



INFIN-A-Tek Application Notes

Spec No: VSR-001-DC (Revision: B)

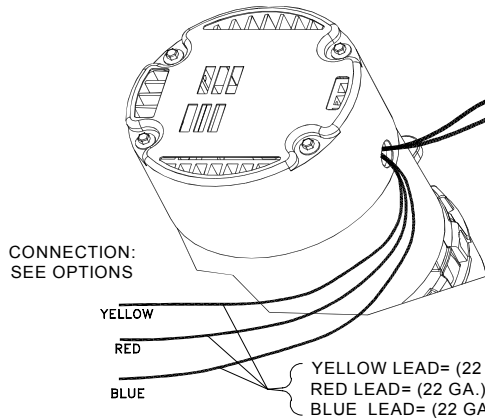
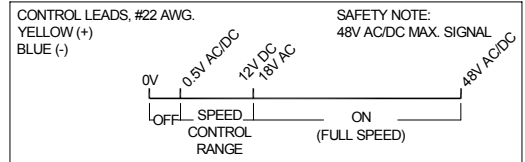


AMETEK 24, 36, & 48 VDC, INFIN-A-TEK, SR Gen II, Blower Motor

- Please review all of the diagrams carefully!
- The INFIN-A-TEK blower utilizes a switched reluctance (SR) brushless motor, which is commutated electronically. All SR motor control boards are thermally protected using an auto-reset device.
- The connection of the wires from the blower must be in accordance with these application notes for the unit to operate properly.
- All INFIN-A-TEK (SR) motors must be installed with 4.8 square inches minimum intake cooling air area to allow for adequate cooling of control board and motor components. Operating temperature range: -20 to +50 Deg C.
- For additional technical assistance, contact your AMETEK/Floorcare & Specialty Motor sales representative.

1) Description of Motor leads

Customer Control Wiring Options (for SR-DC Motors)



CAUTION: REVERSE POLARITY WILL DAMAGE THE MOTOR

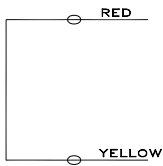
RED LEAD= (12 GA.) (24/36/48 V DC) (POWER INPUT (+)).
BLACK LEAD= (12 GA.) (24/36/48 V DC) (RETURN (-)).

YELLOW LEAD= (22 GA.) CONTROL VOLTAGE INPUT (0-12V DC/18V AC (48V MAX.)).
RED LEAD= (22 GA.) INTERNAL POWER SUPPLY (OUTPUT).
BLUE LEAD= (22 GA.) COMMON.

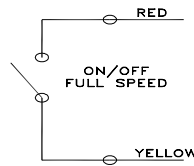
WARNING Blower enclosure is designed for NEMA Type1 or IP10 environments. For use with dry and filtered, working and cooling air, free of foreign substances, such as corrosive vapors, condensation, excessive particulates, foam, or liquids. Sufficient environmental protection should be provided (such as additional enclosures, air filters, etc.) to prevent ingress of foreign substances into the blower. Ingress of foreign substances voids all warranties expressed or implied. Lamb vacuum motors, other than hazardous duty models, should not come in contact with volatile materials. Failure to observe these precautions could result in property damage and severe bodily injury, including death. All applications incorporating Lamb motors should be submitted to appropriate organizations or agencies for testing specifically related to the safety of your equipment.

2) Customer Control Wiring Options

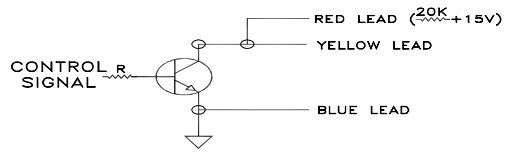
- Wiring Options 1 & 2 do not require an external control power source.
- Customer-supplied control power source (Option 3 - 6), if used, must be 0-48 VDC
- All unused control wire leads must be isolated (tape, wire nut, etc.)



OPTION 1
(ALWAYS ON)

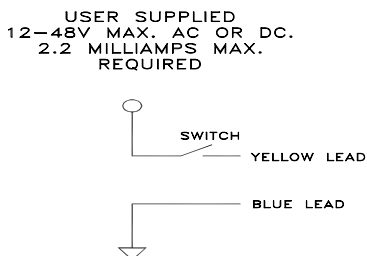


OPTION 2
(ON/OFF)

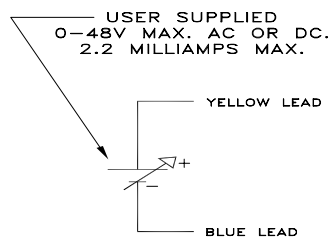


OPTION 3

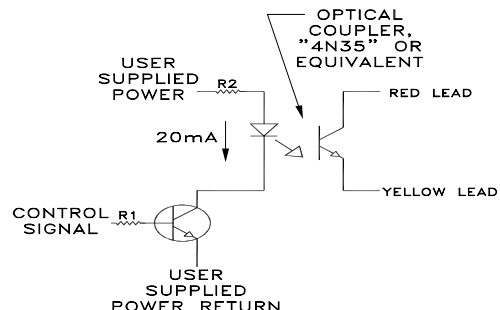
ELECTRONIC CONTROL CIRCUIT. ACTIVATE CONTROL SIGNAL TO TURN MOTOR OFF.



OPTION 4
MANUAL SWITCH IMPLEMENTATION



OPTION 5
VARIABLE SPEED CONTROL IMPLEMENTATION (MAX SPEED AT 12V)



OPTION 6

ELECTRONIC CONTROL CIRCUIT. ACTIVATE CONTROL SIGNAL TO TURN MOTOR ON.



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3) Cooling Requirements for Installation

COOLING REQUIREMENTS FOR BYPASS MOTORS

Minimum "Cooling Air" Area Requirements:

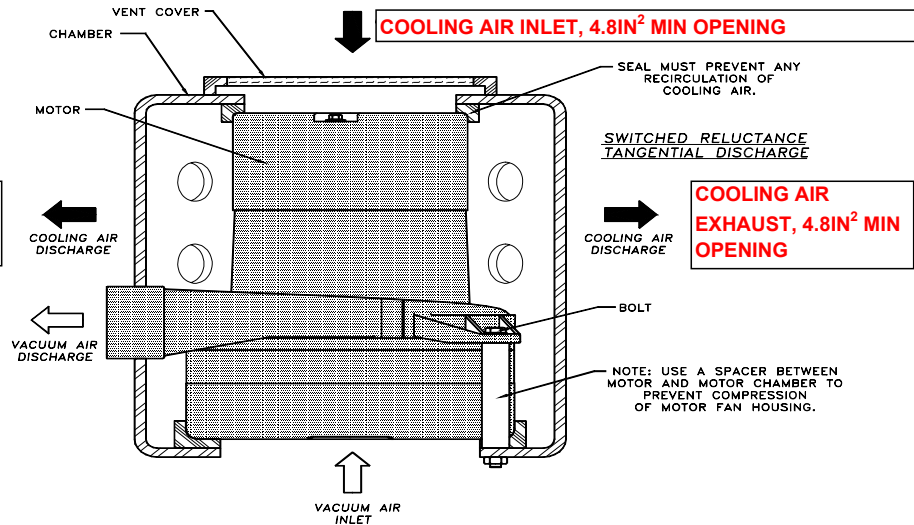
All INFIN-A-TEK SR motors require 4.8 square inches MINIMUM intake and exhaust cooling air area

DIAGRAM A: (TANGENTIAL)

TYPICAL TANGENTIAL EXHAUST SR BLOWER INSTALLATION

COOLING AIR EXHAUST, 4.8IN² MIN OPENING

NOTE: Motor mounting must not restrict air inlet ports on motor cover



COOLING REQUIREMENTS FOR BYPASS MOTORS

Minimum "Cooling Air" Area Requirements:

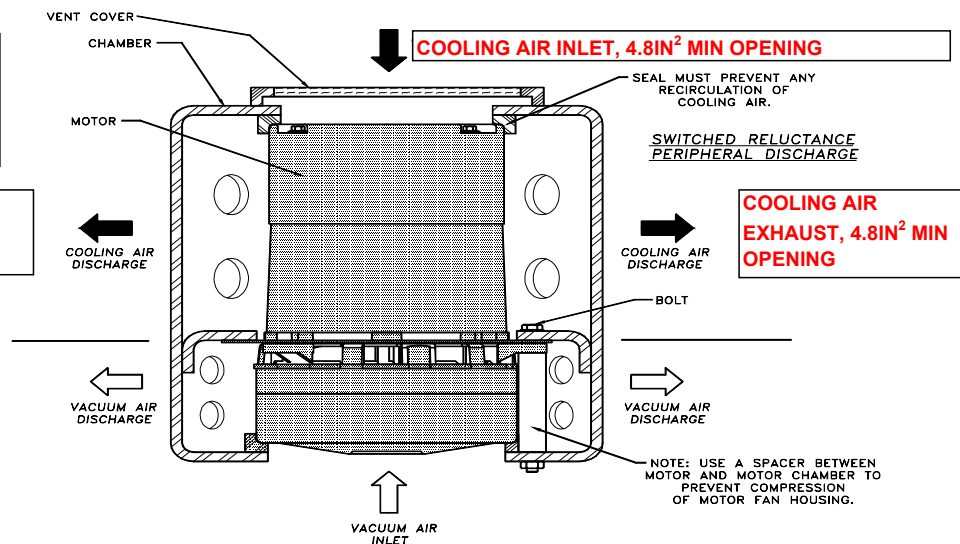
All INFIN-A-TEK SR motors require 4.8 square inches MINIMUM intake and exhaust cooling air area

DIAGRAM B: (PERIPHERAL)

TYPICAL PERIPHERAL EXHAUST SR BLOWER INSTALLATION

COOLING AIR EXHAUST, 4.8IN² MIN OPENING

NOTE: Motor mounting must not restrict air inlet ports on motor cover



Installation Notes / Recommendations:

The above diagrams (A & B) provide "typical" installation recommendations for the application of INFIN-A-TEK (SR) tangential exhaust and peripheral exhaust blower products. This information illustrates the required separation of "working / vacuum air" and "cooling air" within the above product enclosure. The separation of "working / vacuum air" and "cooling air" is essential to maintaining the extended life of the SR blower motors. Prolonged exposure of the motor's electronics to elevated temperatures is not recommended.

AMETEK/Floorcare & Specialty Motors
www.ametekfsm.com

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