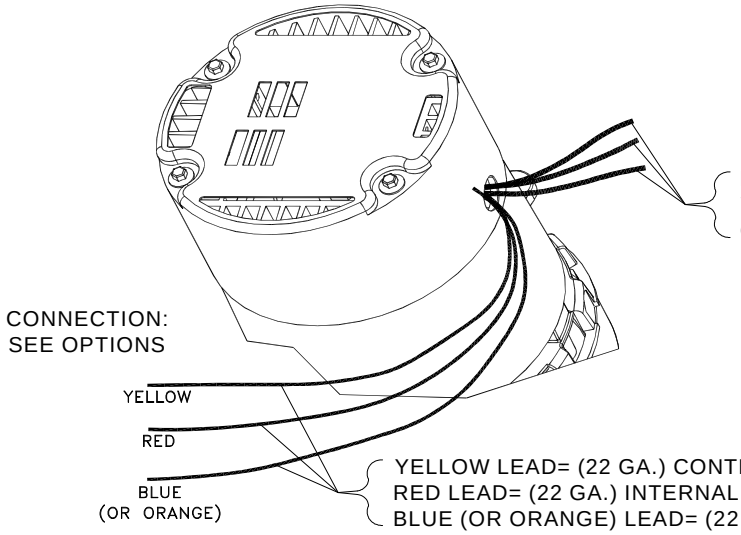
Lamb Electric 120/230 Volt, INFIN-A-TEK, SR Gen II, Blower

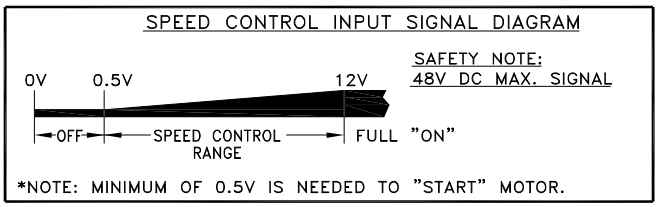
- **Please review all of the diagrams carefully!**
- **The INFIN-A-TEK blower utilizes a switched reluctance (SR) brushless motor, which is commutated electronically. The INFIN-A-TEK (SR) blower features an integral electronic control module that rectifies an "AC line voltage" to obtain the DC voltage required to power the motor controller. All SR motors 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 Lamb sales representative.**

1) Description of Motor leads



BLACK LEAD= (18 GA.) LINE (120/230V AC) (POWER INPUT).
WHITE LEAD= (18 GA.) NEUTRAL (120/230V AC) (POWER INPUT).
GREEN (OR GREEN WITH YELLOW STRIPE)= (18 GA.) GROUND.

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



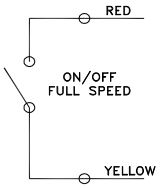
WARNING - When using AMETEK/Lamb Electric bypass motors in machines that come in contact with foam, liquid (including water) or other foreign substances, the machine must be designed and constructed to prevent those substances from reaching the fan system, motor housing and electrical components. Lamb vacuum motors, other than hazardous duty models, should not be applied in machines that come in contact with dry chemicals or other volatile materials. Failure to observe these precautions could cause flashing (depending on volatility) or electrical shock which could result in property damage and severe bodily injury, including death in extreme cases. All applications incorporating Lamb motors should be submitted to appropriate organizations or agencies for testing specifically related to the safety of your equipment.

Lamb Electric 120/230 Volt, INFIN-A-TEK, SR Gen II, Blower

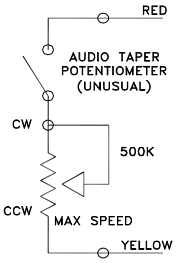
2) Customer Control Wiring Options

- **Wiring Options 1-3 do not require an external control power source.**
- **Customer-supplied control power source (Option 4), if used, must be 0-48 VDC!**
- **All unused control wire leads must be isolated (tape, wire nut, etc.)**

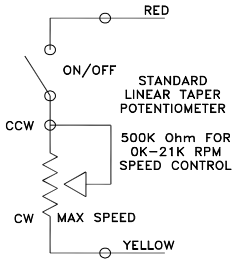
OPTION 1
(ALWAYS ON)



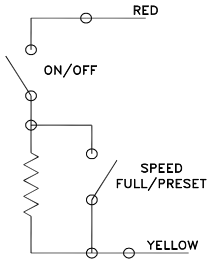
OPTION 2
(ON/OFF)



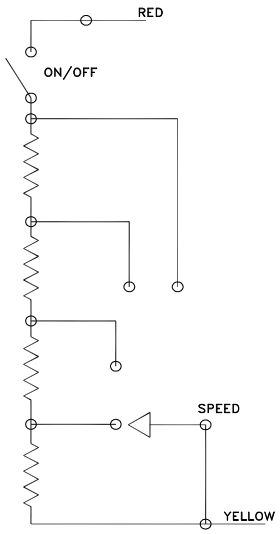
OPTION 3A
(POTENTIOMETER)
2 WIRE RHEOSTAT MODE,
AUDIO TAPER IS MORE "EVEN"
THAN LINEAR TAPER PROVIDED IT IS
WIRED CCW FOR MAXIMUM SPEED.



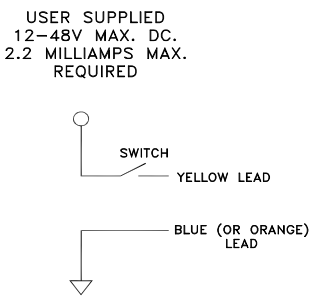
OPTION 3B
(POTENTIOMETER)



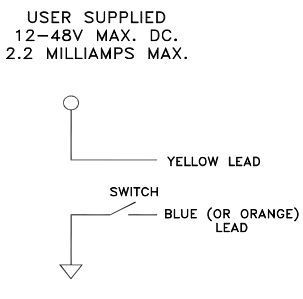
OPTION 3C
(LOW & HIGH SPEED)



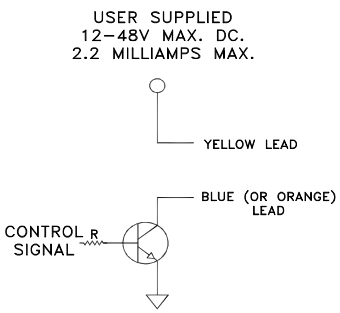
OPTION 3D
(PRE-SELECTED
MULTIPLE SPEEDS)
TOTAL RESISTANCE=150K



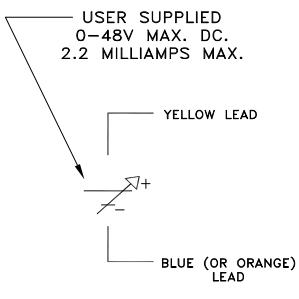
OPTION 4A
MANUAL SWITCH
IMPLEMENTATION



OPTION 4B
MANUAL SWITCH
IMPLEMENTATION



OPTION 4C
ELECTRONIC CONTROL CIRCUIT
IMPLEMENTATION



OPTION 4D
VARIABLE SPEED CONTROL
IMPLEMENTATION
(MAX SPEED AT 12V)

Lamb Electric 120/230 Volt, INFIN-A-TEK, SR Gen II, Blower

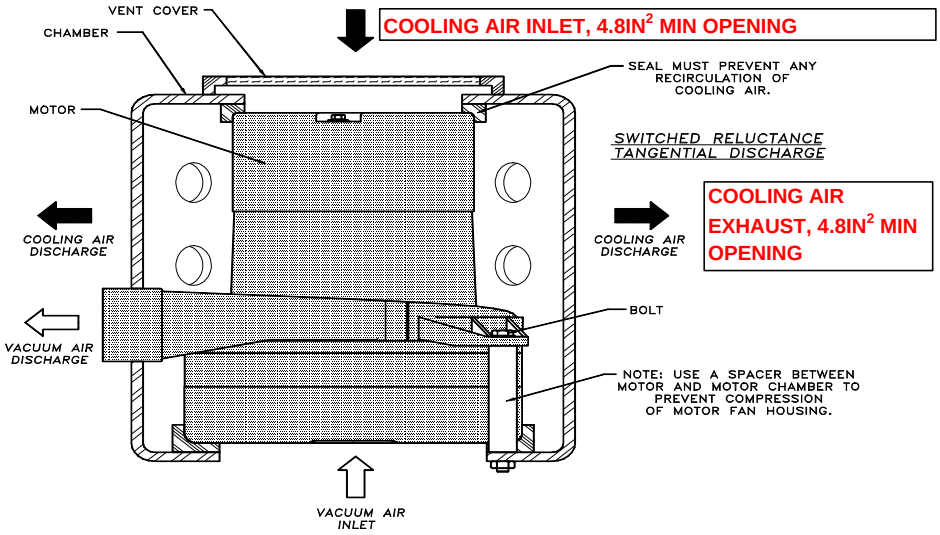
3) Cooling Requirements for Installation

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



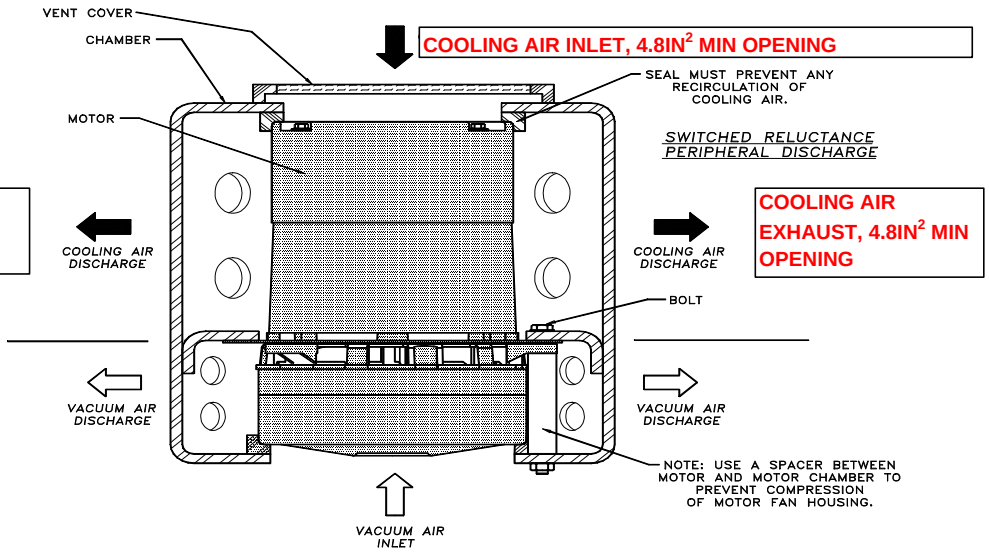
NOTE: Motor mounting must not restrict air inlet ports on motor cover

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



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.

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