



DEXON CANADA AIR SYSTEMS INC.

VENT FAN OWNERS MANUAL

SMVOD SERIES



PROVIDING SAFETY VENTILATION TO THE WATER, WASTER WATER INDUSTRY

SINCE 1986

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Spare Parts List, Blower Curves, Spec Sheet, Quality Control Test Report

1. GENERAL COMMENTS

1.1 INTRODUCTION

Dexon vent fans are designed to provide positive pressure safety ventilation in climates not requiring tempering of the supplied air. The SMVOD series vent fans are outdoor freestanding surface mounted or flanged pipe mounted.

FEATURES

- Status Indication
- 2 Speed Adjustable Control and Toggle Switch
- Provisions for Low Temperature Shut Down
- Blower Boost Start
- CSA Certified
- Corrosive Resistant Aluminum Housing

1.2 PURPOSE

To provide continuous positive pressure safety ventilation to pumping station wet wells, dry wells, buildings, vaults and chambers for the safety of the operator and to provide a less corrosive environment for equipment.

SMVOD Vent Fan is intended for use in locations not requiring preheated air. It is not Dexon's responsibility to determine if preheated air is required. Dexon will not be liable for any personal injuries, equipment or property damage caused by inappropriate installation or operation.

This equipment is only suitable for use in Class 1, Division 2, Groups C and D, Temp Code T4 or Non-Hazardous Locations, Enclosure Type 3R.

2. OPERATOR AND EQUIPMENT SAFETY

2.1 OPERATOR SAFETY

The installation, operation and maintenance of this unit must be carried out by qualified personnel only and in accordance with national and local electrical codes.

For your safety read the supplied Owner's Manual and Installation Instructions before installing.

Ensure all required lock-out procedures are followed.

Take note of all the safety labels on the unit.

If entering a confined space always follow confined space entry procedures.

Switch the vent fan into "High/Full" speed to purge the space before entering. NEVER leave the unit in "High/Full" speed unattended if freezing is a concern.

2.2 EQUIPMENT SAFETY

Store the vent fan in a safe dry environment prior to installation.

Ensure that the factory preset continuous airflow meets the onsite requirements.

We strongly recommend providing surge protection.

When installing/servicing the unit ensure all the screws on the access panels are used and secured to maintain Type 3R rating.

Do not install vent fans on a down pipe smaller than the discharge outlet.

Ensure there is adequate distance between intake louvers and pressure relief vent/gooseneck.

Follow regular maintenance procedures as outlined in section 5.1 of this manual.

Locations with higher debris accumulation such as vegetation, construction, road dust or salt may require more monitoring and maintenance.

IMPORTANT: The vent fan must run continuous. Not all components in the unit are corrosive resistant and rely on the continuous positive pressure of the unit to keep the damaging moist and corrosive gases from entering the vent fan. If the vent fan cannot be immediately started or run continuously, on site actions must be taken to prevent corrosive gases and moisture from entering the vent fan.

WARNING: EXPLOSION HAZARD; SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS 1, DIV. 2.

3. SPECIFICATIONS

3.1 STATUS INDICATOR/CONTROLLER

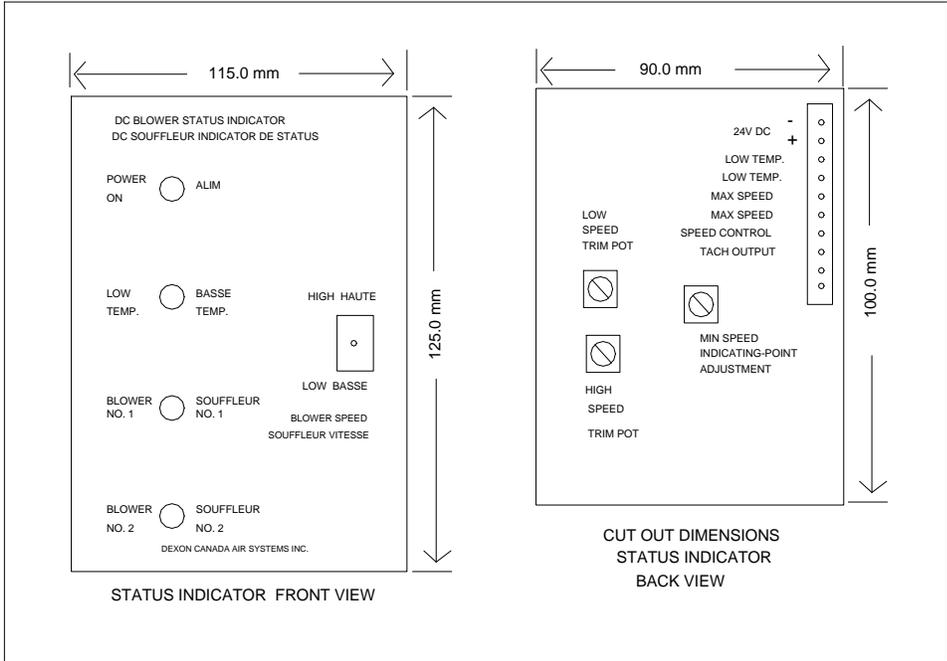
The SMVOD Vent Fan is supplied with a remotely installed status indicator/controller with the following characteristics:

- Status Indication for “Power On”, “Low Temp.” condition (upon request) and “Blower 1” & “Blower 2” proof of fan rotation.
- 0-10VDC/PWM output to the blower.
- Potentiometers for adjusting both the “Low/Idle” speed and the “High/Full” speed.
- Toggle switch for alternating between “Low/Idle” and “High/Full” speed.
- Terminals for optional “Low Temp.” shut down feature; when requested prior to fabrication.
- Blower boost start to provide a momentary full output voltage to the blower.



Status Indicator/Controller

Status Indicator/Controller must be installed in appropriate enclosure remote from hazardous locations.



3.2 SPECIFICATIONS AND FEATURES

- **Blower:** 24 or 48 Volt brushless DC backward curved motorized impeller - CFM as specified/required from 210 to 2650 (with dual blowers).
- **Power Supply:** 120VAC, 240Watt – 720Watt (with dual blowers).
- **Air Inlet:** Louvered on back of unit and varies with capacity.
- **Discharge Outlet:** May be rectangular or round; size varies based on capacity.
- **Speed Control:** A “High/Low” speed switch is mounted on the status indicator/controller. Potentiometers for adjusting both the “Low/Idle” speed and the “High/Full” speed are provided on the back of the status indicator/controller.
- **Proof of Fan Rotation:** A potentiometer(s) for adjusting the indication speed for the desired operating speed.
- **Low Temp. Protection:** When requested prior to fabrication; provisions can be made for interfacing with a “Low Temp.” shut down thermostat (supplied by others) if intermittent freezing of vented space is a concern and there is no potential for warm humid air to migrate to the blower when the unit is shut down. A set of terminals will be made available on the back of the status indicator to interface with a normally closed dry contact to facilitate a complete blower shut down.
- **Remote High/Low Interfacing:** A set of terminals is provided for interfacing with a normally open **dry contact** from any switching device; for example gas detection output, lid/ hatch switch or PLC etc. Closing this contact will override the “High/Low” speed switch on the status indicator as well as the “Low Temp.” shut down feature and causes the blower to run at the preset “High/Full” speed. The unit will return to its original condition when the contact is opened again.

IMPORTANT: When in this condition the “Low Temp.” feature and all other speed control functions are disabled. The vent fan must not be left in this condition if freezing of the space is a concern.

- **CSA Certified:** Dexon vent fans are CSA certified for Class 1, Div. 2, Gas Groups C & D, Temp. Code T4, Enclosure Type 3R. Any modifications to existing certified units will require special CSA approvals/certification.

4. INSTALLATION

4.1 INSTALLATION REQUIREMENTS

- Status indicator/controller must be installed remote from hazardous locations.
- Class 1, Div. 2 units must be fused remote from hazardous locations.
- A pressure relief vent/gooseneck at least equal in cross section to the unit discharge outlet is required.
- Ensure the pressure relief vent/gooseneck is not in close proximity to the vent fan intake louvers.
- Maintain 305mm (12") clearance to the bottom of the intake louvers for accumulating debris or drifting snow.
- Maintain a minimum of 1 meter (3'3") clearance on control access side of the vent fan for maintenance and servicing.

IMPORTANT: The vent fan must run continuously. Not all components in the unit are corrosive resistant and rely on the continuous positive pressure of the unit to keep the damaging moist and corrosive gases from entering the vent fan. If the vent fan cannot be immediately started or run continuously, on site actions must be taken to prevent corrosive gases and moisture from entering the vent fan.

4.2 INSTALLATION INSTRUCTIONS

All installations must be done by qualified personnel and in accordance with local electrical codes.

1. Using the 4 stainless steel bolts mount the vent fan to a raised flanged down pipe or directly over a hole at the top of the ventilated space. See the vent fan bottom footprint drawing in appendices.
2. Install the status indicator/controller in a suitable enclosure in a non-hazardous dry location.
3. Provide appropriate 120VAC supply to the power terminal blocks in the vent fan housing and fuse remote as per the attached wiring diagram.

For Class 1, Div. 2 Locations, unit must be fused remote from hazardous locations.

4. Install and protect the Dexon supplied interface cable between the status indicator/controller to the vent fan terminal blocks in the vent fan housing.

5. Connect interfacing options to status indicator/controller if applicable as per wiring diagram in appendices.

WARNING: Electrical potential must NOT be connected to any terminals provided on the status indicator/controller.

6. If required adjust blower speed to meet site requirements; units are shipped out with the blower preset to minimum and maximum capacity. Adjustments can be made by way of trim pots on the status indicator/controller.

VENT FANS MUST RUN CONTINUOUSLY, FAILURE TO DO SO MAY VOID WARRANTY.

5. MAINTENANCE

5.1 MAINTENANCE INSTRUCTIONS

MAINTENANCE SHOULD ONLY BE PERFORMED BY QUALIFIED PERSONNEL.

ONCE A YEAR, PREFERABLY BEFORE THE COLD WEATHER SETS IN, PERFORM THE FOLLOWING MAINTENANCE PROCEDURES.

1. Power down the vent fan and clear air intake louvers and pressure relief vent/gooseneck of any debris or obstructions.
2. Remove front access panels to expose the controls and check all connections to the control section for loose or damaged wires and ensure they are secure.
3. Check for any signs of moisture or corrosion in the control section and on the status indicator/controller.
4. Disconnect wires in control section and cut any cable ties. Remove screws at the top of the control panel and gently pull the top of control panel towards you and up off the mounting pins (See appendices – Control Section Removal). This allows the complete control section to be removed for accessing the blower.
5. Remove any accumulated debris from the blower blades and ensure the blower is free moving.
6. Replace any damaged or corroded parts; reinstall the control section and reconnect all wiring.

7. Ensure all conduit holes are completely sealed with duct seal and reinstall the front access panels with all the screws provided to maintain Type 3R rating.

CONTACT INFORMATION:
 Email: techsupport@dexoncanada.com, Website: www.dexoncanada.com
 Tech Support Phone: 403-930-1284, Admin Phone: 403-272-0562

6. TROUBLE SHOOTING GUIDES

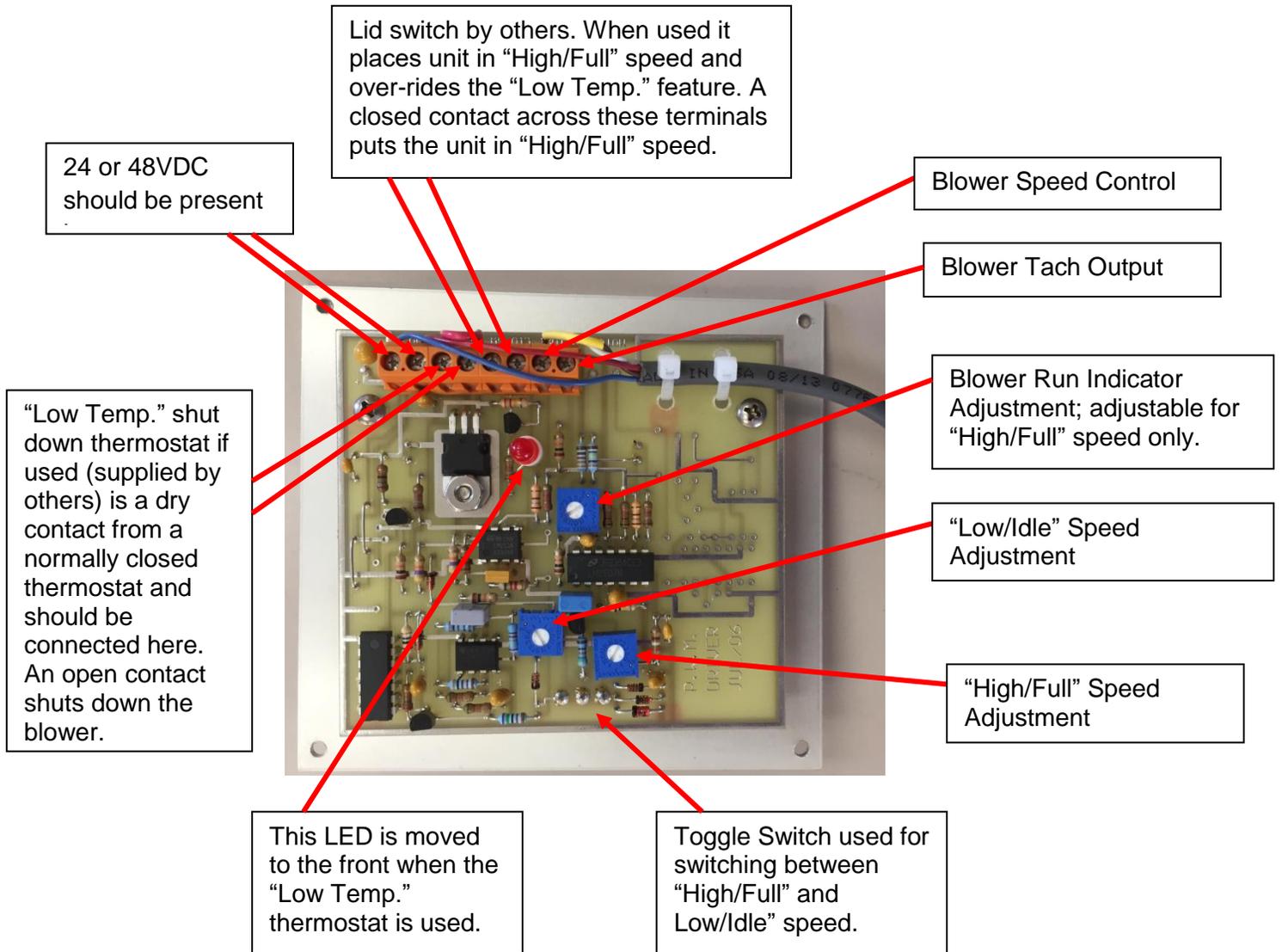
6.1 TROUBLE SHOOTING GUIDE

Problem	POSSIBLE CAUSE	CORRECTIVE ACTION
Vent fan not operating.	No 120VAC power to the power terminals in the vent fan housing.	Check for 120VAC as per wiring diagram. If not present check power source and fuses etc.
	No 24 or 48VDC power from vent fan housing terminal block to power status indicator/controller.	Check for "Power On" indication on status indicator/controller. If on continue to next possible cause below. If off; check terminal block in vent fan for 24 or 48VDC. If none present, trouble shoot back through rectifier, transformer, capacitor and blower. Replace as required.
	No 0-10VDC power present from status indicator/controller to vent fan.	Ensure the status indicator/controller is energized. Check "Speed Control" terminal to negative on the status indicator/controller in both "High/Full" speed and "Low/Idle" speed. If present proceed to next possible cause below. If not present replace the status indicator/controller.
	Blower has expired or wiring terminals are corroded and/or broken.	De-energize 120VAC circuit and check that the blower spins freely. Check for corroded wire or signs of moisture/frost. Replace blower as required.

If the above recommendations do not solve the problem please contact Dexon Canada Air Systems at 403-930-1284 or email techsupport@dexoncanada.com.

6.2 STATUS INDICATOR/CONTROLLER DESCRIPTION

Note: Description below is assuming the status indicator/controller is energized.



CONTACT INFORMATION:
Email: techsupport@dexoncanada.com, Website: www.dexoncanada.com
Tech Support Phone: 403-930-1284, Admin Phone: 403-272-0562

7. WARRANTY

Limited Warranty

Dexon Canada Air Systems Inc. warrants its Blower Heaters and Vent Fans to be free of defects in material and workmanship for a period of one (1) year from start up or eighteen (18) months from shipment, whichever comes first.

This warranty does not extend to abnormal or abusive wear and tear or improper installations and operations. All units and components of the unit must be installed according to Dexon's installation instructions provided with each unit. Responsibility for proper installation and operations must rest on the purchaser. Once properly installed all units must be operated as intended and maintained as outlined in owners and operators manuals supplied with each unit, and as per tags on each unit.

If the unit is shut down for any reason the unit must be completely sealed off to prevent any gases from entering the inside of the unit. This includes ducting/discharge, conduit and bolt holes, or any holes that would allow air to migrate into the unit. When removing the inside panels for repair or service, the discharge duct and any holes must still be covered in such a way as to prevent moisture from entering the body of the Blower Heater or Vent Fan.

Dexon's sole obligation under this warranty shall be to replace or repair defective parts or workmanship if upon evaluation it has been determined that they are defective and not a result of abnormal or abusive wear and tear or improper installations and operations.

Warranty services will only be extended to the original purchaser. In order to obtain warranty service the owner must ship the product prepaid to Dexon for evaluation. Dexon will ship the replaced or repaired product back prepaid if evaluation has determined that they are defective.

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8. DRAWINGS

8.1 DIMENSION DRAWING

8.2 WIRING DIAGRAM