LAND TYPE Torrens (T)

DOC NUM 6045350

Certified, filed and/or recorded on
Nov 6, 2023 2:32 PM

Office of the Registrar of Titles
Hennepin County, Minnesota
Amber Bougie, Registrar of Titles
Daniel Rogan, County Auditor and Treasurer

Deputy 26 Pkg ID 2619368E

Document Recording Fee	$46.00
Document Total	$46.00

Existing Certs
1534498

ENVIRONMENTAL COVENANT AND EASEMENT

Preferred ID BF0001982

This Environmental Covenant and Easement ("Environmental Covenant") is executed pursuant to the Uniform Environmental Covenants Act, Minn. Stat. ch. 114E ("UECA") in connection with an environmental response project approved by the Minnesota Pollution Control Agency ("MPCA").

1. Grantor and Property description.

A. Owner and legal description of Property.

Schmitt HQ 125, LLC is the fee owner of certain real property located at 7800 Harmony Drive, Bloomington, in Hennepin County, State of Minnesota, with parcel identification number(s) 1611621220003, shown on **Exhibit 1** and legally described in **Exhibit 2** (hereinafter the "Property").

B. Grantor.

Schmitt HQ 125, LLC is the Grantor of this Environmental Covenant.

2. Grant of Covenant; Covenant runs with the land.

Grantor does hereby Covenant and Declare that the Property shall be subject to the Activity and Use Limitations and associated terms and conditions set forth in this Environmental Covenant including the Easement in Paragraph 9, and that these Activity and Use Limitations and

associated terms and conditions constitute covenants which run with the Property and which shall be binding on Grantor, its heirs, successors and assigns, and on all present and future Owners of the Property and all persons who now or hereafter hold any right, title or interest in the Property. An Owner is bound by this Environmental Covenant during the time when the Owner holds fee title to the Property. Any other person that holds any right, title or interest in or to the Property is bound by this Environmental Covenant during the time the person holds the right, title or interest. An Owner ceases to be bound by this Environmental Covenant when the Owner conveys fee title to another person, and any other person that holds any right, title or interest in or to the Property ceases to be bound when the person conveys the right, title or interest to another person.

3. Environmental Agency; Grantee and Holder of Environmental Covenant; acceptance of interest in real Property.

A. Environmental agency.

The MPCA is the environmental agency with authority to approve this Environmental Covenant under UECA.

B. Grantee and Holder; acceptance of interest in Property.

The MPCA is the Grantee and Holder of the interest in real property conveyed by this Environmental Covenant. MPCA has authority to acquire an interest in real property, including an Environmental Covenant, under Minn. Stat. § 115B.17, subd. 15, as the MPCA determines necessary for a response action related to hazardous substances, pollutants or contaminants. MPCA's signature on this Environmental Covenant constitutes approval of this Environmental Covenant under UECA and acceptance of the interest in real property granted herein for purposes of Minn. Stat. § 115B.17, subd. 15.

4. Environmental response project.

The Property is the location of releases or threatened releases of hazardous substances, pollutants, or contaminants that are addressed by an environmental response project under the MPCA Voluntary Investigation and Cleanup ("VIC") Program pursuant to Minn. Stat. § 115B.17, subd. 14. MPCA has determined that an Environmental Covenant is needed for the Property because of the affirmative obligation to operate, monitor, and maintain the vapor intrusion mitigation system in the Property building.

5. Statement of facts.

A. Facts about the release and response actions.

The Property was occupied by Lifetouch National School Studios from 1968, when the building was constructed, until the Property was subsequently purchased by Schmitt HQ 125, LLC in 2021. Additions were constructed on the north and south sides of the Property building in the 1970s and 1980s, and the building was vacant by 2019.

Environmental investigations were conducted at the Property between 2019 and 2021. A Phase II ESA of the Property was conducted in June 2019 and included the collection of soil, groundwater, exterior soil vapor, and sub-slab soil vapor samples. A Non-Heating Season Soil Vapor Assessment was conducted in August 2021 which included twenty sub-slab vapor samples. Benzene,

ethylbenzene, 2-hexanone, naphthalene, 2-propanol, tetrachloroethene (PCE) and xylenes were detected in the June and August 2019 soil vapor samples at concentrations less than the MPCA action level of thirty-three times (33X) their respective Commercial/Industrial Intrusion Screening value (ISV). Based on the history of the Property, the benzene, ethylbenzene, 2-hexanone, naphthalene, 2-propanol, xylenes and other volatile organic compounds (VOCs) typically associated with petroleum are likely associated with past photographic film developing operations. A second seasonal round of sub-slab vapor sampling was conducted in November 2021 (heating season). Ethylbenzene was detected in one sub-slab vapor sample at a concentration exceeding the 33X Commercial/Industrial ISV.

An active sub-slab depressurization (SSD) vapor mitigation system was installed in the northwest portion of the building in September 2022. Post-mitigation confirmation sampling was completed in September and December of 2022. Measurement of pressure differential and analysis of confirmation samples indicate that the vapor mitigation system in the Site building is working as designed. Details regarding the investigation and response actions can be found in the MPCA's file for the **Lifetouch Studios** site, MPCA Preferred ID **BF0001982**.

B. Facts constitute affidavit under Minn. Stat. § 115B.16, subd. 2

The facts stated in Paragraph 5.A. are stated under oath by the person signing this Environmental Covenant on behalf of the Grantor and are intended to satisfy the requirement of an affidavit under Minn. Stat. § 115B.16, subd. 2. In the event of a material change in any facts stated in Paragraph 5.A. requiring the recording of an additional affidavit under Minn. Stat. § 115B.16, subd. 2, the additional affidavit may be made and recorded without amending this Environmental Covenant.

6. Definitions.

The terms used in this Environmental Covenant shall have the meanings given in UECA, and in the Minnesota Environmental Response and Liability Act ("MERLA"), Minn. Stat. §115B.02. In addition, the definitions in this Paragraph 6 apply to the terms used in this Environmental Covenant.

A. "Commissioner" means the Commissioner of the MPCA, the Commissioner's successor, or other person delegated by the Commissioner to act on behalf of the Commissioner.

B. "MPCA" means the Minnesota Pollution Control Agency, an agency of the State of Minnesota, or its successor or assign under any governmental reorganization.

C. "Owner" means a person that holds fee title to the Property and is bound by this Environmental Covenant as provided in Paragraph 2. When the Property is subject to a contract for deed, both the contract for deed vendor and vendee are collectively considered the Owner.

D. "Political Subdivision" means the county, and the statutory or home rule charter city or township, in which the Property is located.

E. "Property" means the real property described in Paragraph 1 of this Environmental Covenant.

7. Activity and use limitations.

The following Activity and Use Limitations shall apply to the Property:

A. Use limitations.

Use of the Property is restricted to industrial or commercial purposes. Use of the Property for residential, daycare, or school purposes is specifically prohibited; provided, however, that the Property may be used for unrestricted music-related lessons, classes, and instruction.

B. Activity limitations.

The following activities are prohibited on the Property except as provided in Paragraph 8:

There shall be no disturbance, removal, or interference with the operation of any component of the vapor mitigation system within the Property building, as shown in **Exhibit 1**.

C. Affirmative obligations of Owner.

The Activity and Use Limitations imposed under this Environmental Covenant include the following affirmative covenants and obligations:

Owner shall maintain the integrity of the building floors at the Property to prevent intrusion of vapors into the building and disturbance of the sub-slab vapor mitigation system.

Owner shall operate, monitor, and maintain the vapor mitigation system in the Property building(s) in accordance with the Operation and Maintenance ("O&M") Plan set forth in **Exhibit 3**.

8. Prior MPCA approval required for activities limited under Environmental Covenant.

A. Approval procedure.

Any activity subject to limitation under Paragraph 7.B. shall not occur without the prior written approval of the Commissioner. The Commissioner's approval may include conditions which the Commissioner deems reasonable and necessary to protect public health or welfare or the environment, including submission to and approval of a contingency plan for the activity. Within 60 days after receipt of a written request for approval to engage in any activities subject to a limitation under Paragraph 7.B., the MPCA shall respond, in writing, by approving such request, disapproving such request, or requiring that additional information be provided. A lack of response from the Commissioner shall not constitute approval by default or authorization to proceed with the proposed activity.

9. Easement; right of access to the Property.

Owner grants to the MPCA, the City of Bloomington, and Hennepin County an easement to enter the Property from time to time, to inspect the Property and to evaluate compliance with the Activity and Use Limitations set forth in Paragraph 7. In addition, for the purpose of evaluating compliance, Owner grants to the MPCA the right to take samples of environmental media such as soil, groundwater, surface water, soil vapor, and air, and to install, maintain and close borings, probes, wells or other structures necessary to carry out the sampling.

MPCA, the City of Bloomington, and Hennepin County, and their employees, agents, contractors and subcontractors, may exercise the rights granted under this Paragraph 9 at reasonable times and with reasonable notice to the then-current owner, in a manner that, to the extent possible, minimizes interruption with the activities of the authorized occupants, conditioned only upon showing identification or credentials by the persons seeking to exercise those rights. MPCA will be liable for injury to or loss of property or personal injury or death caused by any act or omission of any employee of the State of Minnesota in the performance of the work described above, under circumstances where the State of Minnesota, if a private person, would be liable to the claimant, in accordance with Minn. Stat. § 3.736.

10. Duration; amendment or termination of Environmental Covenant.

A. Duration of Environmental Covenant.

This environmental covenant is perpetual as provided in Minn. Stat. § 114E.40(a).

B. Amendment or termination by consent.

i. This Environmental Covenant may be amended or terminated in writing by the Owner and the MPCA. An amendment is binding on the Owner but does not affect any other interest in the real Property unless the current owner of that interest has consented to the amendment or agreed to waive its right to consent.

ii. The Grantor of this Environmental Covenant agrees that, upon conveying fee title to the Property to any other person, the Grantor waives the right to consent to amendment or termination of this Environmental Covenant.

C. Termination, reduction of burden, or modification by MPCA.

The MPCA may terminate, reduce the burden of, or modify this Environmental Covenant as provided in Minn. Stat. § 114E.40.

11. Disclosure in Property conveyance instruments.

Notice of this Environmental Covenant, and the Activity and Use Limitations and Affirmative Obligations set forth in Paragraph 7 and Compliance Reporting Requirements set forth in Paragraphs 8, 18 and 19 of this Environmental Covenant, shall be incorporated in full or by reference into all instruments conveying an interest in and/or a right to use the Property (e.g., easements, mortgages, leases). The notice shall be substantially in the following form:

> THE INTEREST CONVEYED HEREBY IS SUBJECT TO AN ENVIRONMENTAL COVENANT UNDER MINN. STAT. CH. 114E, DATED _____, RECORDED IN THE OFFICIAL PROPERTY RECORDS OF _____ COUNTY, MINNESOTA AS DOCUMENT NO. _____. THE ENVIRONMENTAL COVENANT INCLUDES THE FOLLOWING ACTIVITY AND USE LIMITATIONS AND AFFIRMATIVE OBLIGATIONS:

Use of the Property is restricted to industrial or commercial purposes. Use of the Property for residential, daycare, or school purposes is specifically prohibited; provided, however, that the Property may be used for unrestricted music-related lessons, classes, and instruction.

There shall be no disturbance, removal, or interference with the operation of any component of the vapor mitigation system within the Property building, as shown in Exhibit **1**.

Owner shall maintain the integrity of the building floors at the Property to prevent intrusion of vapors into the building and disturbance of the sub-slab vapor mitigation system.

Owner shall operate, monitor, and maintain the vapor mitigation system in the Property building(s), in accordance with the Operation and Maintenance ("O&M") Plan set forth in Exhibit **3**.

12. Recording and notice of Environmental Covenant, amendments and termination.

A. The original Environmental Covenant.

Within 30 days after the MPCA executes and delivers to Grantor this Environmental Covenant, the Grantor shall record this Environmental Covenant in the office of the County Recorder or Registrar of Titles of Hennepin County.

B. Termination, amendment or modification.

Within 30 days after MPCA executes and delivers to Owner any termination, amendment or modification of this Environmental Covenant, the Owner shall record the amendment, modification, or notice of termination of this Environmental Covenant in the office of the County Recorder or Registrar of Titles of Hennepin County.

C. Providing notice of covenant, termination, amendment or modification.

Within 30 days after recording this Environmental Covenant, the Grantor shall transmit a copy of the Environmental Covenant in recorded form to:

i. each person that signed the covenant or their successor or assign;

ii. each person holding a recorded interest in the Property;

iii. each person in possession of the Property;

iv. the environmental officer of each political subdivision in which the Property is located; and

v. any other person the environmental agency requires.

Within 30 days after recording a termination, amendment, or modification of this Environmental Covenant, the Owner shall transmit a copy of the document in recorded form to the persons listed in items i to v above.

13. Notices to Grantor and environmental agency.

A. Manner of giving notice.

Any notice required or permitted to be given under this Environmental Covenant is given in accordance with this Environmental Covenant if it is placed in United States first

class mail postage prepaid; or deposited cost paid for delivery by a nationally recognized overnight delivery service; or transmitted by electronic mail to instcontrols.pca@state.mn.us.

B. Notices to the Grantor.

Notices to the Grantor shall be directed to:

Schmitt HQ 125, LLC
Peter Schmitt
7800 Harmony Drive
Bloomington, MN 55430
763.566.4560
Peter.schmitt@schmittmusic.com

C. Notices to MPCA.

All notices, including reports or other documents, required to be submitted to the MPCA shall reference the MPCA Preferred ID. ***Email submittal is preferred***.

Minnesota Pollution Control Agency
Remediation Division – Institutional Controls Coordinator
MPCA Preferred ID: **BF0001982**
520 Lafayette Road North
St. Paul, MN 55155
Email: instcontrols.pca@state.mn.us

14. Enforcement and compliance.

A. Civil action for injunction or equitable relief.

This Environmental Covenant may be enforced through a civil action for injunctive or other equitable relief for any violation of any term or condition of this Environmental Covenant, including violation of the Activity and Use Limitations under Paragraph 7 and denial of Right of Access under Paragraph 9. Such an action may be brought by:

i. The MPCA;

ii. A political subdivision in which the Property is located;

iii. A person whose interest in the Property or whose collateral or liability may be affected by the alleged violation of the covenant;

iv. A party to the covenant, including all holders; or

v. Any person to whom the covenant expressly grants power to enforce.

B. Additional rights of enforcement by MPCA.

In addition to its authority under subparagraph A of this Paragraph 14, the MPCA may enforce this Environmental Covenant using any remedy or enforcement measure authorized

under UECA or other applicable law, including remedies pursuant to Minn. Stat. §§ 115.071, subds. 3 to 5, or 116.072.

C. No waiver of enforcement.

Failure or delay in the enforcement of this Environmental Covenant shall not be considered a waiver of the right to enforce, nor shall it bar any subsequent action to enforce, this Environmental Covenant.

D. Former Owners and interest holders subject to enforcement.

Subject to any applicable statute of limitations, an Owner or other person holding any right, title or interest in or to the Property, that violates this Environmental Covenant during the time when the Owner or other person is bound by this Environmental Covenant remains subject to enforcement with respect to that violation regardless of whether the Owner or other person has subsequently conveyed the fee title, or other right, title or interest, to another person.

E. Other authorities of MPCA not affected.

Nothing in this Environmental Covenant affects MPCA's authority to take or require performance of response actions to address releases or threatened releases of hazardous substances or pollutants or contaminants at or from the Property, or to enforce a consent order, consent decree or other settlement agreement entered into by MPCA, or to rescind or modify a liability assurance issued by MPCA, that addresses such response actions.

15. Administrative record.

Subject to the document retention policy of the MPCA, reports, correspondence and other documents which support and explain the environmental response project for the Property are maintained by the MPCA Brownfield Program at the MPCA's office at 520 Lafayette Road N, St. Paul, Minnesota in the file maintained for **Lifetouch Studios**, MPCA Preferred ID **BF0001982**.

16. Representations and warranties.

Grantor hereby represents and warrants to the MPCA and any other signatories to this Environmental Covenant that, at the time of execution of this Environmental Covenant:

A. Every fee owner of the Property has been identified;

B. Grantor holds fee simple title to the Property which is subject to the interests and encumbrances identified in Exhibit 4.

C. Grantor has authority to grant the rights and interests and carry out the obligations provided in this Environmental Covenant;

D. Nothing in this Environmental Covenant materially violates, contravenes, or constitutes a default under any agreement, document or instrument that is binding upon the Grantor.

E. Except as otherwise directed by MPCA, Grantor has obtained, from each person holding an interest and encumbrance in the Property identified in **Exhibit 4**, a Subordination Agreement, or other agreement satisfactory to the Commissioner, assuring that such person is bound by this Environmental Covenant and that this Environmental Covenant shall survive any foreclosure or other action to enforce the interest. Such an agreement may include a waiver of that person's right to consent to any amendment of this Environmental Covenant. Executed agreements by such persons are included in **Exhibit 5** of this Environmental Covenant.

17. Governing law.

This Environmental Covenant shall be governed by and interpreted in accordance with the laws of the State of Minnesota.

18. Compliance reporting.

The Owner shall submit to MPCA on an annual basis a written report confirming compliance with the Activity and Use Limitations and Affirmative Obligations provided in Paragraph 7 and summarizing any actions taken pursuant to Paragraph 8 of this Environmental Covenant. Reports shall be submitted on the first July 1 that occurs at least six months after the effective date of this Environmental Covenant, and on each succeeding July 1 thereafter.

Owner shall notify the MPCA as soon as possible of any actions or conditions that would constitute a breach of the Activity and Use Limitations in Paragraph 7.

19. Notice of conveyance of interest in Property.

Owner shall provide written notice to MPCA within 30 days after any conveyance of fee title to the Property or any portion of the Property. The notice shall identify the name and contact information of the new Owner, and the portion of the Property conveyed to that Owner.

20. Severability.

In the event that any provision of this Environmental Covenant is held by a court to be unenforceable, the other provisions of this Environmental Covenant shall remain valid and enforceable.

21. Effective date.

This Environmental Covenant is effective on the date of acknowledgement of the signature of the MPCA.

THE UNDERSIGNED REPRESENTATIVE OF THE GRANTOR REPRESENTS AND CERTIFIES THAT THEY ARE AUTHORIZED TO EXECUTE THIS ENVIRONMENTAL COVENANT

IN WITNESS WHEREOF, THIS INSTRUMENT HAS BEEN EXECUTED ON THE DATES INDICATED BELOW:

FOR THE GRANTOR:

By_____
(Signature of Grantor)
Peter Schmitt
President
SCHMITT HQ 125, LLC

STATE OF MINNESOTA)
) SS.
COUNTY OF HENNEPIN)

On November 2, 2023, this instrument was acknowledged before me, and the facts stated herein were affirmed by Peter Schmitt, President of SCHMITT HQ 125, LLC on behalf of SCHMITT HQ 125, LLC.

Rachel A Sundberg (signature)
Notary Public

My Commission Expires 1-31-25

RACHEL A SUNDBERG
Notary Public
Minnesota
My Commission Expires January 31, 2025

FOR THE ENVIRONMENTAL AGENCY AND HOLDER:

MINNESOTA POLLUTION CONTROL AGENCY

By _____ (signature)

Jessie Ebertz, Manager
Brownfield Section
Remediation Division
Delegate of the Commissioner of the
Minnesota Pollution Control Agency

STATE OF MINNESOTA)
) SS.
COUNTY OF RAMSEY)

This instrument was acknowledged before me on November 3, 2023, by Jessie Ebertz, Manager of the Brownfield Section of the Remediation Division, and a Delegate of the Commissioner of the Minnesota Pollution Control Agency, on behalf of the Minnesota Pollution Control Agency.

Amy K Hadiaris (signature)
Notary Public

My Commission Expires 1/31/2025

AMY K. HADIARIS
NOTARY PUBLIC
MINNESOTA
My Commission Expires Jan 31 2025

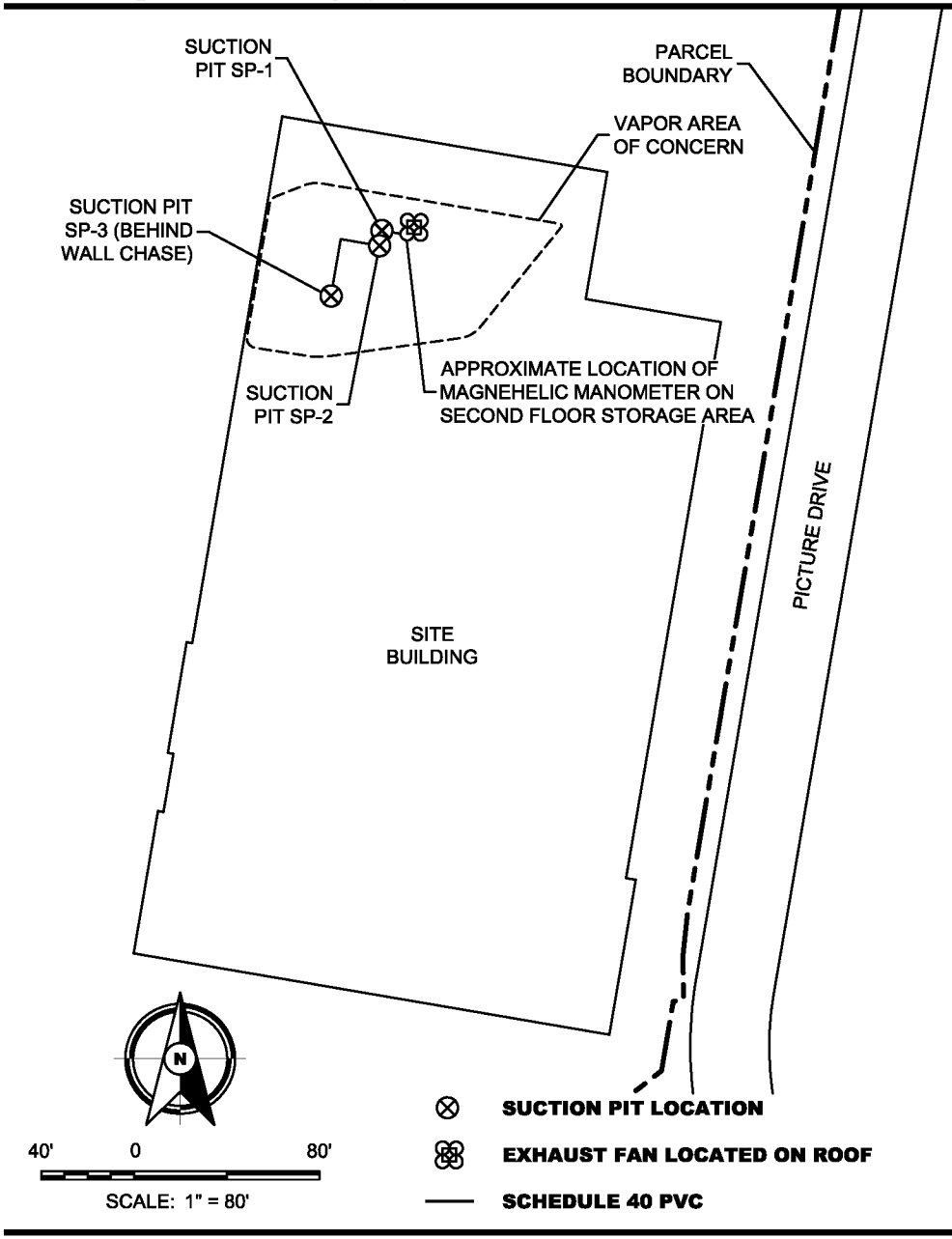
THIS INSTRUMENT WAS DRAFTED BY
AND WHEN RECORDED RETURN TO:

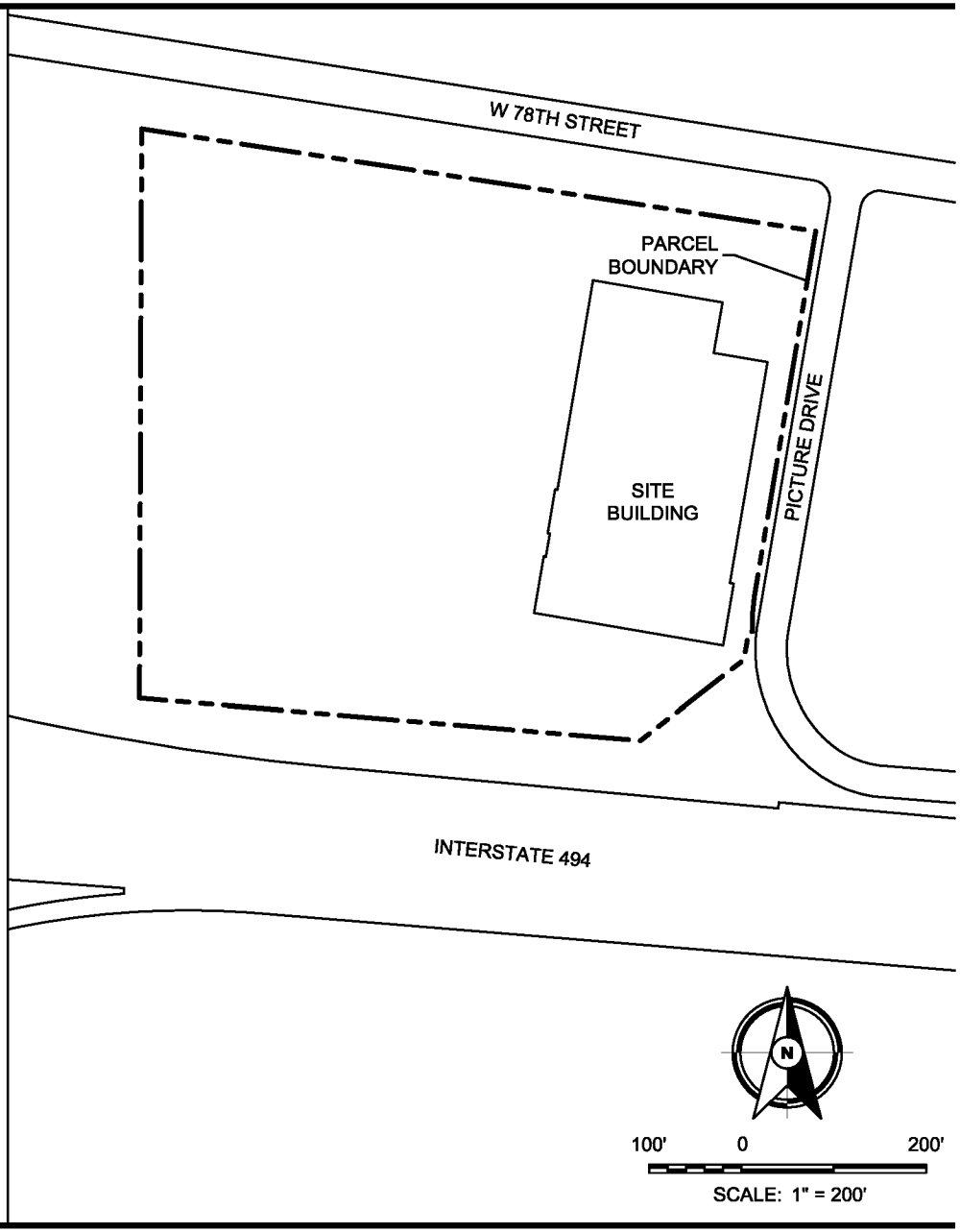
Brandon Brayfield
Braun Intertec Corporation
11001 Hampshire Avenue South
Minneapolis MN 55438

EXHIBIT 1
FIGURE

[Contained on Following Page]

F:\2021\B2106359_03\CAD\B2106359-03A.dwg,Prop Map,9/13/2023 12:46:32 PM





BRAUN INTERTEC
The Science You Build On.
11001 Hampshire Avenue S
Minneapolis, MN 55438
952.995.2000
braunintertec.com

Project No: B2106359.03

Drawing No: B2106359-03A

Drawn By:	BJB
Date Drawn:	8/11/23
Checked By:	BMB
Last Modified:	9/13/23

Former Lifetouch Studios

7800 Picture Drive

Bloomington, Minnesota

Property Map

Exhibit 1

EXHIBIT 2
LEGAL DESCRIPTION

Lot 1, Block 1, National School Studios Addition, Hennepin County, Minnesota.

EXHIBIT 3
O, M&M PLAN

[Contained on Following Pages]

Vapor Intrusion Mitigation System Operation and Maintenance Plan

Former Lifetouch Studio
7800 Picture Drive
Bloomington, Minnesota
MPCA Project: BF0001982

Prepared for

Paul A. Schmitt Music Company

BRAUN INTERTEC
The Science You Build On.

Project B2106359.03
August 11, 2023

Braun Intertec Corporation

Table of Contents

Description		Page
A.	Introduction	1
B.	Purpose	1
C.	Vapor Intrusion Mitigation System	1
C.1.	Mitigation Approach/System Components	1
C.2.	Operating Procedures	2
C.3.	Inspection and Maintenance Guidelines	3
D.	Contact Information	4
E.	Testing and Sampling Results and Requirements	5
F.	Future Building Changes	5
G.	Annual Reporting Requirement	6
H.	Standard of Care	6
I.	References	6

Figures

Figure 1 Vapor Mitigation System Layout

Appendices

Appendix A Vapor Intrusion Mitigation Component Plans, Fan Manufacturer's Information, Equipment Cut Sheets

Appendix B System Component Photographs

Appendix C Troubleshooting Guide

Appendix D Vapor Intrusion Mitigation System - Operation Log

A. Introduction

Braun Intertec has prepared this Vapor Intrusion Mitigation System Operation Monitoring & Maintenance Plan (OM&M Plan) on behalf of the property owner of the building located at 7800 Picture Drive in Bloomington, Minnesota. As of this writing the property owner is the Paul A. Schmitt Music Company.

B. Purpose

This OM&M Plan describes the operation and maintenance of the vapor intrusion mitigation system installed at the site building.

- According to current regulations, site conditions warrant mitigation to reduce the potential for soil vapor intrusion. To ensure the conditions are mitigated, the components of the mitigation system must be maintained, the active mitigation system must run continuously and may require periodic adjustments or repair.
- Limited monitoring is needed to verify ongoing mitigation. In addition, risks to human health may increase if the system fails or if site conditions change.
- The O&M Plan provides information to current and future building owners.
- The O&M Plan may be a requirement of an institutional control (i.e., affidavit, environmental covenant) and may help maintain MPCA liability assurances.

C. Vapor Intrusion Mitigation System

C.1. Mitigation Approach/System Components

Home Safety Solutions (HSS) installed a vapor mitigation system, specifically a sub-slab depressurization system (SSDS) for the building per the design prepared by HSS. The vapor mitigation system was designed to control the potential vapor intrusion into the building by producing a relative vacuum beneath the floor slab in contact with the ground and exhausting the soil vapor to the air above the building (see **Appendix A**). The vapor intrusion mitigation system consists of:

a. **Suction Pits** – Three (3) suction pits were installed within the Schmitt Music space in a portion of the building with elevated VOC concentrations in soil gas. For each suction pit, a hole was cored through the existing concrete slab and removal of approximately 1 cubic foot of soil from the subsurface.

b. **Riser Piping** – Riser piping, consisting of 3-inch PVC pipe, transfers vapor from the suction pits to discharge points on the roof.

c. **Gate and Ball valves** – Valves are installed on vertical piping above each suction pit to allow balancing of the vacuum and air flow in the systems. Upon installation, the position for each valve is fully open. The position of these valves should only be changed by qualified individuals.

d. **Fans** – One (1) Cincinnati SPB-10 exhaust fan installed on the roof.
    1. Manufacturer's operating manual is provided in **Appendix A.**

e. **Vacuum Monitors** – One (1) Magnehelic gauge (manometer) is installed in the northern storage space on the second floor.

f. **Placards/signage** – Provided on system components as a part of the original installation.

System layout is shown in on Figure 1 (or in Appendix A). Photographs showing the system components are provided in Appendix B.

C.2. Operating Procedures

The building owner is responsible for taking actions to ensure the mitigation system is working as designed:

- Operate the system continuously for the life of the building.
- Regularly monitor the Magnehelic gauge and record observations on the checklist provided as **Appendix D.**

C.3. Inspection and Maintenance Guidelines

The Building Owner, or their designate, is responsible for recording system operating readings at least semi-annually[1] to ensure the mitigation system is working as designed.

1. Check and record the readings on the Magnehelic vacuum gauge. The vacuum gauge is located on the wall attached to the riser pipe on the second floor in the northern storage space as shown on **Figure 1**.

    a. Normal operating vacuum measurement is within 2 inches of **9 inches of water.**

        i. If the manometer reading is 0 inches or more than 2 inches above or below the normal operating reading consult the Troubleshooting Guide in Appendix C.

    b. Investigate and repair or replace failed components of the active mitigation system within 30 days.

2. Check and record the observed condition of discharge piping, placards/signage, fan(s) and interior riser piping semi-annually.

3. If any portion of the floor is damaged or removed, the concrete should be replaced/repaired in a timely manner.

4. Maintain a log of vacuum readings, inspections, and actions completed (see **Appendix D**). The log will be maintained by the Building Owner or their designate.

A troubleshooting guide is included as **Appendix C** and should be reviewed to identify and correct common issues.

[1]Per MPCA Mitigation BMP dated April 2020.

D. Contact Information

Building Owner

Paul A. Schmitt Music Company
Peter Schmitt
7800 Harmony Drive
Bloomington Minnesota
763.566.4560

Braun Intertec

Braun Intertec conducted pre-installation testing, conducted post-installation diagnostic testing, and conducted post installation sampling.

Braun Intertec
11001 Hampshire Avenue South
Minneapolis, MN 55438
952-995-2000
Project: B2106359.03

Contractor

The contractor responsible for conducting pre-mitigation diagnostic testing and the building and installation of the vapor intrusion mitigation system.

Home Safety Solutions
3140 Viking Boulevard Northeast
East Bethel, Minnesota 55092
Phone: 763.434.3263

MPCA

The agency responsible for regulating actions related to identified contamination.

Minnesota Pollution Control Agency
Brownfield Program
520 Lafayette Road North
St. Paul, MN 55155
651-296-6300
BF0001982

MDH

The state agency responsible for human health concerns or questions.

Minnesota Department of Health
Site Assessment and Consultation Unit
PO Box 64975
St. Paul, MN 55164
651-201-4897

E. Testing and Sampling Results and Requirements

The pre-diagnostic results, system installation details, post-installation diagnostic results and the post-installation sub-slab and indoor air results are provided in the report:

Vapor Response Action Plan Implementation Report, prepared by Braun Intertec, dated May 17, 2023.

Based on the results from the post-installation diagnostic and sampling results, no additional testing and/or sampling is required.

F. Future Building Changes

If any of the following occur in the future, the vapor intrusion mitigation system should be re-evaluated to ensure that the system remains effective:

1. Damage or modification of floor, piping, fan, or electric connection within the mitigation area shown on Figure 1.

2. Additions or significant renovations of the building.

3. Tenant improvements within the mitigation areas shown on Figure 1.

4. Installation of sump or drain tile within the mitigation areas shown on Figure 1.

G. Annual Reporting Requirement

Every year, the Building Owner must prepare and submit to the MPCA a written report confirming ongoing mitigation system operation, maintenance, and/or other actions taken during the past year which complies with the Activity and Use Limitations of the Environmental Covenant recorded to the Property. Submit the report before July 1st of each year by email to instcontrols@state.mn.us. Include "Annual Vapor Monitoring System Report – BF0001982" in the subject line.

H. Standard of Care

In performing its services, Braun Intertec used that degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession currently practicing in the same locality. No warranty, express or implied, is made.

I. References

Vapor mitigation best management practices (c-rem3-06) by MPCA (MPCA BMP) dated April 2020 including:

Attachment A - Pre-Mitigation Diagnostic Checklist (c-rem3-06a) by MPCA dated 4/7/2015.

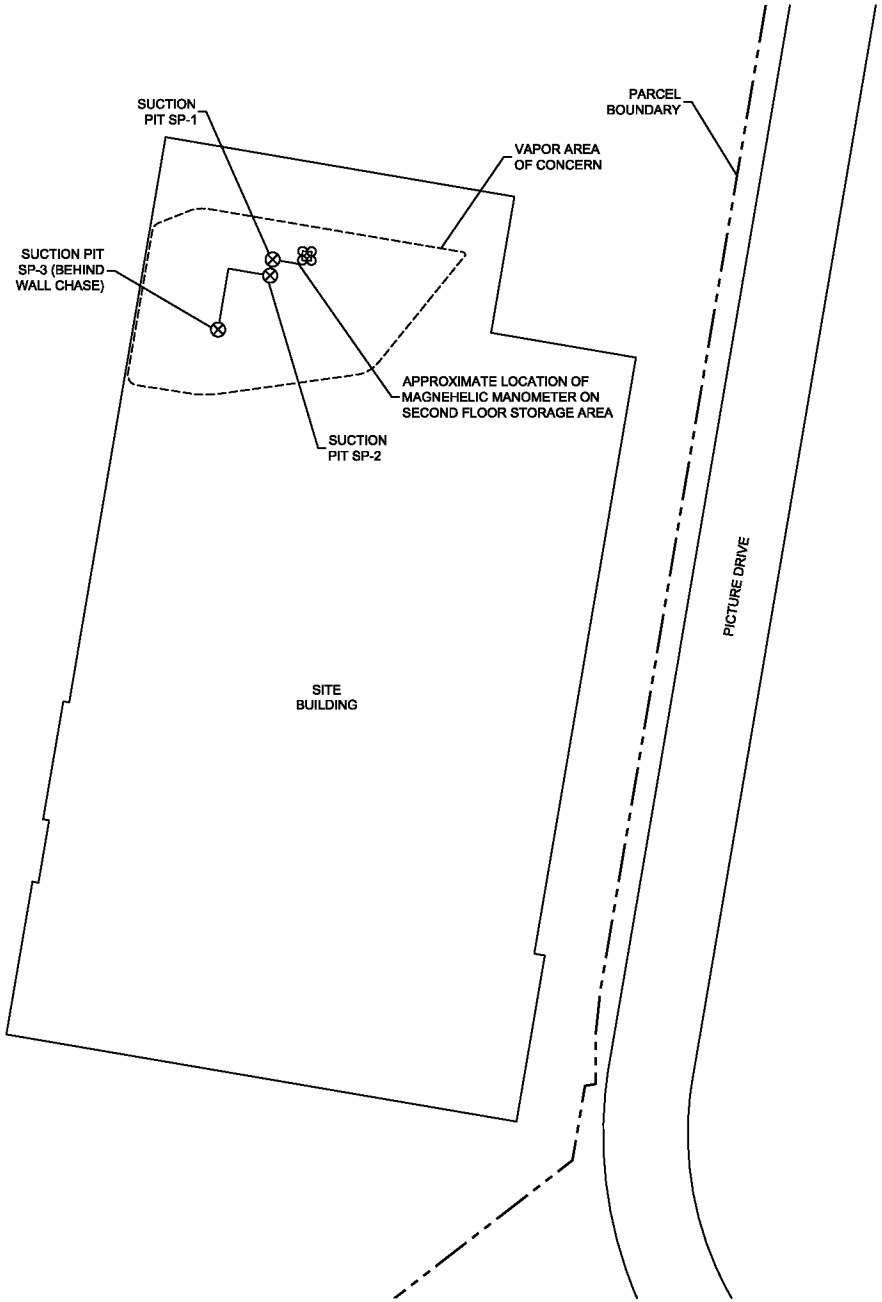
Attachment B - Active Mitigation System Installation Checklist (c-rem3-06b) by MPCA dated 4/7/2015.

Attachment C - Post-Mitigation Diagnostic Checklist (c-rem3-06c) by MPCA dated 4/7/2015.

Attachment D - Post-Mitigation Confirmation Sampling Checklist (c-rem3-06d) by MPCA dated 4/7/2015.

Soil Gas Control Systems in New Construction of Buildings (CC-100) by ANSI AARST) dated 2018.

Figure 1



⊗ **SUCTION PIT LOCATION**

EXHAUST FAN LOCATED ON ROOF

SCHEDULE 40 PVC

25' 0 50'

SCALE: 1" = 50'

BRAUN INTERTEC
The Science You Build On.
11001 Hampshire Avenue S
Minneapolis, MN 55438
952.995.2000
braunintertec.com

Drawing Information

Project No: B2106359.03

Drawing No: B2106359-03

Drawn By:	BJB
Date Drawn:	8/11/23
Checked By:	BMB
Last Modified:	8/11/23

Project Information

Former Lifetouch Studios

7800 Picture Drive

Bloomington, Minnesota

Vapor Mitigation System Layout

Figure 1

F:\2021\B2106359_03\CAD\B2106359-03.dwg, Vapor Sys, 8/11/2023 11:44:56 AM

Appendix A

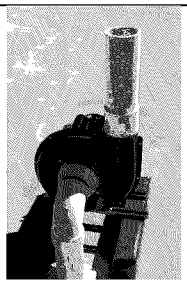
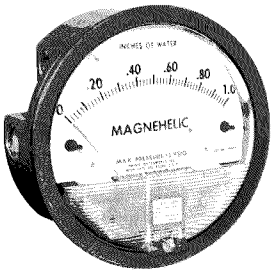
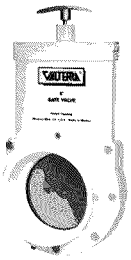
Vapor Intrusion Mitigation System Plans and System Component Information

BRAUN INTERTEC

OPERATIONS AND MAINTENANCE FOR VAPOR MITIGATION SYSTEM

7800 Picture Dr
Bloomington, MN 55439

There are several components to the existing vapor mitigation system which include the following:

A Vapor mitigation blower ws installed to induce soil gas depressurization at the vapor extraction ports to capture and control the subsurface vapors.	
A 'Magnehelic' pressure gauge measures vacuum pressure and allows the property owner to know at a glance if the system is operating or not.	
Gate Valves/Slip Valves act like a damper and control the amount of air flow going through the vertical risers. The valve is open when pulled out and closed when pushed all the way in.	

These components need to be repaired or replaced if noted as being damaged or malfunctioning.

The primary means of determining if the system is operating normally is to observe a normal operating sound from the blower, and the Magnehelic pressure gauge is not reading zero.

Home Safety Solutions, Inc.
763-434-3263
info@homesafetysolutionsinc.com

DEPARTMENT OF HEALTH

Radon Mitigation Company – Employs two or more licensed mitigation professionals

License Number:
RCO-00013

Approved On:
March 6, 2022

Issued To:

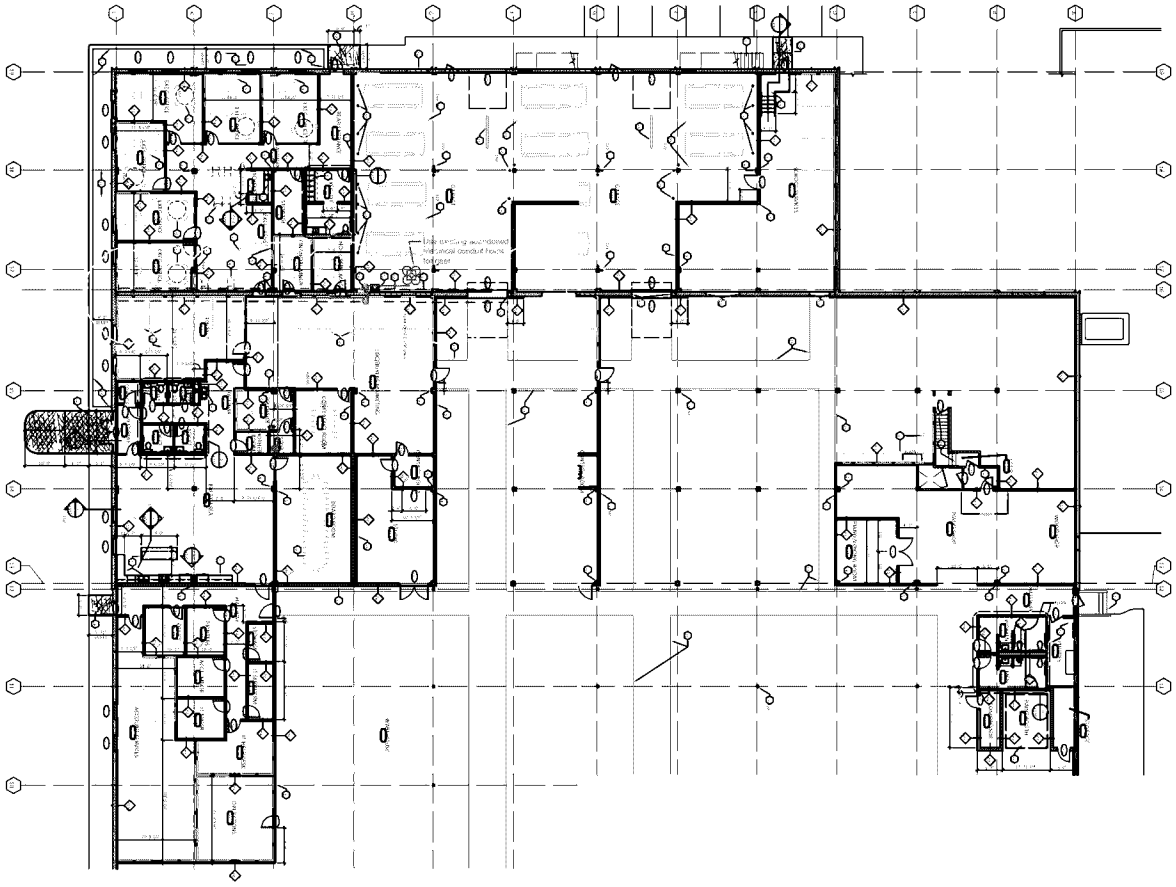
HSS
3140 Viking Blvd NE
Wyoming, MN 55092

Responsible Individual:
Greg Comer

This license is valid from January 1, 2022 to January 1, 2023

Mary B. Navara

Mary Navara, Indoor Environments and Radiation Section Manager
Environmental Health Division



Suction Pit

Schedule 40 PVC

Fan

Crack sealing to be done in this area both sides of wall

Crack Sealing

Home Safety Solutions Inc.

Date 3/7/2022

Walt Donnay NRPP License # 104322 RMT

Walt Donnay MDH License # RMIT - 00027

Home Safety Solutions Inc. License # RCO - 00013

Radon/VOC system design by HSS

Form: OMM-01-0509
Effective: 5/4/09
Supersedes OMM-01-0207
Part No.: 01218

Installation, Safety, Operation & Maintenance Instructions And Parts List

For Models PB, PBS, SPB, LM and LMF.

Arrangement 4 Blowers

NOTE

READ ENTIRE MANUAL, INCLUDING "SECTION IV. INITIAL UNIT STARTUP" BEFORE ATTEMPTING TO INSTALL AND OPERATE THIS EQUIPMENT.

BLOWER SPECIFICATIONS

BLOWER SERIAL NUMBER: _____ **MFG. DATE:** _____

NOTE: The serial number above is a required reference for any assistance. It is stamped on the blower nameplate.

BLOWER SPECIFICATIONS:

Model: _____ **Arrangement:** _____ **Rotation:** _____ **Discharge:** _____

Nominal Inlet Size: _____ (in Inches) **Wheel Size and Type:** _____

BLOWER PERFORMANCE DATA: (If entered on order)

CFM: _____ **SP:** _____ (Inches of Water Gauge) **Motor BHP:** _____

Density: _____ **Altitude:** _____ (Ft. above S.L.) **Airstream Temperature:** _____°F.

Fan RPM: _____ **Maximum Safe Fan RPM:** _____ **DO NOT EXCEED THIS RPM**

MOTOR DATA: (This section is completed only if the motor was supplied by Cincinnati Fan)

HP: _____ **RPM:** _____ **Voltage:** _____ **Phase:** _____

Hz: _____ **Frame Size:** _____ **Enclosure:** _____ **Efficiency:** _____

IF Motor is EXP, Class(es) & Group(s) are: _____

Manufacturers Model Number: _____ **CFV Part Number:** _____

ATTENTION: RECEIVING DEPARTMENT

All Cincinnati Fan products are packaged to minimize any damage during shipment. The freight carrier is responsible for delivering all items in their original condition as received from Cincinnati Fan. The individual receiving this equipment is responsible for inspecting this unit for any obvious or concealed damage. If any damage is found, it should be noted on the bill of lading before the freight is accepted and the receiver must file a claim with the freight carrier.

LONG TERM STORAGE NOTICE

If this blower will NOT be installed and put into operation within 30 days, refer to the "Long Term Storage Instructions" on pages 12 and 13. Failure to follow all applicable long term storage instructions, will void your warranty. This blower should be stored indoors in a clean, dry location.

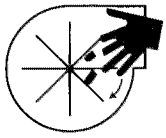
⚠ DANGER				
				
Hazardous voltage can cause electrical shock and death.	High speed rotating equipment can cause severe personal injury.	Lock out/Tag out to prevent personal injury BEFORE starting ANY service or inspection.	Avoid injury. NEVER operate without ALL required safety guards in place.	Avoid injury. You MUST read and understand all instructions in this manual BEFORE installing.

TABLE OF CONTENTS

I. GENERAL
- A. Unpacking and Handling 2
- B. Safety Accessories & Instructions 2-3

II. INSTALLATION
- A. Vibration 3
- B. Mounting Methods 3-4
- C. Duct Work Connections 4
- D. Safety Guards 4
- E. Dampers and Valves 4
- F. Set Screw & Taper-lock Bushing Torque Values 5

III. ELECTRICAL
- A. Disconnect Switches 5
- B. Motors 5-6
- C. Maximum Blower Speed 6

IV. INITIAL UNIT STARTUP
- A. Pre-Startup & Post-Startup Checks 7
- B. Vibration 8-9

V. ROUTINE INSPECTION & MAINTENANCE 9
- A. Hardware 10
- B. Motor Bearing Lubrication 10
- C. Wheel Balance 10
- D. Vibration 10
- E. Dampers and Valves 10
- F. Safety Equipment or Accessories 10-11

VI. ORDERING PARTS 11

VII. TROUBLESHOOTING 11-12

VIII. LONG TERM STORAGE 12-13

IX. WARRANTY, LIABILITY & RETURNS 14

X. PARTS DRAWING 15

I. GENERAL

A. Unpacking:

Be careful not to damage or deform any parts of the blower when removing it from the packaging container. **All the packaging material should be kept in the event the blower needs to be returned.**

Handling:

Handling of the blower should be performed by trained personnel and be consistent with all safe handling practices. Verify that all lifting equipment is in good operating condition and has the proper lifting capacity. The blower should be lifted using well-padded chains, cables or lifting straps with spreader bars. Some blower models have lifting eye locations provided in the blower base. **NEVER lift the blower by an inlet or discharge flange, motor shaft, motor eye bolt, or any other part of the blower assembly that could cause distortion of the blower assembly.**

B. Safety Instructions & Accessories:

1. **Safety Instructions:**
   All installers, operators and maintenance personnel should read AMCA Publication 410-96, **"Recommended Safety Practices for Users and Installers of Industrial and Commercial Fans".** This manual is included with the blower. Additional copies can be requested by writing us at Cincinnati Fan, 7697 Snider Rd., Mason, OH 45040-9135
2. **Sound:**
   Some blowers can generate sound that could be hazardous to personnel. It is the responsibility of the user to measure the sound levels of the blower and/or system, determine the degree of personnel exposure, and comply with all applicable safety laws and requirements to protect personnel from excessive noise.

3. **Air Pressure and Suction:**
In addition to the normal dangers of rotating machinery, the blower can present additional hazards from the suction or pressure created at the blower inlet or discharge. Suction at the blower inlet can draw materials into the blower where they become high velocity projectiles at the discharge and cause severe personal injury or death. It can also be extremely dangerous to persons in close proximity to the inlet or discharge as the forces involved can overcome the strength of most individuals.

⚠ WARNING

NEVER OPERATE A BLOWER WITH A NON-DUCTED INLET AND/OR DISCHARGE. IF THE BLOWER INLET AND/OR DISCHARGE IS NON-DUCTED, IT IS THE USERS RESPONSIBILITY TO INSTALL AN INLET AND/OR DISCHARGE GUARD.

4. **Temperature:**
Many blowers, blower components and all motors operate at temperatures that could burn someone if they come in contact with them. If this potential hazard could exist in your installation, steps must be taken by the user to protect anyone from coming in contact with this equipment.

5. **Spark Resistance;** (Per AMCA Standard 99-0401-86 and ISO 13499)

⚠ DANGER

NO GUARANTEE OF ANY LEVEL OF SPARK RESISTANCE IS IMPLIED BY SPARK RESISTANT CONSTRUCTION. IT HAS BEEN DEMONSTRATED THAT ALUMINUM IMPELLERS RUBBING ON RUSTY STEEL CAN CAUSE HIGH INTENSITY SPARKS. AIR STREAM MATERIAL AND DEBRIS OR OTHER SYSTEM FACTORS CAN ALSO CAUSE SPARKS.

6. **Safety Accessories;**
Guards:
All moving parts must be guarded to protect personnel. Safety requirements can vary, so the number and types of guards required to meet company, local, state and OSHA regulations must be determined and specified by the actual user or operator of the equipment.

NEVER start any blower without having all required safety guards properly installed. All blowers should be checked on a regular schedule, for missing or damaged guards. If any required guards are found to be missing or defective, the power to the blower should be immediately turned off and locked out in accordance with OSHA regulations. Power to the blower should NOT be tuned back on until the required guards have been repaired or replaced.

This blower can become dangerous due to a potential "windmill" effect, even though all electrical power has been turned off or disconnected. The blower wheel should be **carefully** secured to prevent any rotational turning ***BEFORE*** working on any parts of the blower/motor assembly that could move.

7. **Access or Inspection Doors:**

⚠ DANGER

NEVER OPEN ANY ACCESS OR INSPECTION DOORS WHILE THE BLOWER IS OPERATING. SERIOUS INJURY OR DEATH COULD RESULT FROM THE AFFECTS OF AIR PRESSURE, AIR SUCTION OR MATERIAL THAT IS BEING CONVEYED. DISCONNECT OR LOCK OUT POWER TO THE BLOWER AND LET THE BLOWER WHEEL COME TO A COMPLETE STOP *BEFORE* OPENING ANY TYPE OF ACCESS OR INSPECTION DOOR.

II. INSTALLATION

A. Vibration:

Before any mounting method is selected, the user should be aware of the effects vibration will have on the blower, motor and other parts. Improper blower installation can cause excessive vibration causing premature wheel and/or motor bearing failure, that is not covered under warranty. Vibration eliminator pads, springs or bases should be properly installed to prevent any blower vibration from transmitting to the foundation, support structure or ducting.

⚠ WARNING

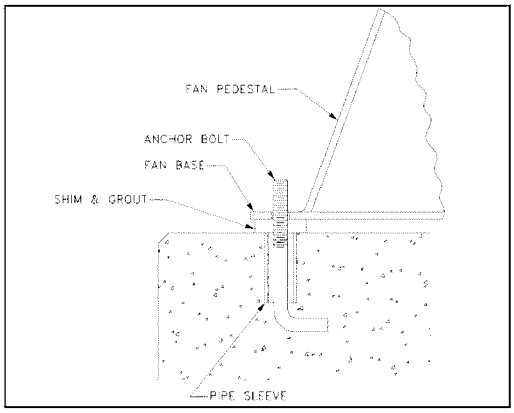
SHUT THE BLOWER DOWN IMMEDIATELY IF THERE IS ANY SUDDEN INCREASE IN VIBRATION.

B. Mounting Methods:

1. Floor Mounted Units;

Centrifugal blowers should be mounted on a flat, level, concrete foundation weighing 2-3 times the weight of the complete blower/motor assembly. It is recommended that the foundation be at least 6 inches larger than the base of the blower. The foundation should include anchor bolts such as shown in **Fig. 1** on page 4. Place the blower over the anchor bolts and shim under each bolt until the blower is level. After shimming, flat washers, lock washers and lock nuts should be tightened at each anchor bolt. Any gaps between the blower base and the foundation should be grouted. If the blower will be sitting on some type of vibration pads or mounts, follow the recommended mounting procedures supplied with the vibration elimination equipment.

Fig. 1



2. **Elevated Units;**

   Improper mounting of elevated blowers can cause vibration problems. The structure that the blower/motor assembly will be mounted on must be strong enough to support at least 3 times the weight of the entire blower/motor assembly. **An insufficient support will cause excessive vibration and lead to premature wheel and/or motor bearing failure**. Bracing of the support structure must be sufficient enough to prevent any side sway. The entire structure should be welded at all connection joints to maintain constant alignment of the platform.

⚠ DANGER

THE IMPROPER DESIGN OF AN ELEVATED PLATFORM STRUCTURE COULD RESULT IN A RESONANT CONDITION, AND CONSEQUENTLY, CAUSE A LIFE THREATENING, CATASTROPHIC, STRUCTURAL FAILURE.

C. Duct Work Connections:

All duct connections to the blower should include flexible connectors between the ducting and the blower inlet and/or discharge. This will eliminate distortion, noise and vibration from transmitting to the duct and building. The connectors should be selected to handle the operating conditions for air volume and pressure that the blower will produce. **All ducting or accessories, added by the user, should be independently supported. DO NOT use the blower/motor assembly to support any additional weight.** Inlet and/or discharge duct elbows should be located a minimum of 2 blower wheel diameters from the blower. Any duct elbows located closer than 2 wheel diameters to the blower inlet or discharge **WILL** reduce the air performance and blower efficiency. Any duct elbows near the blower discharge should be in the **same rotational direction** as the **blower rotation**.

Non-Ducted Blower Inlet:

Any blower with no ducting on the inlet **must** have an inlet guard. The blower should be located so the blower inlet is, at least, 1 wheel diameter away from any wall or bulkhead to eliminate a reduction in air flow.

Non-Ducted Blower Discharge:

Any blower with no ducting on the discharge **must** have a discharge guard.

D. Safety Guards:

Cincinnati Fan offers guards, as optional, to keep your blower in compliance with OSHA safety regulations. These include inlet or discharge guards. Any blowers built with high temperature construction, a "heat slinger guard" is standard. It is the responsibility of the user to make sure this blower meets all local, state and OSHA safety regulations. If you have a specific guard requirement not covered by OSHA, please contact the local Cincinnati Fan sales office for assistance.

E. Dampers and Valves: (Airflow control devices)

If the blower is supplied with any type of air flow control device, it should be closed before initial start-up of the blower to minimize overloading of the motor. Any airflow control device, with bearings, should be maintained in accordance with the manufacturers instructions. Any air flow control device, with an automatic control mechanism, should be adjusted per the manufacturers recommendations.

F. Set Screw and Taper-lock Bushing Torque Values:

All blower wheel set screws are tightened to the proper torque prior to shipment. Some wheels may have taper-lock hubs and split, taper-lock bushings to secure the wheel to the motor shaft.

NOTE: Check all set screw or taper-lock bushing torques. Forces encountered during shipment, handling, rigging and temperature can affect factory settings. For correct torque values, see **Tables 1** and **2** below.

Table 1

SET SCREW TORQUE VALUES		
Diameter & Number of Treads/Inch	Hex Wrence Size (Across Flats)	Required Torque (Inch Pounds)
1/4-20	1/8"	65
5/16-18	5/32"	165
3/8-16	3/16"	228
7/16-14	7/32"	348
1/2-13	1/4"	504
5/8-11	5/16"	1104

Table 2

TORQUE VALUES FOR TAPER-LOCK BUSHINGS	
Taper-lock Bushing Size	Required Torque (Inch Pounds)
H	95
B	192
P	192
Q	350
R	350

⚠ CAUTION

Set screws should NEVER be used more than once. If the set screws are loosened, they MUST be replaced. Use only knurled, cup-point, set screws with a nylon locking patch.

III. ELECTRICAL

A. Disconnect Switches:

All blower motors should have an independent disconnect switch located in close visual proximity to turn off the electrical service to the blower motor. **Disconnects must be locked out in accordance with OSHA "lock out-tag out" procedures any time inspection or maintenance is being performed on the blower and/or motor assembly. The "lock out-tag out" procedure should be performed by a licensed electrician or authorized personnel.** All disconnects should be sized in accordance with the latest NEC codes (National Electric Codes) and any local codes and should be installed only by a licensed electrician. "Slow blow" or "time delay" fuses or breakers should be used since the initial start-up time for the blower motor, although rare, can be up to 10 seconds.

B. Motors:

⚠ DANGER

ALL WIRING CONNECTIONS, INSPECTION AND MAINTENANCE OF ANY MOTOR MUST BE PERFORMED BY A LICENSED ELECTRICIAN IN ACCORDANCE WITH THE MOTOR MANUFACTURERS RECOMMENDATIONS, ALL ELECTRICAL CODES AND OSHA REGULATIONS. FAILURE TO PROPERLY INSTALL, MAKE WIRING CONNECTIONS, INSPECT OR PERFORM ANY MAINTENANCE TO A MOTOR CAN RESULT IN MOTOR FAILURE, PROPERTY DAMAGE, EXPLOSION, ELECTRICAL SHOCK AND DEATH.

1. **DO NOT connect or operate a motor without reading the motor manufacturers instructions supplied with the blower.** The basic principle of motor maintenance is: **KEEP THE MOTOR CLEAN AND DRY.** This requires periodic inspections of the motor. The frequency of the inspections depends on the type of motor, the service and environment it will be subjected to and the motor manufacturers instructions.
2. **Cleaning:** Cleaning should be limited to exterior surfaces only. **Follow motor manufacturers cleaning instructions.**
3. **Lubrication:** Most small motors have sealed bearings that are permanently lubricated for the life of the motor. Some larger motors have grease plugs that should be replaced with grease fittings to perform re-lubrication. These motors, or any motor with grease fittings, should be lubricated in accordance with the motor manufacturers recommendations. Lubrication frequency depends on the motor horsepower, speed and service. **BE SURE** you use compatible grease and **DO NOT** over grease.
4. **Location:** If the motor will be outside and subjected to the weather, it is recommended that a weather cover be installed to keep rain and snow off of the motor. No motors are guaranteed to be "watertight". Be careful to allow enough openings between the motor and the motor cover to let the motor "breath". If the back end of the motor is covered, the cover should be no closer than 3" to the back of the motor for proper ventilation.

5. **Wiring Connections:** All wiring connections should be made for the proper voltage and phase as shown on the motor nameplate. Connections should follow the motor manufacturers recommendations as shown on the wiring schematic. This wiring diagram will be located on the outside of the motor, inside of the motor conduit box or on the motor nameplate. **Reversing some wires might be necessary to get the correct blower rotation.**
6. **Motors with Thermal Overload Protection:** If a motor is equipped with thermal overloads, the thermal overload must be wired per the wiring schematic to be operable. ***There are 3 types of thermal overloads:***
   a. **Automatic:** These will automatically shut the motor down if the internal temperature exceeds the design limits.

⚠ DANGER

MAKE SURE YOU LOCK OUT THE POWER TO THE MOTOR BEFORE INSPECTING ANY MOTOR WITH AUTOMATIC THERMALS. WHEN THE THERMALS COOL DOWN, THEY WILL ALLOW THE MOTOR TO AUTOMATICALLY START UP AGAIN, UNLESS YOU HAVE LOCKED OUT THE POWER TO THE MOTOR.

   b. **Manual:** These motors will have a button on them. If the motor overheats, it will shut down. After you have inspected the motor and eliminated the over heating problem, you will need to "reset" it by pushing the button. **You should still lock out the power BEFORE inspecting the motor.**
   c. **Thermostats:** This type of thermal is a temperature sensing device **ONLY**. If the motor overheats, the thermostats will open or close (depending on the type) and send a **"signal"** to the electrical box. ***THEY WILL NOT TURN THE MOTOR OFF.*** **These are pilot circuit devices that must be connected to the magnetic starter circuit.**

7. **EXPLOSION PROOF Motors:** No motor is explosion proof. Explosion proof (EXP) motors are designed so if there is an explosion **WITHIN** the motor, the explosion will be **CONTAINED INSIDE** the motor and not allowed to get out to the atmosphere. All explosion proof motors must be selected based on the atmosphere and/or the environment the motor will be operating in. Explosion proof motors are designed, rated, and labeled for their operating conditions based on Classes, Groups and "T" Codes. **The Class, Group and "T" Code of an EXP motor MUST be selected based on the atmosphere and/or environmental conditions the motor will be operating in. Consult the NEC (National Electric Code) and the NFPA (National Fire Protection Association) for the proper EXP motor Class, Group and "T" Code required for your specific application and location.**

⚠ DANGER

IF AN EXPLOSION PROOF MOTOR IS USED IN AN AREA CONTAINING VOLITILE LIQUIDS, GASES, FUMES OR DUST FOR WHICH THE MOTOR WAS NOT DESIGNED TO OPERATE IN, AN EXPLOSION AND/OR FIRE CAN OCCUR.

NOTICE:

   a. **All EXP motors have some type of thermal overload as required by UL (Underwriters Laboratories). Refer to all of Section 6 above.**
   b. **All EXP motors are required to have the UL (Underwriters Laboratories) and CSA (Canadian Standards Association) listing numbers on the motor name plate or on a separate plate attached to the motor. The Class, Group and "T" Code the motor is designed for must also be listed.**

8. **Normal Motor Operating Temperatures:**
   Using your hand to test the normal running temperature of a motor can be a very painful experience;
   The normal operating temperature of a fully loaded, open type, electric motor operating in a 70°F. (21° C.) ambient temperature is 174°F. (79° C.)

C. Maximum Blower Speed and Motor Speed Controllers:

If you will be using any type of motor speed controller with this blower, **DO NOT** exceed the **maximum safe blower speed**. Installing and using a speed control device requires special training and certification as required by the speed control manufacturer. See the manufacturers instructions for proper use, installation and wiring connections for the maximum speed settings. It may also be necessary to "block out" some speeds to eliminate a resonant vibration problem. The maximum safe blower speed is shown on the data sheet shipped with the blower. If you have lost the data sheet, contact Cincinnati Fan or our sales office for your area. You must have the serial number from the **blower** name plate for us to determine the maximum safe blower speed. Cincinnati Fan will only extend the motor manufacturers warranty, when used with a speed controlling device, if the motor has the words **"Inverter Duty"** marked on the motor name plate. If the motor does not have **"Inverter Duty"** marked on the motor name plate, and you have a motor failure, you will be required to contact the motor manufacturer for any service or warranty claims.

IV. INITIAL UNIT STARTUP

NOTICE: Failure to complete and document all the following pre-startup and both post-startup checks, listed in sections A (below) and B on page 8, could void all warranties.

A. Pre-Startup & Post-Startup Checks: (Check blocks as each step is completed. Retain this for your records.)

A1. Pre-Startup Checks Completed By: _____ **DATE:** _____

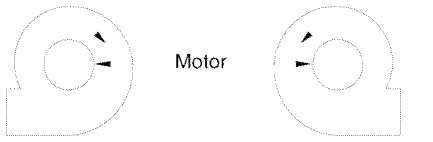
A2. 8 Hour, Post-Startup Checks Completed By: _____ **DATE:** _____

A3. 3 Day, Post-Startup Checks Completed By: _____ **DATE:** _____

MAKE SURE POWER TO THE MOTOR IS LOCKED OUT BEFORE STARTING PRE-STARTUP OR POST-STARTUP CHECKS.

1. ☐☐☐ If possible, *CAREFULLY* spin the blower wheel by hand to ensure it rotates freely and no rubbing or clicking noise is heard.
2. ☐☐☐ Check all blower, foundation and duct work hardware to make sure it is tight.
3. ☐☐☐ Check all blower wheel set screws to make sure they are tight per **Table 1** on page 5.
4. ☐☐☐ If the wheel has a taper-lock bushing, make sure the bolts are tightened per **Table 2** on page 5.
5. ☐☐☐ Make certain there is no foreign material in the blower or duct work that can become a projectile.
6. ☐☐☐ Make sure any inspection doors in the duct work are securely bolted or locked.
7. ☐☐☐ Ensure all electrical power components are properly sized and matched for your electrical system.
8. ☐☐☐ Check that all required guards are properly secured.
9. ☐☐☐ Any dampers should be fully opened and closed to make sure there is no binding or interference.
10. ☐☐☐ If your blower is mounted on an elevated support structure, make sure the structure is welded at all the joint connections and the structure is properly braced to prevent "side sway".
11. ☐☐☐ Close any dampers to minimize load on motor. Especially on blowers with high temperature construction. **Never** subject a "cold" blower to a "hot" gas stream. If the blower will be handling "hot gases" greater than 150°F (65°C) it is imperative that the blower be subjected to a gradual rate of temperature increase, not to exceed 15°F/minute (8°C/minute). The same temperature limits are also important when the blower is experiencing a drop in temperature until the temperature drops down to 150°F (65°C). Only, when the entire blower has reached an equilibrium temperature of 150°F (65°C), or less, should the power be turned off.
12. ☐☐☐ Make sure the power source connections to the blower motor are per the motor manufacturers instructions.
13. ☐☐☐ Make sure the blower wheel is stationary prior to startup. **Starting a blower with a wheel that is rotating backwards can cause wheel damage.**
14. ☐☐☐ Apply power to the blower motor momentarily (i.e. "bump start") to check for proper blower wheel rotation. If the blower is rotating in the wrong direction, reconnect the motor leads per the motor manufacturers wiring schematic. **Blower rotation is determined by viewing the blower from the motor side of the blower, NOT from the inlet side.** After reconnecting the leads, repeat this step. **See Fig. 2 below.**

Fig. 2



Clockwise (CW) Rotation **Counter-Clockwise (CCW) Rotation**

15. ☐☐☐ Apply power to the blower motor and let it come up to full speed. **Turn off the power.** Look and listen for any unusual noise or mechanical abnormality while the blower wheel is still spinning. If any are noticed, lock out the power, wait for the blower wheel to come to a complete stop, locate the cause and correct it.
16. ☐☐☐ Unlock power and start the blower.
17. ☐☐☐ Measure, record and keep the following motor data for future reference and comparison:
(Single phase motors will only have L1 and L2 leads)

Amperage draw on each motor lead: L1 _____ **L2** _____ **L3** _____
(Running amps **SHOULD NOT** exceed the motor nameplate amps for the voltage being operated on)

Voltage coming to motor leads: L1_____ **L2**_____ **L3**_____
(Should be about the same input voltage on all leads)

B. Vibration:

The blower was balanced at the factory to comply with ANSI/AMCA Standard 204-05, Category BV-2. However, rough handling in shipment and/or erection, weak and/or non-rigid foundations, and misalignment may cause a vibration problem after installation. After installation, the vibration levels should be checked by personnel experienced with vibration analysis and vibration analysis equipment.

NOTE:

The blower SHOULD NOT be operated if the vibration velocity of the fan exceeds 0.50 inches per second, filter out, if the blower is rigidly mounted. If the blower is mounted on isolators or on an isolator base, it SHOULD NOT be operated if the vibration velocity of the blower exceeds 0.75 inches per second, filter out.

Vibration readings for direct driven blowers should be taken on the motor at the top, sides and end as per **Fig. 3** below. After you have taken your vibration readings, write them down in the spaces below and keep for future comparison.

⚠ DANGER

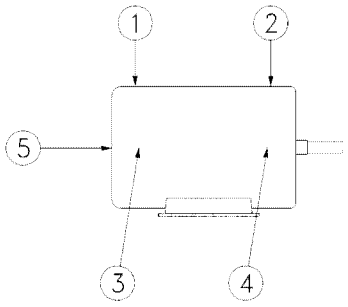
If the blower is going to be conveying material, it is the users responsibility to periodically turn the blower off and lock out the power. The blower wheel should then be checked for material build-up and/or erosion. If material has built up on any parts of the wheel, it MUST be removed and cleaned before it is put back into service. If any parts of the wheel have been eroded, the wheel MUST be replaced. Failure to perform this inspection can cause excessive vibration that will damage the blower and/or motor bearings. When vibration becomes excessive, it will lead to complete blower failure that could cause property damage, severe personal injury and death. The user must determine the frequency of this inspection based on the actual circumstances of their operation, BUT checking the vibration readings should NEVER exceed a 12 month period. For the AMCA/ANSI standard for vibration limits, see Fig. 4 on page 9.

Fig. 3

VIBRATION METER PROBE POSITIONS

For Arrangement 4 Blowers

	1	2	3	4	5
A					
B					
C					

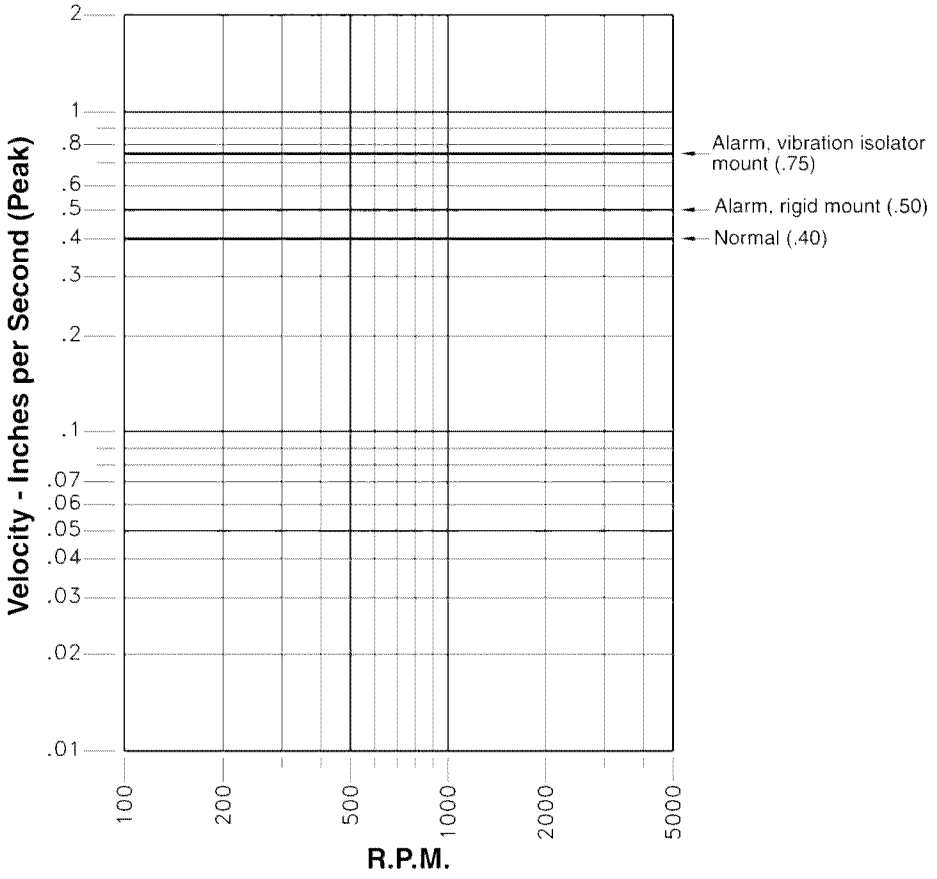


A Pre-Startup ..... Readings taken by: _____ **Date:** _____

B 8 Hour Post-Startup ..... Readings taken by: _____ **Date:** _____

C 3 Day Post-Startup ..... Readings taken by: _____ **Date:** _____

Fig. 4 Vibration Severity Chart



V. ROUTINE INSPECTION & MAINTENANCE

Periodic inspection of all the blower parts is the key to good maintenance and trouble-free operation. The frequency of inspections must be determined by the user and is dependent upon the severity of the application. **BUT,** it should **NEVER** exceed a 12 month period. The user should prepare an inspection and maintenance schedule and make sure it is adhered to.

⚠ WARNING

BEFORE STARTING ANY INSPECTION OR MAINTENANCE, BE SURE BLOWER IS TURNED OFF, POWER IS LOCKED OUT AND THE BLOWER WHEEL HAS BEEN CAREFULLY SECURED TO PREVENT WIND MILLING. IF THE OPERATING CONDITIONS OF THE BLOWER ARE TO BE CHANGED (SPEED, PRESSURE, TEMPERATURE, ETC.) CONSULT CINCINNATI FAN, OR OUR SALES OFFICE FOR YOUR TERRITORY, TO DETERMINE IF THE UNIT WILL OPERATE SAFELY AT THE NEW CONDITIONS.

A. Hardware:

All blower and foundation hardware should be checked to make sure it is tight. Wheel set screws or taper-lock bushings should be tightened to the torque values shown in **Tables 1 and 2** on page 5.

NOTE: If any set screws have come loose, they must be thrown away and replaced. **NEVER** use set screws more than once. **Replace with knurled, cup-point set screws with a nylon locking patch.**

B. Motor Bearing Lubrication:

1. **Motor Bearings:**

Most smaller motors have sealed bearings that never require re-lubrication for the life of the motor. For any motors with grease fittings, consult the motor manufacturers recommendations with reference to the lubrication frequency and the type of grease that should be used.

DO NOT over grease the motor bearings. Generally, 1-2 shots should be enough. Use a hand operated grease gun at no more than 40 PSI. ***IF POSSIBLE, CAREFULLY*** **lubricate the motor bearings while the motor is running.**

C. Wheel Balance:

All blower wheels are balanced at the factory. It is not uncommon that additional "trim balancing" is required after the blower is assembled. Trim balancing of the blower assembly, in the field, is typically always necessary for all replacement wheels. **After any wheel is installed, the final balance of the entire blower assembly should be checked.** Refer to Section B on page 8 and Fig. 4 on page 9. Air stream material or chemicals can cause abrasion or corrosion of the blower parts. This wear is generally uneven and, over time, will lead to the wheel becoming unbalanced, causing excessive vibration. When that happens, the wheel must be rebalanced or replaced. The other air stream components should also be inspected for wear or structural damage and cleaned or replaced if necessary. **After cleaning any blower wheel, it should be balanced and then "trim balanced" on the motor shaft.**

There are three ways to balance a blower wheel:

1. **Add balancing weights for fabricated aluminum, steel or stainless steel wheels:**
   Balance weights should be rigidly attached to the wheel at a location that will not interfere with the blower housing nor disrupt air flow. They should (if at all possible) be welded to the wheel. When trim balancing the wheel, **on the blower,** be sure to ground the welder **directly** to the blower wheel. Otherwise, the welding current will likely pass through the motor and damage the motor bearings.
2. **Grinding off material for cast aluminum wheels:**
   If you are grinding on the wheel to remove material, be very careful not to grind too much in one area. That could affect the structural integrity of the wheel.
3. **Forward curved wheels, Model LM only (also known as squirrel cage or multivane wheels).**
   These wheels have balancing clips attached to individual blades around the wheel. That is the only proper way to balance this type of wheel.
   NOTE:
   Removing any forward curve wheel from the blower to clean it, requires special attention when reinstalling the wheel back into the blower housing. Make sure you reinstall the wheel so the proper wheel-to-inlet clearance is maintained. Failure to do this will affect the blowers airflow (CFM), static pressure (SP) capabilities and efficiency. Consult Cincinnati Fan or our local sales office for your area for assistance if necessary.

D. Vibration:

As mentioned previously in this manual, excessive vibration can cause premature motor bearing failure that could lead to catastrophic failure of the blower. After performing any routine maintenance, the vibration readings should be taken again. New readings should be taken (maximum every 12 months) and compared to the readings you recorded in **Figure 3**, on page 8, during the initial startup. **If any major differences are present, the cause should be determined and corrected before the blower is put back into operation.**

The most common causes of vibration problems are:

1. Wheel unbalance.
2. Mechanical looseness.
3. Poor blower inlet and/or discharge conditions.
4. Foundation stiffness.

E. Dampers and Valves: (Airflow control devices)

Turn off and lock out power to the blower motor. Any dampers or valves should be periodically inspected to make sure all parts are still operable within their full range and there is no interference with any other damper or blower components. Any bearings or seals should be checked for their proper function. The manufacturers maintenance instructions should be followed.

F. Safety Equipment & Accessories:

It is the users responsibility to make sure that all safety guards required by the company, local, state and OSHA regulations are properly attached and fully functional at all times. If any guards become defective or non-functional at any time, **the power to the blower MUST be turned off and locked out** until complete repairs and/or replacements have been made, installed and inspected by authorized personnel.

Any accessories used in conjunction with the blower should also be inspected to make sure they are functioning within their intended limits and design specifications. The manufacturers maintenance manuals should be referred to for correct maintenance procedures. These accessories include, but are not limited to, the following:
Shaft seals, inspection doors, vibration isolators or vibration bases, air flow or pressure measuring equipment, hoods, controls, special coatings, silencers, expansion joints, valves, flexible connectors and filters.

VI. ORDERING REPLACEMENT PARTS:

Under normal conditions, you should not need any spare or replacement parts for at least 24 months after shipment from Cincinnati Fan. That does not include any wear due to abrasion, corrosion, excessive temperatures, abuse, misuse, accident or any severe conditions the fan was not designed for.

NOTICE:

1. **If this blower is vital to any process that could cost you lost revenue, we strongly recommend that you keep a replacement blower wheel and motor at your location.**

2. **If this blower is vital for the safety of any people and/or animals, we strongly recommend that you keep a complete blower/motor assembly, as originally ordered, at your location.**

To order any parts or complete units, contact us for the name of our sales office for your area. Or you can find them on our website at: **www.cincinnatifan.com**

WE MUST HAVE THE BLOWER SERIAL NUMBER FROM THE BLOWER NAME PLATE TO IDENTIFY PARTS CORRECTLY.

VII. TROUBLESHOOTING

⚠ DANGER

Troubleshooting should only be performed by trained personnel. Any potential electrical problems should only be checked by a licensed electrician. All safety rules, regulations and procedures MUST be followed. Failure to follow proper procedures can cause property damage, severe bodily injury and death.

Potential problems and causes listed below are in no order of importance or priority. The causes are only a list of the most common items to check to correct a problem. If you find the cause of a problem, **DO NOT** assume it is the **ONLY** cause of that problem. Different problems can have the same causes.

PROBLEM	CAUSE
Excessive Vibration	1. Loose mounting bolts, wheel set screws, taper-lock hubs. 2. Worn or corroded blower wheel. 3. Accumulation of foreign material on blower wheel. 4. Bent motor shaft. 5. Worn motor bearings. 6. Motor out of balance. 7. Inadequate structural support. 8. Support structure not sufficiently cross braced. 9. Weak or resonant foundation. 10. Foundation not flat and level.
Airflow (CFM) Too Low	1. Blower wheel turning in wrong direction (**rotation**). 2. Actual system static pressure (**SP**) is higher than expected. 3. Motor speed (**RPM**) too low. 4. Dampers or valves not adjusted properly. 5. Leaks or obstructions in duct work. 6. Filters dirty. 7. Inlet and/or discharge guards are clogged. 8. Duct elbow too close to blower inlet and/or discharge. 9. Improperly designed duct work 10. Blower wheel not properly located relative to the inlet bell (**LM** Model only).
Airflow (CFM) Too High	1. Actual system static pressure (**SP**) is lower than expected. 2. Motor speed (**RPM**) too high. 3. Filter not in place. 4. Dampers or valves not adjusted properly.

PROBLEM	CAUSE
Motor Overheating	**NOTE: A normal motor will operate at 174°F. See B-8 on page 6.** 1. Actual system static pressure **(SP)** is lower than expected. 2. Voltage supplied to motor is too high or too low. 3. Motor speed (**RPM**) too high or defective motor. 4. Air density higher than expected. 5. Motor wired incorrectly or loose wiring connections. 6. Cooling fan cover on back of motor is clogged. (Fan cooled motors only.)
Excessive Noise	1. Wheel rubbing inside of housing. 2. Worn or corroded blower wheel. 3. Accumulation of foreign material on blower wheel. 4. Loose mounting bolts, wheel set screws, or taper-lock hubs. 5. Bent motor shaft. 6. Worn motor bearings. 7. Motor out of balance. 8. Motor bearings need lubrication. 9. Vibration originating elsewhere in system. 10. System resonance or pulsation. 11. Inadequate or faulty design of blower support structure. 12. Blower operating near "stall" condition due to incorrect system design or installation.
Fan Doesn't Operate	1. Motor wired incorrectly. 2. Incorrect voltage supply. 3. Defective fuses or circuit breakers. 4. Power turned off elsewhere. 5. Motor wired incorrectly or loose wiring connections. 6. Defective motor.

VIII. LONG TERM STORAGE INSTRUCTIONS: (Storage exceeding 30 days after receipt of equipment)

NOTE: Failure to adhere to these instructions voids all warranties in their entirety.

1. Storage site selection:
   a. Level, well-drained, firm surface, in clean, dry and warm location. Minimum temperature of 50°F (10°C).
   b. Isolated from possibility of physical damage from construction vehicles, erection equipment, etc.
   c. Accessible for periodical inspection and maintenance.
2. The blower should be supported under each corner of its base to allow it to "breath". Supports (2 x 4's, timbers, or railroad ties) should be placed diagonally under each corner.
3. If the equipment is to be stored for more than three (3) months, the entire blower assembly must be loosely covered with plastic, **but not tightly wrapped**.
4. Storage Maintenance:

   A periodic inspection and maintenance log, by date and action taken, must be developed and maintained for each blower. See example below. Each item must be checked monthly.

EXAMPLE:

Storage / Maintenance Schedule Log

ITEM	ACTION	DATES CHECKED
1	Re-inspect units to insure any protective devices used are functioning properly. Check for scratches in the finish which will allow corrosion or rust to form.	
2	Rotate wheel a minimum of 10 full revolutions to keep the motor bearing grease from separating and drying out. ***This is a critical step.***	

Long Term Storage instructions continued on page 13.

5. General Motor Procedure:

   If the motor is not put into service immediately, the motor must be stored in a clean, dry, warm location. Minimum temperature of 50°F. (10°C,). Several precautionary steps must be performed to avoid motor damage during storage.

   a. Use a "Megger" each month to ensure that integrity of the winding insulation has been maintained. Record the Megger readings. Immediately investigate any significant drop in insulation resistance.
   b. **DO NOT** lubricate the motor bearings during storage. Motor bearings are packed with grease at the factory.
   c. If the storage location is damp or humid, the motor windings **must** be protected from moisture. This can be done by applying power to the motor's space heaters, (IF AVAILABLE) while the motor is in storage. If the motor does not have space heaters, storing it in a damp or humid location will, very quickly, cause internal corrosion and motor failure which is not warranted.

   ***NOTE*:**
   For specific storage instructions, for the actual motor and any accessory parts that were supplied, refer to the manufacturer's instructions.

IX. LIMITED WARRANTY:

Cincinnati Fan & Ventilator Company (Seller) warrants products of its own manufacture, against defects of material and workmanship under normal use and service for a period of eighteen (18) months from date of shipment or twelve (12) months from date of installation, whichever occurs first. This warranty does not apply to any of Seller's products or any part thereof which has been subject to extraordinary wear and tear, improper installation, accident, abuse, misuse, overloading, negligence or alteration. This warranty does not cover systems or materials not of Seller's manufacture. On products furnished by Seller, but manufactured by others, such as motors, Seller extends the same warranty as Seller received from the manufacturer thereof. Expenses incurred by Purchaser's in repairing or replacing any defective product will not be allowed except where authorized in writing and signed by an officer of the Seller.

The obligation of the Seller under this warranty shall be limited to repairing or replacing F.O.B. the Seller's plant, or allowing credit at Seller's option. **THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES EITHER EXPRESSED OR IMPLIED INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND OF ALL OTHER OBLIGATIONS AND LIABILITIES OF THE SELLER. THE PURCHASER ACKNOWLEDGES THAT NO OTHER REPRESENTATIONS WERE MADE TO PURCHASER OR RELIED UPON BY PURCHASER WITH RESPECT TO THE QUALITY OR FUNCTION OF THE PRODUCTS HEREIN SOLD.**

Removal of the Sellers nameplate or any generic fan nameplate containing the fan serial number voids all warranties, either written or implied. Failure to complete and document all the pre-startup and post startup checks and perform the suggested routine maintenance checks voids all warranties, either written or implied.

LIMITATION OF LIABILITY:

Notice of any claim, including a claim for defect in material or workmanship, must be given to Seller in writing within 30 days after receipt of the equipment or other products. Seller reserves the right to inspect any alleged defect at Purchaser's facility before any claim can be allowed and before adjustment, credit, allowance replacement or return will be authorized. See **RETURNS** below. Seller's liability with respect to such defects will be limited to the replacement, free of charge, of parts returned at Purchaser's expense F.O.B. Seller's plant and found to be defective by the Seller.

IN NO EVENT WILL SELLER BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, WHETHER IN CONTACT, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, INCLUDING WITHOUT LIMITATION DAMAGES FOR INJURY TO PERSONS OR PROPERTY, LOST PROFITS OR REVENUE, LOST SALES OR LOSS OF USE OF ANY PRODUCT SOLD HEREUNDER. PURCHASER'S SOLE AND EXCLUSIVE REMEDY AGAINST SELLER WILL BE THE REPLACEMENT OF DEFECTIVE PARTS AS PROVIDED HEREIN OR REFUND OF THE PURCHASE PRICE FOR DEFECTIVE PRODUCTS, AT SELLER'S SOLE OPTION. SELLER'S LIABILITY ON ANY CLAIM, WHETHER IN CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, FOR ANY LOSS OR DAMAGE ARISING OUT OF OR IN CONNECTION WITH PURCHASER'S ORDER OR THE PRODUCTS OR EQUIPMENT PURCHASED HEREUNDER, SHALL IN NO CASE EXCEED THE PURCHASE PRICE OF THE EQUIPMENT GIVING RISE TO THE CLAIM.

RESPONSIBILITY:

It is the understanding of the Seller that Purchaser and/or User will use this equipment in conjunction with additional equipment or accessories to comply with all Federal, State and local regulations. The Seller assumes no responsibility for the Purchaser's or Users compliance with any Federal, State and local regulations.

RETURNS:

Cincinnati Fan & Ventilator Company assumes no responsibility for any material returned to our plant without our permission. An **RMA** (Return Material Authorization) number must be obtained and clearly shown on the outside of the carton or crate and on a packing slip. Any items returned must be shipped freight prepaid. Failure to comply will result in refusal of the shipment at our receiving department.

DISCLAIMER

This manual, and all its content herein, is based on all applicable known material at the time this manual was created. **Any parts of this manual are subject to change at any time and without notice.**

If any statements, diagrams and/or instructions contained herein, **for components not manufactured by the Seller,** conflict with instructions in the manufacturer's manual (i.e.: motors, dampers, etc.), the instructions in the manufacturer's manual, for that component take precedent.

Should you want the latest version of this manual, please contact us or our sales office for your area. Or, you can print a current version by going to our website at: **www.cincinnatifan.com**

cincinnati fan

7697 Snider Road, Mason, OH 45040-9135
Phone: (513) 573-0600 Fax: (513) 573-0640
E-Mail: sales@cincinnatifan.com

X. PARTS DRAWING:

PLEASE NOTE

Cincinnati Fan manufactures many models and arrangements with special variations. For that reason, the maintenance manuals contained on our website do not include a parts drawing nor the completed blower or fan specifications on page 1. For the parts drawing of all the standard components and specifications for the specific blower or fan that you have, please contact our local Cincinnati Fan sales office for your area.

You will need to give them the serial number shown on the blower or fan nameplate so they can supply you the correct information.

Click on ***"Contact a Sales Rep"*** on our website for the name and contact information for our local sales office for your area. **www.cincinnatifan.com**

cincinnati fan

SPECIFICATION SHEET

Electronic Submittal

Visit our web site at:
www.cincinnatifan.com

CFV NO.	CUSTOMER P.O. NUMBER	SCHEDULED SHIP DATE
2014362	543 Front St	12/11/20
CUSTOMER ID NUMBER	**BUYER**	**REP. ORDER NO.**
1233	Walt D	51163

CUSTOMER NAME/ADDRESS

HOME SAFETY SOLUTIONS
17092 BARIUM STREET NW
ANDOVER, MN 55304

REP CONTACT INFO

GLACIER TECHNOLOGY, INC.
1846 BERKSHIRE LANE
PLYMOUTH MN 55441
Phone: (763) 577-0102 Fax: (763) 577-3799

MARKS

QTY	MODEL	DESCRIPTION	ROT	DISCH	ARR	WHEEL/PROP	INLET
7	SPB-10	STMPD STEEL PB	CW	UB	4	12-1/4 X 2-7/8	6

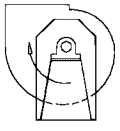
MOTOR DATA	HP	RPM	PH	CYCLE	VOLTAGE	FRAME	ENCLOSURE	SUPPLIED BY	INSTALLED BY
	3/4	3450	1	60	115/208-230V	56	TEFC	CFV	CFV

CFV MOTOR PART NUMBER	GROOVES	FXD/ADJ	BELT
372032W			

MOTOR VENDOR MODEL NUMBER	MOTOR SHEAVE	BUSHING
.7536ES1B56-S		

FAN DATA	DENSITY	TEMP.	ALTITUDE	CFM	SP	RPM	BHP	FAN SHEAVE	BUSHING
AT OPERATING CONDITIONS	0.075	70° F		100	10.000	3450	0.380		

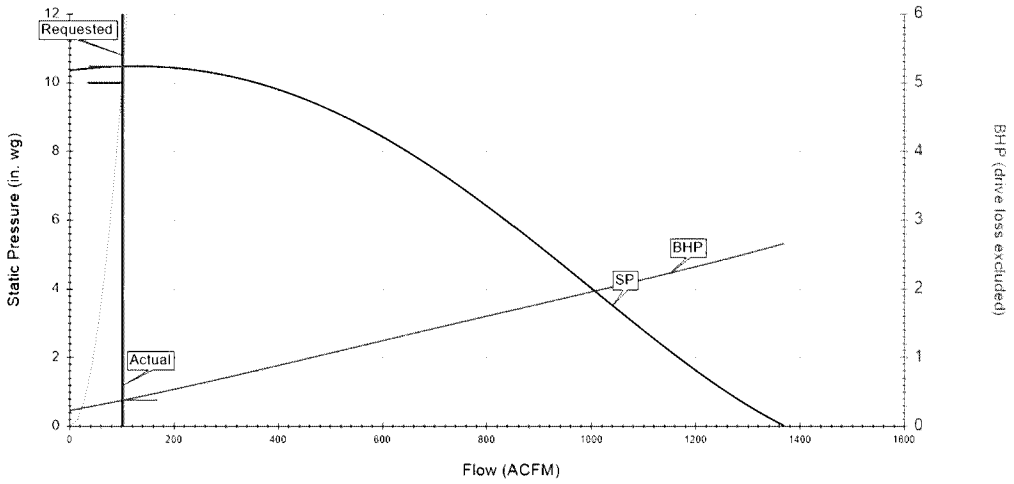
Record Print, Performance Curve, Operator/Maintenance Manual
Drawing: SPB-10-A4-06-56 - SPB-10-ARR 4,6" Inlet, 56 Frame
Drawing: 31106-R1-BLACK - RIS ISOLATOR, R1, BLACK, 31077
Complete Motor Description:
MTR,3/4 HP,3450 RPM,1PH,60Hz,115/208-230V,TEFC,Std Eff,FM,56,1.15 SF,B Insul., 40C Amb.,Tropicalized for Storage,Shielded Bearings,F1 Box,Steel frame, REPLACES .7536ES1BB56,Weg
Estimated Shipping Weight: 72 pounds
RIS VIBRATION ISOLATORS
TEFLON SHAFT SEAL
Customer Ref: 543 Front St
Paint: 40350 MAXON GRAY HOUSING
Submittal Email: WALT@HOMESAFETYSOLUTIONSINC.COM



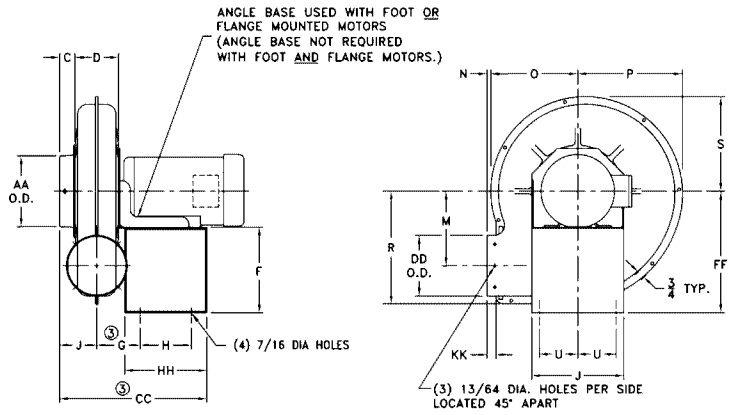
CW UB

Prepared By: Mason Kilroy
Prepared On: 12/9/2020

Cincinnati Fan SPB-10 12-1/4 X 2-7/8 Radial Wheel (Full Width) @ 3,450 RPM
Rating Point: 100 ACFM @ 10.0 in. wg SP, 0.075 lb./ft.^{3} Density, 0.38 BHP, 6.0 in. Inlet



A SPB4



CLOCKWISE BOTTOM HORIZONTAL DISCHARGE SHOWN

MODEL	FRAME SIZE	C	D	F	G	H	J	M	N	O	P	R	S	U	CC	DD	FF	HH	JJ	KK	APPROX. WEIGHT
SPB-9	56	1-1/2	3-3/4	6-7/8	3-3/16	5-3/4	3-3/8	5-5/8	9/16	6-3/4	8	8-11/32	7-1/4	2-3/4	15-3/8	3-15/16	10-7/16	7-7/8	7	7/8	48
	143T-145T			8-1/4	4	5								3-3/4	15-7/8		11-7/8	8	9		60
SPB-10	56		4-1/4	6-7/8	3-7/16	5-3/4	3-5/8	6-9/16	5/16	7-9/16	9-1/16	9-25/32	8-3/16	2-3/4	15-7/8	4-15/16	10-7/16	7-7/8	7		55
	143T-145T			8-1/4	4-1/4	5								3-3/4	16-3/8		11-7/8	8	9		75
SPB-12	56		4-1/4	8-1/4	3-7/8	5	3-5/8	7-9/32	3/8	8-1/2	10-1/4	11	9-1/4	3-3/4	16	5-15/16	11-7/8	8	9		68
	143T-145T				4-1/4										16-3/8						75
	182T-184T			6-7/16	4-5/8	8-3/4								4-15/16	20-1/2			11-1/2	12		100
SPB-15	145T-215T	1-1/4	8-3/4	9-15/16	6-7/8	8-3/4	5-5/8	8-11/32	1-5/8	10-3/32	11-15/16	13-3/32	10-29/32	4-15/16	23-3/4	7-15/16	15-3/16	13-3/4	15	1-1/16	220
	254T-256T			8-15/16		13									28			18	16-1/2		390

DIM "AA" AVAILABLE INLET SIZES
- ☐ 4" FOR SPB-9
- ☐ 5" FOR SPB-9,-10 & -12
- ■ 6" FOR SPB-10,-12 & -15
- ☐ 7" FOR SPB-12
- ☐ 8" FOR SPB-15
- ☐ 10" FOR SPB-15

NOTES:
1. HOUSING ROTATABLE IN 45° INCREMENTS.
2. DISCHARGE FLANGE NOT AVAILABLE FOR DOWN BLAST DISCHARGE.
3. MODELS SPB-9 THRU SPB-12 WITH 143-145T FOOT AND FLANGE MOUNTING, ADD 3/8 TO DIMENSIONS G AND CC.

cincinnati fan
7697 SNIDER ROAD MASON, OHIO 45040

TOLERANCES: ANGLES: ± 1° FRACTIONS ±1/8 — ALL DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED

SUPERSEDES: 61001 SPB154S

CERTIFIED DRAWING

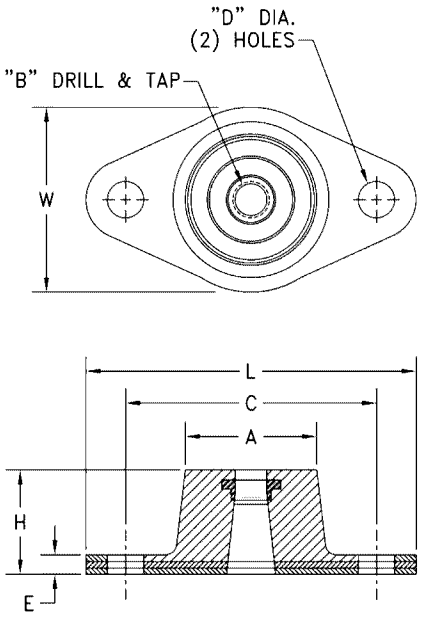
TITLE: STEEL PRESSURE BLOWERS ARR. 4

A

DRAWING NO. SPB4

REV.

A 31106



TYPE R NEOPRENE IN SHEAR MOUNTINGS

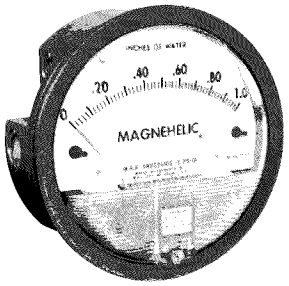
TYPE		MAX LOAD EACH LBS.	DEFLECTION IN INCHES	DIMENSIONS IN INCHES							
			R	L	W	H	A	B	C	D	E
R1	BLUE	35	0.20	$3\frac{1}{8}$	$1\frac{3}{4}$	1	$1\frac{1}{4}$	$\frac{5}{16}$ – 18 NC	$2\frac{3}{8}$	$\frac{11}{32}$	$\frac{3}{16}$
	BLACK	45									
	RED	70									
	GREEN	120									
R2	BLUE	135	0.25	$3\frac{7}{8}$	$2\frac{3}{8}$	$1\frac{1}{4}$	$1\frac{3}{4}$	$\frac{3}{8}$ – 16 NC	3	$\frac{11}{32}$	$\frac{7}{32}$
	BLACK	170									
	RED	240									
	GREEN	380									
R3	BLACK	250	0.25	$5\frac{1}{2}$	$3\frac{3}{8}$	$1\frac{3}{4}$	$2\frac{1}{2}$	$\frac{1}{2}$ – 13 NC	$4\frac{1}{8}$	$\frac{9}{16}$	$\frac{1}{4}$
	RED	525									
	GREEN	750									
	GRAY	1100									
R4	BLACK	1500	0.25	$6\frac{1}{2}$	$4\frac{1}{4}$	$1\frac{3}{4}$	$3\frac{3}{4}$	$\frac{5}{8}$ – 11 NC	5	$\frac{9}{16}$	$\frac{1}{4}$
	RED	2250									
	GREEN	3000									
	GRAY	4000									

cincinnati fan 7697 SNIDER ROAD MASON, OHIO 45040	TOLERANCES: ANGLES: ± 1° FRACTIONS ±1/16 ALL DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED	SUPERSEDES:	CERTIFIED DRAWING	TITLE RUBBER-IN-SHEAR (RIS) VIBRATION ISOLATORS	A	DRAWING NO. 31106	REV. 4

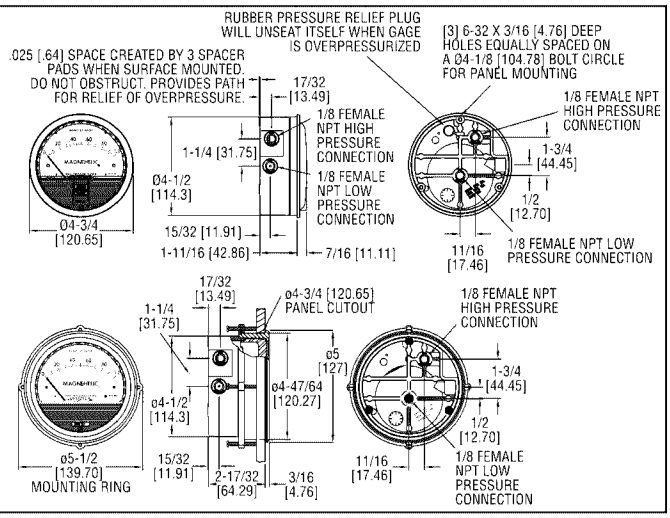
Series 2000

Magnehelic® Differential Pressure Gages

Indicate Positive, Negative or Differential, Accurate within 2%



Scan here to watch product video



Select the Dwyer® Magnehelic® gage for high accuracy – guaranteed within 2% of full-scale – and for the wide choice of 81 models available to suit your needs precisely. Using Dwyer's simple, frictionless Magnehelic® gage movement, it quickly indicates low air or non-corrosive gas pressures – either positive, negative (vacuum) or differential. The design resists shock, vibration and over-pressures. No manometer fluid to evaporate, freeze or cause toxic or leveling problems. It's inexpensive, too.

The Magnehelic® gage is the industry standard to measure fan and blower pressures, filter resistance, air velocity, furnace draft, pressure drop across orifice plates, liquid levels with bubbler systems and pressures in fluid amplifier or fluidic systems. It also checks gas-air ratio controls and automatic valves, and monitors blood and respiratory pressures in medical care equipment.

MOUNTING

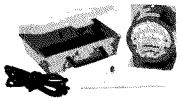
A single case size is used for most models of Magnehelic® gages. They can be flush or surface mounted with standard hardware supplied. Although calibrated for vertical position, many ranges above 1" may be used at any angle by simply re-zeroing. However, for maximum accuracy, they must be calibrated in the same position in which they are used. These characteristics make Magnehelic® gages ideal for both stationary and portable applications. A 4-9/16" hole is required for flush panel mounting. Complete mounting and connection fittings, plus instructions, are furnished with each instrument.❶

SPECIFICATIONS

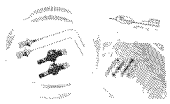
Service: Air and non-combustible, compatible gases (natural gas option available). **Note:** May be used with hydrogen. Order a Buna-N diaphragm. Pressures must be less than 35 psi.
Wetted Materials: Consult factory.
Housing: Die cast aluminum case and bezel, with acrylic cover. Exterior finish is coated gray to withstand 168 hour salt spray corrosion test.
Accuracy: ±2% of FS (±3% on - 0, -100 Pa, -125 Pa, 10MM and ±4% on - 00, -60 Pa, -6MM ranges), throughout range at 70°F (21.1°C).
Pressure Limits: -20 in Hg to 15 psig† (-0.677 to 1.034 bar); MP option: 35 psig (2.41 bar); HP option: 80 psig (5.52 bar).
Overpressure: Relief plug opens at approximately 25 psig (1.72 bar), standard gages only.❷
Temperature Limits: 20 to 140°F* (-6.67 to 60°C). -20°F (-28°C) with low temperature option.
Size: 4" (101.6 mm) diameter dial face.
Mounting Orientation: Diaphragm in vertical position. Consult factory for other position orientations.
Process Connections: 1/8" female NPT duplicate high and low pressure taps - one pair side and one pair back.
Weight: 1 lb 2 oz (510 g), MP & HP 2 lb 2 oz (963 g).
Standard Accessories: Two 1/8" NPT plugs for duplicate pressure taps, two 1/8" pipe thread to rubber tubing adapter, and three flush mounting adapters with screws. (Mounting and snap ring retainer substituted for three adapters in MP & HP gage accessories.)
Agency Approval: RoHS. **Note:** -SP models not RoHS approved.

†For applications with high cycle rate within gage total pressure rating, next higher rating is recommended. See Medium and High pressure options.

ACCESSORIES



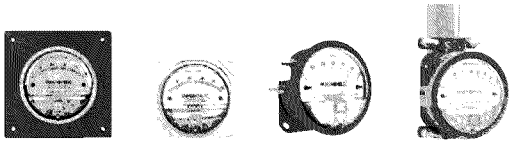
Model A-432 Portable Kit
Combine carrying case with any Magnehelic® gage of standard range, except high pressure connection. Includes 9 ft (2.7 m) of 3/16" ID rubber tubing, standhang bracket and terminal tube with holder.



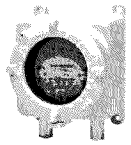
Model A-605 Air Filter Gage Accessory Kit
Adapts any standard Magnehelic® gage for use as an air filter gage. Includes aluminum surface mounting bracket with screws, two 5 ft (1.5 m) lengths of 1/4" aluminum tubing two static pressure tips and two molded plastic vent valves, integral compression fittings on both tips and valves.

A-605B Air Filter Gage Accessory Kit, Air filter kit with two plastic open/close valves, two 4" steel static tips, plastic tubing and mounting flange

A-605C Air Filter Gage Accessory Kit, Air filter kit with two plastic open/close valves, two plastic static tips, plastic tubing and mounting flange



Flush, Surface, Integrated Plate or Pipe Mounted

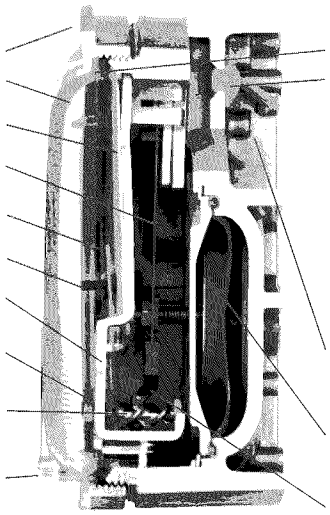


Enclosure Mounted

❶See page 7 (Magnehelic® Gage Mounting Accessories)
❷Over Protection Note: See page 5 (Series 2000)

Series 2000

Magnehelic® Gage Models & Ranges



Bezel provides flange for flush mounting in panel.

Clear plastic face is highly resistant to breakage. Provides undistorted viewing of pointer and scale.

Precision litho-printed scale is accurate and easy to read.

Calibrated range spring is flat spring steel. Small amplitude of motion assures consistency and long life. It reacts to pressure on diaphragm. Live length adjustable for calibration.

Red tipped pointer of heat treated aluminum tubing is easy to see. It is rigidly mounted on the helix shaft.

Pointer stops of molded rubber prevent pointer over-travel without damage.

"Wishbone" assembly provides mounting for helix, helix bearings and pointer shaft.

Jeweled bearings are shock-resistant mounted; provide virtually friction-free motion for helix. Motion damped with high viscosity silicone fluid.

Helix is precision made from an alloy of high magnetic permeability. Mounted in jeweled bearings, it turns freely, following the magnetic field to move the pointer across the scale.

Zero adjustment screw is conveniently located in the plastic cover, and is accessible without removing cover. O-ring seal provides pressure tightness.

O-ring seal for cover assures pressure integrity of case.

OVERPRESSURE PROTECTION
Blowout plug is comprised of a rubber plug on the rear which functions as a relief valve by unseating and venting the gage interior when over pressure reaches approximately 25 psig (1.7 bar). To provide a free path for pressure relief, there are four spacer pads which maintain 0.023" clearance when gage is surface mounted. Do not obstruct the gap created by these pads.
The blowout plug is not used on models above 180" of water pressure, medium or high pressure models, or on gages which require an elastomer other than silicone for the diaphragm.
The blowout plug should not be used as a system overpressure control. High supply pressures may still cause the gage to fail due to over pressurization, resulting in property damage or serious injury. Good engineering practices should be utilized to prevent your system from exceeding the ratings or any component.

Die cast aluminum case is precision made and iridite-dipped to withstand 168 hour salt spray corrosion test. Exterior finished in baked dark gray hammerloid. One case size is used for all standard pressure options, and for both surface and flush mounting.

Silicone rubber diaphragm with integrally molded O-ring is supported by front and rear plates. It is locked and sealed in position with a sealing plate and retaining ring. Diaphragm motion is restricted to prevent damage due to overpressures.

Samarium Cobalt magnet mounted at one end of range spring rotates helix without mechanical linkages.

Model	Range Inches of Water
2000-00N†••	.05-0-.2
2000-00†••	0-.25
2000-0†•	0-.50
2001	0-1.0
2002	0-2.0
2003	0-3.0
2004	0-4.0
2005	0-5.0
2006	0-6.0
2008	0-8.0
2010	0-10
2012	0-12
2015	0-15
2020	0-20
2025	0-25
2030	0-30
2040	0-40
2050	0-50
2060	0-60
2080	0-80
2100	0-100
2120	0-120
2150	0-150
2160	0-160
2180*	0-180
2250*	0-250
Zero Center Ranges	
2300-00†••	0.125-0-0.125
2300-0†•	.25-0-.25
2301	.5-0-.5
2302	1-0-1
2304	2-0-2
2310	5-0-5
2320	10-0-10
2330	15-0-15

Model	Range PSI
2201	0-1
2202	0-2
2203	0-3
2204	0-4
2205	0-5
2210*	0-10
2215*	0-15
2220*	0-20
2230**	0-30
Model	**Range, CM of Water**
2000-15CM	0-15
2000-20CM	0-20
2000-25CM	0-25
2000-50CM	0-50
2000-80CM	0-80
2000-100CM	0-100
2000-150CM	0-150
2000-200CM	0-200
2000-250CM	0-250
2000-300CM	0-300
Zero Center Ranges	
2300-4CM	2-0-2
2300-10CM	5-0-5
2300-30CM	15-0-15

†These ranges calibrated for vertical scale position.
• Accuracy +/-3%
•• Accuracy +/-4%
*MP option standard
**HP option standard

Model	Range MM of Water
2000-6MM†••	0-6
2000-10MM†•	0-10
2000-15MM	0-15
2000-25MM	0-25
2000-30MM	0-30
2000-50MM	0-50
2000-80MM	0-80
2000-100MM	0-100
2000-125MM	0-125
2000-150MM	0-150
2000-200MM	0-200
2000-250MM	0-250
2000-300MM	0-300
Zero Center Ranges	
2300-6MM†••	3-0-3
2300-10MM†•	5-0-5
2300-20MM†•	10-0-10
Model	**Range, Pa**
2000-60NPA†••	10-0-50
2000-60PA†••	0-60
2000-100PA†•	0-100
2000-125PA†•	0-125
2000-250PA	0-250
2000-300PA	0-300
2000-500PA	0-500
2000-750PA	0-750
2000-1000PA	0-1000
Zero Center Ranges	
Model	**Range, Pa**
2300-60PA†••	30-0-30
2300-100PA†•	50-0-50
2300-120PA	60-0-60
2300-200PA	100-0-100
2300-250PA	125-0-125
2300-300PA	150-0-150
2300-500PA	250-0-250
2300-1000PA	500-0-500

Model	Range, kPa
2000-0.5KPA	0-0.5
2000-1KPA	0-1
2000-1.5KPA	0-1.5
2000-2KPA	0-2
2000-2.5KPA	0-2.5
2000-3KPA	0-3
2000-4KPA	0-4
2000-5KPA	0-5
2000-8KPA	0-8
2000-10KPA	0-10
2000-15KPA	0-15
2000-20KPA	0-20
2000-25KPA	0-25
2000-30KPA	0-30
Zero Center Ranges	
2300-1KPA	.5-0-.5
2300-2KPA	1-0-1
2300-2.5KPA	1.25-0-1.25
2300-3KPA	1.5-0-1.5

Dual Scale Air Velocity Units
For use with pitot tube

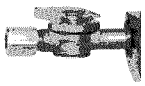
Model	Range in W.C./ Velocity F.P.M.
2000-00AV†••	0-.25/ 300-2000
2000-0AV†•	0-.50/ 500-2800
2001AV	0-1.0/ 500-4000
2002AV	0-2.0/ 1000-5600
2005AV	0-5.0/ 2000-8800
2010AV	0-10/ 2000-12500

Dual Scale English/Metric Models

Model	Range, in w.c.	Range, Pa or kPa
2000-00D†••	0-.25	0-62 Pa
2000-0D†•	0-0.5	0-125 Pa
2001D	0-1.0	0-250 Pa
2002D	0-2.0	0-500 Pa
2003D	0-3.0	0-750 Pa
2004D	0-4.0	0-1.0 kPa
2005D	0-5.0	0-1.25 kPa
2006D	0-6.0	0-1.5 kPa
2008D	0-8.0	0-2.0 kPa
2010D	0-10	0-2.5 kPa
2015D	0-15	0-3.7 kPa
2020D	0-20	0-5 kPa
2025D	0-25	0-6.2 kPa
2050D	0-50	0-12.4 kPa
2060D	0-60	0-15 kPa

VELOCITY AND VOLUMETRIC FLOW UNITS
Scales are available on the Magnehelic® that read in velocity units (FPM, m/s) or volumetric flow units (SCFM, m^3/s, m^3/h). Stocked velocity units with dual range scales in inches w.c. and feet per minute are shown above. For other ranges contact the factory.
When ordering volumetric flow scales please specify the maximum flow rate and its corresponding pressure. Example: 0.5 in w.c. = 16,000 CFM.

ACCESSORIES
A-321, Safety Relief Valve
A-448, 3-piece magnet kit for mounting Magnehelic® gage directly to magnetic surface
A-135, Rubber gasket for panel mounting
A-401, Plastic Carry Case



A-310A 3-Way Vent Valves
In applications where pressure is continuous and the Magnehelic® gage is connected by metal or plastic tubing which cannot be easily removed, we suggest using Dwyer A-310A vent valves to connect gage. Pressure can then be removed to check or re-zero the gage.

Appendix B

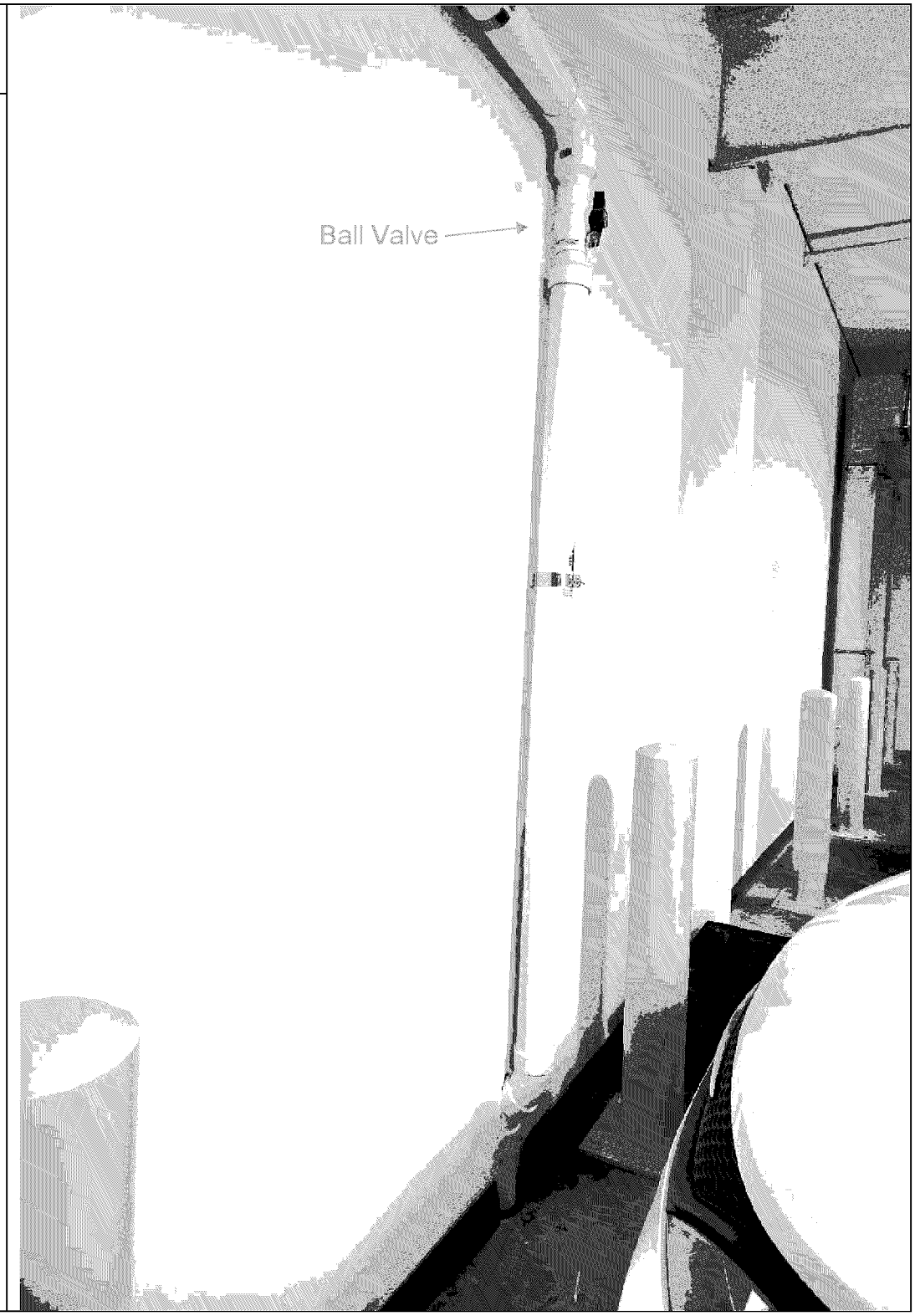
System Component Photographs

BRAUN INTERTEC
The Science You Build On.

Photographic Documentation

Site: Schmitt Music (Former Lifetouch Studio
Location: Bloomington, Minnesota

Project: B2106359.04
Photograph Date: 8/9/2023

Photograph #1	
Description: Suction pit (SP-1) piping in northern garage area. Ball Valve initially open to 100%.	

BRAUN INTERTEC
The Science You Build On.

Photographic Documentation

Site: Schmitt Music (Former Lifetouch Studio
Location: Bloomington, Minnesota

Project: B2106359.04
Photograph Date: 8/9/2023

Photograph #2	
Description: Suction pit (SP-2) piping in northern garage area. Gate Valve open initially to 100%.	

BRAUN INTERTEC
The Science You Build On.

Photographic Documentation

Site: Schmitt Music (Former Lifetouch Studio
Location: Bloomington, Minnesota

Project: B2106359.04
Photograph Date: 8/9/2023

Photograph #3	
Description: Riser piping in the second floor northern storage area. Magnehelic manometer (vacuum gauge) pictured with the riser pipe.	

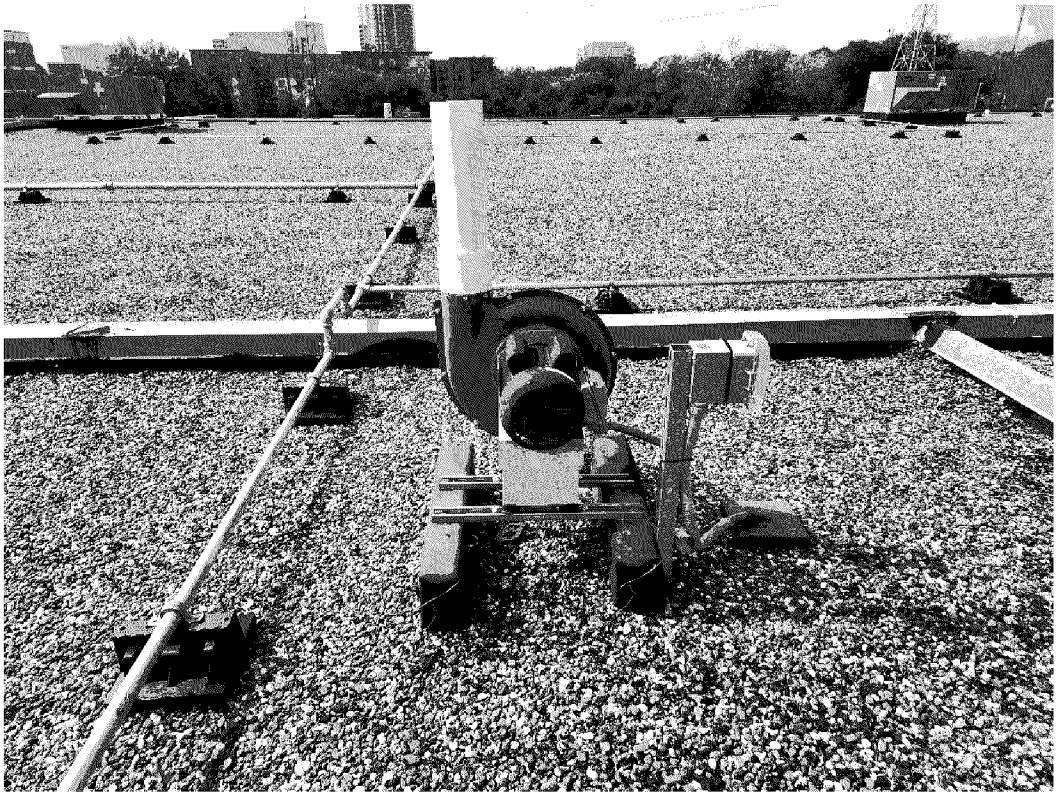
Photograph #4	
Description: Magnehelic manometer (vacuum gauge) connected to the exhaust riser PVC in Level 2 northern storage area. At the time of the photograph, the fan was not operational.	

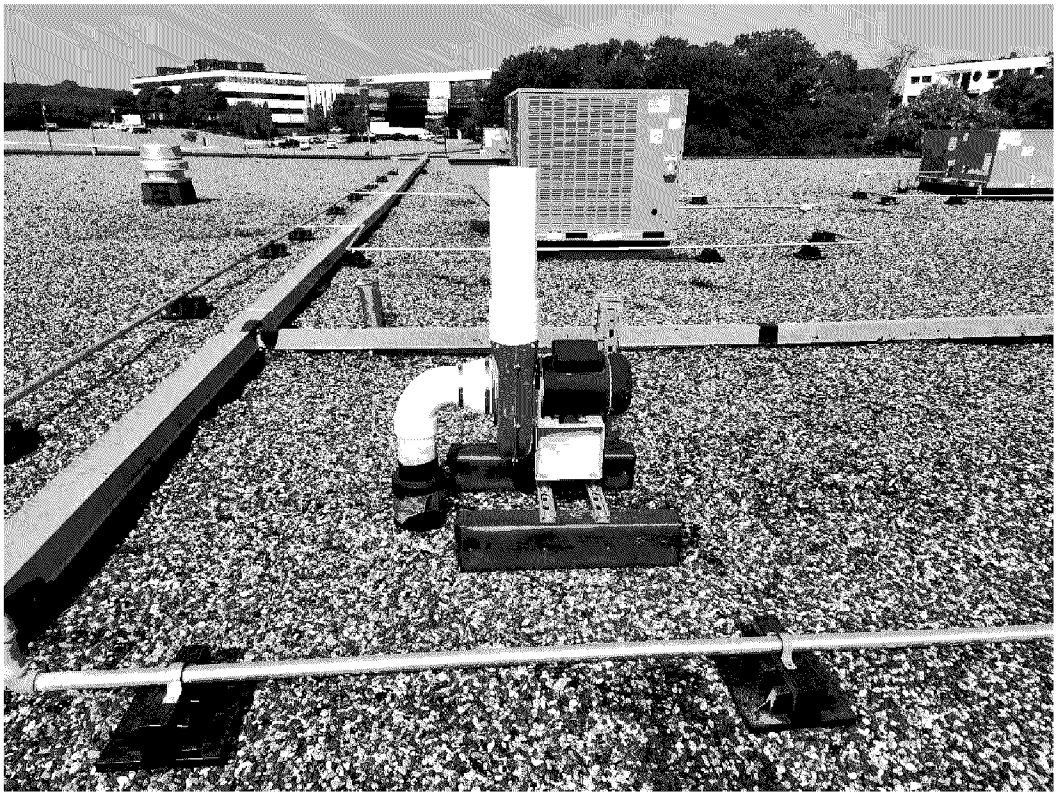
BRAUN INTERTEC
The Science You Build On.

Photographic Documentation

Site: Schmitt Music (Former Lifetouch Studio
Location: Bloomington, Minnesota

Project: B2106359.04
Photograph Date: 8/9/2023

Photograph #5	
Description: Exhaust fan (Cincinnati SPB-10) located on the northern portion of the roof. On/off switch located in the weatherized power box on the right.	

Photograph #6	
Description: Exhaust fan (Cincinnati SPB-10) located on the northern portion of the roof.	

Appendix C

Troubleshooting Guide

BRAUN
INTERTEC

Appendix C
Troubleshooting Guide
Vapor Intrusion Mitigation System
Former Lifetouch Studio
7800 Picture Drive
Project B2106359.03

Problem	Possible Remedy
Fan not operating, Magnehelic reading 0 inches vacuum.	Check circuit breaker to see if breaker has been tripped, reset breaker.
	Verify tubing from PVC piping to Magnehelic is fully connected and sealed
	Verify fan is operating on roof, if fan has power and is not operating call Braun Intertec.
	Check for cracks or breaks in riser piping from floor to roof penetration, contact Contractor if cracked piping is found.
Magnehelic gauge reads greater than 0, but less than 7 inches of water.	Check for cracks or breaks in riser piping from floor to roof penetration, contact Contractor if cracked piping is found.
	Check for ice accumulation on discharge piping above fan on roof of building. If ice has built up, melt ice with small amounts of warm water or contact Contractor.
Excessive noise or audible "sucking" noise	Attempt to identify the source of the noise, this could be a crack in piping, broken fitting, etc. If unresolved, contact Contractor.
Vapor mitigation system riser piping has excessive vibration	Temporarily turn of system, and check fan on roof for obstructions. If obstructions are found, or excessive vibration persists, Contractor.

Repair or replace components as necessary and record actions in Operation Log (Appendix D). If the Building Owner, their staff or the Contractor cannot resolve the problem, contact Braun Intertec for assistance (see Section E).

Appendix D

Vapor Mitigation System
Operation Log

BRAUN
INTERTEC

Print a copy of this sheet and keep it on the premises to record system status or other actions related to the mitigation system

Operation Log
Vapor Mitigation System
Former Lifetouch Studio
B2106359.03
MPCA ID: BF0001982

1. Record the vacuum reading of the Magnehelic gauge for the system at least semi-annually.
2. Document any changes to building conditions (i.e., building additions, basement floor cracking, changes to plumbing below the floor slab, etc.) and building use/occupancy (i.e., new day care tenant).
3. Keep this Log on the premises at all times.
4. Annual compliance reporting is due to MPCA July 1 of each year, and can be submitted to the MPCA electronically at by emailing instcontrols.pca@state.mn.us Include "Annual Vapor Monitoring System Report – BF0001982" in the subject line.

Date	Initials	Magnehelic Reading (Normal Operating Range 7" - 11")	Building Changes, Issues or Concerns (Yes/No)	Actions Taken (if any)
9/9/2022	Baseline	9.0 inches of water column (" w.c)	No	None
2/10/2023	Example	8.5" w.c.	Yes	Ex) Installed plumbing for bathroom addition in northern storage area. Notified Braun Intertec.

BRAUN INTERTEC

Date	Initials	Magnehelic Reading (Normal Operating Range 7” - 11”)	Building Changes, Issues or Concerns (Yes/No)	Actions Taken (if any)

Exhibit 4

Interests and Encumbrances

1. Subject to the access limitations and snow fence rights in favor of the State of Minnesota, as contained in Final Certificate dated October 22, 1964, filed November 20, 1964 as Document No. 3512230.
2. Subject to the electric transmission line easement and incidental rights in favor of Northern States Power Company, as contained in document filed February 10, 1965, in Book 2484 of Deeds Page 91 as Document No. 3527565.
3. Subject to the matters as disclosed in Order and Decree of Registration filed July 1, 1966 as Document No. 850972.
4. Subject to the easement and rights in favor of Northern States Power Company as set forth in Underground Easement dated June 7, 1968, filed June 13, 1968 as Document No. 911259.
5. Subject to the terms and conditions of Encroachment License between Northern States Power Company and National School Studios, Inc. dated February 20, 1976, filed August 17, 1976 as Document No. 1187336.
6. Subject to the drainage and utility easement(s) as shown on the recorded plat of National School Studios Addition recorded October 8, 1971 as Document No. 3910951 in the Office of the Hennepin County Recorder and as Document No. 1011761 in the Office of the Hennepin County Registrar of Titles.
7. Subject to the easement for drainage and utility purposes in favor of the City of Bloomington as granted in Deed dated August 17, 1979, filed August 29, 1979 as Document No. 1345296.
8. Subject to the terms, conditions and easements as set forth in Permanent and Temporary Easements between National School Studios, Inc., a Minnesota corporation, and Paramount Plaza Company, a Minnesota limited partnership, dated April 14, 1982, filed July 17, 1984 in the Office of the Registrar of Titles as Document No. 1589424.
9. Subject to the Conditional Use Permit in favor of Drive Shack Holdings, LLC, as disclosed in Resolution No. 2019-112 by the City of Bloomington filed September 25, 2019 as Document No. 10709914 in the Office of the County Recorder and filed September 26, 2019 as Document No. 5651446 in the Office of the Registrar of Titles.
10. Subject to the variances to city code sign standards in favor of Schmitt HQ 125, LLC, as disclosed in Resolution No. 2022-162 by the City of Bloomington filed September 9, 2022 as Document No. 11144822 in the Office of the County Recorder and filed September 8, 2022 as Document No. 5971529 in the Office of the Registrar of Titles.
11. Subject to the findings and denial for a variance as disclosed in Resolution No. 2022-168 by the City of Bloomington filed September 22, 2022 as Document No. 11148418 in the Office of the County Recorder and filed September 21, 2022 as Document No. 5974203 in the Office of the Registrar of Titles.
12. Subject to the Mortgage, Security Agreement, Fixture Financing Statement and Assignment of Leases and Rents, executed by Schmitt HQ 125, LLC, a Minnesota limited liability company in favor of Bremer Bank, National Association, a national banking association, in the original amount of $6,554,000.00, dated November 30, 2021, filed December 1, 2021, as Document No. 11047206 in the Office of the County Recorder and filed December 1, 2021, as Document No. 5899485 in the office of the Registrar of Titles.

13. Subject to the Mortgage, Security Agreement, Fixture Financing Statement and Assignment of Leases and Rents, executed by Schmitt HQ 125, LLC, a Minnesota limited liability company in favor of Bremer Bank, National Association, a national banking association, in the original amount of $4,097,000.00, dated November 30, 2021, filed December 1, 2021, as Document No. 11047207 in the Office of the County Recorder and filed December 1, 2021, as Document No. 5899486 in the office of the Registrar of Titles.

    As amended by Amendment to Mortgage, Security Agreement, Fixture Financing Statement and Assignment of Leases and Rents dated May 15, 2023, filed May 18, 2023 as Document No. 11202226 in the Office of the County Recorder and filed on May 15, 2023, filed May 18, 2023 as Document No. 6013908 in the office of the Registrar of Titles.

14. Interests of the following tenant parties under unrecorded leases:

    - Paul A. Schmitt Music Company.

EXHIBIT 5
Subordination Agreements

[Contained on Following Pages]

LENDER SUBORDINATION AGREEMENT

FOR VALUABLE CONSIDERATION, the undersigned hereby subordinates the liens on real property in Hennepin County, Minnesota, which is evidenced by the following:

- Mortgage, Security Agreement, Fixture Financing Statement and Assignment of Leases and Rents, dated November 30, 2021, and recorded on December 1, 2021, as document number 11047206 in the Office of the County Recorder and filed December 1, 2021, as Document No. 5899485 in the office of the Registrar of Titles of Hennepin County, Minnesota; and

- Mortgage, Security Agreement, Fixture Financing Statement and Assignment of Leases and Rents, dated November 30, 2021, and recorded on December 1, 2021, as document number 11047207 in the Office of the County Recorder and filed December 1, 2021, as Document No. 5899486 in the office of the Registrar of Titles of Hennepin County, Minnesota,

the Environmental Covenant and Easement to which this agreement is attached. The undersigned does not waive the right to consent to any subsequent amendment or modification to the Environmental Covenant and Easement.

Bremer Bank, National Association

Dated: 10-18-23

By: Chelsea Horton
(Signature)

Its: VP Commercial RM
(Type of authority)

STATE OF MINNESOTA)
) SS.
COUNTY OF HENNEPIN)

This instrument was acknowledged before me on 10/18/2023, by
(month/day/year)

Chelsea Horton, as Vice President of
(name of authorized signer) (type of authority)

Bremer Bank, National Association
(name of entity on behalf of whom the instrument was signed)

Heidi L Anderson (signature)
Notary Public

HEIDI L ANDERSON
NOTARY PUBLIC - MINNESOTA
My Commission Expires Jan. 31, 2027

My Commission Expires (mm/dd/yyyy): 01/31/2027

NON-LENDER SUBORDINATION AGREEMENT

FOR VALUABLE CONSIDERATION, the undersigned hereby subordinates the interest on real property in Hennepin County, Minnesota, as evidenced by an unrecorded lease, dated November 23, 2021, to the Environmental Covenant and Easement to which this agreement is attached.

The undersigned agrees to be bound by the activity and use limitations in paragraph 7A and 7B the affirmative obligations in paragraph 7C to the Environmental Covenant and Easement and does not waive the right to consent to any subsequent amendment or modification of the Environmental Covenant and Easement.

Dated: 11/2/23

Paul A. Schmitt Music Company

By: _____.
(Signature)

Its: CEO
(Type of authority)

STATE OF MINNESOTA)
) SS.
COUNTY OF HENNEPIN)

This instrument was acknowledged before me on November 2, 2023, by
(month/day/year)

Peter Schmitt, as CEO of
(name of authorized signer) (type of authority)

Paul A. Schmitt Music Company.
(name of entity on behalf of whom the instrument was signed)

Rachel A Sundberg (signature)
Notary Public

My Commission Expires (mm/dd/yyyy): 1-31-25

RACHEL A SUNDBERG
Notary Public
Minnesota
My Commission Expires January 31, 2025