

RUPTURE PANEL SIZING CALCULATION FOR DUST OR HYBRID MIXTURE

Prepared for:

cc:

Project No.:

OSECO Reorder No.:

Tag No.:

ENCLOSURE PROPERTIES

Estimated
 $P_{stat} = 1.5 \text{ psi(g)} = 0.103 \text{ bar(g)}$
 $P_{red} = 3 \text{ psi(g)} = 0.207 \text{ bar(g)}$
 Assumed

Volume = 3271 ft³ = 92.62 m³

L/D = 1.05

Air Velocity Inside Equipment $v_{axial}, v_{tangent} = 0 \text{ m/sec}$

Fill Fraction $X_r = -$

Vent Duct Length = 1m

DUST PROPERTIES

Description:

$K_{St} = 508 \text{ bar-m/sec}$

$P_{max} = 17.500 \text{ bar}$

REQUIRED VENT AREA

L/D Correction
Turbulence Correction
Vent Duct Correction

$A_{v0} = 14.905 \text{ m}^2 = 160.438 \text{ ft}^2 = 23,103.02 \text{ in}^2$

$A_{v1} = 14.905 \text{ m}^2 = 160.438 \text{ ft}^2 = 23,103.02 \text{ in}^2$

$A_{v2} = 14.905 \text{ m}^2 = 160.438 \text{ ft}^2 = 23,103.02 \text{ in}^2$

$A_{vI} = 0.000 \text{ m}^2 = 0.000 \text{ ft}^2 = 0.00 \text{ in}^2$

(10) 44 x 60 MV-RF

RUPTURE PANEL SELECTION

Size: ~~42~~
Type: ~~RNDCS~~
Quantity Per Enclosure: ~~4~~
Vent Area Per Rupture Panel: ~~101 in²~~
Total Selected Vent Area: ~~101 in²~~

Based on these assumptions

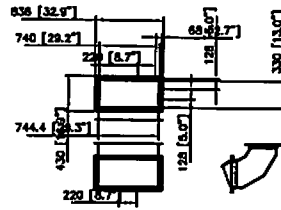
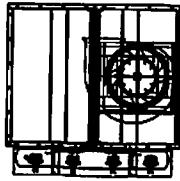
Size	Panel Type	Quantity Per Enclosure	Vent Area Per Panel	Total Selected Vent Area

DO NOT SCALE

IF IN DOUBT ASK

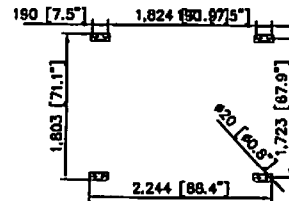
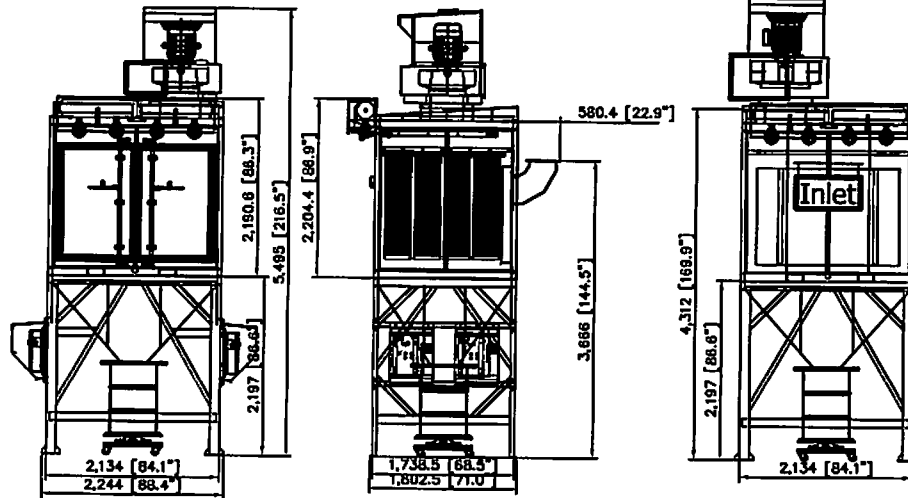


Revisions			
Rev	Description	Date	Approved



- SDC-15-16 SPECIFICATION -

- Direct Drive Blower (on top)
- Motor: 15HP x 1 pc
- CFM: 6,400 ft³/min @ 8" SP
- Include:
 - UL Individual Control Boxes for Cartridge Collector and Blowers
- Inlet: 740 x 330 mm (29.2" x 13")
- Cartridge Filter: Dia. 325mm x 1320mm x 16pcs (Dia. 12.8" x 52" x 16pcs)
- Material: Polyester with TEFLON coating.
- Filter Area: 19m² x 16 = 304 m² (3271.04 ft²)
- Pleat Depth: 48mm
- Horizontal Positioned Filters,
- Continuous Welded Seams,
- Gasket and Latched Doors,
- Powder Coated Paint and
- Reverse Jet Pulse Cleaning
- Include:
 - Drum & Jack Lifting Tool
 - Filter Chamber
 - Hopper
 - Inlet Square Pipe (need dimensions)
- No. of Valves: 4
- Inlet Air: 4"
- Compressed Air Requirement: 90 PSI
- Compressed Air Reservoir: 15.8 gallon
- Dimension: 88.4" x 68.5" x 216.5" (2244 x 1738.5 x 5495mm)
- Construction: 13 Gauge for panel; 11 Gauge Steel Cabinet
- Max. Operating Temp.: 120°C
- Paint Color: Blue



PLAN DETAIL

AVANI ENVIRONMENTAL INTL. INC. Sales Department
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 Youngsville, NC 27596

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 info@avanienvironmental.com

Drawn by:	Date	Name	Part Number:	Title:
Checked by:	2011-06-27	***		
			SDC-15-16	Large Cartridge Collector
The drawings, AutoCAD, 3-D Models, and specifications are the property of Avani Environmental Intl. Inc. (AE) and may not be reproduced, distributed, modified, or otherwise used, except provided herein, without the express written permission of AE.			Size	Scale
			A	1 = 1
			Drawing Number:	
			SV-1600-15-02	