



AMETEK LAMB ELECTRIC



Product Bulletin

Model: 121101-13

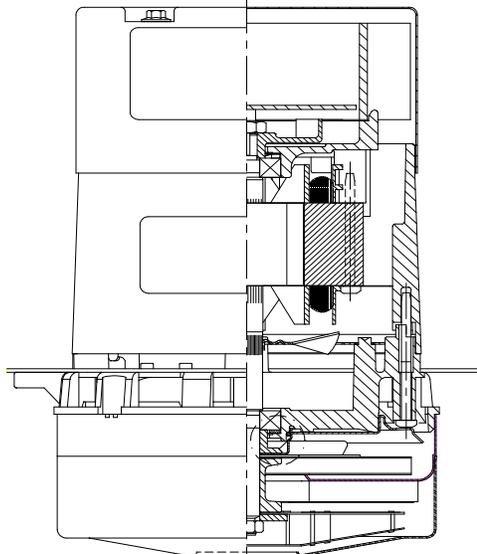


DESCRIPTION

- Brushless Motor
- Switch Reluctance (SR) Technology
- Two stage Fan System
- 120 volts, 50/60 Hz
- 5.7" / 145 mm diameter
- Dual 10mm ball bearings
- Peripheral "Acustek" discharge
- All aluminum die cast housings used in motor construction
- Life expectancy: 5 - 10 times more than the brush-motor equivalent.

DESIGN APPLICATION

- Equipment operating in environments requiring separation of working air from motor ventilating air
- Designed to handle clean, dry, filtered air only



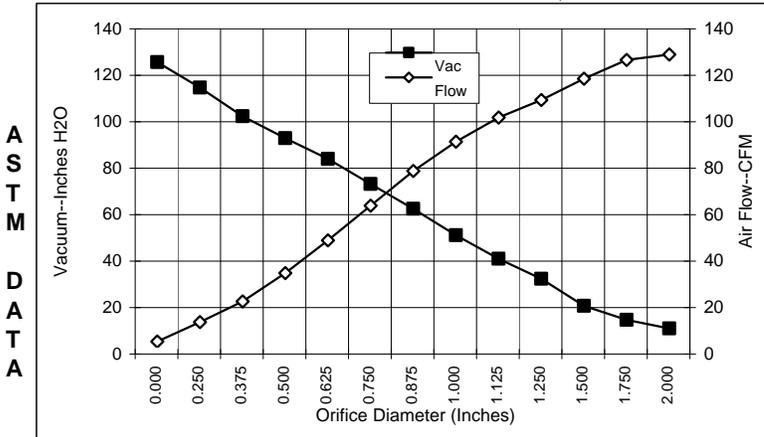
SPECIAL FEATURES

- "Generation II" (DIGITAL) Controller: no external low-voltage control power required. (See "INFIN-A-TEK Application Notes")
- UL component recognized (pending)
- IP Rating: 1.0
- **Speed control capability**
- Tapered fan system
- Thermally protected motor design
- Patented air seal bearing construction (U.S. Patent # 4,088,424)
- Epoxy painted
- Aluminum fan end bracket designed to dampen vibration and improve durability

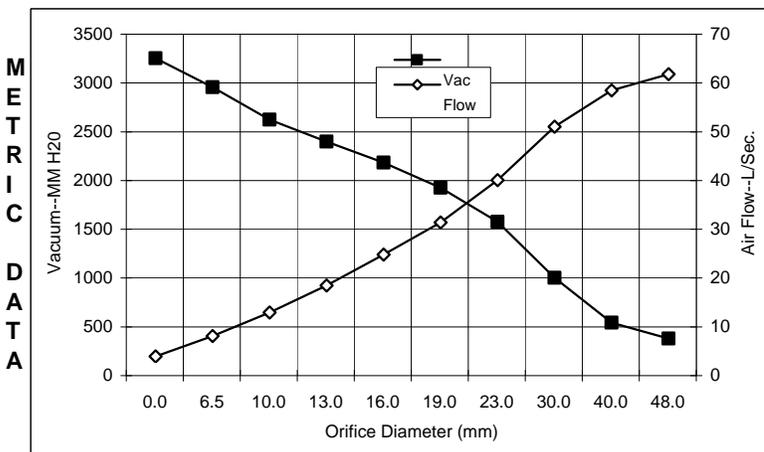
Please refer to INFIN-A-TEK Application Notes for details on the operation and wiring of this switched-reluctance motor.

TYPICAL MOTOR PERFORMANCE.*

(At 120 volts, DC, test data is corrected to standard conditions of 29.92 Hg, 68° F.)



Orifice (Inches)	Amps	Watts (In)	RPM	Vac (In.H ₂ O)	Flow (CFM)	Air Watts
2.000	13.7	1454	22640	5.6	123.6	81
1.750	13.7	1453	22550	9.3	121.3	133
1.500	14.0	1480	22470	15.4	113.1	205
1.250	14.1	1543	22430	27.0	104.0	330
1.125	14.1	1538	22350	35.6	96.4	404
1.000	14.1	1538	22350	45.8	86.0	463
0.875	13.9	1525	22500	57.1	73.4	493
0.750	13.5	1436	22780	67.8	58.5	467
0.625	12.9	1358	23380	78.6	43.6	403
0.500	11.4	1209	24110	87.6	29.4	303
0.375	10.3	1097	25240	97.0	17.3	198
0.250	10.1	1055	27000	109.3	8.4	108
0.000	9.1	963	27750	120.3	0.0	0



Orifice (mm)	Amps	Watts (In)	RPM	Vac (mm H ₂ O)	Flow (L/Sec)	Air Watts
48.0	13.7	1454	22600	184	57.9	104
40.0	13.9	1472	22494	345	54.5	183
30.0	14.1	1540	22386	806	47.1	371
23.0	14.0	1528	22463	1379	36.1	486
19.0	13.5	1434	22792	1728	27.5	466
16.0	12.9	1361	23356	1985	20.9	406
13.0	11.6	1224	24037	2202	14.5	313
10.0	10.5	1114	25071	2428	9.0	214
6.5	10.1	1057	26912	2761	4.2	113
0.0	9.1	963	27750	3056	0.0	0

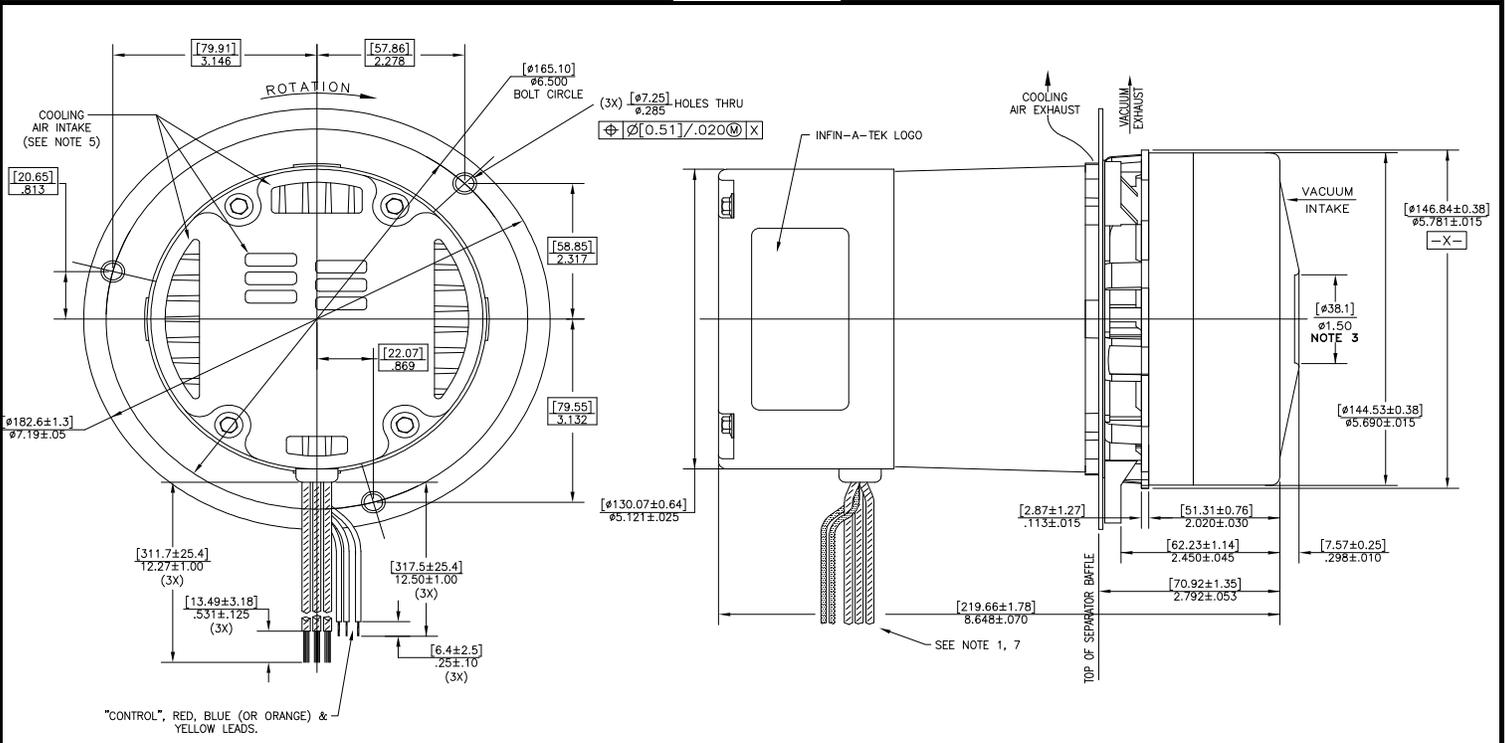
Note: Metric performance data is calculated from the ASTM data above.

* Data represents performance of a typical motor sampled from a large production quantity. Individual motor data may vary due to normal manufacturing variations.

Test Specs: 120V	Minimum Sealed Vacuum: 116.0"	ORIFICE: 7/8"	Minimum Vacuum: 53.0"	Maximum Watts: 1580
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DIMENSIONS



- NOTES:**
1. Leads: 18ga, stranded power leads; one black and one white, ground lead green with yellow stripe.
Leads: 22ga, control leads: one red, one blue (or orange) and one yellow.
 2. Motor Identification: Manufacturer's name, model number, voltage, frequency, inspection code, date of manufacture, agency recognition code, plant code, "Thermally Protected L 16.0A", "Made in the USA" and the following information: "Manufactured under patent nos: US5789893, TW81933, SG38957, ZA96/2766, US5760519, EP0702448B1, ZA95/7123 under license from Switched Reluctance Drive Ltd. Other U.S. and foreign patents pending, copyright code 1998, all rights reserved."
 3. Mounting must not restrict this diameter.
 4. **Allow (0.0026 Sq M) / 4.8" Sq In. (min) for cooling air intake and exhaust.**
 5. Cooling air intake must be separated from cooling air exhaust.
 6. Cooling air exhaust must be separated from vacuum exhaust.
 7. Observe NEC wiring convention (black-line and white neutral) to insure proper placement of control module fuse in the circuit.
See wiring options 1 thru 4 of "INFIN-A-TEK Application Notes" for implementing the "control" feature (red, blue (or orange) & yellow leads).
 8. The INFIN-A-TEK blower utilizes a switched reluctance (SR) brushless motor, which is commutated electronically. Similar to a brush type series universal motor, this INFIN-A-TEK (SR) blower operates on AC voltage. The INFIN-A-TEK (SR) blower features an integral electronic control module that rectifies the "AC line voltage" to obtain the DC voltage required to power the motor. All switched reluctance motors are thermally protected using an auto-reset device.

IMPORTANT NOTE: Pictorial and dimensional data are subject to change without notice. Contact factory for current revision levels.

WARNING - When using AMETEK/Lamb Electric bypass motors in machines that come in contact with foam, liquid (including water) of 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.