

From: [Air.Pollution Control](#)
To: [APC Permitting](#)
Subject: FW: [EXTERNAL] imi Dickson - Construction/Operating Permit Application
Date: Friday, August 25, 2023 9:39:31 AM
Attachments: [2023.08.25 - Dickson - Const Op Permit Application.pdf](#)
[image001.png](#)

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Donna F. Brown | Administrative Services Assistant
Air Pollution Control
William R. Snodgrass Tennessee Tower/15th Floor
312 Rosa L Parks Avenue
Nashville, Tennessee 37243
p. 615-532-0532
Donna.f.brown@tn.gov

From: Art Fisher <art.fisher@irvmat.com>
Sent: Friday, August 25, 2023 9:16 AM
To: Air.Pollution Control <Air.Pollution.Control@tn.gov>; Tracy Kefauver <Tracy.Kefauver@tn.gov>
Subject: [EXTERNAL] imi Dickson - Construction/Operating Permit Application

***** This is an EXTERNAL email. Please exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email - STS-Security. *****

APC Team,

Please see attached Construction/Operating Permit Application for our Dickson plant.

Sincerely,

Art Fisher, PG - Environmental Manager - **imi**
5209 Linbar Dr, Nashville, TN 37211
art.fisher@irvmat.com (615) 574-3114



August 25, 2023

Ms. Tracy Kefauver
TDEC-Environmental Protection Specialist 3
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower, 15th Floor
312 Rosa L. Parks Avenue
Nashville, TN 37243

RE: Construction/Operating Permit Application
IMI Tennessee, LLC dba imi TN, LLC – Dickson (Emission Source Ref. No.: 22-0106-01)

Dear Ms. Kefauver,

Enclosed please find a completed Construction/Operating Permit application package for our facility located at 1550 Old Columbia Rd, Dickson, TN 37055. The purpose of the application is to remove the central dust collector connection to the silos and replace them with Stephens 1020 pulsating baghouses.

NOTE - Split Silo 1 will have a side-by-side 1020x2 pulsating baghouse. The central dust collector will continue to pull from the weigh batcher and discharge chute.

A hard copy check for \$100 has been mailed to the 312 Rosa L Parks Ave address on the APC 100 form with a reference to the facility's address.

Please do not hesitate to contact me should you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Art Fisher".

Art Fisher, Environmental Manager

Attachments: Dickson Air Construction Permit Application

- APC 100 & APC 111
- Flow Diagram
- Emissions Calculations
- Equipment spec sheets

"We're Proud of Our Work"

5209 Linbar Dr., Nashville, TN 37211 Tel. 615.884.4935 Fax. 615.872.0467 www.irvmat.com



DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF AIR POLLUTION CONTROL
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor, Nashville, TN 37243
Telephone: (615) 532-0554, Email: Air.Pollution.Control@TN.gov

APC 100

**NON-TITLE V PERMIT APPLICATION
FACILITY IDENTIFICATION**

Type or print and submit. Attach appropriate source description forms.			
SITE INFORMATION			
1. Organization's legal name and SOS control number [as registered with the TN Secretary of State (SOS)] IMI Tennessee, LLC dba imi TN, LLC – Dickson			
2. Site name (if different from legal name)			
3. Is a construction permit application fee being submitted? Yes <input checked="checked" type="checkbox"/> No <input type="checkbox"/> (see instructions for appropriate fee to submit)			
4. Site address (St./Rd./Hwy.) 1550 Old Columbia Rd			County name Dickson
City Dickson	Zip code 37055		5. NAICS or SIC code 327320
6. Site location (in lat. /long.)	Latitude 36.040120	Longitude -87.339568	
CONTACT INFORMATION (RESPONSIBLE PERSON)			
7. Responsible person/Authorized contact Art Fisher			Phone number with area code 615-574-3114
Mailing address (St./Rd./Hwy.) 5209 Linbar Dr			Fax number with area code
City Nashville	State TN	Zip code 37211	Email address art.fisher@irvmat.com
CONTACT INFORMATION (TECHNICAL)			
8. Principal technical contact Art Fisher			Phone number with area code 615-574-3114
Mailing address (St./Rd./Hwy.) 5209 Linbar Dr			Fax number with area code
City Nashville	State TN	Zip code 37211	Email address art.fisher@irvmat.com
CONTACT INFORMATION (BILLING)			
9. Billing contact Art Fisher			Phone number with area code 615-574-3114
Mailing address (St./Rd./Hwy.) 5209 Linbar Dr			Fax number with area code
City Nashville	State TN	Zip code 37211	Email address art.fisher@irvmat.com

AIR CONTAMINANT SOURCE(S) INFORMATION

10. Description of air contaminant source(s) and Unique Source ID(s). List, identify, and briefly describe process emission sources, fuel burning installations, and incinerators that are contained in this application and include a Unique Source ID for each source. The Unique Source ID is a name/number/letter, which uniquely identifies the air contaminant source(s), like Boiler #1, Paint Line #1, Engine #1, etc. (see instructions for more details)

The purpose of the application is to rremove the central dust collector connection to the silos and replace them with Stephens 1020 pulsating baghouses.

The following emission points will be the following:

- 1 Wind erosion from sand and aggregate storage
- 2 Vehicular traffic fugitive emissions
- 3 Cement Weigh Batcher (CWB) (Stephens 6100 Central Dust Collector @ 8,000 CFM)
- 4 CWB Discharge Chute with hood (Stephens 6100 Central Dust Collector @ 8,000 CFM)
- 5 Split Silo 1 - Cement/Cement (Stephens SOS 1020x2 Pulsating Baghouses)
- 6 Silo 2 - Fly Ash (Stephens SOS 1020 Pulsating Baghouse)

11. Is the air contaminant source(s) in a nonattainment area? If "Yes", then minor source BACT must be addressed. Yes No

☐
☒

12. Normal operation:	Hours/Day 24	Days/Week 7	Weeks/Year 52	Days/Year 320
13. Percent annual throughput	Dec. – Feb. 20	March – May 30	June – August 30	Sept. – Nov. 20

TYPE OF PERMIT REQUESTED (check appropriate box)

14. Operating permit <input checked="" type="checkbox"/>	Date construction started	Date completed	Date of ownership change (if applicable)
	Last permit number(s)		Emission Source Reference Number(s)
Construction permit <input checked="" type="checkbox"/>	Last permit number(s) 066801P		Emission Source Reference Number(s) 22-0106-01

If you chose Construction permit above, then choose either New Construction, Modification, or Location Transfer

New Construction <input type="checkbox"/>	Starting date	Completion date
Modification <input checked="" type="checkbox"/>	Date modification started or will start Pending permit approval	Date completed or will complete Pending permit approval
Location Transfer <input type="checkbox"/>	Transfer date	Address of last location

15. Describe changes that have been made to this equipment or operation(s) since the last construction or operating permit application:

N/A

16. Comments

None

SIGNATURE

Based upon information and belief formed after a reasonable inquiry, I, as the responsible person of the above mentioned facility, certify that the information contained in this application is accurate and true to the best of my knowledge. As specified in TCA Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

17. Signature (application must be signed before it will be processed)

Art Fisher

Date

2023.08.25

Signer's name (type or print)

Art Fisher

Title

Environmental Manager

Phone number with area code

615-574-3114



NON-TITLE V PERMIT APPLICATION
CONCRETE BATCH PLANT SOURCE DESCRIPTION

Type or print. Submit for each concrete batch plant. Submit with the APC 100. Submit a Plant Diagram according to the instructions given below.					
GENERAL IDENTIFICATION AND DESCRIPTION					
1. Organization's legal name and SOS control number [as registered with the TN Secretary of State (SOS)] IMI Tennessee, LLC dba imi TN, LLC – Dickson				2. Emission Source Reference Number 22-0106-01	
3. Is this air contaminant source subject to an NSPS or NESHAP rule? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes, list rule citation, including Part, Subpart, and applicable Sections:					
4. Unique Source ID (name/number that uniquely identifies this source, like Plant 1) Plant 1				5. Date constructed Unknown	
6. Maximum annual production: (Yards)	Transit mix		Central mix		Dry mix 100,000
CEMENT RECEIVING AND STORAGE					
7. Cement receiving equipment	Is conveyor enclosed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is elevator enclosed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Compressed air flow (Ft. ³ /Min.) 450	Average load size (Tons) 25	Normal loading time (Min.) 55
8. Cement storage silos:	Number of silos 1	Total capacity (Units: barrels or tons) 125	<u>Silo vent controls</u> Discharges to (check one) Fabric filter <input checked="" type="checkbox"/> Another silo <input type="checkbox"/> Other <input type="checkbox"/> None <input type="checkbox"/>		
WEIGH-BATCHER INFORMATION					
9. Weigh batcher:	Capacity (Yards) 10		Batching rate (Yards/Hour) 90	Batch dumping rate (Yards/Minute) 1.5	
Silo – to – weigh – batcher vent controls	Hood <input checked="" type="checkbox"/>	Fabric filter <input checked="" type="checkbox"/>	Discharges to silo <input type="checkbox"/>		None <input type="checkbox"/>
10. Weigh - batcher: (Check or complete as appropriate)	Discharges to: (In yards/year) 100,000				
	Trucks (all) 100,000		Tilt		Products mixer
	Weigh-batcher discharge chute controls:				
	Adjustable gathering hopper <input type="checkbox"/>	Hood <input checked="" type="checkbox"/>	Fabric filter <input checked="" type="checkbox"/>	Discharges to silo <input type="checkbox"/>	None <input type="checkbox"/>

11. Air contaminants. Emission estimates for each air contaminant emitted from this point should be based on stack sampling results or engineering calculations. Calculations should be attached on a separate sheet. (see instructions for more details)

SILO #1 EMISSION INFORMATION

12. Emission point data for:	Silo vent	Silo-to-weigh-batcher vent	Weigh-batcher discharge chute
A. Height above grade (Ft.)	64	20	14
B. Diameter (Ft.)	6"	6"	2
C. Emission exit direction (Up, down, or horizontal)	Up	Horizontal	Down
D. Air flow rate (Ft. ³ /Minute)	2250	8,000	8,000
13. Particulate matter (PM)	Silo vent	Silo-to-weigh-batcher vent	Weigh-batcher discharge chute
A. Average emissions (Pounds/Hour)	0.008	0.41	4.56
B. Maximum emissions (Pounds/hour)	0.008	0.41	4.56
C. Average emissions (Tons/Year)	0.004	0.231	2.54
D. Potential emissions (Tons/Year)	0.004	0.231	2.54
E. Emissions estimation method*	Calculations	Calculations	Calculations
F. Control devices*	Pulsating Baghouse	Central Dust Collector	Central Dust Collector
G. Control efficiency %	99.95	99.95	99.95

SILO #2 EMISSION INFORMATION

14. Emission point data for:	Silo vent	Silo-to-weigh-batcher vent	Weigh-batcher discharge chute
A. Height above grade (Ft.)	54	20	14
B. Diameter (Ft.)	6"	6"	2
C. Emission exit direction (Up, down, or horizontal)	Up	Horizontal	Down
D. Air flow rate (Ft. ³ /Minute)	2250	8,000	8,000
15. Particulate matter (PM)	Silo vent	Silo-to-weigh-batcher vent	Weigh-batcher discharge chute
A. Average emissions (Pounds/Hour)	0.02	0.41	4.56
B. Maximum emissions (Pounds/hour)	0.02	0.41	4.56
C. Average emissions (Tons/Year)	0.009	0.231	2.54
D. Potential emissions (Tons/Year)	0.009	0.231	2.54
E. Emissions estimation method*	Calculations	Calculations	Calculations
F. Control devices*	Pulsating Baghouse	Central Dust Collector	Central Dust Collector
G. Control efficiency %	99.95	99.95	99.95

- 16. Control device.** Description of proposed monitoring, recordkeeping, and reporting to assure compliance with emission limits. Include operating parameters of control device (flow rate, temperature, pressure drop, etc.).
- A record of the Hours of Operation and Production (yd/yr) will be maintained at the facility for inspection.
 - Maintenance records of air pollution control devices will be maintained at the facility for inspection.

ROAD DUST AND STOCKPILE INFORMATION

17. Road dust control:	None	Paved	Oiled	Watered frequently	
Plant yard:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	X	
Access roads:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	X	
18. Stockpiles:	Estimated annual tonnage	Number of sides enclosed	Turnover rate (Tons/Month)	Received damp	Wetted as received
Gravel:	95,000	3	7,800		X
Sand:	69,000	3	5,700		

19. Comments

None

SIGNATURE

If this form is being submitted at the same time as an APC 100 form, then a signature is not required on this form. Date this form regardless of whether a signature is provided. If this form is NOT being submitted at the same time as an APC 100 form, then a signature is required.

Based upon information and belief formed after a reasonable inquiry, I, as the responsible person of the above mentioned facility, certify that the information contained in this application is accurate and true to the best of my knowledge. As specified in TCA Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

20. Signature



Date

2023.08.25

Signer's name (type or print)

Art Fisher

Title

Environmental Manager

Phone number with area code

615-574-3114

Concrete batch plant diagram instructions: Show general plant layout and air pollution control devices. Indicate the following: storage pile areas, conveyor systems, method of receiving cement, elevators, silos, silo vents, silo-to-weigh-batcher vent, weigh-batcher discharge chute, and product receiving equipment such as trucks and tilt or product mixers. Indicate air pollution control devices such as fabric filters, wet suppressions, hoods, canvas coverings, enclosures, etc.

* Refer to the instructions for the estimation method and control device codes. If the code is "Other" specify in comments.

SOS 1020x2

SOS 1020

Split Silo 1
(Cement /
Cement)

Silo 2
(Flyash)

Cementitious
Materials
(Pneumatic
Tanker Blow off)

Cement
Weigh
Batcher
(CWB)

Central Dust
Collector
8,000 CFM

CWB
Discharge
Chute with
hood

Truck

Conveyor belt

Gravel
and Sand
Weigh
Batcher

Gravel and
Sand
overhead
bins

Gravel and Sand
storage piles
(watered)

Emission Point	Process	EF	Hourly Rate	Daily Rate	12-Month Rate	lb/hr	lb/day	lb/12 Months	ton/12 Months
	Weigh Hopper	0.0028 lb/ton	148.2 tons	3,556.4 tons	164,650 tons	0.41	10.0	461.0	0.231
	Truck Loading (truck mix)	0.0263 lb/ton	173.6 tons	4,165.6 tons	192,850 tons	4.56	109.6	5,072.0	2.54
	Cement Silo Unloading	0.00034 lb/ton	22.1 tons	530.3 tons	24,550 tons	0.008	0.180	8.35	0.004
	Fly Ash Silo Unloading	0.0049 lb/ton	3.29 tons	78.8 tons	3,650 tons	0.02	0.39	17.9	0.009
	Agg. Transfer/Mat'l Handling/Piles	0.0338 lb/ton	83.9 tons	2,014.2 tons	93,250 tons	2.84	68.2	3,155	1.58
	Sand Transfer/Mat'l Handling/Piles	0.00203 lb/ton	64.3 tons	1,542.2 tons	71,400 tons	0.13	3.12	145	0.072
	Vehicle Traffic	1.299 lb/VMT	10.5 miles	252 miles	280,000 miles	15.1	362	9,090	4.54
Totals:						23.07	553.8	17,948.9	8.97

Max Production Rates	
90	cu yd/hr
2,160	cu yd/day
100,000	cu yd/12 Mo.

AP-42 Average Concrete Composition		ton/hr	ton/day	ton/12 mo
Aggregate	1,865 lb/cu yd	83.9	2,014	93,250
Sand	1,428 lb/cu yd	64.3	1,542	71,400
Cement	491 lb/cu yd	22.1	530	24,550
Fly Ash	73 lb/cu yd	3.29	79	3,650
Water	167 lb/cu yd	7.5	180	8,350
Total:	4,024 lb/cu yd	173.6	4,166	192,850

(Totals do not include water)

- Emission factors: AP-42, Section 11.12

- Emission factors for Vehicle Traffic: AP-42, Section 13.2

0.07 mile/cu yd batched * 100,000 cu yd/12 mo = 7,000 miles * 1.299 lb/VMT = 9,090 lb/2,000 lb/ton = (ton/12 Months) 4.54

- Emission Factors for Aggregate Handling: AP-42, Section 13.2.4, eqn 1

k = 1.6 (% silt), U = 6.9 (mph), M = 0.7 (% Moisture Content)

E = k(0.0032)((U/5)^{1.3})/((M/2)^{1.4}) = 0.0338 lb/ton

- Emission Factors for Sand Handling: AP-42, Section 13.2.4, eqn 1

k = 2.6 (% silt), U = 6.9 (mph), M = 7.4 (% Moisture Content)

E = k(0.0032)((U/5)^{1.3})/((M/2)^{1.4}) = 0.00203 lb/ton

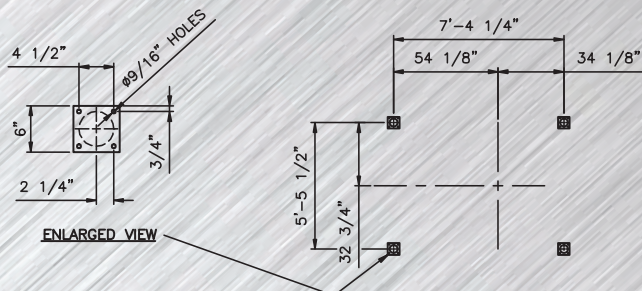
- Emission factors for Vehicle Traffic: AP -42, Section 13.2.2, eqn 1a and 2

k = 1.5, s = 4.8 (% Silt), a = 0.9, W = 33 (tons), b = 0.45, P = 120 (days)

E = k(s/12)^a(W/3)^b; Eext = E [(365-P)/365] = 1.299 lb/VMT

	SOS 1020	SV-20	RA120
Is the baghouse insulated?	NO	NO	
Serial Number:	10499-20	10499-20	
Number of Bags per compartment	3 CARTRIDGES	14	48
Design minimum operating temperature:	220°F - 270°F	220°F	
Are temperature controls provided?	NO	No	
Air flow through baghouse (induced, forced or other)	Induced	forced	
Maximum inlet volumetric gas flow rate (acfm at °F)	2250 ACFM	20 ACFM	
Dew point at maximum moisture content of gas:	N/A DRY	N/A DRY	
Clean fabric permeability: xxscfm/ft ² at change of pressure of xx inches (example 28 scfm/ft ² at 0.5 psi)	99.990 EFFICIENT MICRON	99.6 EFFICIENT MICRON	
Minimum effective air to cloth ratio (feet/min)	5 to 1	5 to 1	
Maximum effective air to cloth ratio (feet/min)	8 to 1 AT CARTRIDGES	8 to 1 AT BAGS	
Design pressure drop across baghouse	.5 H ₂ O	.5 H ₂ O	
Describe the determining factor fabric filter changing/replacement? (I'm assuming pressure drop value below or above design value)?	18 to 36 MONTHS USAGE	18 to 36 MONTHS USAGE	Pressure drop
What is the air pressure (psi) used to clean the bags?	120 PSI	AMBIENT AIR	
Is the hopper heated?	No	NO	
Is there a hopper vibrator?	NO	NO	
Is the baghouse downward venting or horizontal?	DOWNWARD VENTING	DOWNWARD VENTING	
Are there any additional alarms provided regarding baghouse operation?	OVERFILL PROTECTIONS ON FILL LINES	OVERFILL PROTECTIONS ON FILL LINES	

Sketches for Vent Models



CARTRIDGE ARRANGMENT



SOS-6800



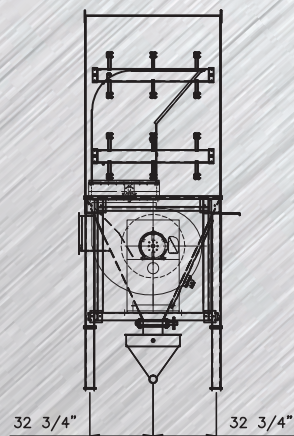
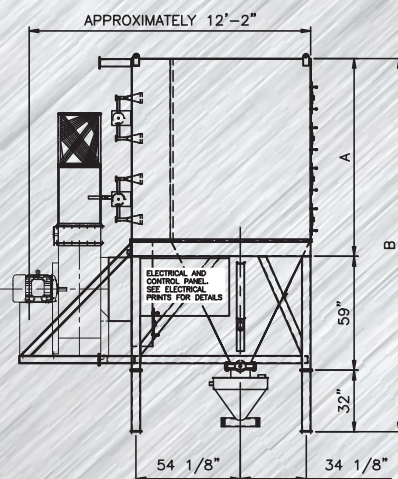
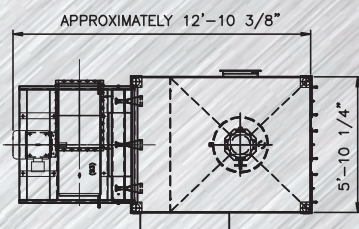
SOS-6100



SOS-4000

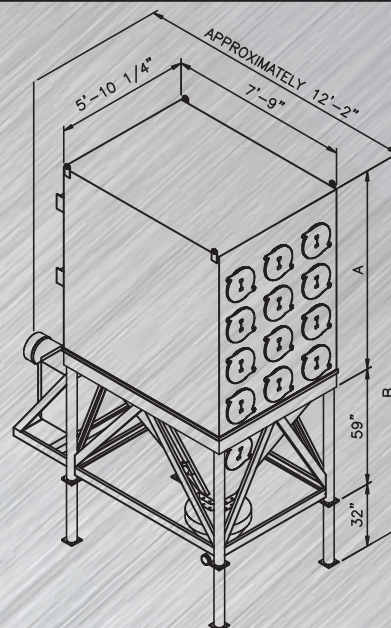


SOS-3400

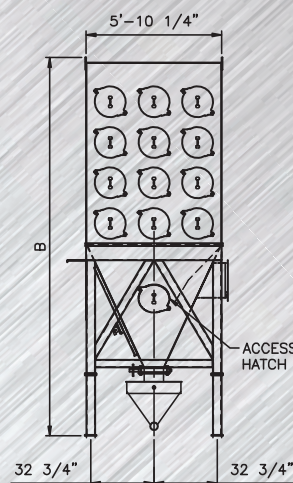


BACK VIEW

SIDE VIEW



ISOMETRIC VIEW



FRONT VIEW

STEPHENS OZONE SUPER FLOW - 8000 FILTER VENT SHOWN

DESCRIPTION	A	B	# CARTRIDGES	FILTER AREA	MOTOR TYPE FOR BLOWER
MODEL S.O.S.-3400	4'-4 3/8"	12'-7 1/2"	10 CARTRIDGES	1500 SQUARE FEET	15 HP MOTOR T.E.F.C. @ 6200 CFM
MODEL S.O.S.-4000	4'-4 3/8"	12'-7 1/2"	12 CARTRIDGES	1800 SQUARE FEET	20 HP MOTOR T.E.F.C. @ 8000 CFM
MODEL S.O.S.-6100	6'-0 3/8"	14'-3 1/2"	18 CARTRIDGES	2700 SQUARE FEET	20 HP MOTOR T.E.F.C. @ 8000 CFM
MODEL S.O.S.-6800	7'-10 3/8"	16'-1 1/2"	20 CARTRIDGES	3000 SQUARE FEET	30 HP MOTOR T.E.F.C. @ 12000 CFM
MODEL S.O.S.-8000	7'-10 3/8"	16'-1 1/2"	24 CARTRIDGES	3600 SQUARE FEET	25 HP MOTOR T.E.F.C. @ 15000 CFM

DWN. BY: T.D.M.
DATE: 4-18-07
SCALE: NONE

Stephens
TOMPKINSVILLE, KY.

FOR: BROCHURE
TITLE: SOS-3400 THRU SOS-8000 FILTER VENT

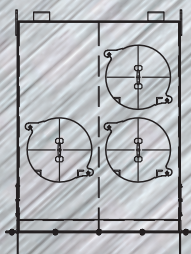
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BROCH-SOS8000

REV. NO.
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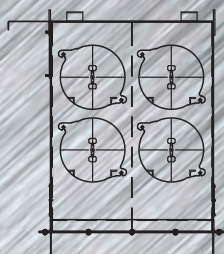
SOS (Stephens Ozone Super-Flow)

Silo Cartridge Vent

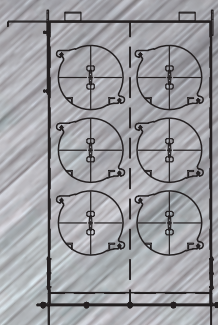
CARTRIDGE ARRANGEMENT



SOS-1020



SOS-1360



SOS-2040

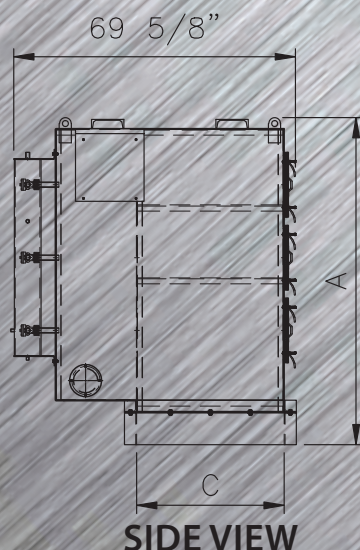
CARTRIDGES SPECIFICATIONS

Fiber..... 100% Polyester

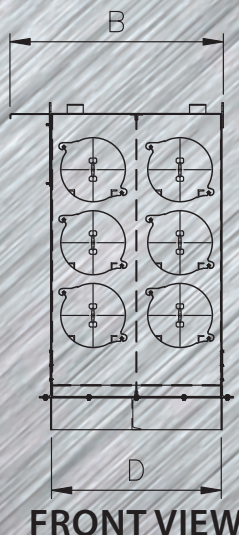
Construction..... Non-Woven, Pleated

Temp. Range..... 200 Degrees

Recovery..... 99.95% to 1 micron and above



SIDE VIEW



FRONT VIEW

SOS - 1020X2 SHOWN

SOS-1020 1069 lb.	SOS-1020X2 1480 lb.	SOS-1360 1100 lb.	SOS-2040 1350 lb.
A: 60 ⁷ / ₈ "	A: 80 ⁷ / ₈ "	A: 60 ⁷ / ₈ "	A: 78 ⁷ / ₈ "
B: 41"	B: 52 ³ / ₄ "	B: 51 ¹ / ₈ "	B: 50 ³ / ₄ "
C: 40"	C: 36 ¹ / ₂ "	C: 40"	C: 40"
D: 40"	D: 42"	D: 40"	D: 40"



FEATURES:

Easy to replace cartridges, no tools required and no confined space.
Cartridges replace from outside vent.

Cartridges cleaned semi-automatically by pulse reverse air for continuous cleaning.

All parts and cartridges are kept in stock.