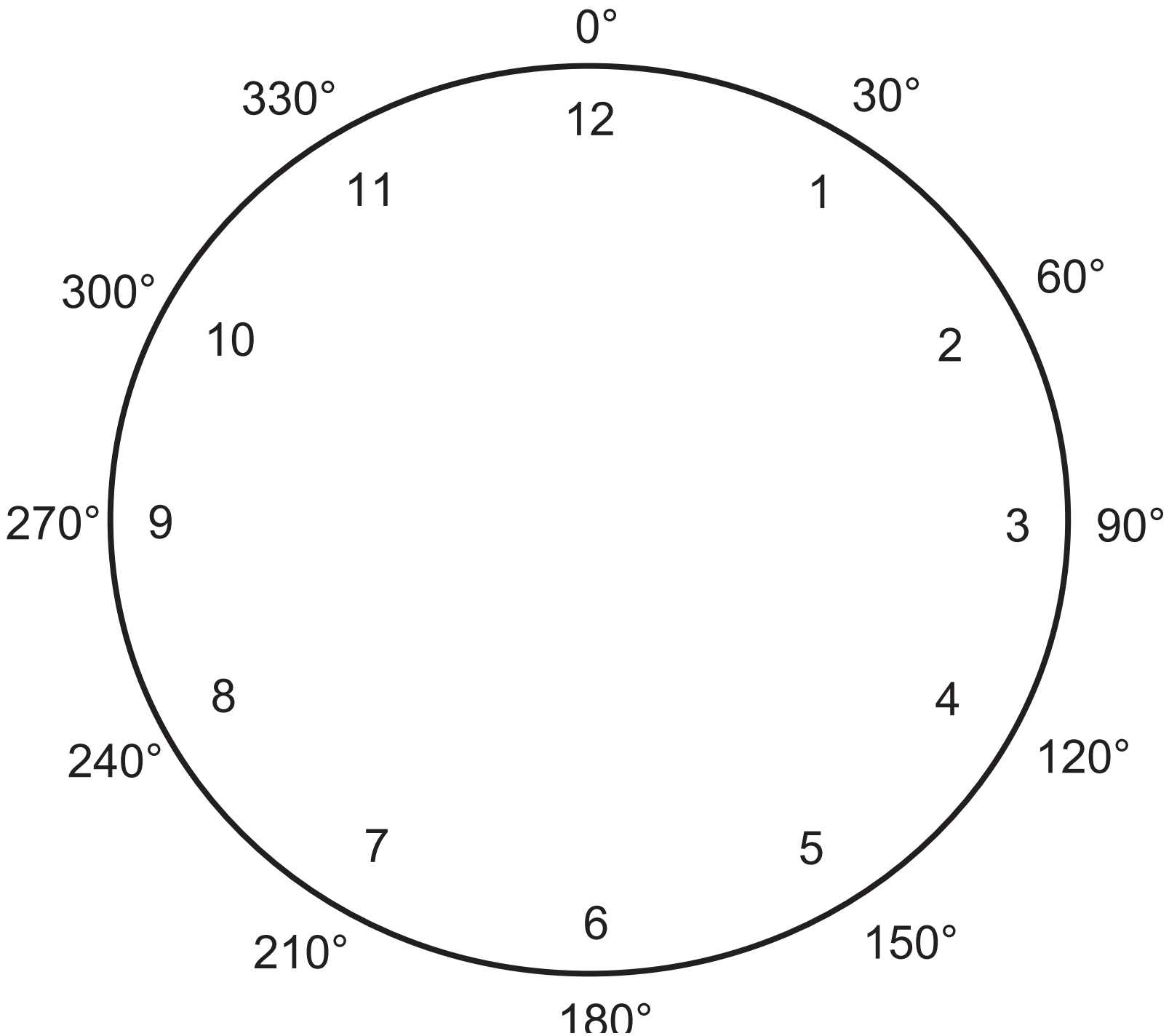
- Micro-Perforations
- Perforations
- Textile Nozzles

Warranty:

- 10 years
- 2 years

Perforation/Nozzle Orientation

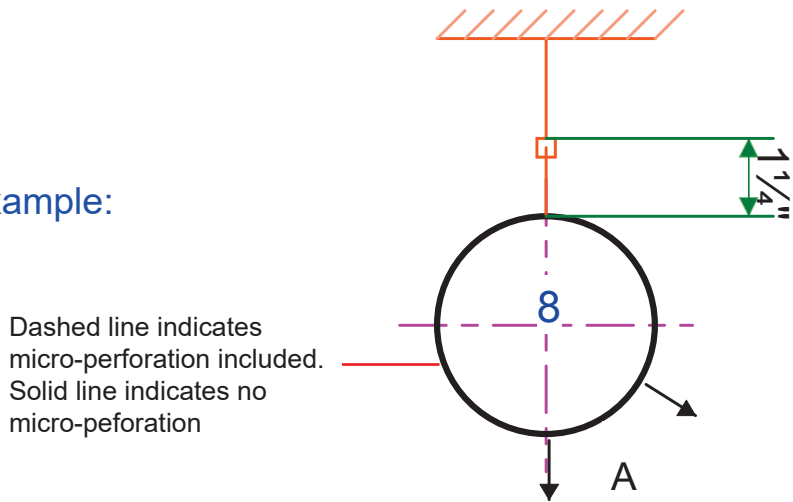
(Looking from the Inlet to the endcap with the airflow on the back of your head.)



Perforation/Nozzle Orientation

(Looking from the Inlet to the endcap with the airflow on the back of your head.)

Example:



Perfo A 150° 272 cfm
D 0.6/6 R 2/4

Identifies perforation location

Perfo A 150° 272 cfm
D 0.6/6 R 2/4

Air volume through perforations

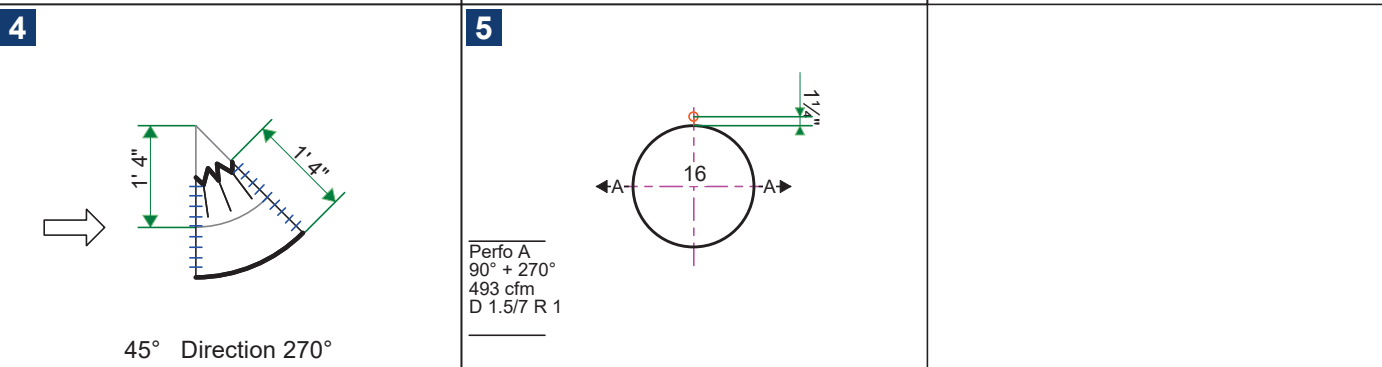
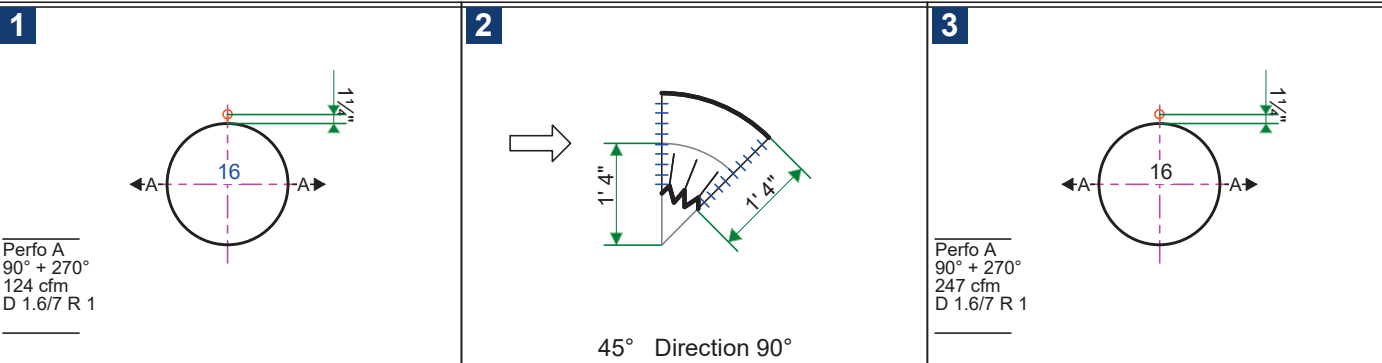
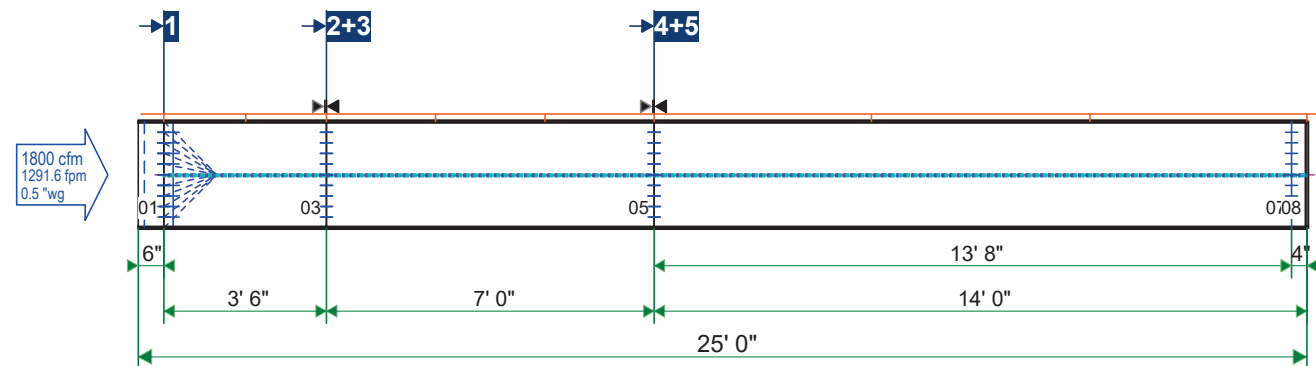
Diameter of perforations

Spacing between rows of perforations

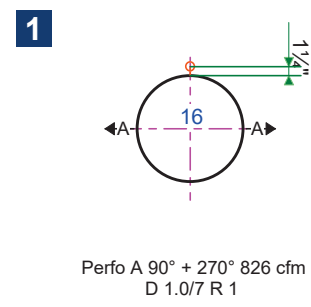
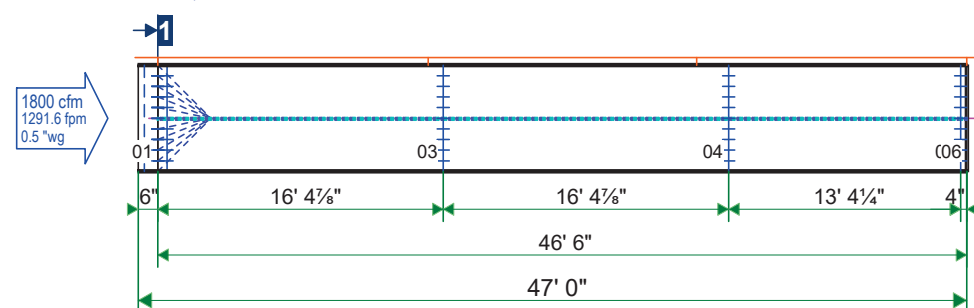
Spacing between perforations

Number of rows of

Position 1 - 1pcs ... 1 - C16/300 FB EQr/PMS-1/WHO + 2x16 AArch-45°/1 ZZ
 REMOVABLE EQUALIZER

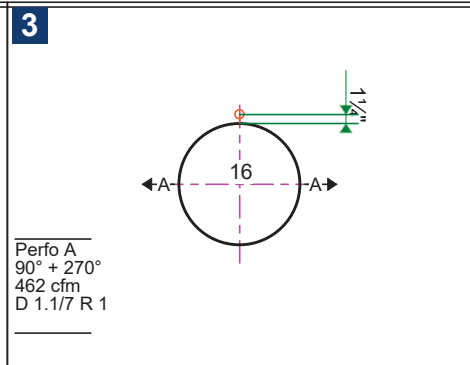
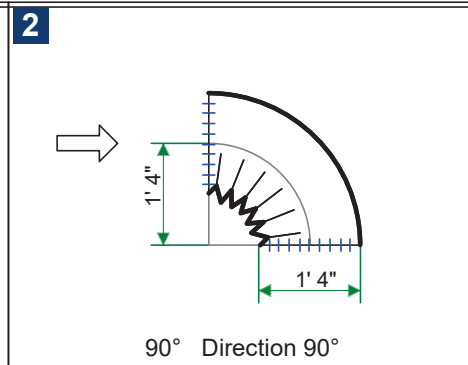
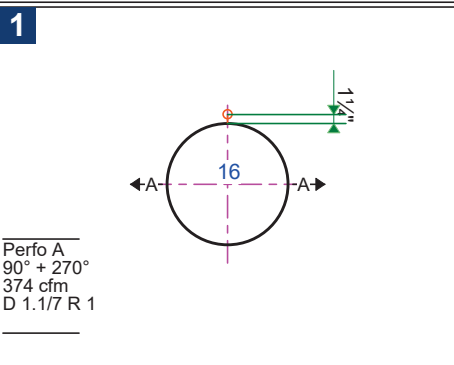
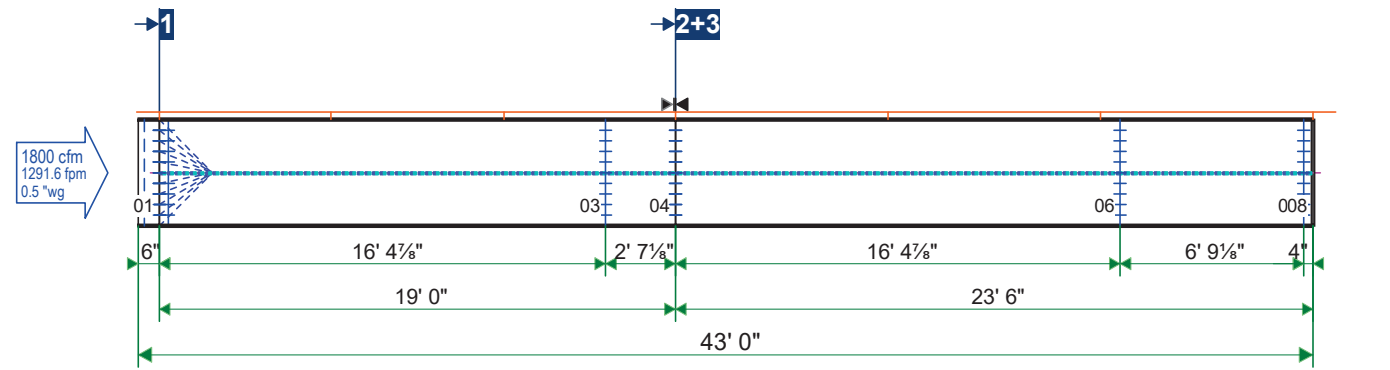


Position 2 - 1pcs ... 2 - C16/564 FB EQr/PMS-1/WHO
 REMOVABLE EQUALIZER

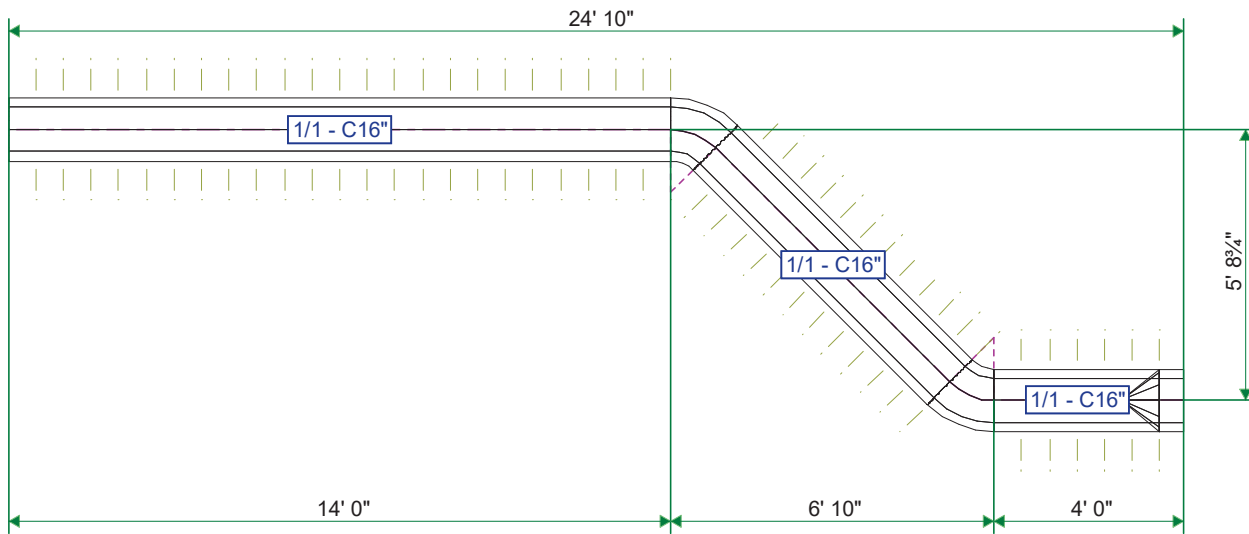


DRAWING N.	VERSION	PAGE	DATE	DRAW	NO SCALE	
Č. VÝKRESU	VERZE	LIST	DATUM	KRESLIL	BEZ	

Position 3 - 1pcs ... 3 - C16/516 FB EQR/PMS-1/WHO + 1x16 AArch-90°/1 ZZ
 REMOVABLE EQUALIZER




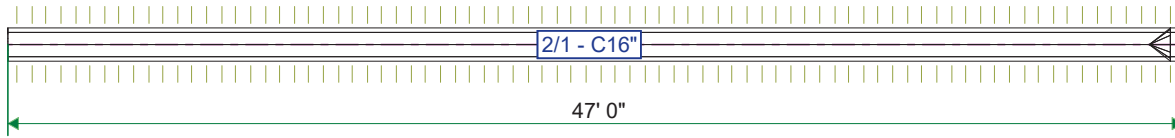
DRAWING N.	VERSION	PAGE	DATE	DRAW	NO SCALE	
Č. VÝKRESU	VERZE	LIST	DATUM	KRESLIL	BEZ	



The view is from 0° angle (0° = Top view, 90° or 270° = Side view)


Color Aspect ratio (Size : Length) 1 : 1

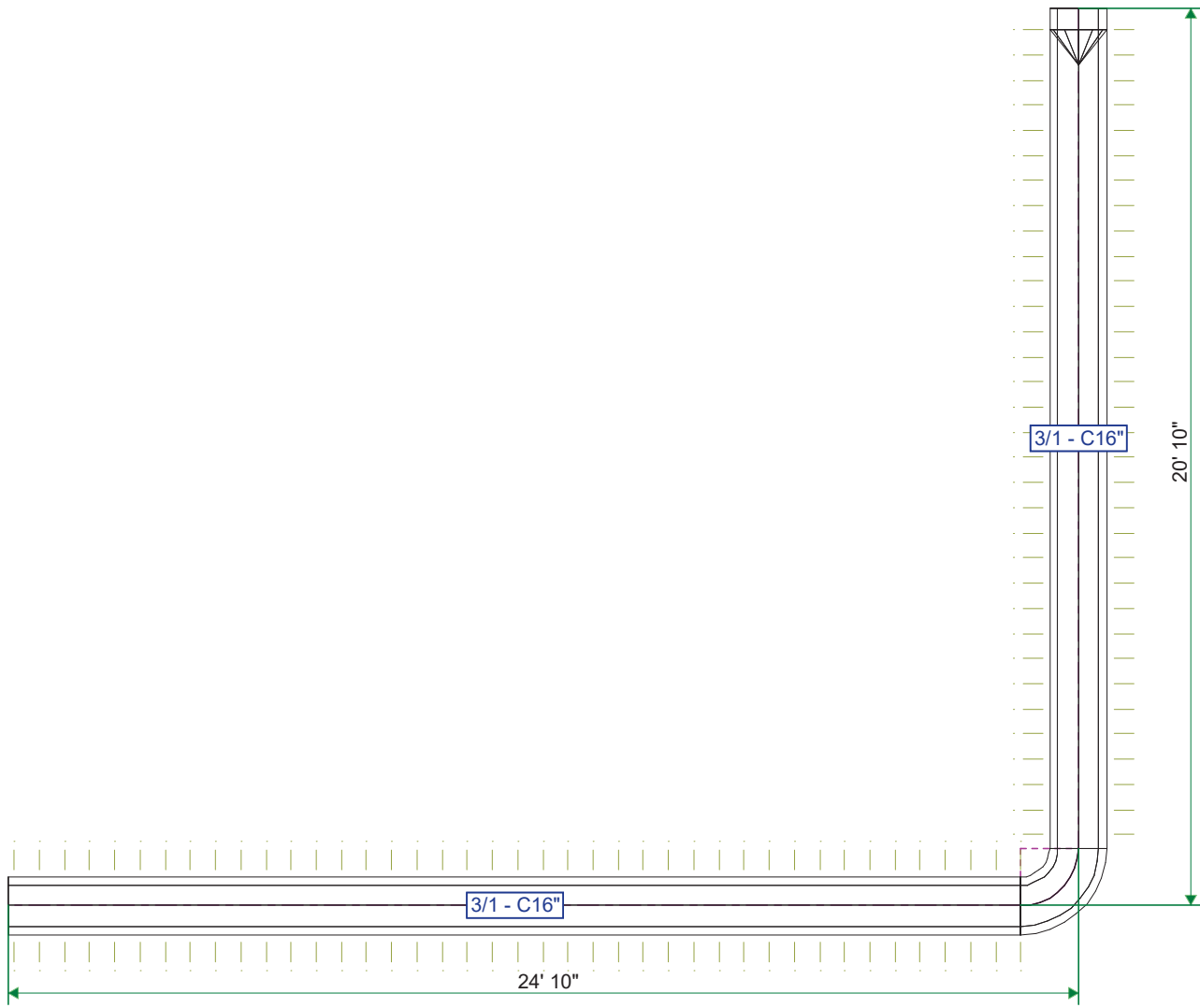
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Č. VÝKRESU	VERZE	SYSTÉM	DATUM	KRESLIL	BEZ	
2401019-1	0	1	6.5.2024	Jacob H.	MĚŘITKA	



The view is from 0° angle (0° = Top view, 90° or 270° = Side view)


Color Aspect ratio (Size : Length) 1 : 1

DRAWING N.	VERSION	SYSTEM	DATE	DRAW	NO SCALE	
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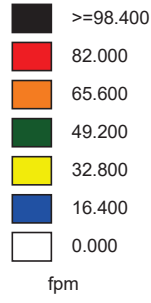
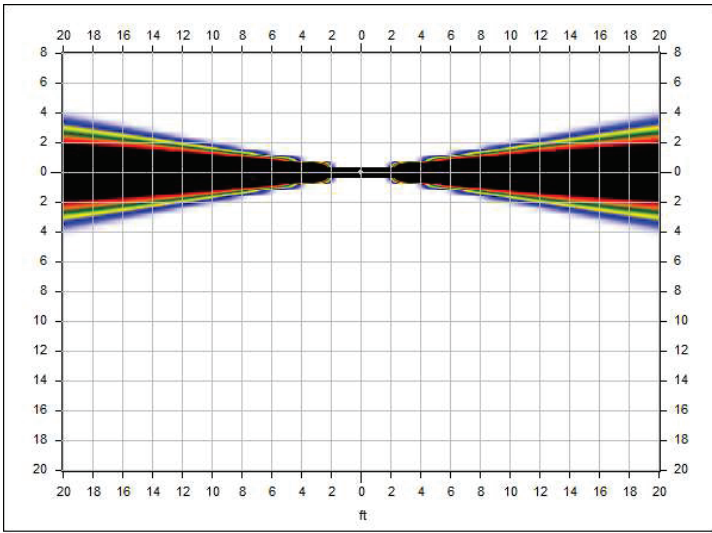


The view is from 0° angle (0° = Top view, 90° or 270° = Side view)

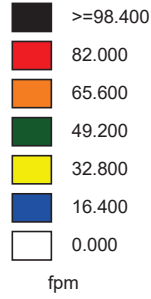
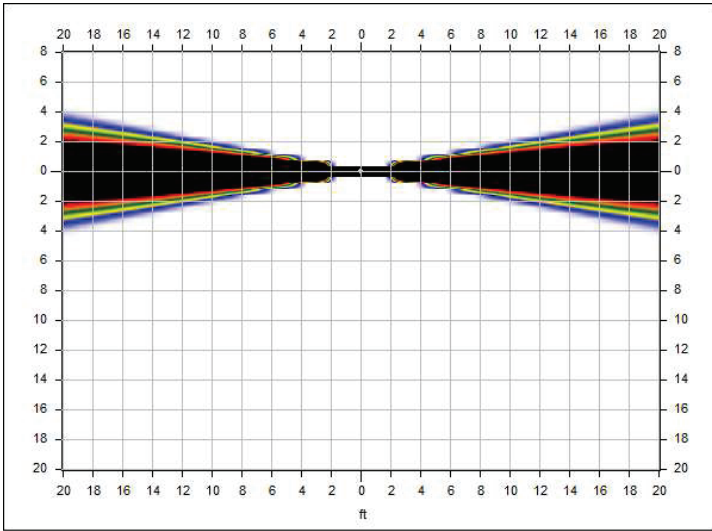
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DRAWING N.	VERSION	SYSTEM	DATE	DRAW	NO SCALE	
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2401019-1	0	3	6.5.2024	Jacob H.	MĚŘITKA	

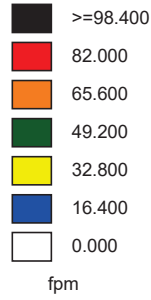
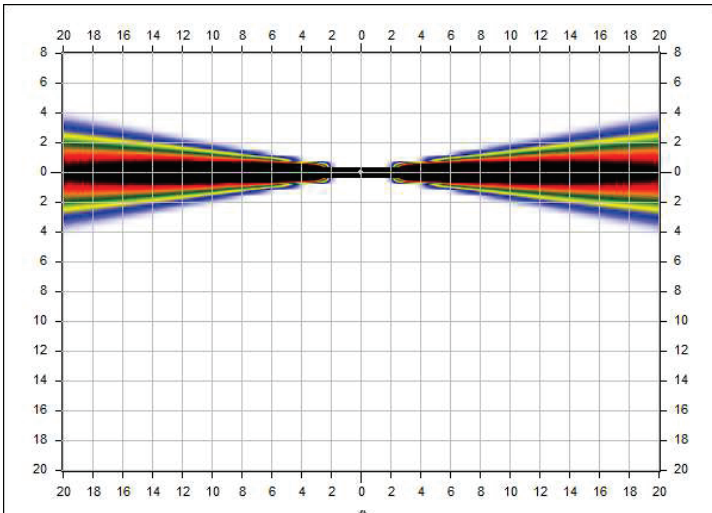
Position 1 Section 1 Mode ventilation Temperature difference 0 ° F



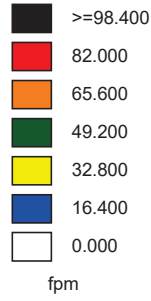
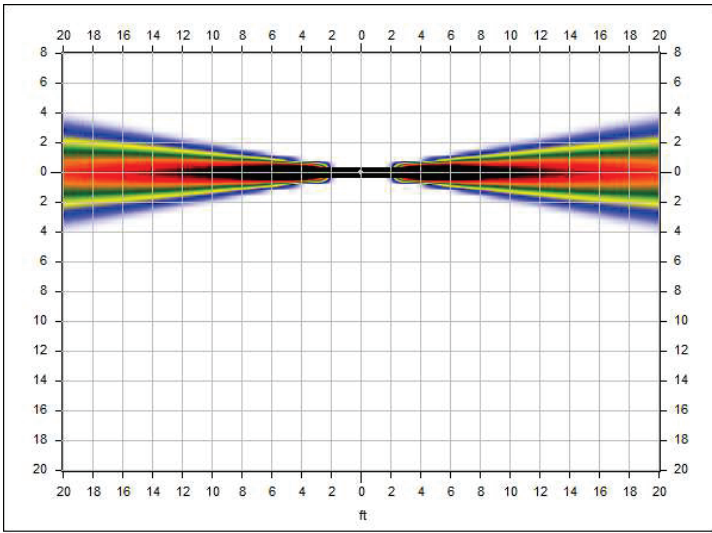
Position 1 Section 2 Mode ventilation Temperature difference 0 ° F



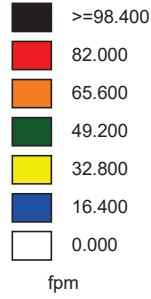
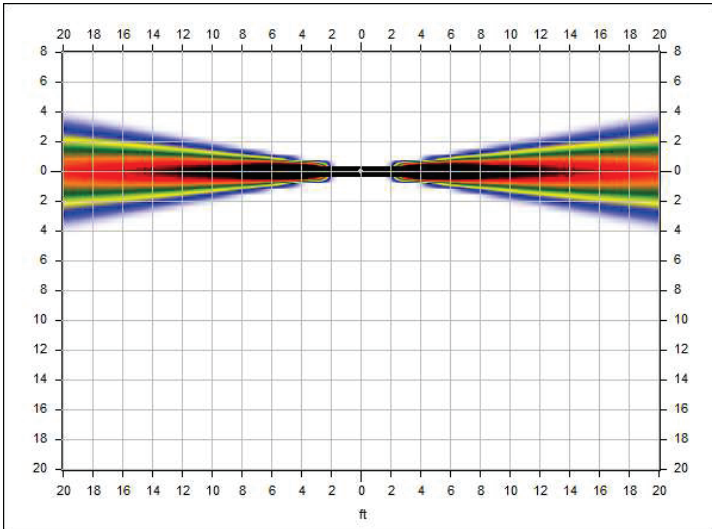
Position 1 Section 3 Mode ventilation Temperature difference 0 ° F



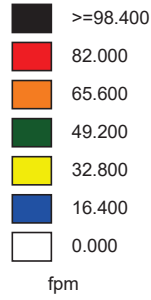
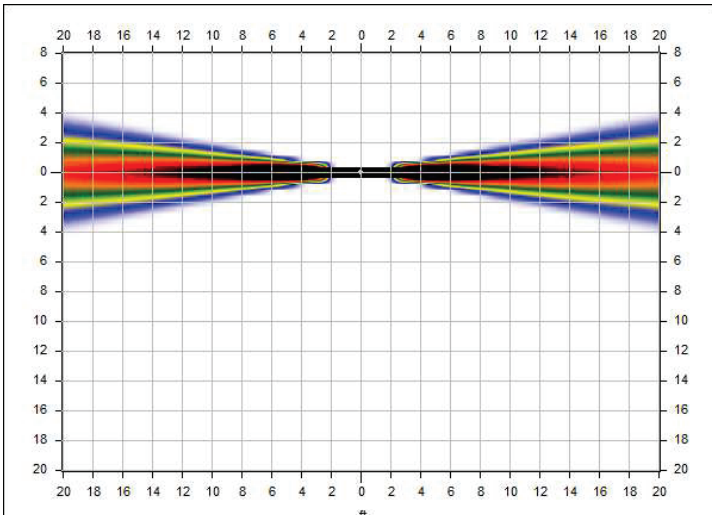
Position 2 Section 1 Mode ventilation Temperature difference 0 ° F

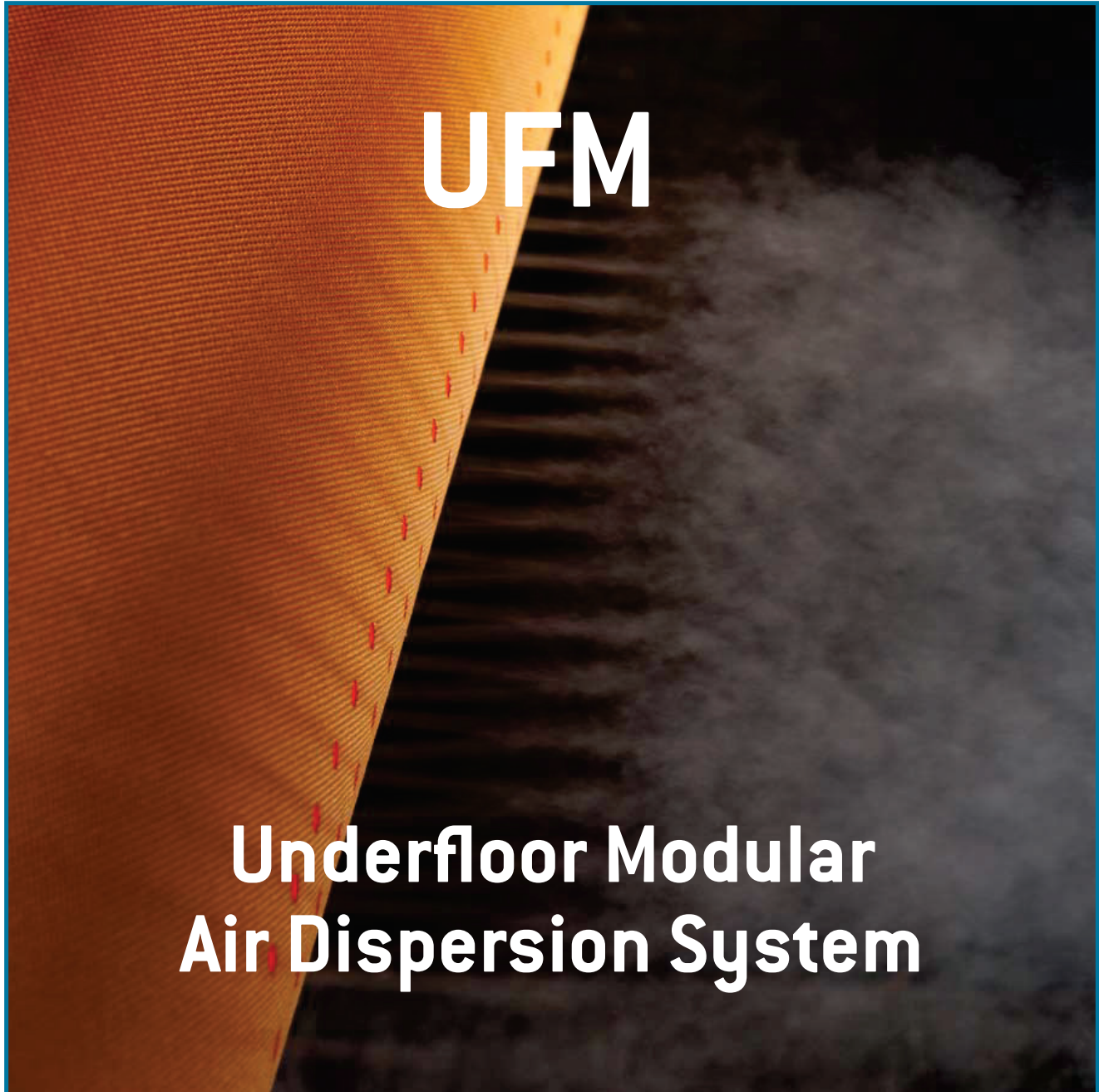


Position 3 Section 1 Mode ventilation Temperature difference 0 ° F



Position 3 Section 2 Mode ventilation Temperature difference 0 ° F



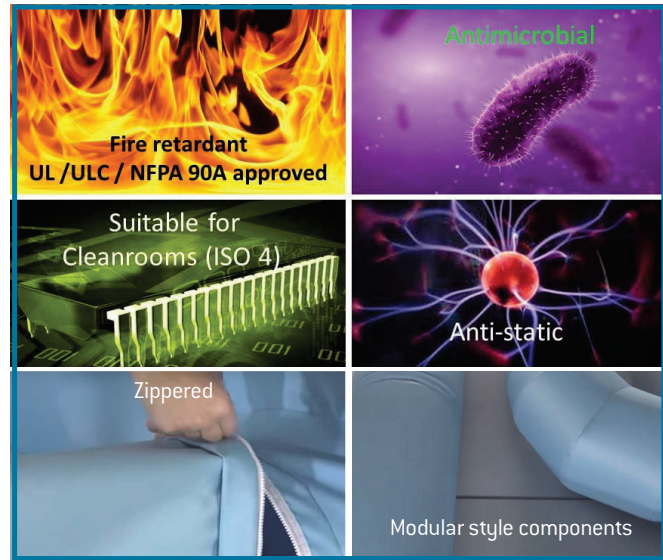


**Economical, Effective Solution For Optimum
Performance of UFAD systems**

Prihoda's Underfloor Modular (UFM) Air Dispersion systems provide a fast, economical way to optimize the effectiveness of UFAD/Displacement Ventilation designs.

Constructed of highly engineered polyester fabric that is UL Classified and ULC listed, Prihoda UFM systems are built using zip-together, modular sections that allow for full-length supply air distribution for even plenum temperatures or non-distributing sections to direct air to higher load areas and perimeter zones to minimize thermal decay.

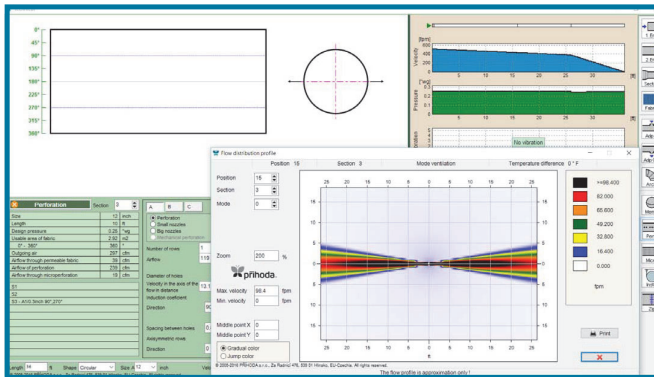
Unlike traditional metal highways, the UFM zippered components make tenant up-fits and remodels, which may require rerouting of the underfloor ducts and data-com wiring, as simple as turning off the units, and unzipping the sections and re-configuring as needed within the underfloor plenum.



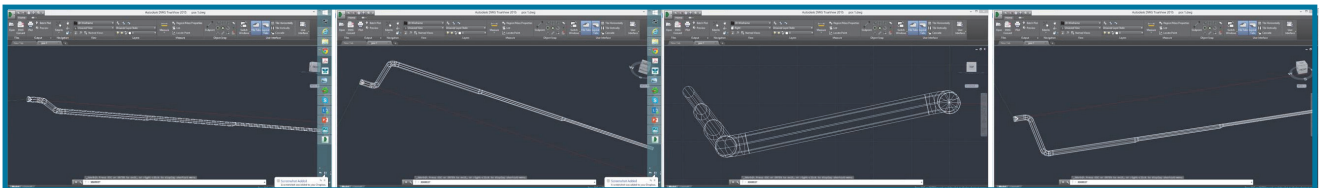
Prihoda UFM ducts can easily facilitate repeatable design for multiple floors of a high-rise or can be customized as needed for the requirements of smaller, unique designs.

Prihoda's Air Tailor software is utilized to evaluate design parameters of the UFM duct diffusers such as pressure, throw, and sound. Layout models done in the Air Tailor Software can be exported in to .dxf (AutoCad) and .ifc (Revit) files to allow easy integration into the early design stages.

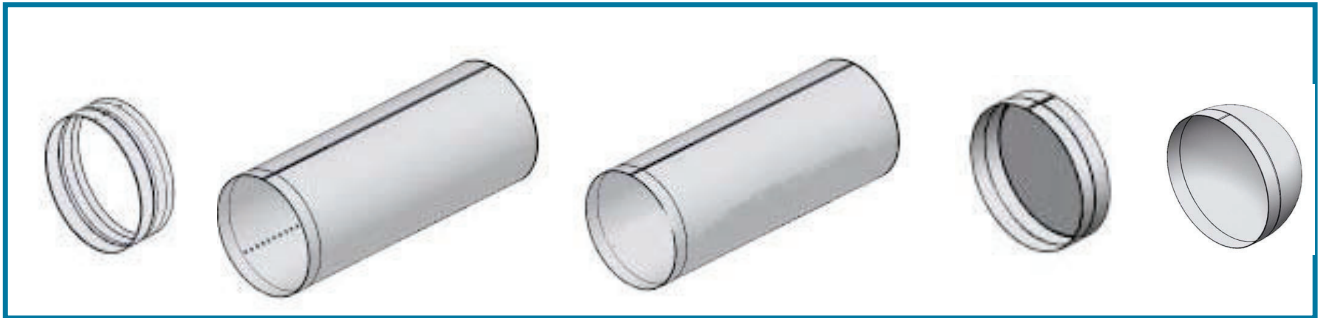
For ultimate sustainability choose Prihoda Recycled, a 100% post-consumer polyester material made from recycled water bottles that has a Life Cycle Analysis and Environmental Product Declaration (EPD type III) which can contribute to Credits in the LEED v4 rating system.



Screen shot from Prihoda's Air Tailor

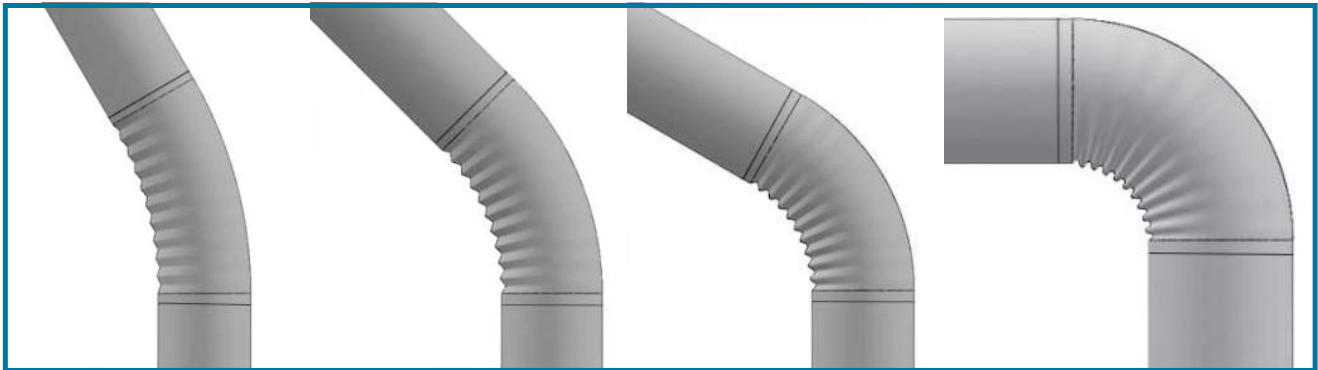


Modular construction

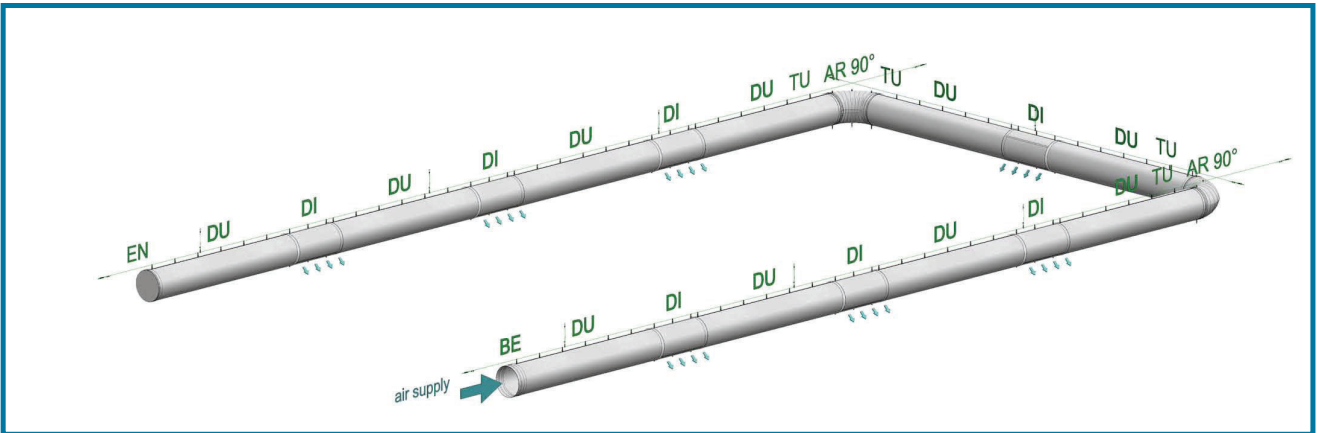


Inlet collar 5" perforated ditribution section 5" non-perforated transport section Endcaps

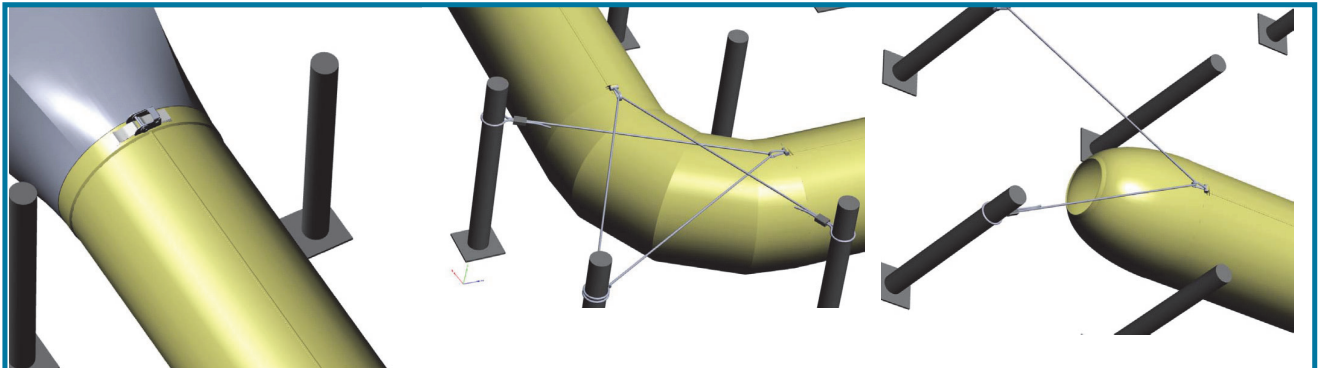
Adjustable elbows



Example











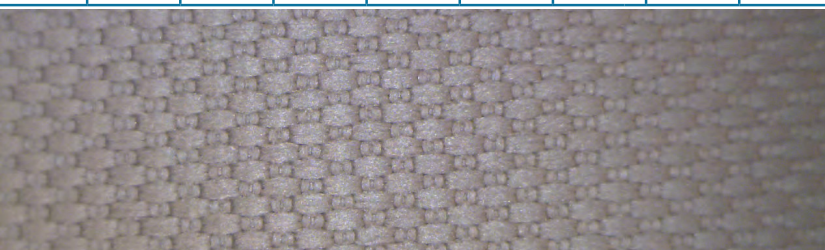


Simple suspension at only the inlet, elbows and endcap



MATERIAL CHARACTERISTICS

FABRIC: Classic

COMPOSITION	100% polyester endless fibre (multifilament)								
PROPERTIES	suitable for cleanrooms - class No. 4 (EN ISO 14644-1) washable in washing-machine 100% polyester								
WEIGHT	EN 12127/ASTM D3776	6.3 (220)	oz/y ² (g)						
THICKNESS	EN ISO 5084	0,30 (.012)	mm (in)						
WEAVE	DIN 61101-1	plain							
SETT OF FABRIC 10 CM	EN 1049-2, warp / weft	540 / 310							
STRENGTH WARP / WEFT	EN ISO 13934-1	1830 / 1020	N						
PERMEABILITY	at .50" wc	2 (+2/- 1) cfm	cfm/ft ²						
FIRE RESISTANCE	UL723/NFPA90A/UL2518(ULR25183)	UL classified							
TEMPERATURE RESISTANCE		-22 to +230	°F						
WASHING SHRINKAGE	EN ISO 6330-2000, warp / weft, 40°C	0.5 / 0.5	%						
TREATMENT SYMBOLS									
COLORS Use Color Chart below									
	WH	YE	LG	DG	LB	BL	GR	RE	BC
		PANTONE 135	PANTONE 420	PANTONE 424	PANTONE 2915	PANTONE 2462	PANTONE 341	PANTONE 187	PANTONE 419
	RAL 9016	RAL 1017	RAL 7035	RAL 7037	RAL 5012	RAL 5005	RAL 6024	RAL 3001	RAL 9017
STRUCTURE									

SHADECARD

FOR PRIHODA FABRICS **PMS** AND **PMI**

WH		white	[~ RAL 9016]
YE		yellow	PANTONE 135 [~ RAL 1017]
LG		light grey	PANTONE 420 [~ RAL 7035]
DG		dark grey	PANTONE 424 [~ RAL 7037]
GR		green	PANTONE 341 [~ RAL 6024]
RE		red	PANTONE 187 [~ RAL 3001]
LB		light blue	PANTONE 2915 [~ RAL 5012]
BL		blue	PANTONE 7462 [~ RAL 5005]
DC			PANTONE 419

CERTIFICATE OF COMPLIANCE

Certificate Number 20140522-R25183
Report Reference R25183-20140516
Issue Date 2014-MAY-22

Issued to: PRIHODA

**This is to certify that
representative samples of**


DISTRIBUTION DEVICES, AIR
Air distribution device fabric identified as "Classic fabric".

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL723, the Standard for Surface Burning Characteristics for
Building Materials

Additional Information: See the UL Online Certifications Directory at
www.ul.com/database for additional information

Only those products bearing the UL Classification Mark should be considered as being covered by
UL's Classification and Follow-Up Service.

The UL Classification Mark includes: UL in a circle: with the word "CLASSIFIED"  (as shown); a control
number (may be alphanumeric) assigned by UL; a statement to indicate the extent of UL's evaluation of
the product; and the product category name (product identity) as indicated in the appropriate UL
Directory.

Look for the UL Classification Mark on the product.

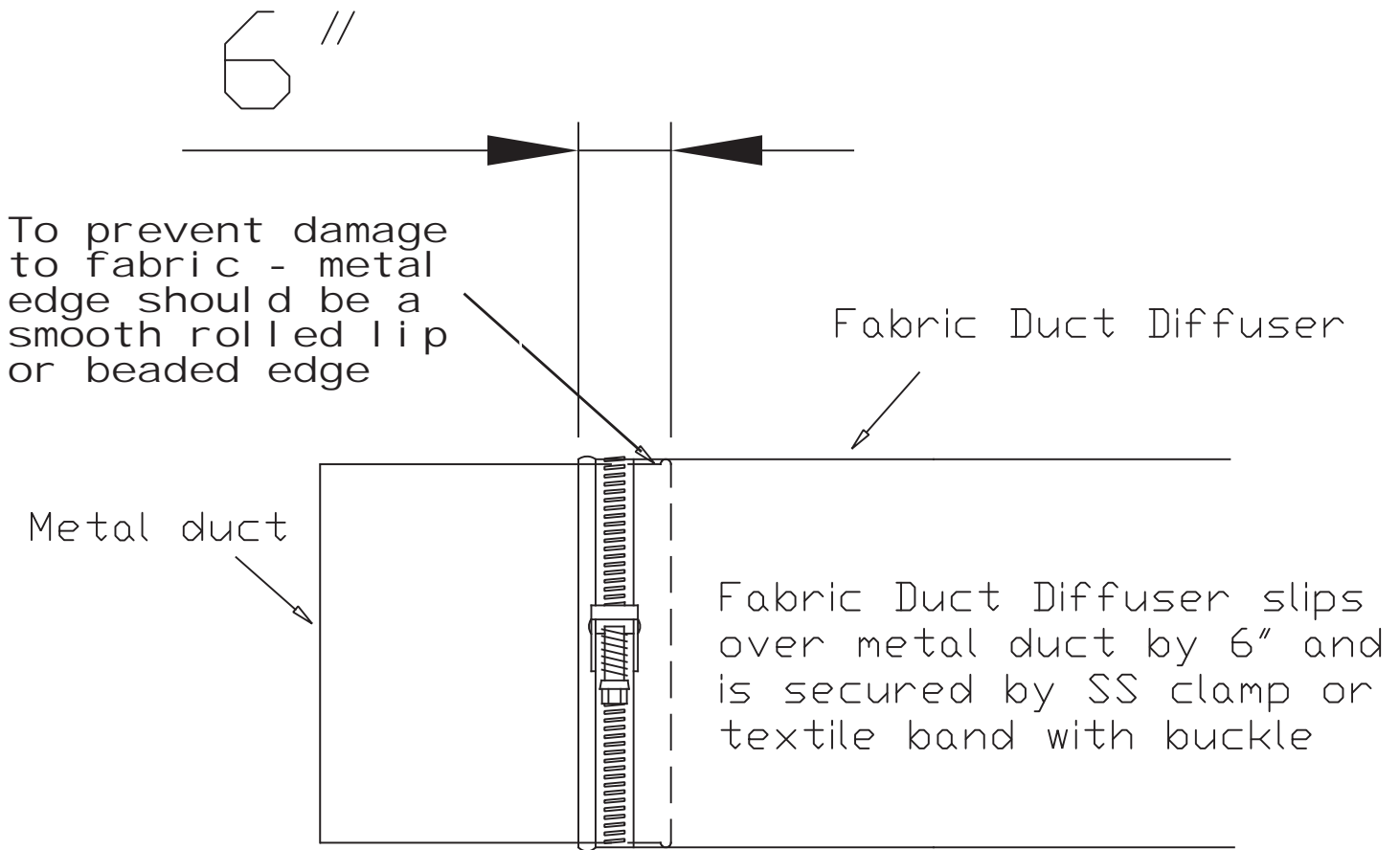


William R. Carney, Director, North American Certification Programs

UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please
contact a local UL Customer Service Representative at www.ul.com/contactus

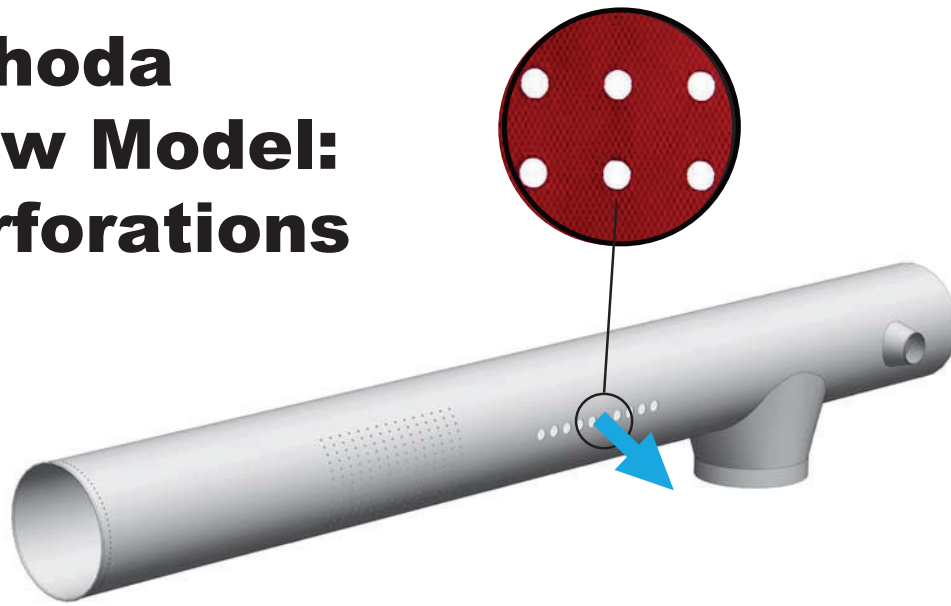




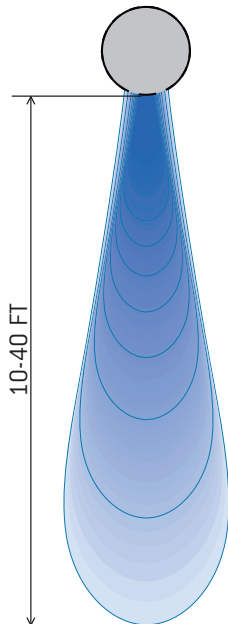
Fabric Duct Inlet connection Detail

(Round, half-round, and quarter-round ducts)

Prihoda Flow Model: Perforations

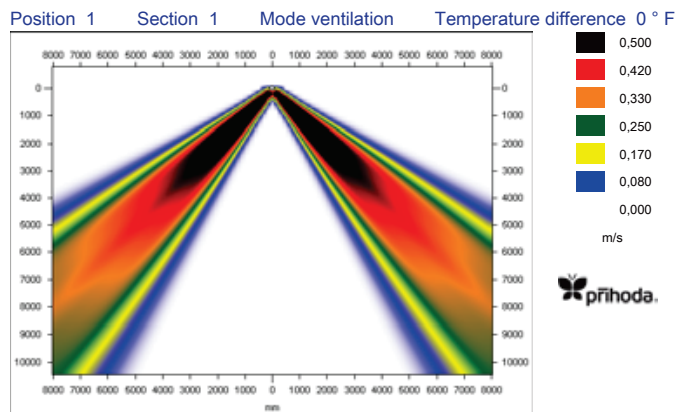


Perforations: Laser cut orifices that range from 5/32" (4mm) - 6" (152mm) dia



Perforations are laser cut orifices that range from 5/32" (4mm) to 6" (152mm) in diameter. Like all flow models, throw from perforations is dependant on volume of air, static pressure, temperature difference, and obstacles (limited to about +/- 40ft throw).

Perforations can be situated at any location around the circumference of the duct and in any pattern. Perforations offer a wide variety of velocities at the delivery point such as low throw / comfortable velocity for classrooms and offices or high throw needed for warehouses, gyms, auditoriums, and large pool rooms. We have the ability to verify the technical parameters in our software which is verified by Ansys Fluent or if highly sensitive or complex the project can be analyzed in the actual Ansys CFD software itself.



Maintenance and Warranty

All of our diffusers and ducts are made of high-quality, temperature and shrink resistant synthetic materials. The material used is specified when your order is processed and is indicated on documents that accompany the shipment and also indicated on the labels sewn in by the zips (STRICTLY FOLLOW THE MAINTENANCE SYMBOLS ON LABELS).

Ducts and diffusers made of permeable fabric (Premium, Classic) can be washed normally in an industrial or commercial washing machine. Impermeable fabrics (Premium) can be machine washed but only on a gentle or “delicate” cycle. NMF, NHE and NLF are to be hand washed only. If the duct or diffuser has hold open accessories such as rings (tyres), arcs (racks), braces or turn-buckles these solid elements must be removed before the washing process. Induction surface dirt on the outside of the duct or diffuser can be vacuumed off and washing may be unnecessary.

Any maintenance must strictly follow the washing label symbols sewn into every section.

1. Wash the diffusers with a regular laundry detergent (follow directions for amount recommended by detergent manufacturer). Since most dirt is collected on the inside of the duct or diffuser its generally best if the diffuser is turned inside out for washing. We advise to repeat the washing up to four times as needed or to use a stronger detergent (acc. to level of contamination). A special detergent (we can recommend one by request according to the particular dirt or application) should be used if the fabric is badly soiled.

2. A disinfectant can be used for added safety (medical or food service applications) but is not generally needed due to the antimicrobial agent already in the material (Premium/Classic). The chemical composition of the disinfectant must not harm the diffuser fabric (see maintenance symbols, no whiteners!). Observe the producer’s dosage instructions.

3. Rinse the diffusers in clean water.

4. Spin-dry the diffusers gently, and either drip dry on a line or re-install them and finish drying by the air flow from the ventilator.



washing label

Legend for symbols

	Machine wash at max. temperature of 40°C (104°F), normal mechanical action, normal rinse, normal spin cycle.
	gentle/delicate machine wash only, rinse at falling temperature, light spin, max. temperature 40°C (104°F).
	Hand wash only, do not machine wash, max. temperature 40°C (104°F), handle gently.
	Do not bleach product.
	Product may be dried in rotary drum drier at reduced drying temperature.
	Do not dry the product in a rotary drum dryer.
	Iron at a max. temperature of 110°C (230°F), use caution when steam ironing.
	Do not iron product; steaming and steam processing is prohibited.
	Do not dry clean product, do not remove spots using organic solvents.
	The product is safe to dry clean using perchlorethylene and all solvents specified under the symbol F.

Warranty

Warranty Period

10 year	fabrics (Premiums and Classic)
2 year	membrane diffuser, fabrics NMF/NLF/NHE
2 year(max. 50 washing cycles)	fabrics PLS/NLS/PLI/NLI
12 months	All other items not mentioned above, unwoven accessories (zippers, hooks, etc), printing, assembly and accessories

The warranty period is deemed to start on the day of sale. For warranty to be valid all installation instructions must be followed in addition to regular maintenance of the supply air units and filters. Supply air must be filtered to at least EU3 (MERV5), and the ducts must maintain original operating conditions in respect to design static pressure and air flow stated in the submittal or order confirmation. Any deviation to the original design intent which may have an adverse affect on the material or accessories may void the warranty. See warranty details.

Special conditions for diffusers with silk screening

1. Ambient Temperature within the range +10°C (50°F) to +40°C (104°F).
2. Do not iron.





DATE: 02/22/24
JOB NUMBER: 3360

CALS MAIN
LIBRARY
RENOVATION
LITTLE ROCK, ARKANSAS

800 DOCUMENTS
Issue Date: 02/06/24

NO.	DATE	DESCRIPTION
1	02/06/24	ISSUED FOR PERMIT

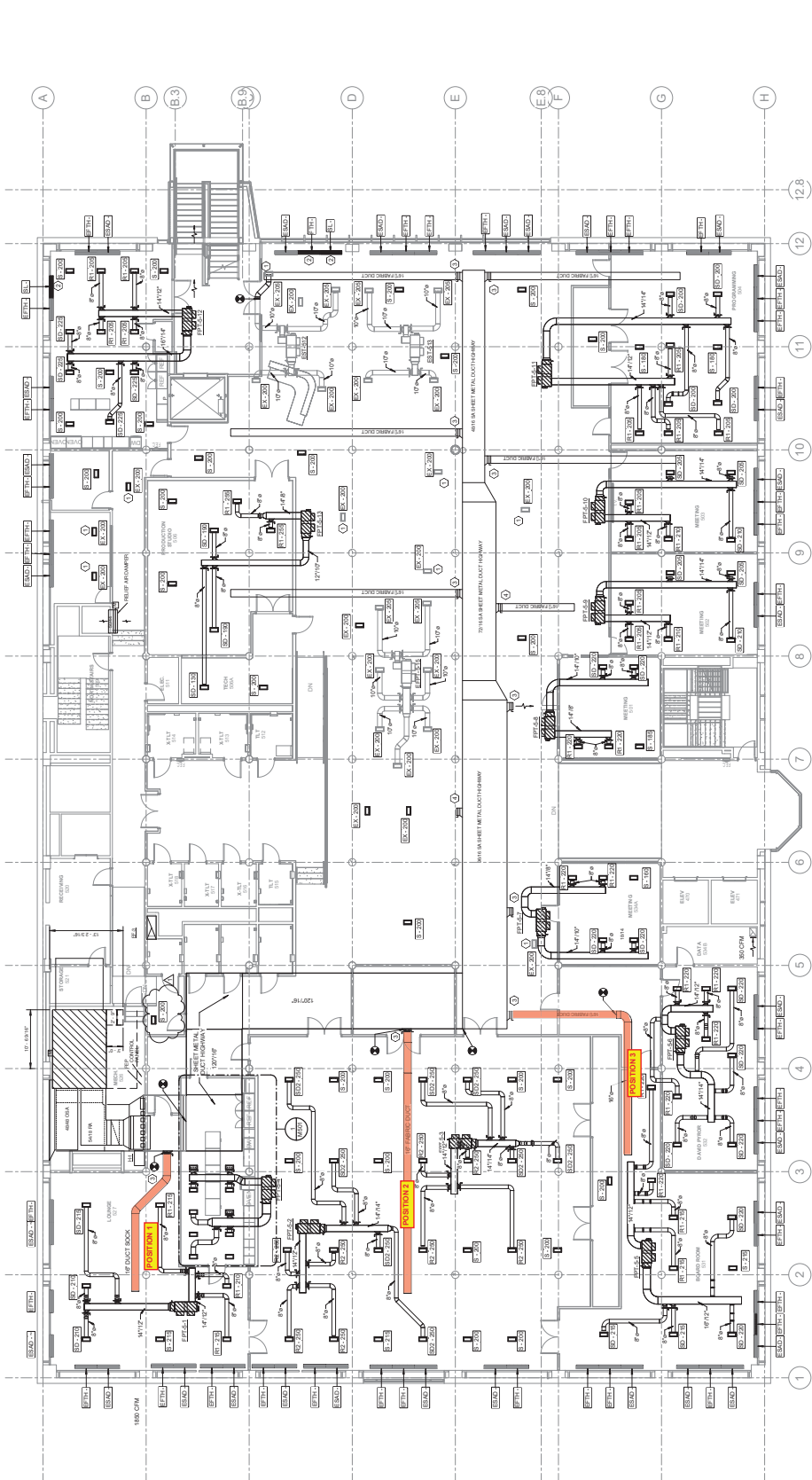
5TH FLOOR PLAN - HVAC DUCTWORK

M305

- KEYED NOTES:**
- CONTRACTOR SHALL RELOCATE EXISTING GRILLES TO WORK DOWN LACT WITH FLOOR TILES, AND EXTENDING LEGS IN DUCT AS REQUIRED.
 - INSTALL NEW INSULATED BAR GRILLES IN EXISTING RECESSED DOOR TILES.
 - INSTALL UNDER DOOR HIGHWAY DUCT TAG TO 1800 CFM.
 - INSTALL UNDER DOOR HIGHWAY DUCT TAG TO 800 CFM.
- GENERAL NOTES:**
- CONTRACTOR SHALL ENSURE SPACE SLINGER, TRIMMER WIRE AND HUMIDITY CONTROL AT ALL LOW VOLTAGE AREAS IS AS BE CONTAINED WITHIN THE CONCRETE WALL LOCATION OF THE SYSTEMS. TYPICAL TRIMMER WIRE SHALL BE INSTALLED PER THE MECHANICAL.
 - ALL SUPPLY, RETURN AND EXHAUST BRANCHES SHALL HAVE MANUAL DAMPERS LOCATED AS SHOWN.
 - CONTRACTOR SHALL COORDINATE ALL ACCESS REQUIREMENTS WITH GENERAL CONTRACTOR AND INSURE CEILING OR ACCESS PANELS ARE INSTALLED FOR ALL DAMPERS. ALL ACCESS PANELS SHALL BE INSTALLED IN ACCORDANCE WITH THE MECHANICAL CONTRACTOR'S REQUIREMENTS FOR THE ACCESS PANELS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCESS PANELS TO BE INSTALLED IN ACCORDANCE WITH THE MECHANICAL CONTRACTOR'S REQUIREMENTS FOR THE ACCESS PANELS.
 - ALL RETURN AIR TRANSFER BOOTHS AND DUCTWORK SHALL BE INTERNALLY LINED WITH ALUMINUM FOLIED 30 AND PERFORMANCE INSULATION. REFER TO SPEC CLAUSE FOR PRODUCTS AND SPECIFICATIONS.

- UNDERFLOOR GENERAL NOTES:**
- THE INTENT IS TO REUSE AS MUCH OF THE EXISTING FLOOR AS POSSIBLE. EXISTING DIFFERENTIAL PRESSURE (DP) SHALL BE MAINTAINED. EXISTING TILES SHALL BE CUT FOR DIFFERENTIAL PRESSURE (DP) SHALL BE MAINTAINED. EXISTING TILES SHALL BE CUT FOR DIFFERENTIAL PRESSURE (DP) SHALL BE MAINTAINED.
 - SEAL IS REQUIRED TO BE SPECIFIED FOR MORE TESTING INFORMATION.
 - WHERE NEW EXTERIOR WALLS BE BUILT, THE CONTRACTOR SHALL INSPECT THE EXISTING WALLS FOR ANY CRACKS OR DEFECTS. ANY CRACKS OR DEFECTS SHALL BE REPAIRED BEFORE THE NEW WALLS ARE BUILT.
 - A REMEDIATION DEVICE TO DETECT ANY SIGNIFICANT LEAKS IN THE NEW ENVELOPE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMEDIATION DEVICE TO DETECT ANY SIGNIFICANT LEAKS IN THE NEW ENVELOPE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMEDIATION DEVICE TO DETECT ANY SIGNIFICANT LEAKS IN THE NEW ENVELOPE.

- UNDERFLOOR SEALING REQUIREMENTS**
- ALL SEALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MECHANICAL CONTRACTOR'S REQUIREMENTS FOR THE SEALS. ALL SEALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MECHANICAL CONTRACTOR'S REQUIREMENTS FOR THE SEALS.
 - REFER TO MEPP FOR DUCT NORMAL RATING. CONTRACTOR SHALL NOT PENETRATE UNDERFLOOR DUCTWORK SERVING A SUPPLY TERMINAL.



5TH FLOOR PLAN - HVAC DUCTWORK