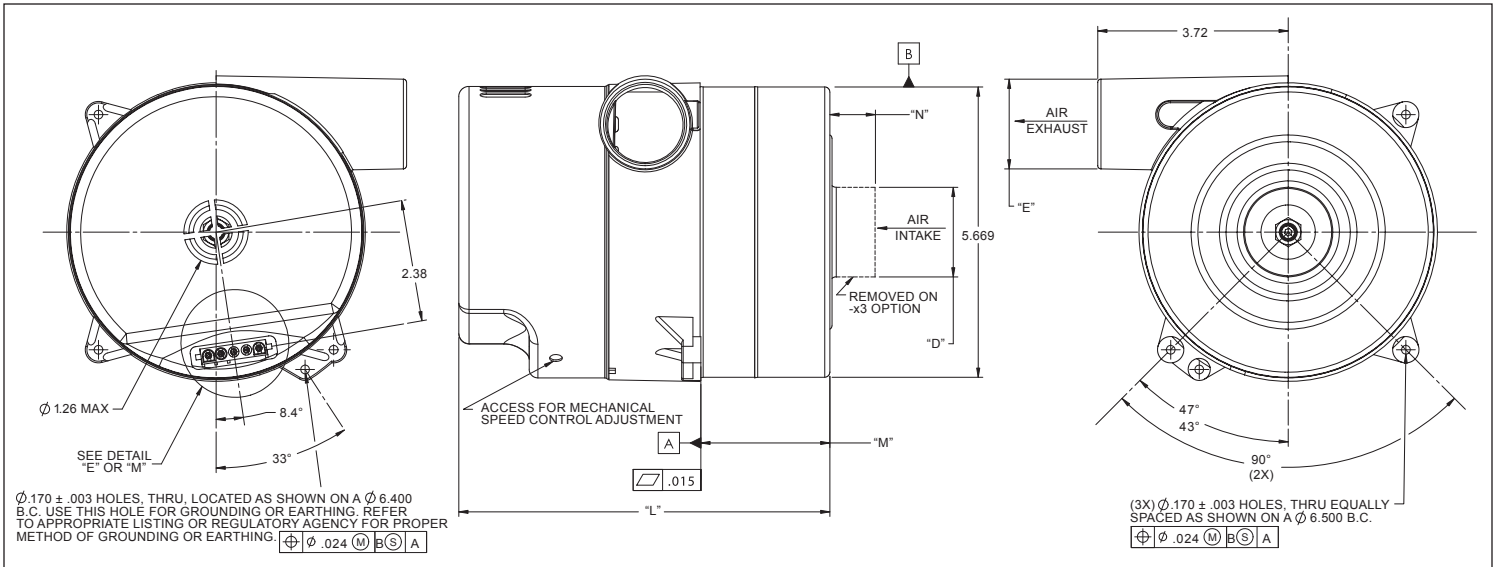


# BBA14-21 Series - Brushless DC Blower

## 240 Volt AC Input, Multistage Bypass



MODEL	AIR INLET AND OUTLET DIAMETER mm / inches	LENGTH (L) mm / inches	LENGTH (M) mm / inches	LENGTH (N) mm / inches	VACUUM (MAX) in H <sub>2</sub> O	PRESSURE (MAX) in H <sub>2</sub> O	FLOW (MAX) sCFM	PERFORMANCE CONTROL TYPE
BBA14-211SMB	31.8 / 1.25	127 / 5.0	7.1 / 0.28	19.1 / 0.75	27.7	29.5	64.3	Built in Potentiometer
BBA14-211SEB	31.8 / 1.25	127 / 5.0	7.1 / 0.28	19.1 / 0.75	27.7	29.5	64.3	1.5-10VDC signal
BBA14-212SMB	31.8 / 1.25	150 / 5.9	29.5 / 1.16	19.1 / 0.75	44.8	50.6	63.8	Built in Potentiometer
BBA14-212SEB	31.8 / 1.25	150 / 5.9	29.5 / 1.16	19.1 / 0.75	44.8	50.6	63.8	1.5-10VDC signal
BBA14-213SMB	31.8 / 1.25	173 / 6.8	52.6 / 2.07	19.1 / 0.75	64.6	71.7	47.3	Built in Potentiometer
BBA14-213SEB	31.8 / 1.25	173 / 6.8	52.6 / 2.07	19.1 / 0.75	64.6	71.7	47.3	1.5-10VDC signal
BBA14-211HMB	44.5 / 1.75	130 / 5.1	10.4 / 0.41	22.6 / 0.89	24.3	26.3	105.5	Built in Potentiometer
BBA14-211HEB	44.5 / 1.75	130 / 5.1	10.4 / 0.41	22.6 / 0.89	24.3	26.3	105.5	1.5-10VDC signal
BBA14-212HMB	44.5 / 1.75	158 / 6.1	37.1 / 1.46	22.6 / 0.89	44.6	50.8	86.5	Built in Potentiometer
BBA14-212HEB	44.5 / 1.75	158 / 6.1	37.1 / 1.46	22.6 / 0.89	44.6	50.8	86.5	1.5-10VDC signal
BBA14-213HMB	44.5 / 1.75	185 / 7.3	64.0/2.52	22.6 / 0.89	62.9	73.0	81.5	Built in Potentiometer
BBA14-213HEB	44.5 / 1.75	185 / 7.3	64.0/2.52	22.6 / 0.89	62.9	73.0	81.5	1.5-10VDC signal

### SPECIFICATIONS

1. Input Voltage: 240 Volts AC  $\pm 10\%$
2. Working Environment: 0°C to 50°C, clean working air.
3. Storage Temperature: -40°C to 80°C
4. Refer to Northland Terms and Conditions for our standard conditions of sales

### OPTIONS (model suffix)

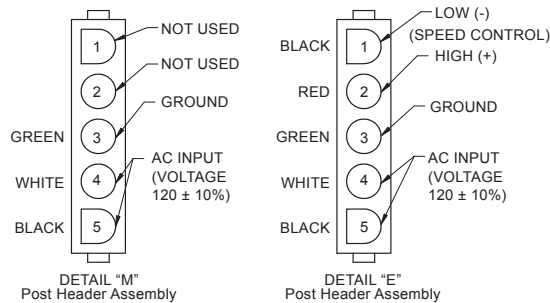
- x0 Standard product (with working air inlet tube)
- x1 Without working air inlet tube
- x2 With working air inlet tube, with inlet tube for cooling air
- x3 Without working air inlet tube, with inlet tube for cooling air
- 0x Standard control type (1.5 - 10 VDC signal)
- 1x 1.5 - 5 VDC signal
- 2x 4 - 20 mA signal

### ACCESSORIES

- BBA14-F125:  
Air inlet filter for use with 1.25" inlet pipes
- BBA14-F175:  
Air inlet filter for use with 1.75" inlet pipes

### WIRING DETAILS

Blower connector mates with AMP connector housing PN 1-480763 populated with pins AMP PN 35055-1.



### NOTICES AND CAUTIONS

- This document is for informational purposes only. Northland, a Scott Fetzer Company accepts no liability for the accuracy of the information contained in this document. Northland reserves the right to modify, revise or discontinue products without prior notice.
- All test data was obtained in laboratory conditions, using a laminar flow element. Performance will vary depending on environment conditions and by application.
- The Improper application of voltage will damage this product. Refer to wiring diagram above.
- Refer to Mercury User Guide (NMT part no. 25377) for proper installation, and use.

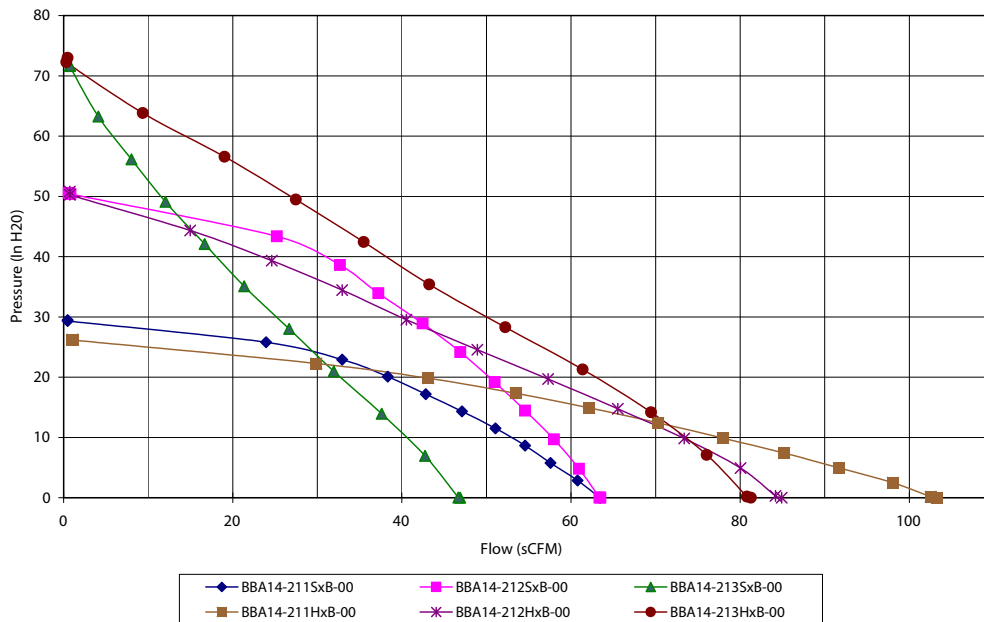


# BBA14-21 Series - Brushless DC Blower

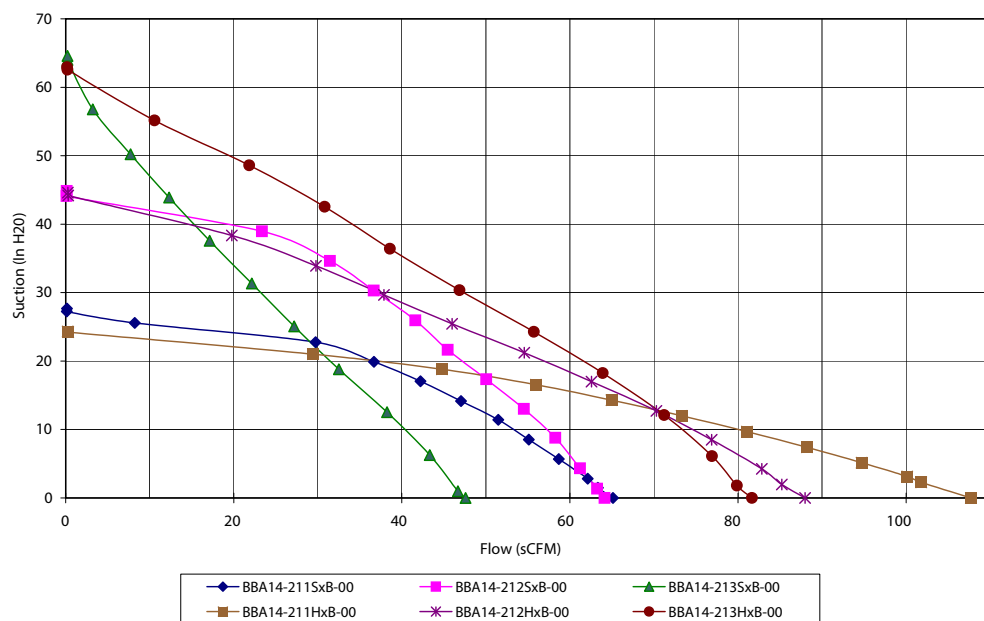
## 240 Volt AC Input, Multistage Bypass



Typical Pressure Performance



Typical Vacuum Performance



### NOTES

- Product selection should be based on a performance curve that will supply at least 10% greater pressure (or suction) at the flow point for the application.
- Please contact your local factory Sales Representative for additional models and features.
- Refer to Mercury User Guide (NMT part no. 25377) for proper installation, and use.
- For pressure applications NMT recommends that blower should be installed in a manner that clamps the fan shell cover to the blower casting.
- NMT recommends that customer wiring to the blower as a minimum be 18AWG.

### EMISSIONS

- This product may require a line filter or power factor correction module to meet specific emissions requirements. Please consult your local factory Sales Representative with the specific requirements for guidance and selection of the proper filter.

### TEST METHODOLOGY

- CFM = SCFM.
- Standard air = clean, dry air.
- Density is corrected to 0.075 pounds mass per cubic foot.
- Barometric pressure is corrected to sea level of 29.92 inches of mercury.
- Temperature = 68°F.
- Measurement Device – Laminar Flow Element.

### AGENCY

- UL 507 RECOGNIZED COMPONENT – ELECTRONICALLY CONTROLLED MOTORS (XDNW2, XDNW8)
- UL Standard for Overheating Protection for Motors UL 2111, First Edition, revised January 27, 2006 and UL Standard for Electric Motors, UL 1004, Fifth Edition, revised March 10, 2006.
- Canadian Standard for Motors and Generators, C22.2 NO. 100-04 and Canadian Standard for Motors with Inherent Overheating Protection, C22.2 77-95
- These motors were tested with controllers evaluated to the applicable requirements of UL 60730-1A and CAN/CSA-E60730-1:02
- Northland continuously submits products to various agencies for certification. For a complete list of agency certifications, or for specific requirements for your application, please contact your local factory Sales Representative.

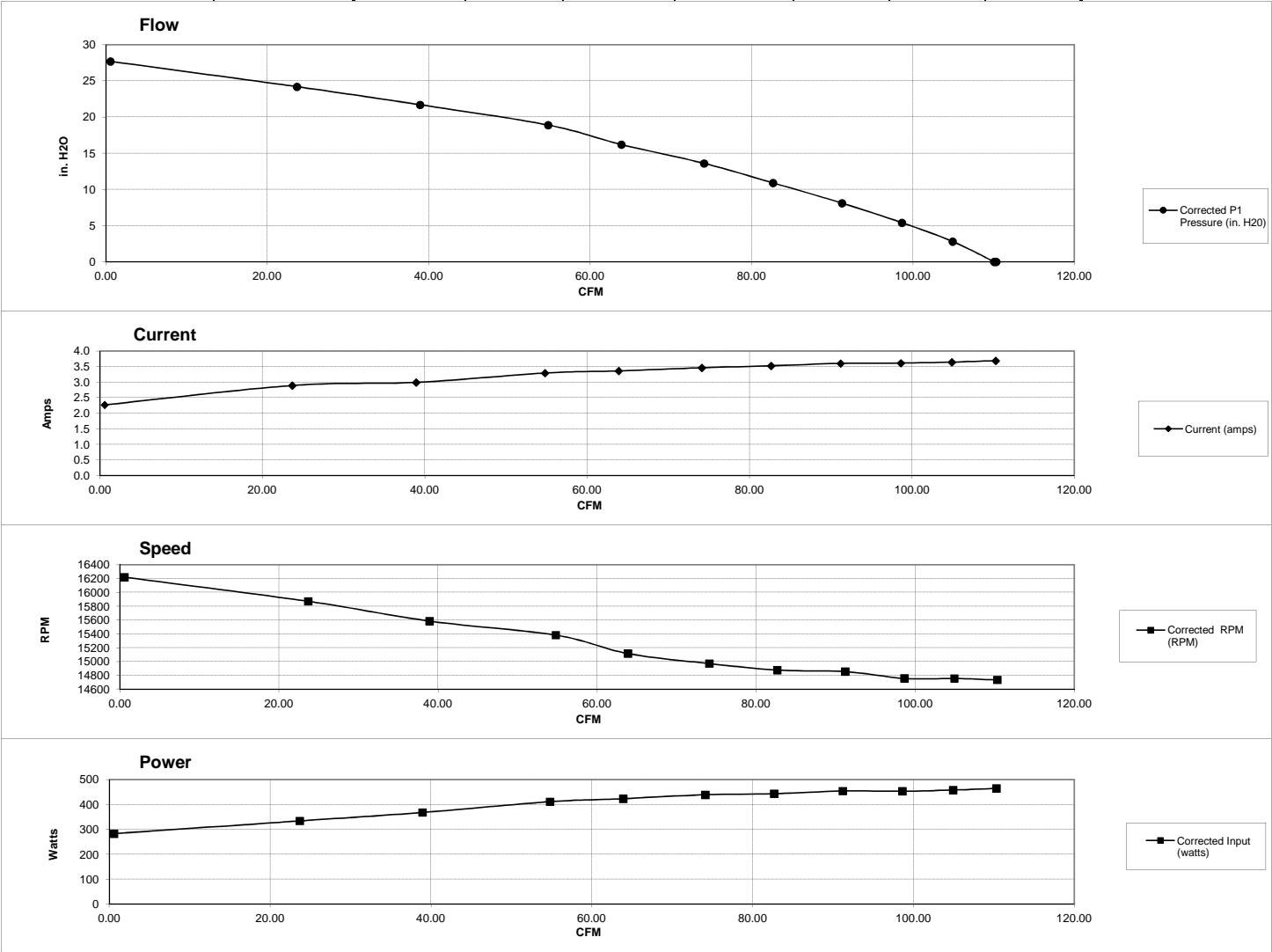


NORTHLAND 4" LAMINAR FLOW ELEMENT PRESSURE PERFORMANCE

Barometric pressure	30.18
Relative Humidity	36
Dry Bulb Temp.	73
Wet Bulb Temp.	57
Test Voltage	240
Test HZ	60

Model # BBA14-211HxB-00

Valve Position	Calculated Values						
	Corrected P1 Pressure (in. H <sub>2</sub> O)	Corrected Current (A)	Corrected Input (watts)	Corrected RPM (RPM)	Flow (cfm)	Air Power (watts)	Efficiency (percent)
CALCULATED	0	3.69	465	14736	110.308	0	0.00
OPEN	0.00	3.6886314	465	14732	110.057	0	0.00
	2.80	3.63864994	458	14757	104.910	35	7.54
	5.40	3.60866107	453	14758	98.624	63	13.82
	8.10	3.59866478	454	14857	91.202	87	19.13
	10.89	3.51869445	443	14878	82.650	106	23.91
	13.59	3.4587167	439	14972	74.109	118	27.00
	16.19	3.35875379	423	15117	63.875	122	28.76
	18.89	3.28877976	411	15383	54.792	122	29.63
	21.69	2.98889103	368	15585	38.927	99	26.99
	24.19	2.88892811	334	15871	23.666	67	20.16
	27.79	2.20918032	269	16242	0.000	0	0.00
SEALED	27.69	2.26915807	283	16219	0.562	2	0.65



# NORTHLAND 4" LAMINAR FLOW ELEMENT VACUUM PERFORMANCE

Barometric pressure	29.83
Relative Humidity	44
Dry Bulb Temp.	70
Wet Bulb Temp.	57
Test Voltage	239
Test HZ	60

Model # BBA14-211HxB-00

Valve Position	Calculated Values						
	Corrected P1 Suction (in. H <sub>2</sub> O)	Corrected Current (A)	Corrected Input (watts)	Corrected RPM (RPM)	Flow (cfm)	Air Power (watts)	Efficiency (percent)
CALCULATED	0	3.16	440	14335	112.660	0	0.00
OPEN	2.59	3.13	439	14418	105.762	32	7.34
	3.98	3.11	438	14527	103.208	48	11.05
	5.97	3.09	437	14570	97.317	68	15.66
	7.97	3.09	441	14680	92.258	86	19.62
	9.96	3.11	440	14762	87.667	103	23.35
	11.95	3.13	440	14894	79.892	112	25.54
	13.94	3.16	438	15111	73.836	121	27.66
	15.93	3.13	440	15294	68.718	129	29.29
	17.92	3.12	440	15542	61.770	130	29.62
	19.91	3.08	436	15951	52.101	122	28.01
SEALED	25.29	1.99	264	16233	0.420	1	0.47
	25.39	2.09	279	16251	0.472	1	0.50

