INVENTUM ENGINEERING, PC

December 31, 2024

Megan Kuczka
Project Manager
New York State Department of Environmental Conservation
700 Delaware Avenue
Buffalo, NY 14209

Re: SSD Corrective Measures Work Plan
Site Name: Buffalo Color Corporation Site Area C
Site No.: C915231
Site Address: 229 Elk Street
Buffalo, New York 14210

Dear Ms. Kuczka:

On behalf of South Buffalo Development Corporation, LLC (SBD), Inventum Engineering, P.C. (Inventum) is pleased to submit this sub-slab depressurization (SSD) system corrective measures work plan for the former Buffalo Color Corporation (BCC) Area C Brownfield Cleanup Program (BCP) Site (Site No. C915231). The 6.03-acre Area C Site is located at 229 Elk Street in the City of Buffalo, County of Erie, New York and is one of five areas that comprised the former BCC. BCC produced dyes and organic chemicals until its bankruptcy in 2005.

Remedial investigations had previously determined that Site soil contained concentrations of certain metals and organic substances that exceeded the New York State Department of Environmental Conservation (NYSDEC) Commercial Soil Cleanup Objectives (SCOs). Shallow groundwater on the northern half of Area C was found to contain concentrations of volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) that exceeded the NY State Class GA Standards. Remedial activities conducted at the Site are documented in the December 2010 Area C Final Engineering Report (FER) and December 2010 Area C Site Management Plan (SMP)[1].

Additional remedial activities were conducted in accordance with the August 2019 redevelopment Remedial Action Work Plan (RAWP) to upgrade the existing remedial actions to meet the requirements for Restricted-Residential development. Included was the design, construction, and operation of a sub-slab depressurization (SSD) system, which has been in operation since building occupancy was approved in December 2020.

Post-construction communication testing of the SSD was completed in October 2021 and January 2023. Indoor air sampling was conducted in March 2023 in accordance with the June 16, 2022, NYSDEC approved Indoor Air Sampling Work Plan (IAWP). The results of the March 2023 indoor

[1] The FER and SMP are currently being revised to document additional remedial activities and institutional controls/engineering controls put in place since 2010 to allow for Restricted-Residential use. The FER/SMP revisions include an Operations and Maintenance Plan for the SSD system.

air sampling were reported in a September 2023 *Indoor Air Sampling Report,* and based on those results, additional sub-slab and indoor air sampling was completed in March 2024 during the 2023-2024 heating season.

The results of the March 2024 sub-slab and indoor air sampling program were reported to the NYSDEC in a letter dated September 6, 2024. Co-located indoor air and sub-slab samples were collected at four (4) indoor locations (Area C-01, Area C-02, Area C-03, and Area C-04) and one (1) outdoor location (Area C-OA). Relevant tables and figures from the letter report are included for reference in Attachment A.

A general summary of the reported findings is provided below:

- Carbon tetrachloride, Ethylbenzene, Methylene Chloride, o-Xylene, p/m-Xylene, and Tetrachloroethene (PCE) were detected in indoor air samples at concentrations above their respective guideline concentrations in the New York State Department of Health (NYSDOH) soil vapor intrusion guidance document[2].

- PCE was detected in sub-slab samples at concentrations above the guideline concentration in the NYSDOH guidance document.

- The following compounds were detected in co-located sub-slab and indoor air sample locations at concentrations that fall within a NYSDOH matrix action recommendation to *Identify Source(s) and Resample or Mitigate*:
    - Matrix B – Methylene Chloride – Area C-01, Area C-02, Area C-03, and Area C-04
    - Matrix D – Ethylbenzene – Area C-02 and Area C-03
    - Matrix E – m-Xylene – Area C-01, Area C-02, Area C-03, and Area C-04
    - Matrix E – p-Xylene – Area C-01, Area C-02, area C-03, and Area C-04

- The following compounds were detected in co-located sub-slab and indoor air sample locations at concentrations that fall within a NYSDOH matrix action recommendation to *Mitigate*:
    - Matrix B – Tetrachloroethene – Area C-01, Area C-02, Area C-03, and Area C-04

<u>Proposed Corrective Measures</u>

Pressure differentials from the SSD system test ports (Attachment A) were recorded prior to collection of the March 2024 sub-slab and indoor air samples. Only Test Port #2 near sample Area C-04 had a recordable sub-slab vacuum level (-0.009 inches of water column [wci]) exceeding system design criteria of -0.004 wci. This indicates periods of possible short circuiting beneath the slab and/or a decreased radius of influence (ROI) from groundwater saturation in the slab subbase indicating the potential need for additional vapor extraction sumps. Inventum believes this may

[2] Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, New York State Department of Health, Center for Environmental Health Bureau of Environmental Exposure Investigation. October 2006.

be a periodic occurrence as SSD communication testing conducted in October 2021 and January 2023 indicated the SSD was operating as designed.

Inventum and SBD have taken initial corrective action since collection of the March 2024 sub-slab and indoor air samples. These include re-sealing of manometer taps in the vent piping and operation of booster fans (Attachment B) along the discharge pipe alignment. Vent piping at each of the fan locations were also modified to allow use of a portable digital manometer (Attachment C) to more accurately record vacuum levels in the riser piping. Figure 1 show recent sub-slab pressure differential readings collected in September 2024 and October 2024. Pressure differentials are now consistently above design criteria at Test Ports #3, #4, and #5 on the eastern half of the building. Test Ports #1 and #2 on the western half of the building are not registering a vacuum.

Inventum proposes to install five (5) additional sub-slab test points in the vicinity of Test Port #1 and Test Port #2. The new test point locations are located to more clearly delineate the ROI in the sub-slab beneath the western half of the building. The new sub-slab vapor probes will be constructed with 0.125-inch or 0.25-inch low-density polyethylene (LDPE) tubing or Teflon extended no more than 2-inches into the sub-slab material. The core through the floor will be sealed with a non-VOC emitting surface sealant (ex. modeling clay). Alternatively, Inventum may utilize a Vapor Pin® sampling device for installation. Standard operating procedures for utilization of the Vapor Pin system will be adhered to and are provided for reference in Attachment D. After installation, one to three volumes (probe and tubing) will be purged prior to collecting any vacuum readings. During test point installation and sampling a PiD will be used to measure and record any VOC readings. Only personnel directly associated with the vapor point installation will occupy the basement space during the installation.

Sub-slab pressure differentials at the five (5) existing locations (Test Port #1 through Test Port #5) and five (5) new ports (Figure 1) will be collected on a weekly basis following installation. The data will be utilized to determine the need for and location of, if necessary, any additional vapor extraction sumps in the basement.

SBD has also installed vent fans in the basement as an initial corrective action since collection of the March 2024 sub-slab and indoor air samples to increase air exchange rates. One (1) fresh air intake and one (1) exhaust fan were installed on the southeast corner of the basement as shown on Figure 1. Cut sheets for the fans are provided in Attachment E.

The basement is unconditioned space and prior to installation of the intake/exhaust fans there was no mechanical ventilation. The fresh air fan provides approximately 230 cubic feet per minute (CFM) and the exhaust fan has a rated capacity of 469 CFM. Inventum calculated approximately 0.14 air exchanges per hour (ACH) based on approximate room dimensions[3] and exhaust fan

[3] Assumes a footprint of 20,140 square feet which is the 1st floor commercial space square footage (27,140 sq ft) on the buildings City of Buffalo Certificate of Occupancy (Issued 12/22/2020 – Certificate No. 202405) minus the estimated square footage (7,000 sq ft) of the solid concrete foundation support structures that span the height of the basement. Assumes an average ceiling height of ±10-feet.

capacity. SBD is also operating four (4) 12-inch utility fans in the basement for circulation and there are several dehumidifiers which also increase air circulation in the space. The fresh air intake fan, utility fans, and dehumidifier were not in operation during the March 2024 sub-slab and indoor air sample collection.

One (1) additional round of co-located sub-slab and indoor air samples will be collected. Sub-slab and indoor air samples will be collected at the same four (4) indoor locations and one (1) outdoor location as in March 2024 in order determine if the initial corrective actions to increase the efficiency of the system and increase air exchange rates in the basement have decreased and/or mitigate detections in indoor air potentially resulting from subsurface conditions. Samples will be collected during the 2024-2025 heating season (November 15, 2024, to March 31, 2025). One duplicate sample will be collected.

Sub-slab and indoor air samples will be collected in general accordance with the NYSDOH guidance document. One (1) 8-hour sample will be collected at each sub-slab and indoor location in a laboratory certified clean Summa® canister and submitted to Pace Analytical Laboratories of Buffalo, New York for VOC analysis (including naphthalene) using EPA Method TO-15/TO-15-SIM. Matrix A and C compounds as listed within the NYSDOH guidance document will utilize a reporting limit of 0.20 µg/m^3. Matrix B, D, E, and F compounds will utilize a reporting limit of 1.0 µg/m^3. Sub-slab samples will be collected from the permanent SSD sample port installed adjacent to each of the indoor air sample locations. One to three volumes (probe and tubing) will be purged prior to collecting the samples.

Manometer readings and sub-slab vacuum levels at each of the five (5) existing sub-slab sample ports and five (5) new ports will also be collected. Helium tracer testing will be conducted at each location prior to sample collection following the protocol(s) in the NYSDOH guidance document. The basement exhaust fan, utility fans, and dehumidifiers will not be operated during sample collection.

Schedule and Reporting

The initial proposed corrective measures will be implemented in accordance with the following schedule:

- Installation of new sub-slab vapor ports within 30-days of NYSDEC approval of the corrective measures work plan and initiation of weekly sub-slab vacuum measurements;
- Collection of proposed sub-slab, indoor air, and outdoor air samples within 45-days of NYSDEC approval of the corrective measures work plan; and
- Submittal of a Corrective Measures Data Report within 30 days of receipt of final validated laboratory analytical data packages.

Inventum will provide the NYSDEC with a minimum of 15-days-notice prior to installation of the new sub-slab vapor ports and sample collection.

The Corrective Measures Data Report will include, at minimum:

- Summary of weekly sub-slab vacuum and manometer vacuum readings;

- Summary of sub-slab, indoor, and outdoor sampling data and comparison to NYSDOH guidance document matrices;
- A full product inventory and, if available, copies of all safety data sheets;
- Photo documentation and location of any drains and/or cracks in the slab;
- Final laboratory data packages included EQUiS submittals and a Data Usability Summary Report (DUSR); and
- An evaluation of additional corrective actions, if necessary, based on the additional communication testing and sampling data.

As always, please do not hesitate to contact me directly at 571.217.3627 with any questions or comments.

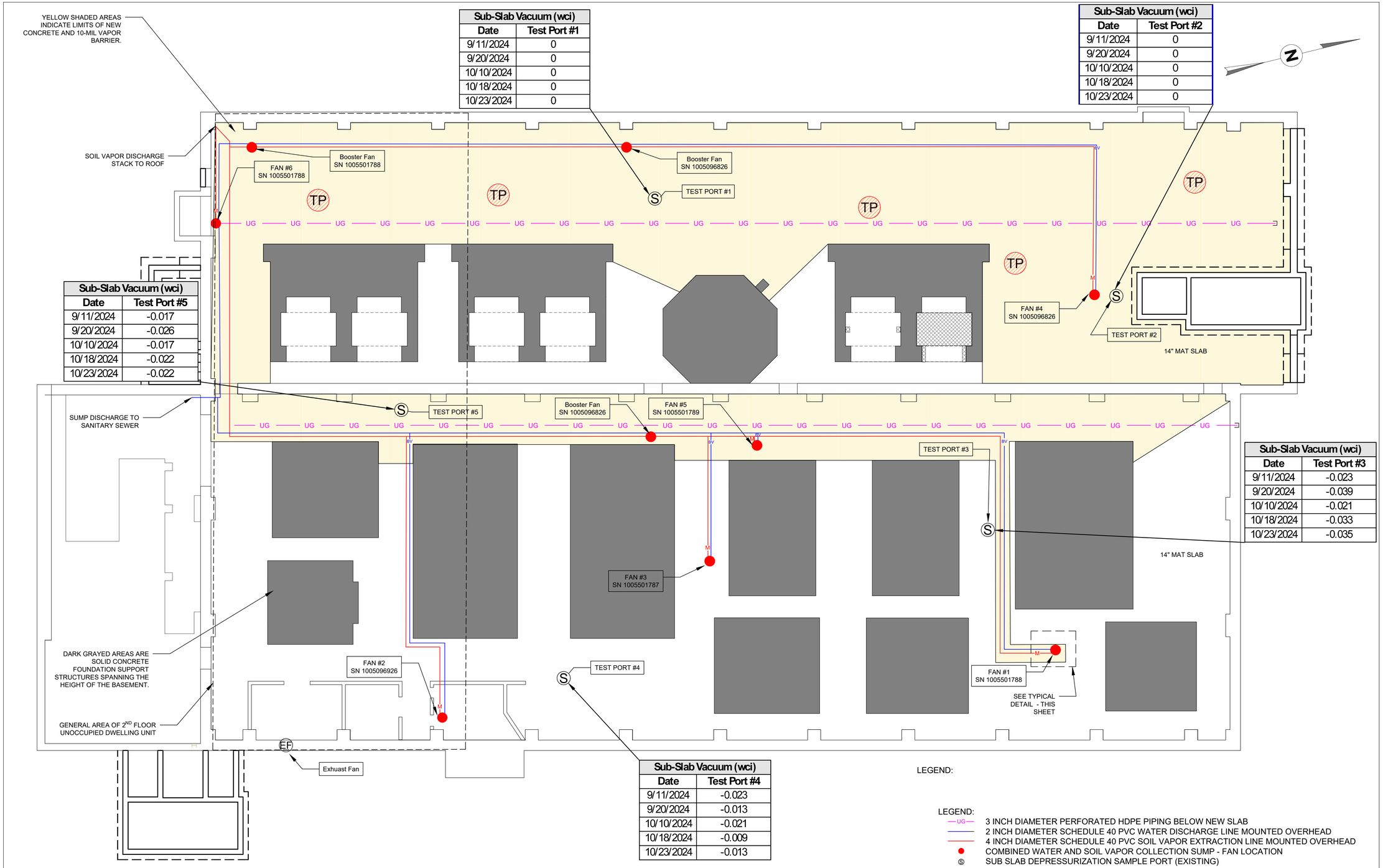
Respectfully submitted,

Todd Waldrop

Project Director

Ecc: Andrea Caprio - NYSDEC
Eugene Melnyk - NYSDEC
Teresa Mucha - NYSDEC
Jacquelyn Nealon - NYSDOH
Charlotte Bethoney - NYSDOH
John Yensan – OSC, Inc.
Jon Williams – OSC, Inc.
John Black – Inventum Engineering

Figure



Sub-Slab Vacuum (wci)	
Date	Test Port #1
9/11/2024	0
9/20/2024	0
10/10/2024	0
10/18/2024	0
10/23/2024	0

Sub-Slab Vacuum (wci)	
Date	Test Port #2
9/11/2024	0
9/20/2024	0
10/10/2024	0
10/18/2024	0
10/23/2024	0

Sub-Slab Vacuum (wci)	
Date	Test Port #5
9/11/2024	-0.017
9/20/2024	-0.026
10/10/2024	-0.017
10/18/2024	-0.022
10/23/2024	-0.022

Sub-Slab Vacuum (wci)	
Date	Test Port #3
9/11/2024	-0.023
9/20/2024	-0.039
10/10/2024	-0.021
10/18/2024	-0.033
10/23/2024	-0.035

Sub-Slab Vacuum (wci)	
Date	Test Port #4
9/11/2024	-0.023
9/20/2024	-0.013
10/10/2024	-0.021
10/18/2024	-0.009
10/23/2024	-0.013

LEGEND:

LEGEND:

- UG — 3 INCH DIAMETER PERFORATED HDPE PIPING BELOW NEW SLAB
- 2 INCH DIAMETER SCHEDULE 40 PVC WATER DISCHARGE LINE MOUNTED OVERHEAD
- 4 INCH DIAMETER SCHEDULE 40 PVC SOIL VAPOR EXTRACTION LINE MOUNTED OVERHEAD
- COMBINED WATER AND SOIL VAPOR COLLECTION SUMP - FAN LOCATION
- (S) SUB SLAB DEPRESSURIZATION SAMPLE PORT (EXISTING)
- M — MANOMETER LOCATION
- BV — 2 INCH DIAMETER BALL CHECK VALVE (WATER DISCHARGE LINE)
- (TP) PROPOSED TEMPORARY SUB SLAB TEST PORT

D

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APPROVED: J. BLACK

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Indoor Air Corrective Measures Work Plan

Buffalo Color Corporation Site Area C
Erie County, Site No. C915231

INVENTUM ENGINEERING
441 CARLISLE DRIVE
SUITE C
HERNDON, VIRGINIA 20170
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FIGURE 1

Attachment A – September 2024 Data Report Tables and Figures

ANALYTE	NY-IAC-A	NY-IAC-B	NY-IAC-D	NY-IAC-E	NY-SSC-A	NY-SSC-B	NY-SSC-D	NY-SSC-E	SAMPLE ID:	ARREAC-IA-01	ARREAC-SS-01
									LOCATION:	Basement - South, Central	
									UNITS	INDOOR AIR	SOIL VAPOR
VOLATILE ORGANICS IN AIR											
Carbon tetrachloride	0.2				6				µg/m³	**0.528**	**0.503** J
Ethylbenzene			2				60		µg/m³	**8.51**	**9.03**
Methylene chloride		3				100			µg/m³	**26**	**25.8**
o-Xylene			2				60		µg/m³	**5.86**	**6.34**
p/m-Xylene				6				200	µg/m³	**28.1**	**29.8**
Tetrachloroethene		3				100			µg/m³	**143**	**148**

ANALYTE	NY-IAC-A	NY-IAC-B	NY-IAC-D	NY-IAC-E	NY-SSC-A	NY-SSC-B	NY-SSC-D	NY-SSC-E	SAMPLE ID:	ARREAC-IA-04	ARREAC-SS-04
									LOCATION:	Basement, North by Sump	
									UNITS	INDOOR AIR	SOIL VAPOR
VOLATILE ORGANICS IN AIR											
Carbon tetrachloride	0.2				6				µg/m³	**0.56**	**0.497** J
Ethylbenzene			2				60		µg/m³	**8.73**	**8.99**
Methylene chloride		3				100			µg/m³	**23.2**	**24.6**
o-Xylene			2				60		µg/m³	**6.04**	**6.21**
p/m-Xylene				6				200	µg/m³	**28.7**	**29.5**
Tetrachloroethene		3				100			µg/m³	**131**	**138**

ANALYTE	SAMPLE ID:	AREAC-OA
	SAMPLE LOCATION:	Northwest Corner
	UNITS	OUTDOOR AIR
VOLATILE ORGANICS IN AIR		
Carbon tetrachloride	µg/m³	**0.522**
Ethylbenzene	µg/m³	<0.25 U
Methylene chloride	µg/m³	**1.78**
o-Xylene	µg/m³	<0.27 U
p/m-Xylene	µg/m³	**0.717** J
Tetrachloroethene	µg/m³	**1.49**

ANALYTE	NY-IAC-A	NY-IAC-B	NY-IAC-D	NY-IAC-E	NY-SSC-A	NY-SSC-B	NY-SSC-D	NY-SSC-E	SAMPLE ID:	ARREAC-IA-02	ARREAC-SS-02
									LOCATION:	Basement - Eastern	
									UNITS	INDOOR AIR	SOIL VAPOR
VOLATILE ORGANICS IN AIR											
Carbon tetrachloride	0.2				6				µg/m³	**0.497**	**0.516** J
Ethylbenzene			2				60		µg/m³	**11.2**	**9.03**
Methylene chloride		3				100			µg/m³	**28.5**	**27.7**
o-Xylene			2				60		µg/m³	**7.64**	**6.12**
p/m-Xylene				6				200	µg/m³	**37.6**	**30.3**
Tetrachloroethene		3				100			µg/m³	**130**	**128**

ANALYTE	NY-IAC-A	NY-IAC-B	NY-IAC-D	NY-IAC-E	NY-SSC-A	NY-SSC-B	NY-SSC-D	NY-SSC-E	SAMPLE ID:	ARREAC-IA-03	ARREAC-SS-03
									LOCATION:	Basement - Northeastern	
									UNITS	INDOOR AIR	SOIL VAPOR
VOLATILE ORGANICS IN AIR											
Carbon tetrachloride	0.2				6				µg/m³	**0.522**	**0.51** J
Ethylbenzene			2				60		µg/m³	**11.1**	**10.4**
Methylene chloride		3				100			µg/m³	**28.2**	**27.1**
o-Xylene			2				60		µg/m³	**7.64**	**7.21**
p/m-Xylene				6				200	µg/m³	**35.7**	**34.6**
Tetrachloroethene		3				100			µg/m³	**142**	**141**

SOIL VAPOR DISCHARGE STACK TO ROOF

YELLOW SHADED AREAS INDICATE LIMITS OF NEW CONCRETE AND 10-MIL VAPOR BARRIER.

SUMP DISCHARGE TO SANITARY SEWER

GENERAL AREA OF 2ND FLOOR UNOCCUPIED DWELLING UNIT

Booster Fan SN 1005501788

FAN #6 SN 1005501788

Booster Fan SN 1005096826

TEST PORT #1

AREA C-05
SOIL GAS NOT SAMPLED
MANOMETER: 0.000

AREA C-IA-01
AREA C-SS-01
MANOMETER: 0.000

TEST PORT #5

Booster Fan SN 1005096826

FAN #5 SN 1005501789

FAN #4 SN 1005096826

AREA C-IA-04
AREA C-SS-04
MANOMETER: -0.009

TEST PORT #2

14" MAT SLAB

TEST PORT #3

AREA C-IA-03
AREA C-SS-03
MANOMETER: 0.000

FAN #3 SN 1005501787

FAN #2 SN 1005096926

TEST PORT #4

AREA C-IA-02
AREA C-SS-02
MANOMETER: 0.000

FAN #1 SN 1005501788

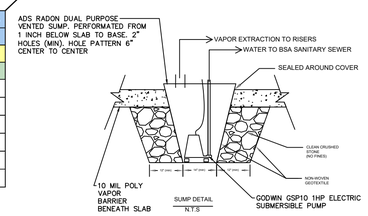
SEE TYPICAL DETAIL - THIS SHEET

DARK GRAYED AREAS ARE SOLID CONCRETE FOUNDATION SUPPORT STRUCTURES SPANNING THE HEIGHT OF THE BASEMENT.

OA

N

LEGEND:



LEGEND:
- UG — 3 INCH DIAMETER PERFORATED HDPE PIPING BELOW NEW SLAB
- 2 INCH DIAMETER SCHEDULE 40 PVC WATER DISCHARGE LINE MOUNTED OVERHEAD
- 4 INCH DIAMETER SCHEDULE 40 PVC SOIL VAPOR EXTRACTION LINE MOUNTED OVERHEAD
- COMBINED WATER AND SOIL VAPOR COLLECTION SUMP - FAN LOCATION
- Ⓢ SUB SLAB DEPRESSURIZATION SAMPLE PORT
- M — MANOMETER LOCATION
- BV — 2 INCH DIAMETER BALL CHECK VALVE (WATER DISCHARGE LINE)

Note: Booster fans were not operating during sub-slab or indoor air sample collection.

D

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CHECKED: J. BLACK
APPROVED: J. BLACK

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Supplemental Sub-Slab and Indoor Air Sampling Program - March 2024

Buffalo Color Corporation Site Area C
Erie County, Site No. C915231

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FIGURE 1

LOCATION: AREA C-01			
MATRIX	MATRIX ACTION	ANALYTE(S)	SS/IA
MATRIX A	No Further Action	Carbon Tetrachloride	IA
MATRIX B	Identify Source(s) or Resample or Mitigate	Methylene chloride	IA
MATRIX B	Mitigate	Tetrachloroethene	SS/IA
MATRIX D	No Further Action	Ethylbenzene, o-Xylene	IA
MATRIX E	Identify Source(s) or Resample or Mitigate	p/m-xylene	IA

LOCATION: AREA C-04			
MATRIX	MATRIX ACTION	ANALYTE(S)	SS/IA
MATRIX A	No Further Action	Carbon Tetrachloride	IA
MATRIX B	Identify Source(s) or Resample or Mitigate	Methylene chloride	IA
MATRIX B	Mitigate	Tetrachloroethene	SS/IA
MATRIX D	No Further Action	Ethylbenzene, o-Xylene	IA
MATRIX E	Identify Source(s) or Resample or Mitigate	p/m-xylene	IA

SOIL VAPOR DISCHARGE STACK TO ROOF

YELLOW SHADED AREAS INDICATE LIMITS OF NEW CONCRETE AND 10-MIL VAPOR BARRIER.

SUMP DISCHARGE TO SANITARY SEWER

GENERAL AREA OF 2ND FLOOR UNOCCUPIED DWELLING UNIT

Booster Fan SN 1005501788

FAN #6 SN 1005501788

Booster Fan SN 1005096826

TEST PORT #1

AREA C-IA-01 AREA C-SS-01

TEST PORT #5

Booster Fan SN 1005096826

FAN #5 SN 1005501789

FAN #4 SN 1005096826

TEST PORT #2

AREA C-IA-04 AREA C-SS-04

14" MAT SLAB

DARK GRAYED AREAS ARE SOLID CONCRETE FOUNDATION SUPPORT STRUCTURES SPANNING THE HEIGHT OF THE BASEMENT.

14" MAT SLAB

TEST PORT #3

AREA C-IA-03 AREA C-SS-03

FAN #3 SN 1005501787

FAN #2 SN 1005096926

TEST PORT #4

AREA C-IA-02 AREA C-SS-02

FAN #1 SN 1005501788

SEE TYPICAL DETAIL - THIS SHEET

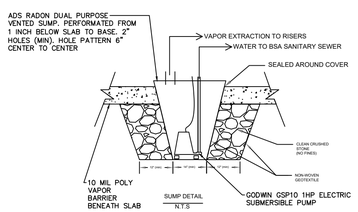
OA

N

LOCATION: AREA C-03			
MATRIX	MATRIX ACTION	ANALYTE(S)	SS/IA
MATRIX A	No Further Action	Carbon Tetrachloride	IA
MATRIX B	Identify Source(s) or Resample or Mitigate	Methylene chloride	IA
MATRIX B	Mitigate	Tetrachloroethene	SS/IA
MATRIX D	No Further Action	o-Xylene	IA
MATRIX D	Identify Source(s) or Resample or Mitigate	Ethylbenzene	IA
MATRIX E	Identify Source(s) or Resample or Mitigate	p/m-xylene	IA

LOCATION: AREA C-02			
MATRIX	MATRIX ACTION	ANALYTE(S)	SS/IA
MATRIX A	No Further Action	Carbon Tetrachloride	IA
MATRIX B	Identify Source(s) or Resample or Mitigate	Methylene chloride	IA
MATRIX B	Mitigate	Tetrachloroethene	SS/IA
MATRIX D	No Further Action	o-Xylene	IA
MATRIX D	Identify Source(s) or Resample or Mitigate	Ethylbenzene	IA
MATRIX E	Identify Source(s) or Resample or Mitigate	p/m-xylene	IA

LEGEND:



SUMP DETAIL N.T.S

LEGEND:

- UG — 3 INCH DIAMETER PERFORATED HDPE PIPING BELOW NEW SLAB
- BV — 2 INCH DIAMETER SCHEDULE 40 PVC WATER DISCHARGE LINE MOUNTED OVERHEAD
- UG — 4 INCH DIAMETER SCHEDULE 40 PVC SOIL VAPOR EXTRACTION LINE MOUNTED OVERHEAD
- ● — COMBINED WATER AND SOIL VAPOR COLLECTION SUMP - FAN LOCATION
- Ⓢ — SUB SLAB DEPRESSURIZATION SAMPLE PORT
- M — MANOMETER LOCATION
- BV — 2 INCH DIAMETER BALL CHECK VALVE (WATER DISCHARGE LINE)

Note: Booster fans were not operating during sub-slab or indoor air sample collection.

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Supplemental Sub-Slab and Indoor Air Sampling Program - March 2024

Buffalo Color Corporation Site Area C
Erie County, Site No. C915231

INVENTUM ENGINEERING
441 CARLISLE DRIVE
SUITE C
HERNDON, VIRGINIA 20170
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FIGURE 2

Table 1
Former Buffalo Color - Area C
BCP Site #C915231
Basement Indoor Air Sub-Slab Sampling - All Results

ANALYTE	NYSDOH Indoor Air Vapor Concentration Criteria (a)						NYSDOH Sub-slab Vapor Concentration Criteria (a)						SAMPLE ID:	ARREAC-IA-01		ARREAC-SS-01		ARREAC-IA-02		ARREAC-SS-02		ARREAC-IA-03		ARREAC-SS-03		ARREAC-IA-04		ARREAC-SS-04		ARREAC-OA	
													LAB ID:	L2416214-01		L2416214-02		L2416214-03		L2416214-04		L2416214-05		L2416214-06		L2416214-07		L2416214-08		L2416214-09	
													COLLECTION DATE:	3/25/2024				3/25/2024				3/25/2024				3/25/2024				3/25/2024	
													SAMPLE LOCATION:	Basement - South, Central				Basement - Eastern				Basement - Northeastern				Basement, North by Sump				Northwest Corner	
	NY-IAC-A	NY-IAC-B	NY-IAC-C	NY-IAC-D	NY-IAC-E	NY-IAC-F	NY-SSC-A	NY-SSC-B	NY-SSC-C	NY-SSC-D	NY-SSC-E	NY-SSC-F	SAMPLE INTERVAL:	INDOOR AIR		SOIL VAPOR		INDOOR AIR		SOIL VAPOR		INDOOR AIR		SOIL VAPOR		INDOOR AIR		SOIL VAPOR		OUTDOOR AIR	
													UNITS																		
VOLATILE ORGANICS IN AIR																														
1,1,1-Trichloroethane		3						100					µg/m^3	1.4		1.59		1.45		1.48		2.25		2.21		1.48		1.6		<0.032	U
1,1,2,2-Tetrachloroethane													µg/m^3	<0.357	U	<0.357	U	<0.357	U	<0.357	U	<0.357	U	<0.357	U	<0.357	U	<0.357	U	<0.357	U
1,1,2-Trichloroethane													µg/m^3	<0.318	U	<0.318	U	<0.318	U	<0.318	U	<0.318	U	<0.318	U	<0.318	U	<0.318	U	<0.318	U
1,1-Dichloroethane													µg/m^3	0.344	J	0.376	J	0.364	J	0.344	J	0.603	J	0.639	J	0.393	J	0.385	J	<0.23	U
1,1-Dichloroethene	0.2						6						µg/m^3	<0.031	U	<0.225	U	<0.031	U	<0.225	U	<0.031	U	<0.225	U	<0.031	U	<0.225	U	<0.031	U
1,2,4-Trichlorobenzene													µg/m^3	<0.742	U	<0.742	U	<0.742	U	<0.742	U	<0.742	U	<0.742	U	<0.742	U	<0.742	U	<0.742	U
1,2,4-Trimethylbenzene				2						60			µg/m^3	0.792	J	1.1		0.846	J	0.934	J	0.919	J	1.07		0.914	J	0.914	J	<0.284	U
1,2-Dibromoethane													µg/m^3	<0.418	U	<0.418	U	<0.418	U	<0.418	U	<0.418	U	<0.418	U	<0.418	U	<0.418	U	<0.418	U
1,2-Dichlorobenzene													µg/m^3	<0.372	U	<0.372	U	<0.372	U	<0.372	U	<0.372	U	<0.372	U	<0.372	U	<0.372	U	<0.372	U
1,2-Dichloroethane													µg/m^3	<0.319	U	<0.319	U	<0.319	U	<0.319	U	<0.319	U	<0.319	U	<0.319	U	<0.319	U	<0.319	U
1,2-Dichloropropane													µg/m^3	<0.292	U	<0.292	U	<0.292	U	<0.292	U	<0.292	U	<0.292	U	<0.292	U	<0.292	U	<0.292	U
1,3,5-Trimethylbenzene				2						60			µg/m^3	<0.295	U	0.398	J	0.31	J	0.329	J	0.418	J	0.388	J	0.32	J	0.329	J	<0.295	U
1,3-Butadiene													µg/m^3	<0.137	U	<0.137	U	<0.137	U	<0.137	U	<0.137	U	<0.137	U	<0.137	U	<0.137	U	<0.137	U
1,3-Dichlorobenzene													µg/m^3	<0.467	U	<0.467	U	<0.467	U	<0.467	U	<0.467	U	<0.467	U	<0.467	U	<0.467	U	<0.467	U
1,4-Dichlorobenzene													µg/m^3	<0.497	U	<0.497	U	<0.497	U	<0.497	U	<0.497	U	<0.497	U	<0.497	U	<0.497	U	<0.497	U
1,4-Dioxane													µg/m^3	<0.194	U	<0.194	U	<0.194	U	<0.194	U	<0.194	U	<0.194	U	<0.194	U	<0.194	U	<0.194	U
2,2,4-Trimethylpentane				2						60			µg/m^3	<0.323	U	<0.323	U	<0.323	U	<0.323	U	<0.323	U	<0.323	U	<0.323	U	<0.323	U	<0.323	U
2-Butanone													µg/m^3	8.82		9.32		7.85		8.2		12		10.1		8.35		8.55		0.817	J
2-Hexanone													µg/m^3	1.3		1.45		1.13		1.02		1.61		1.41		0.938		1.03		<0.374	U
3-Chloropropene													µg/m^3	<0.269	U	<0.269	U	<0.269	U	<0.269	U	<0.269	U	<0.269	U	<0.269	U	<0.269	U	<0.269	U
4-Ethyltoluene													µg/m^3	<0.272	U	<0.272	U	<0.272	U	<0.272	U	<0.272	U	<0.272	U	<0.272	U	<0.272	U	<0.272	U
4-Methyl-2-pentanone													µg/m^3	<0.779	U	<0.779	U	<0.779	U	<0.779	U	<0.779	U	<0.779	U	<0.779	U	<0.779	U	<0.779	U
Acetone													µg/m^3	58		63.2		52		59.1		68.2		69.4		54.4		59.1		11	
Benzene				2						60			µg/m^3	0.671		0.738		0.655		0.703		0.725		0.744		0.696		0.7		0.457	J
Benzyl chloride													µg/m^3	<0.486	U	<0.486	U	<0.486	U	<0.486	U	<0.486	U	<0.486	U	<0.486	U	<0.486	U	<0.486	U
Bromodichloromethane													µg/m^3	<0.462	U	<0.462	U	<0.462	U	<0.462	U	<0.462	U	<0.462	U	<0.462	U	<0.462	U	<0.462	U
Bromoform													µg/m^3	<0.616	U	<0.616	U	<0.616	U	<0.616	U	<0.616	U	<0.616	U	<0.616	U	<0.616	U	<0.616	U
Bromomethane													µg/m^3	<0.212	U	<0.212	U	<0.212	U	0.28	J	0.322	J	0.516	J	<0.212	U	0.342	J	<0.212	U
Carbon disulfide													µg/m^3	0.557	J	0.601	J	0.551	J	0.548	J	0.682		0.691		0.607	J	0.595	J	<0.145	U
Carbon tetrachloride	0.2						6						µg/m^3	0.528		0.503	J	0.497		0.516	J	0.522		0.51	J	0.56		0.497	J	0.522	
Chlorobenzene													µg/m^3	<0.238	U	<0.238	U	<0.238	U	<0.238	U	0.267	J	<0.238	U	<0.238	U	<0.238	U	<0.238	U
Chloroethane													µg/m^3	<0.171	U	<0.171	U	<0.171	U	<0.171	U	<0.171	U	0.451	J	<0.171	U	<0.171	U	<0.171	U
Chloroform													µg/m^3	0.41	J	0.41	J	0.469	J	0.415	J	0.498	J	0.513	J	0.425	J	0.415	J	<0.27	U
Chloromethane													µg/m^3	1.19		1.19		1.12		1.27		1.18		1.67		1.21		1.22		1.33	

Table 1
Former Buffalo Color - Area C
BCP Site #C915231
Basement Indoor Air Sub-Slab Sampling - All Results

ANALYTE	NYSDOH Indoor Air Vapor Concentration Criteria (a)						NYSDOH Sub-slab Vapor Concentration Criteria (a)						SAMPLE ID:	ARREAC-IA-01		ARREAC-SS-01		ARREAC-IA-02		ARREAC-SS-02		ARREAC-IA-03		ARREAC-SS-03		ARREAC-IA-04		ARREAC-SS-04		ARREAC-OA	
													LAB ID:	L2416214-01		L2416214-02		L2416214-03		L2416214-04		L2416214-05		L2416214-06		L2416214-07		L2416214-08		L2416214-09	
													COLLECTION DATE:	3/25/2024				3/25/2024				3/25/2024				3/25/2024				3/25/2024	
													SAMPLE LOCATION:	Basement - South, Central				Basement - Eastern				Basement - Northeastern				Basement, North by Sump				Northwest Corner	
	NY-IAC-A	NY-IAC-B	NY-IAC-C	NY-IAC-D	NY-IAC-E	NY-IAC-F	NY-SSC-A	NY-SSC-B	NY-SSC-C	NY-SSC-D	NY-SSC-E	NY-SSC-F	SAMPLE INTERVAL:	INDOOR AIR		SOIL VAPOR		INDOOR AIR		SOIL VAPOR		INDOOR AIR		SOIL VAPOR		INDOOR AIR		SOIL VAPOR		OUTDOOR AIR	
													UNITS																		
VOLATILE ORGANICS IN AIR																															
cis-1,2-Dichloroethene	0.2						6						µg/m^3	<0.04	U	<0.236	U	<0.04	U	<0.236	U	<0.04	U	<0.236	U	<0.04	U	<0.236	U	<0.04	U
cis-1,3-Dichloropropene													µg/m^3	<0.306	U	<0.306	U	<0.306	U	<0.306	U	<0.306	U	<0.306	U	<0.306	U	<0.306	U	<0.306	U
Cyclohexane				2						60			µg/m^3	1.71		1.7		1.42		1.73		1.92		1.8		1.77		1.92		1.11	
Dibromochloromethane													µg/m^3	<0.482	U	<0.482	U	<0.482	U	<0.482	U	<0.482	U	<0.482	U	<0.482	U	<0.482	U	<0.482	U
Dichlorodifluoromethane													µg/m^3	2.82		2.8		2.76		2.76		2.89		2.78		2.86		2.82		2.81	
Ethanol													µg/m^3	906		784		718		852		820		814		914		795		22.6	
Ethyl Acetate													µg/m^3	3.78		4.22		3.86		3.93		3.89		4.29		3.93		4		<1.07	U
Ethylbenzene				2						60			µg/m^3	8.51		9.03		11.2		9.03		11.1		10.4		8.73		8.99		<0.25	U
Freon-113													µg/m^3	0.636	J	0.628	J	0.667	J	0.621	J	0.659	J	0.644	J	0.651	J	0.644	J	0.644	J
Freon-114													µg/m^3	<0.352	U	<0.352	U	<0.352	U	<0.352	U	<0.352	U	<0.352	U	<0.352	U	<0.352	U	<0.352	U
Heptane					6						200		µg/m^3	2.18		2.36		1.99		2.17		2.4		2.38		2.5		2.52		0.602	J
Hexachlorobutadiene													µg/m^3	<0.647	U	<0.647	U	<0.647	U	<0.647	U	<0.647	U	<0.647	U	<0.647	U	<0.647	U	<0.647	U
Isopropanol													µg/m^3	3.15		4.08		3.05		5.58		3.81		5.19		4.55		4.03		0.846	J
Methyl tert butyl ether													µg/m^3	<0.162	U	<0.162	U	<0.162	U	<0.162	U	<0.162	U	<0.162	U	<0.162	U	<0.162	U	<0.162	U
Methylene chloride		3						100					µg/m^3	26		25.8		28.5		27.7		28.2		27.1		23.2		24.6		1.78	
n-Hexane					6						200		µg/m^3	1.99		2.11		1.79		1.88		2.1		2.13		2.22		2.24		0.469	J
Naphthalene				2						60			µg/m^3	<0.409	U	0.456	J	0.498	J	1.32		<0.409	U	0.461	J	<0.409	U	<0.409	U	<0.409	U
o-Xylene				2						60			µg/m^3	5.86		6.34		7.64		6.12		7.64		7.21		6.04		6.21		<0.27	U
p/m-Xylene					6						200		µg/m^3	28.1		29.8		37.6		30.3		35.7		34.6		28.7		29.5		0.717	J
Styrene													µg/m^3	1.11		1.15		1.16		1.32		1.32		1.21		1.34		1.11		2.35	
Tertiary butyl Alcohol													µg/m^3	2.86		3.12		2.6		2.66		3.58		<0.4	U	3.06		2.93		<0.4	U
Tetrachloroethene		3						100					µg/m^3	143		148		130		128		142		141		131		138		1.49	
Tetrahydrofuran													µg/m^3	10.2		9		8.7		9.88		11		9.7		9.35		8.85		0.737	J
Toluene						10						300	µg/m^3	1.85		2.13		1.76		1.97		2.35		2.22		1.93		1.99		0.614	J
trans-1,2-Dichloroethene													µg/m^3	<0.299	U	<0.299	U	<0.299	U	<0.299	U	<0.299	U	<0.299	U	<0.299	U	<0.299	U	<0.299	U
trans-1,3-Dichloropropene													µg/m^3	<0.355	U	<0.355	U	<0.355	U	<0.355	U	<0.355	U	<0.355	U	<0.355	U	<0.355	U	<0.355	U
Trichloroethene	0.2						6						µg/m^3	0.102	J	<0.295	U	0.118		<0.295	U	0.134		<0.295	U	0.097	J	<0.295	U	0.081	J
Trichlorofluoromethane													µg/m^3	2.64		2.62		2.54		2.42		3.02		2.88		2.64		2.65		1.4	
Vinyl bromide													µg/m^3	<0.316	U	<0.316	U	<0.316	U	<0.316	U	<0.316	U	<0.316	U	<0.316	U	<0.316	U	<0.316	U
Vinyl chloride			0.2						6				µg/m^3	<0.023	U	<0.149	U	<0.023	U	<0.149	U	<0.023	U	<0.149	U	<0.023	U	<0.149	U	<0.023	U

* Comparison is not performed on parameters with non-numeric criteria.

NY-IAC-A: New York DOH Matrix A Indoor Air Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.
NY-IAC-B: New York DOH Matrix B Indoor Air Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.
NY-IAC-C: New York DOH Matrix C Indoor Air Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.
NY-SSC-A: New York DOH Matrix A Sub-slab Vapor Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.
NY-SSC-B: New York DOH Matrix B Sub-slab Vapor Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.
NY-SSC-C: New York DOH Matrix C Sub-slab Vapor Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion, October 2006, and updated May 2017.

Bolded results indicate reportable detection; Yellow highlighted results indicate exceedance of Sub-Slab Criteria; Green highlighted results indicate exceedance of Indoor Air Criteria.

"-" Comparative criteria not available; "U" - analyte not detected above reporting limit shown
ug/m3 = micrograms per cubic meter

Table 2
Former Buffalo Color - Area C
BCP Site #C915231
Basement Indoor Sub-Slab Sampling
NYSDOH Matrix Action Summary

Matrix A Analytes	Recommended Matrix Action at Sample Location			
	No Further Action	Monitor	Identify Source(s) and Resample or Mitigate	Mitigate
Trichloroethene (TCE)	Area C-01 Area C-02 Area C-03 Area C-04	N/A	N/A	N/A
cis-1,2-Dichloroethene (DCE)	Area C-01 Area C-02 Area C-03 Area C-04	N/A	N/A	N/A
1,1-Dichloroethene (1,1-DCE)	Area C-01 Area C-02 Area C-03 Area C-04	N/A	N/A	N/A
Carbon Tetrachloride	Area C-01 Area C-02 Area C-03 Area C-04	N/A	N/A	N/A

Matrix B Analytes	Recommended Matrix Action at Sample Location			
	No Further Action	Monitor	Identify Source(s) and Resample or Mitigate	Mitigate
Tetrachloroethene (PCE)	N/A	N/A	N/A	Area C-01 Area C-02 Area C-03 Area C-04
1,1,1-Trichloroethane (1,1,1-TCA)	Area C-01 Area C-02 Area C-03 Area C-04	N/A	N/A	N/A
Methylene Chloride	N/A	N/A	Area C-01 Area C-02 Area C-03 Area C-04	N/A

Matrix C Analytes	Recommended Matrix Action at Sample Location			
	No Further Action	Monitor	Identify Source(s) and Resample or Mitigate	Mitigate
Vinyl Chloride	Area C-01 Area C-02 Area C-03 Area C-04	N/A	N/A	N/A

Table 2
Former Buffalo Color - Area C
BCP Site #C915231
Basement Indoor Sub-Slab Sampling
NYSDOH Matrix Action Summary

Matrix D Analytes	Recommended Matrix Action at Sample Location			
	No Further Action	Monitor	Identify Source(s) and Resample or Mitigate	Mitigate
Benzene	Area C-01 Area C-02 Area C-03 Area C-04	N/A	N/A	N/A
Ethylbenzene	Area C-01 Area C-04	N/A	Area C-02 Area C-03	N/A
Naphthalene	Area C-01 Area C-02 Area C-03 Area C-04	N/A	N/A	N/A
Cyclohexane	Area C-01 Area C-02 Area C-03 Area C-04	N/A	N/A	N/A
Isooctane (2,2,4-trimethylpentane)	Area C-01 Area C-02 Area C-03 Area C-04	N/A	N/A	N/A
1,2,4-trimethylbenzene	Area C-01 Area C-02 Area C-03 Area C-04	N/A	N/A	N/A
1,3,5-trimethylbenzene	Area C-01 Area C-02 Area C-03 Area C-04	N/A	N/A	N/A
o-xylene	Area C-01 Area C-02 Area C-03 Area C-04	N/A	N/A	N/A

Matrix E Analytes	Recommended Matrix Action at Sample Location			
	No Further Action	Monitor	Identify Source(s) and Resample or Mitigate	Mitigate
m-Xylene	N/A	N/A	Area C-01 Area C-02 Area C-03 Area C-04	N/A
p-Xylene	N/A	N/A	Area C-01 Area C-02 Area C-03 Area C-04	N/A
Heptane	Area C-01 Area C-02 Area C-03 Area C-04	N/A	N/A	N/A
Hexane	Area C-01 Area C-02 Area C-03 Area C-04	N/A	N/A	N/A

Matrix F Analytes	Recommended Matrix Action at Sample Location			
	No Further Action	Monitor	Identify Source(s) and Resample or Mitigate	Mitigate
Toluene	Area C-01 Area C-02 Area C-03 Area C-04	N/A	N/A	N/A

"N/A" = No samples meet criteria for noted recommended matrix action

Table 3
Former Buffalo Color - Area C
BCP Site #C915231
NYS Fuel Oil study - EPA BASE Study

ANALYTE (a)	CAS	NYSDOH Fuel Oil Study Upper Fence (µg/m3) (b)	EPA BASE Database 90th Percentile (µg/m3) (c)	SAMPLE ID:	ARREAC-IA-01		ARREAC-IA-02		ARREAC-IA-03		ARREAC-IA-04	
				LAB ID:	L2416214-01		L2416214-03		L2416214-05		L2416214-07	
				COLLECTION DATE:	3/25/2024		3/25/2024		3/25/2024		3/25/2024	
				SAMPLE LOCATION:	Basement - South, Central		Basement - Eastern		Basement - Northeastern		Basement, North by Sump	
				SAMPLE INTERVAL:	INDOOR AIR		INDOOR AIR		INDOOR AIR		INDOOR AIR	
				UNITS								
VOLATILE ORGANICS IN AIR												
1,1,2,2-Tetrachloroethane	79-34-5	0.4	-	µg/m3	<0.357	U	<0.357	U	<0.357	U	<0.357	U
1,1,2-Trichloroethane	79-00-5	0.4	<1.5	µg/m3	<0.318	U	<0.318	U	<0.318	U	<0.318	U
1,1-Dichloroethane	75-34-3	0.4	<0.7	µg/m3	0.344	J	0.364	J	0.603	J	0.393	J
1,2,4-Trichlorobenzene	120-82-1	0.5	<6.8	µg/m3	<0.742	U	<0.742	U	<0.742	U	<0.742	U
1,2-Dibromoethane	106-93-4	0.4	<1.5	µg/m3	<0.418	U	<0.418	U	<0.418	U	<0.418	U
1,2-Dichlorobenzene	95-50-1	0.5	<1.2	µg/m3	<0.372	U	<0.372	U	<0.372	U	<0.372	U
1,2-Dichloroethane	107-06-2	0.4	<0.9	µg/m3	<0.319	U	<0.319	U	<0.319	U	<0.319	U
1,2-Dichloropropane	78-87-5	0.4	<1.6	µg/m3	<0.292	U	<0.292	U	<0.292	U	<0.292	U
1,3-Butadiene	106-99-0	-	<3.0	µg/m3	<0.137	U	<0.137	U	<0.137	U	<0.137	U
1,3-Dichlorobenzene	541-73-1	0.5	<2.4	µg/m3	<0.467	U	<0.467	U	<0.467	U	<0.467	U
1,4-Dichlorobenzene	106-46-7	1.2	5.5	µg/m3	<0.497	U	<0.497	U	<0.497	U	<0.497	U
1,4-Dioxane	123-91-1	-	-	µg/m3	<0.194	U	<0.194	U	<0.194	U	<0.194	U
2-Butanone	78-93-3	16	12	µg/m3	8.82		7.85		12		8.35	
2-Hexanone	591-78-6	-	-	µg/m3	1.3		1.13		1.61		0.938	
3-Chloropropene	107-05-1	-	-	µg/m3	<0.269	U	<0.269	U	<0.269	U	<0.269	U
4-Ethyltoluene	622-96-8	-	3.6	µg/m3	<0.272	U	<0.272	U	<0.272	U	<0.272	U
4-Methyl-2-pentanone	108-10-1	1.9	6	µg/m3	<0.779	U	<0.779	U	<0.779	U	<0.779	U
Acetone	67-64-1	115	98.9	µg/m3	58		52		68.2		54.4	
Benzyl chloride	100-44-7	-	<6.8	µg/m3	<0.486	U	<0.486	U	<0.486	U	<0.486	U
Bromodichloromethane	75-27-4	-	-	µg/m3	<0.462	U	<0.462	U	<0.462	U	<0.462	U
Bromoform	75-25-2	-	-	µg/m3	<0.616	U	<0.616	U	<0.616	U	<0.616	U
Bromomethane	74-83-9	0.5	<1.7	µg/m3	<0.212	U	<0.212	U	0.322	J	<0.212	U
Carbon disulfide	75-15-0	-	4.2	µg/m3	0.557	J	0.551	J	0.682		0.607	J
Chlorobenzene	108-90-7	0.4	<0.9	µg/m3	<0.238	U	<0.238	U	0.267	J	<0.238	U
Chloroethane	75-00-3	0.4	<1.1	µg/m3	<0.171	U	<0.171	U	<0.171	U	<0.171	U
Chloroform	67-66-3	1.2	1.1	µg/m3	0.41	J	0.469	J	0.498	J	0.425	J
Chloromethane	74-87-3	4.2	3.7	µg/m3	1.19		1.12		1.18		1.21	
cis-1,3-Dichloropropene	10061-01-5	0.4	<2.3	µg/m3	<0.306	U	<0.306	U	<0.306	U	<0.306	U
Dibromochloromethane	124-48-1	-	-	µg/m3	<0.482	U	<0.482	U	<0.482	U	<0.482	U
Dichlorodifluoromethane	75-71-8	10	16.5	µg/m3	2.82		2.76		2.89		2.86	
Ethanol	64-17-5	1300	210	µg/m3	906		718		820		914	
Ethyl Acetate	141-78-6	-	5.4	µg/m3	3.78		3.86		3.89		3.93	
Freon-113	76-13-1	2.5	-	µg/m3	0.636	J	0.667	J	0.659	J	0.651	J
Freon-114	76-14-2	0.4	-	µg/m3	<0.352	U	<0.352	U	<0.352	U	<0.352	U
Hexachlorobutadiene	87-68-3	0.5	<6.8	µg/m3	<0.647	U	<0.647	U	<0.647	U	<0.647	U
Isopropanol	67-63-0	-	-	µg/m3	3.15		3.05		3.81		4.55	
Methyl tert butyl ether	1634-04-4	14	11.5	µg/m3	<0.162	U	<0.162	U	<0.162	U	<0.162	U
Styrene	100-42-5	1.4	1.9	µg/m3	1.11		1.16		1.32		1.34	
Tertiary butyl Alcohol	75-65-0	-	-	µg/m3	2.86		2.6		3.58		3.06	
Tetrahydrofuran	109-99-9	0.8	-	µg/m3	10.2		8.7		11		9.35	
trans-1,2-Dichloroethene	156-60-5	-	-	µg/m3	<0.299	U	<0.299	U	<0.299	U	<0.299	U
trans-1,3-Dichloropropene	10061-02-6	-	<1.3	µg/m3	<0.355	U	<0.355	U	<0.355	U	<0.355	U
Trichlorofluoromethane	75-69-4	12	18.1	µg/m3	2.64		2.54		3.02		2.64	
Vinyl bromide	593-60-2	-	-	µg/m3	<0.316	U	<0.316	U	<0.316	U	<0.316	U

* Comparison is not performed on parameters with non-numeric criteria. "-" comparative criteria not available from reference source shown.

(a) Analytes on the New York DOH Matrices contained in the Guidance for Evaluating Soil Vapor Intrustion, October 2006, and Updated May 2017 are not shown or included in the tabulation and comparison to the NYS Fuel Oil Study Upper Fence or the 90th Percent of the EPA BASE Study. Only indoor air sample results shown.

(b) NYSDOH Summary of Indoor and Outdoor Levels of VOCS from Fuel Oil Heated Homes in NYS, 1997-2003, Revised November 14, 2005. Table C1 (Appendix C) of NYSDOH Guidance Document referenced in (a). Sample results with detectable concentrations greater than upper fence value shown are highlighted in yellow.

(c) Building Assessment Survey Evaluation (BASE) database, SUMMA canister Method. Table C2 (Appendix C) of NYSDOH Guidance Document referenced in (a). Sample results with detectable concentrations greater than 90th percentile value are highlighted in orange.

Bolded results indicate reportable detection

"U" - analyte not detected above reporting limit shown; "J" - Estimated value. Result below the reporting limit but above the method detection limit.

ug/m3 = micrograms per cubic meter

Table 4
Former Buffalo Color - Area C
BCP Site #C915231
Test Port and Manometer Vacuum Levels

Manometer Vacuum Readings (wci)						
Date	Fan #1	Fan #2	Fan #3	Fan #4	Fan #5	Fan #6
6/6/2024	-0.758	-0.073	-0.809	-0.181	-0.206	-0.039
6/14/2024	-0.797	-0.102	-0.851	-0.039	-0.209	-0.065
6/21/2024	-0.786	-0.102	-0.842	-0.038	-0.201	-0.062
7/10/2024	-0.793	-0.104	-0.803	-0.037	-0.202	-0.059
7/19/2024	-0.810	-0.102	-0.858	-0.036	-0.209	-0.064
7/26/2024	-0.809	-0.103	-0.852	-0.039	-0.205	-0.069
8/2/2024	-0.807	-0.106	-0.862	-0.039	-0.211	-0.060
8/9/2024	-0.798	-0.105	-0.855	-0.039	-0.209	-0.059

Sub-Slab Test Port Vacuum Readings (wci)					
Date	Test Port #1	Test Port #2	Test Port #3	Test Port #4	Test Port #5
6/4/2024	0	-0.021	-0.030	-0.010	-0.021
6/14/2024	0	0	-0.030	-0.012	-0.021
6/21/2024	0	0	-0.030	-0.012	-0.021
7/10/2024	0	0	-0.033	-0.013	-0.023
7/19/2024	0	0	-0.034	-0.013	-0.024
7/26/2024	0	0	-0.035	-0.013	-0.024
8/2/2024	0	0	-0.037	-0.014	-0.026
8/9/2024	0	0	-0.038	-0.014	-0.025

"wci" = inches of water column
a/ All vacuum readings collected with a Series 475 Mark III Digital manometer

Attachment B – Booster Fan Spec Specifications

fantech®
a systemair company

FR 100 CENTRIF. INLINE FAN

Item no. 411330

Document type: **Product card**
Document date: **2018-05-21**
Generated by: **Systemair Online Catalogue**

Description

- The FR series includes 9 fan model sizes with airflow capacities between 150 and 650 cfm
- Vibration welded seam (sizes FR 100 thru FR 160) ensures leak proof housing
- Adhesive caulk joins and seals the housing for sizes FR 200 thru FR 250
- 100% speed-controllable
- Air stream temperatures up to 140 °F

Application
The FR Series is a versatile inline duct fan. These models can be used for multiple point exhaust, residential and commercial applications, crawl space venting or make-up air supply. They are also widely used as booster fans to move air from one room or area to another. These models are not designed for nor should be used in radon applications.
Design
The fans feature a fully sealed plastic housing.
The housing for model sizes FR 100 thru FR 160 is joined via a vibration welding process. The process uses transverse, reciprocating motion at the point of contact between the housing's inlet and outlet pieces. The friction produces heat that melts the thermoplastic material at the interface. The melted material quickly re-solidifies, resulting in a fused, single-piece housing. The fused seam is inherently air tight, very strong and permanent.
The housing for model sizes FR 200 thru FR 250 is joined and sealed via an adhesive caulk.
An air-tight fan ensures that efficiency is not lost and contaminants are not spilled due to leakage.
The fan can be mounted in outdoor and wet locations. The FR Series features external rotor motors that have proven dependable year after year.
A large electrical wiring enclosure is designed into the fan housing, making electrical installation easier.
Motor protection
Thermal overload protected with automatic reset. The fans can be controlled via a solid state speed controller.

Technical parameters

Nominal data		
Voltage	115	V
Frequency	60	Hz
Phase	1	~
Input power (P1)	19.5	W
Current	0.17	A
Max. airflow	151	cfm
Fan impeller speed	1833	r.p.m.
Weight	4.3	lbs.

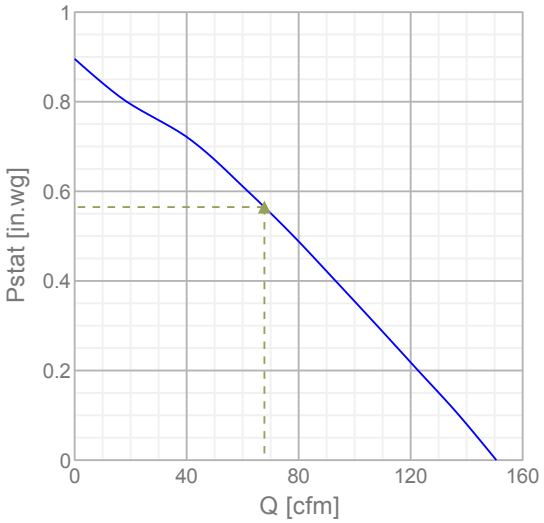
Temperature data		
Max. temperature of transported air	140	°F

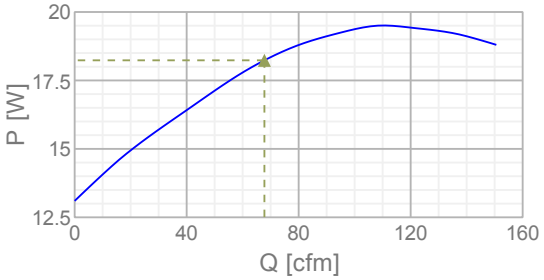
Protection / Classification	
Insulation class	B
Enclosure class, motor	IP44

EPS diagrams

Performance

Diagrams

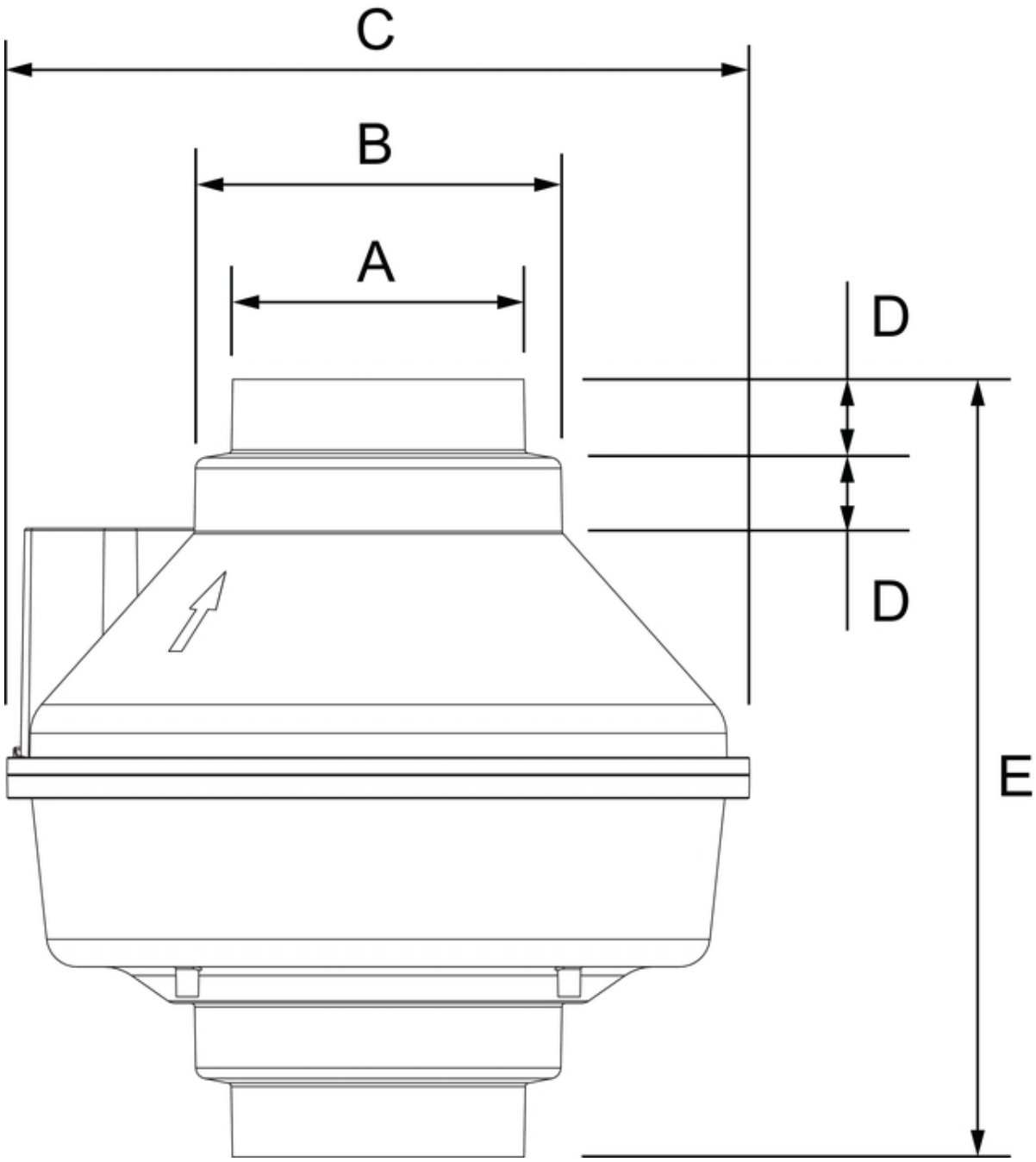




Max efficiency

Hydraulic data		
▲ Working air flow	67.8	cfm
▲ Working static pressure	0.565	in.wg
▲ Power	18.2	W
Speed	1883	r.p.m.
Current	0.154	A
SFP	0.269	W/(cfm)
Voltage	120	V

Dimensions

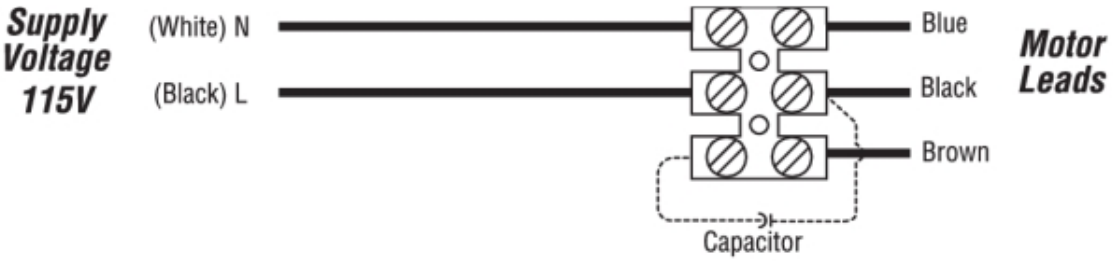


Model	A	B	C	D	E
FR 100	3 31/32 (110.5)	4 31/32 (126.5)	10 (256)	1 (25)	10 9/16 (268)
FR 110	3 31/32 (110.5)	4 31/32 (126.5)	10 (256)	1 (25)	10 9/16 (268)

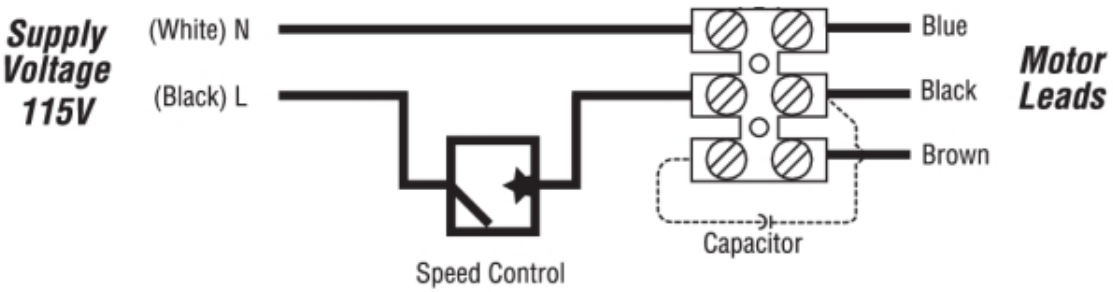
Dimensions are in inches (mm)

Wiring

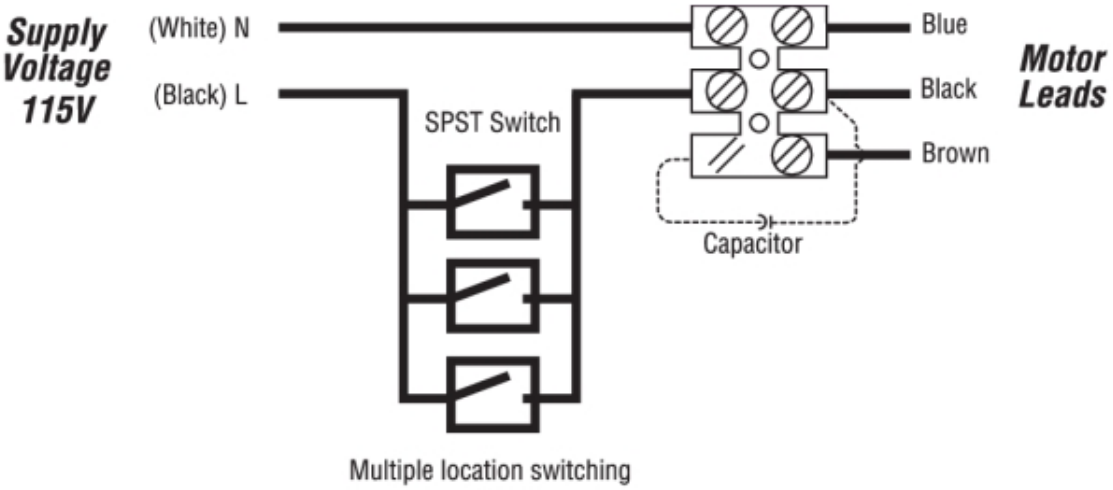
Without Motor Speed Controller



With Motor Speed Controller



Multiple Location Switching Wiring Diagram



Accessories

Electric accessories

FPS 10 Pos/Neg Pressure Switch (411390)
WC 15 Speed Control (411102)
VT20A Pgrm Fan Aux Ctrl (45385)
VT20M Pgrm Fan Main Ctrl (45386)

Accessories

LD 4 Silencer (411282)
FC 4 Mounting Clamps (411295)
IR 4 Iris Damper (411234)
RSK 4 Backdraft Damper (411112)
HS 4W External Louver Exhaust (45151)

Documentation

401444 FR OIPM EN FR ES.pdf (942,82kB)

411330.dxf (2,68MB)

450371 FR Submittal Sheet EN.pdf (85,08kB)

450418 FR Guide Spec EN.pdf (38,36kB)

Specification text

Description

A centrifugal type exhaust/supply fan specifically designed for moderate size ventilation applications. The fan can be mounted in any angle at any point along the duct work and straight-through air flow design allows easy installation. By using accessory FC type mounting clamps fan can easily be removed from duct work for service. Fans are constructed in accordance with standard dimensions for spiral duct eliminating the need for transition pieces. Fan motors are capable of operating in air stream temperatures up to 140°F. Motor bearings are permanently sealed, self lubricating ball type. All fans are 100% speed controllable through a decrease in the voltage by using a solid state or transformer type control. Fans are not designed for nor should be used in radon applications. All FR Series fans are backed by Fantech's Five Year Warranty.

Guide Specifications for Model FR Inline Duct Fans

Supply, exhaust or return air inline fans shall be of the centrifugal, direct driven type.

Housing

- Fan housing shall be constructed of UV resistant, flame retardant Polycarbonate (PC) thermo plastic.
- Fan housing shall be a single piece casing formed by the joining of inlet and outlet pieces via a vibration welding process. The joining process shall not utilize mechanical fasteners, caulk or adhesive, and the seam where the pieces were joined shall be permanent and inherently leak free.
- Capacitor shall be provided and shall be located within the fan electrical terminal box for easy access. Electrical terminal box is water tight.

Motor

- Motorized impeller shall be an external rotor type, class B insulation, totally enclosed PSC Type for maximum efficiency.
- Motor shall be a permanently sealed self lubricating ball bearing type.
- Motor shall be equipped with automatic reset thermal overload protection.
- Motor shall be acceptable for continuous duty.
- Sufficient service factor shall be provided to ensure long maintenance free operation over maximum load conditions.

Wheel

- Fan wheel shall be of the backward inclined centrifugal type with a well designed inlet venturi for maximum performance.
- Motorized impeller shall be both statically and dynamically balanced as one integral unit to provide for vibration free performance.

Performance

- Fan air flow performance shall be certified by HVI and licensed to bear the HVI Tested/Certified Performance Logo.

Code Approval

- Fan shall be certified by UL for safety.

FR Series shall be manufactured under the authority of Fantech, Inc., Lenexa, KS.

Attachment C – Digital Manometer Specifications

Series 475 Handheld Digital Manometer

Specifications - Installation and Operating Instructions

OPERATING INSTRUCTIONS

ON/OFF:
Press ON/OFF to turn the unit on. Press and hold ON/OFF for about 2 seconds to turn it off. Device will automatically shut off after 20 minutes if not in use.

ZERO:
Vent both pressure ports to atmosphere. Press ZERO button until the LCD displays "-----" then release it. The LCD reads 0 if the zero offset is less than 10% of FS.

UNITS:
To change units, press both ON/OFF and ZERO buttons simultaneously.

BATTERY:
Remove retaining screws on end cap at base of instrument to replace battery when LOW BAT is displayed. Use 9 V alkaline battery DURACELL® MN 1604, Energizer® 522, or Energizer® EN22.

⚠ WARNING Enclosure parts are constructed of plastic. When cleaning the exterior use a damp cloth to avoid electrostatic sparking. Enclosure parts are constructed of aluminum. Enclosure must be protected from mechanical friction and impact with iron/steel to prevent ignition capable sparks.

SPECIFICATIONS

Service: Air and compatible gases.
Wetted Materials: Consult factory.
Accuracy: ±0.5% FS, 60 to 78°F (15.6 to 25.6°C); 1.5% FS from 32 to 60°F and 78 to 104°F (0 to 15.6°C and 25.6 to 40°C).
Pressure Hysteresis: ±0.1% of FS.
Pressure Limits: See chart.
Temperature Limits: 0 to 140°F (-17.8 to 60°C).
Compensated Temperature Limits: 32 to 104°F (0 to 40°C).
Storage Temperature Limits: -4 to 176°F (-20 to 80°C).
Display: 4-digit LCD (.425 H x .234 W digits).
Power Requirements: 9 volt alkaline battery. Battery included but not connected.
Weight: 10.8 oz (306 g).
Process Connections: Two barbed connections for use with 1/8″ or 3/16″ I.D. tubing. Two compression fittings for use with 1/8″ I.D. x 1/4″ O.D. tubing (for 100 psi or higher pressure ranges).
Agency Approvals: CE.

MODEL CHART

Model	Pressure Range	Max. Pressure
475-000-FM	0 to 1.000 in w.c. (0 to .2491 kPa)	5 psi (34.5 kPa)
475-00-FM	0 to 4.000 in w.c. (0 to 0.996 kPa)	5 psi (34.5 kPa)
475-0-FM	0 to 10.00 in w.c. (0 to 2.491 kPa)	5 psi (34.5 kPa)
475-1-FM	0 to 20.00 in w.c. (0 to 4.982 kPa)	10 psi (68.9 kPa)
475-2-FM	0 to 40.00 in w.c. (0 to 9.96 kPa)	10 psi (68.9 kPa)
475-3-FM	0 to 200.0 in w.c. (0 to 49.82 kPa)	30 psi (207 kPa)
475-4-FM	0 to 10.00 psi (0 to .6895 bar)	30 psi (2.07 bar)
475-5-FM	0 to 20.00 psi (0 to 1.379 bar)	60 psi (4.14 bar)
475-6-FM	0 to 30.00 psi (0 to 2.069 bar)	60 psi (4.14 bar)
475-7-FM	0 to 100.0 psi (0 to 6.895 bar)	150 psi (10.3 bar)
475-8-FM	0 to 150.0 psi (0 to 10.34 bar)	200 psi (13.8 bar)

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Energizer® is a registered trademark of ENERGIZER BRANDS, LLC LIMITED LIABILITY COMPANY

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Attachment D – Vapor Pin Standard Operating Procedures

Standard Operating Procedure

Installation and Extraction
Vapor Pin® Sampling Device

Scope & Purpose

Scope

This standard operating procedure describes the installation and extraction of the Vapor Pin® Sampling Device for use in sub-slab soil-gas sampling.

Purpose

The purpose of this procedure is to assure good quality control in field operations and uniformity between field personnel in the use of the Vapor Pin® Sampling Device.

Equipment Needed

- Vapor Pin® Sampling Device
- Vapor Pin® Sleeves
- Vapor Pin® Cap
- Installation/Extraction Tool
- Rotary Hammer Drill
  - ⅝-Inch (16mm) diameter hammer bit
  - 1½-Inch (38mm) diameter hammer bit for flush mount applications
- ¾-Inch (19mm) diameter bottle brush
- Wet/Dry Vacuum with HEPA filter (optional)
- Dead Blow Hammer
- VOC-free hole patching material (hydraulic cement) and a putty knife or trowel
  - This is for repairing the hole following the extraction of the Vapor Pin® Sampling Device

Installation Procedure

1. Check for buried obstacles (pipes, electrical lines, etc.) prior to proceeding.
2. Set up wet/dry vacuum to collect drill cuttings.
3. For a temporary installation, drill a ⅝-inch (16mm) diameter hole through the slab and approximately 1-inch (25mm) into the underlying soil to form a void. The hole must be ⅝-inch (16mm) in diameter to ensure a seal.
   - If a flush mount installation is required, drill a 1½-inch (38mm) diameter hole at least 1¾-inches (45mm) into the slab. We highly recommend using the Stainless Steel Drilling Guide and to reference the Standard Operating Procedure Drilling Guide & Secure Cover.
4. Remove the drill bit, brush the hole with the bottle brush and remove the loose cuttings with the vacuum.
5. Assemble the Vapor Pin® Sampling Device and Vapor Pin® Sleeve (Figure 1).
6. Place the lower end of the Vapor Pin® Sampling Device assembly into the drilled hole. Place the small hole located in the handle of the Installation/Extraction Tool, over the Vapor Pin® to protect the barb fitting and tap the Vapor Pin® into place using a dead blow hammer (Figure 2). Make sure the Installation/Extraction Tool is aligned parallel to the Vapor Pin® to avoid damaging the barb.
   - During installation, the Vapor Pin® Sleeve may form a slight bulge between the slab and the Vapor Pin® Sampling Device shoulder.
7. Place the Vapor Pin® Cap on the Vapor Pin® to prevent vapor loss prior to sampling (Figure 3).
8. For flush mount installations, cover the Vapor Pin® with a flush mount cover, using either the plastic cover or the optional Stainless Steel Secure Cover (Figure 4).
9. Allow 20 minutes or more (consult applicable guidance for your situation) for the sub-slab soil-gas conditions to re-equilibrate prior to sampling.

Figure 1.

Figure 2.

Figure 3.

Figure 4.

Sampling

1. Remove the Vapor Pin® Cap and connect your sample tubing to the barb fitting of the Vapor Pin® Sampling Device.
2. Create a connection by using a short piece of Tygon™ tubing to join the Vapor Pin® Sampling Device with the Nylaflow tubing (Figure 5). Put the Nylaflow tubing as close to the Vapor Pin® Sampling Device as possible to minimize contact between soil gas and Tygon™ tubing. You do not **have** to use Nyflaflow tubing, any stiff tubing will suffice.
3. Prior to sampling, conduct a leak test in accordance with applicable guidance. If a leak test is not specified, refer to the SOP Leak Testing the Vapor Pin® Sampling Device, via Mechanical Means (Figure 6). For flush-mount installations, distilled water can be poured directly into the 1½ inch (38mm) hole.

Figure 5.

Figure 6.

Figure 7.

Extraction Procedure & Reuse Notes

1. Remove the protective cap, and thread the Installation/Extraction Tool onto the Vapor Pin® Sampling Device (Figure 7). Turn the tool clockwise continuously, don't stop turning, the Vapor Pin® Sampling Device will feed into the bottom of the Installation/Extraction Tool and will extract from the hole like a wine cork, **DO NOT PULL!**
2. Fill the void with hydraulic cement and smooth with a trowel or putty knife.
3. Prior to reuse, remove the silicon Vapor Pin® Sleeve and Vapor Pin® Cap and discard. Decontaminate the Vapor Pin® Sampling Device in a Alconox® solution, then heat in an oven to a temperature of 265° F (130°C). For Stainless – ½ hour, Brass 8 minutes.

Standard Operating Procedure

Leak Testing the Vapor Pin® Sampling Device Via Water Dam

Scope & Purpose

Scope

The operating procedure describes the methodology to test a Vapor Pin® Sampling Device or equivalent sub-slab sampling device for leakage of indoor air.

Purpose

The purpose of this procedure is to assess the potential for indoor air to leak past the Vapor Pin® Sampling Device.

Equipment Needed

- Water Dam
- Distilled water
- VOC free modeling clay or equivalent
- Vapor Pin® Sampling Device and associated sample tubing

Procedure

1. Drill a ⅝-inch (16mm) hole in the concrete slab and install the Vapor Pin® Sampling Device as per the Standard Operating Procedure (SOP).
2. Clean the slab within a 2-inch radius of the Vapor Pin® Sampling Device to remove dust. Avoid wetting the concrete or wait until the concrete is dry before proceeding and avoid cleaning with VOC-containing substances. A whisk broom or shop vacuum is recommended. Remaining dust can be picked up with a piece of scrap modeling clay.
3. Roll a 1-inch diameter ball of modeling clay between your palms to form a “snake” approximately 7 inches long and press it against the end of the water dam. Push the water dam gently against the slab to form a seal with the concrete.
4. Attach the sample tubing to the top of the Vapor Pin® Sampling Device and pour enough distilled water into the water dam to immerse the base of the Vapor Pin® and the tubing connection at the top of the Vapor Pin® Sampling Device.
5. Purge the sample point as required by the data quality objectives. Concrete will absorb some of the water, which is normal; however, if water is lost to the sub-slab, stop, remove the water from the water dam, and reposition the Vapor Pin® Sampling Device to stop the leakage. Reseat the leak test equipment, if needed.
6. If the Vapor Pin® Sampling Device is installed in the flush-mount configuration, the larger hole can be filled with water in place of the water dam modeling clay.

Figure 1. Water dam used for leak detection

Attachment E – Exhaust Fan Cut Sheet

Features & Specs

Voltage	120 Volts
Switch Type	Variable Speed Controller
Indoor Outdoor Usage	Indoor
Control Method	App
Connector Type	Type A
Reusability	Moderate
Efficiency	High
Is Product Cordless	No
Is Electric	Yes
Number of Power Levels	10
Main Power Connector Type	C13 or C14
Noise Level	39 dB
Wattage	110 watts
Number of Blades	10
Air Flow Capacity	469 Cubic Feet Per Minute
Speed	4.3E+3
Power Source	Corded Electric
Additional Features	Lightweight
Recommended Uses For Product	Exhausting, Cooling
Mounting Type	Inline Mount
Controller Type	Button Control

EXHAUST FAN:

Hon&Guan Inline Duct Fan 469 CFM, 6 inch inline fan with variable speed control motor

Model: HI-150EC

Features & Specs

Noise Level	36 dB
Air Flow Capacity	230 Cubic Feet Per Minute
Wattage	32 watts
Cooling Method	Air
Power Connector Type	4-Pin
Voltage	120 Volts

FRESH AIR SUPPLY FAN:

iPower 4 inch 230 CFM Inline Duct Ventilation Fan

Model: HEE-1005