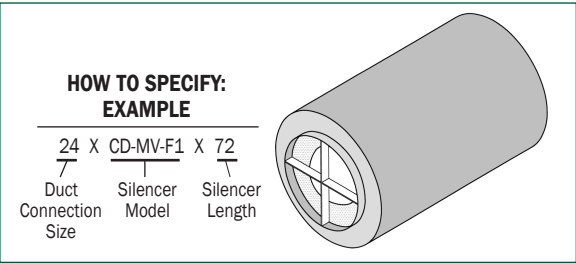


CERTIFIED PERFORMANCE DATA



Insertion Loss (IL)

+ : "forward flow" where noise & airflow move in same direction (e.g. supply side)
- : "reverse flow" where noise & airflow move in opposite directions (e.g. return side)

DC - Duct Connection Size (inches)
SL - Silencer Length (inches)

DC (in.)	SL (in.)	FACE VEL. (ft. per min.)	OCTAVE BAND - Hz/D.I.L. (dB)							
			63	125	250	500	1000	2000	4000	8000
12	24	- 2000	5	8	13	22	31	33	30	18
		0	5	8	13	21	29	33	31	20
		+ 2000	5	8	13	20	27	33	32	22
24	48	- 2000	5	9	18	27	37	34	22	13
		0	5	9	18	26	35	34	23	15
		+ 2000	5	9	18	25	33	34	24	17
36	72	- 2000	8	14	22	32	37	26	16	9
		0	8	14	22	31	35	26	17	11
		+ 2000	8	14	22	30	33	26	18	13
48	96	- 2000	10	17	26	35	35	22	13	9
		0	10	17	26	34	33	22	14	11
		+ 2000	10	17	26	33	31	22	15	13
60	120	- 2000	10	17	29	36	31	19	12	8
		0	10	17	29	35	29	19	13	10
		+ 2000	10	17	29	34	27	19	14	12

DC (in.)	SL (in.)	FACE VEL. (ft. per min.)	OCTAVE BAND - Hz/D.I.L. (dB)							
			63	125	250	500	1000	2000	4000	8000
12	36	- 2000	7	11	20	32	46	49	46	28
		0	7	11	20	31	44	49	47	30
		+ 2000	7	11	20	30	42	49	48	32
24	72	- 2000	8	14	28	42	55	52	32	19
		0	8	14	28	41	53	52	33	21
		+ 2000	8	14	28	40	51	52	34	23
36	108	- 2000	12	20	33	48	54	39	25	15
		0	12	20	33	47	52	39	26	17
		+ 2000	12	20	33	46	50	39	27	19
48	144	- 2000	13	24	40	52	51	33	20	14
		0	13	24	40	51	49	33	21	16
		+ 2000	13	24	40	50	47	33	22	18
60	180	- 2000	15	26	43	53	46	28	18	13
		0	15	26	43	52	44	28	19	15
		+ 2000	15	26	43	51	42	28	20	17

See pages 4.1 - 4.25 for selection information. DIL above 50dB may be limited due to noise flanking around the silencer or along the duct walls. If more than 50dB DIL is required, contact your local Vibro-Acoustics Representative or call 1-800-565-8401.

Pressure Drop (PD)

DUCT CONNECT. SIZE (in.)	SILENCER OUTER DIA. (in.)	SILENCER LENGTH (in.)	WEIGHT (lbs)	FACE VELOCITY (feet per minute) / Pressure Drop (in.w.g.)						
				1000	1500	2000	2500	3000	3500	4000
12	28	24	123	0.02	0.05	0.10	0.15	0.21	0.29	0.38
12	28	36	160	0.04	0.09	0.16	0.24	0.35	0.48	0.63
24	40	48	353	0.02	0.05	0.10	0.15	0.21	0.29	0.38
24	40	72	471	0.04	0.08	0.15	0.23	0.33	0.45	0.59
36	52	72	699	0.02	0.05	0.10	0.15	0.21	0.29	0.38
36	52	108	956	0.03	0.07	0.13	0.20	0.29	0.40	0.52
48	64	96	1180	0.02	0.05	0.09	0.14	0.20	0.28	0.36
48	64	144	1635	0.03	0.07	0.12	0.19	0.28	0.38	0.49
60	76	120	1796	0.02	0.05	0.09	0.14	0.19	0.26	0.35
60	76	180	2457	0.03	0.07	0.12	0.18	0.26	0.36	0.47

:
Acceptable
(0 - 0.35")

:
Caution (>0.35")
Pressure Drop
may be too high
for certain
applications

Pressure drops are reported in accordance with ASTM E477 methods and are based upon IDEAL flow conditions (5 diameters of straight duct on silencer inlet and 10 on outlet). Less than ideal conditions will result in an increase in pressure drop due to System Effects. See Silencer System Effects Data on page 4.19.

Generated Noise (GN) @ 3 sq.ft. face area

LENGTH (inches)	FACE VELOCITY (feet per minute)	OCTAVE BAND - Hz/GENERATED NOISE (dB re 10 ⁻¹² watts)							
		63	125	250	500	1000	2000	4000	8000
ALL	- 3000	63	56	50	57	56	57	55	52
	- 1500	49	42	38	43	43	42	36	31
	+ 1500	48	41	38	42	40	39	34	29
	+ 3000	62	55	50	56	53	54	53	50

GN correction chart at right
must be used to correct GN
to other face areas.



FACE AREA (sq.ft.)	1.5	3	6	12	24	48
dB	-3	0	+3	+6	+9	+12

THERMAL MECHANICS, INC.

715 GODDARD AVENUE, CHESTERFIELD, MO 63005

VOICE (636) 532-1110

FAX (636) 532-7318

EQUIPMENT SUBMITTAL

PRODUCTION ON HOLD FOR APPROVAL

Production is on HOLD and will not be released or scheduled until receipt of approved submittals noting any changes required

June 24, 2016

Includes: Sound Attenuators for AHU
Job Name: Webster Science Bldg.
Contractor: ICON Mechanical
TMI Ref #:



**By : Jim Fahrenhorst
-Representative-**

Shop Drawing Submittal Review

Transmitted To: Cannon Design

Date: September 7, 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	238800M04	(Submittal No.'s) (R&B CxSRC)
		(Cannon #238800-007) - (Paric #15051-0199) - (WES #607)
		• Sound Attenuator

***Submittal Review Comments**

Provide erosion barrier/media protection as specified in section 238800 and as required to protect media.

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.

WTASHOP - Webster ISB - 23 8800-007

From: STL-CAC <STL-CAC@CANNONDESIGN.COM>
To: 'Patrick Garner' <pgarner@wmtao.com>, WTASHOP <wtashop@wmtao.com>
Date: 8/30/2016 3:50 PM
Subject: Webster ISB - 23 8800-007
Cc: "Patel, Kelvin" <kpatel@CANNONDESIGN.COM>
Attachments: 238800-007 Sound Attenuator Product Data.pdf

Attached for review.

Melissa Pirtle
Construction Admin

CANNONDESIGN

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



77 Westport Plaza
Suite 250
St. Louis, MO 63146

TRANSMITTAL

No. 15051-0199

Paric Corporation

PROJECT: 15051-Webster University Interdisciplinary Science Building

DATE: 08/29/2016

TO: Cannon Design
1100 Clark Ave
St Louis MO 63102

RE: Sound Attenuator Product Data

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:

Item	Package	Code	Rev.	Copies	Date	Description	Status
Submittal		238800-007	1		08/29/2016	Sound Attenuator Product Data	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: 8/23/16

JOB #: 5768

RE: Webster ISB

We are sending you

☒

Shop drawings

☐ Attached

☐ Prints

☐ Under separate cover

☐ Plans

☐ Samples

☐ Specifications

☐ Copy of letter

☐ Change order

☐ Other

COPIES	DATE	NO.	DESCRIPTION
1	8/9/16	238800-2.8-I	Sound Attenuators

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 9/5/16

COPY TO: file

SIGNED:

Alex Chambers



Mechanical

Webster University ISB Webster Groves, MO

Submittal #:

238800-2.8-I

Submittal Description:

Sound Attenuators

Return By:

9/5/16

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

CHECKED BY:			
DESIGNER: ZL		ENGINEER: MD	
☒	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:	8/23/16
		By:	ARC