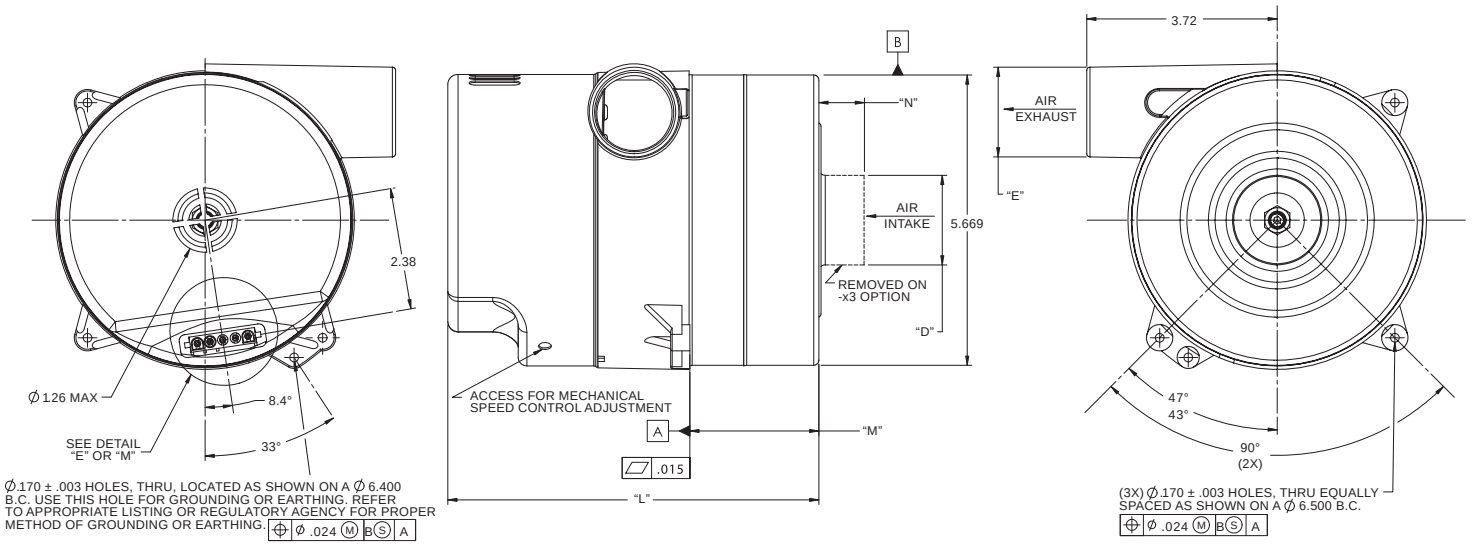
BBA14-22 Series - Brushless DC Blower
240 Volt AC Input, Multistage Bypass



MODEL	AIR INLET AND OUTLET DIAMETER mm / inches	LENGTH (L) mm / inches	LENGTH (M) mm / inches	LENGTH (N) mm / inches	VACUUM (MAX) mBar / in H^2O	PRESSURE (MAX) mBar / in H^2O	FLOW (MAX) m^3/h / sCFM	PERFORMANCE CONTROL TYPE
BBA14-223SMB	31.8 / 1.25	175 / 6.9	52.6 / 2.07	19.1 / 0.75	355.9 / 142.9	438.5 / 176.1	135.1 / 79.5	Built in Potentiometer
BBA14-223SEB	31.8 / 1.25	175 / 6.9	52.6 / 2.07	19.1 / 0.75	355.9 / 142.9	438.5 / 176.1	135.1 / 79.5	1.5-10VDC signal
BBA14-221HMB	44.5 / 1.75	135 / 5.3	10.5 / 0.41	22.6 / 0.89	137.8 / 55.3	155.3 / 62.4	299.4 / 176.2	Built in Potentiometer
BBA14-221HEB	44.5 / 1.75	135 / 5.3	10.5 / 0.41	22.6 / 0.89	137.8 / 55.3	155.3 / 62.4	299.4 / 176.2	1.5-10VDC signal
BBA14-222HMB	44.5 / 1.75	161 / 6.4	37.1 / 1.46	22.6 / 0.89	219.6 / 88.2	279.6 / 112.3	257.4 / 151.5	Built in Potentiometer
BBA14-222HEB	44.5 / 1.75	161 / 6.4	37.1 / 1.46	22.6 / 0.89	219.6 / 88.2	279.6 / 112.3	257.4 / 151.5	1.5-10VDC signal

SPECIFICATIONS

1. Input Voltage: 240 Volts AC ± 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)

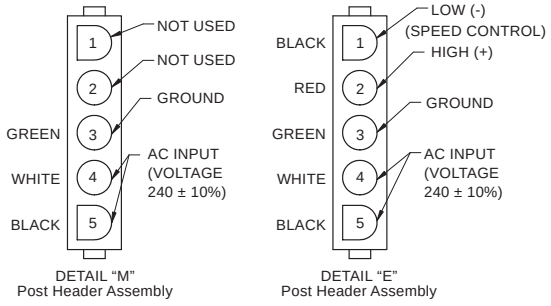
x0 Standard product (with working air inlet tube)
x1 Without working air inlet tube
x2 With working air inlet tube, with inlet tube for cooling air
x3 Without working air inlet tube, with inlet tube for cooling air
0x Standard control type (1.5 - 10 VDC signal)
1x 0.75 - 5 VDC signal
2x 4 - 20 mA signal

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.

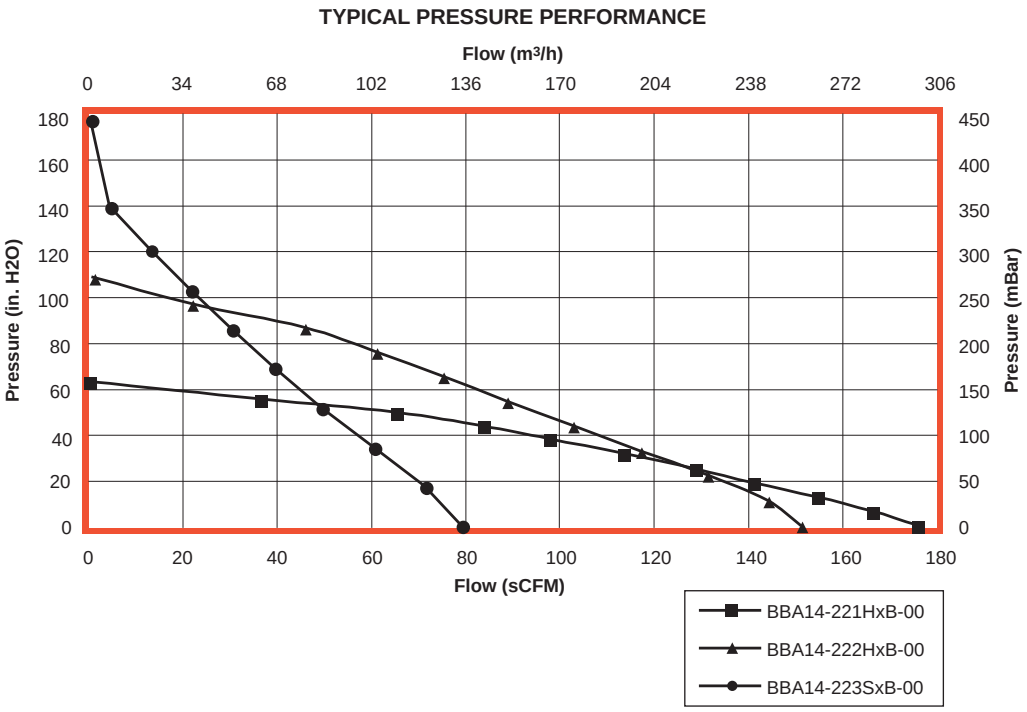


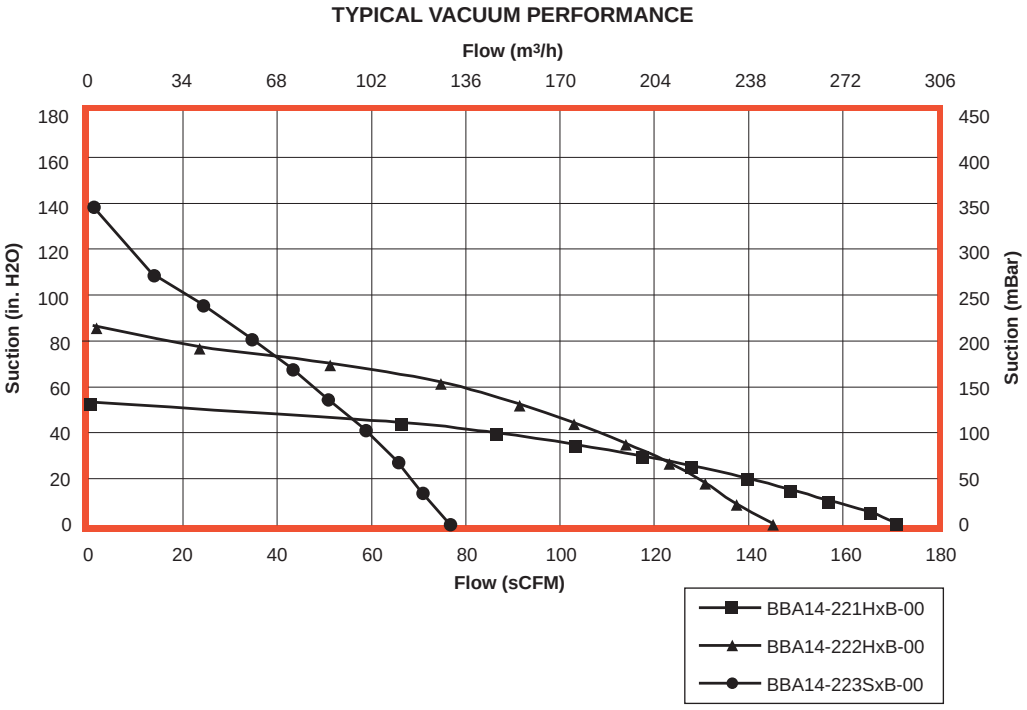
NOTICES AND CAUTIONS

- 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.

Northland MOTOR TECHNOLOGIES
Putting concepts in motion

BBA14-22 Series - Brushless DC Blower
240 Volt AC Input, Multistage Bypass





NOTES

- Product selection should be based on a performance curve that will supply at least 5% 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

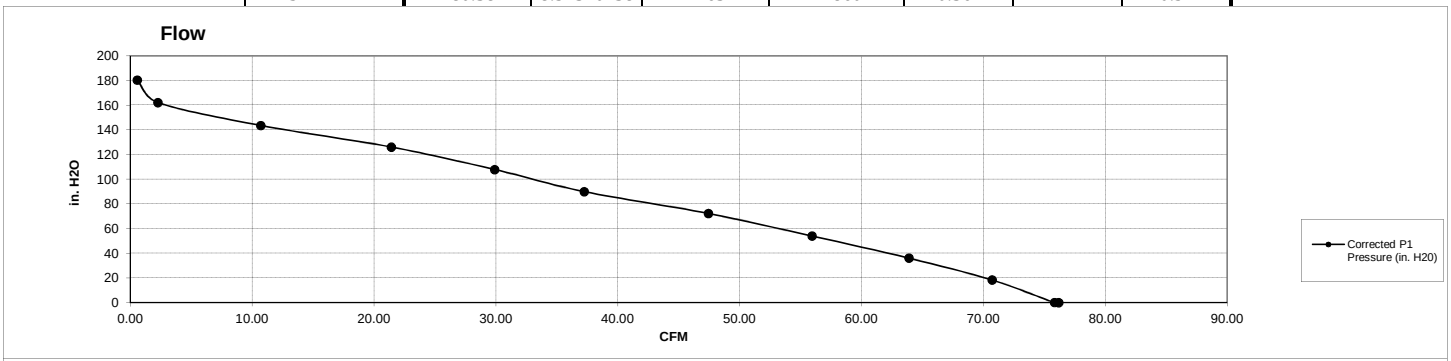
- UL 507 RECOGNIZED COMPONENT – ELECTRONICALLY CONTROLLED MOTORS (XDNW2, XDNW8)
- UL Standard for Overheating Protection for Motors UL 2111, First Edition, revised January 27, 2006 and UL Standard for Electric Motors, UL 1004, Fifth Edition, revised March 10, 2006.
- Canadian Standard for Motors and 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.

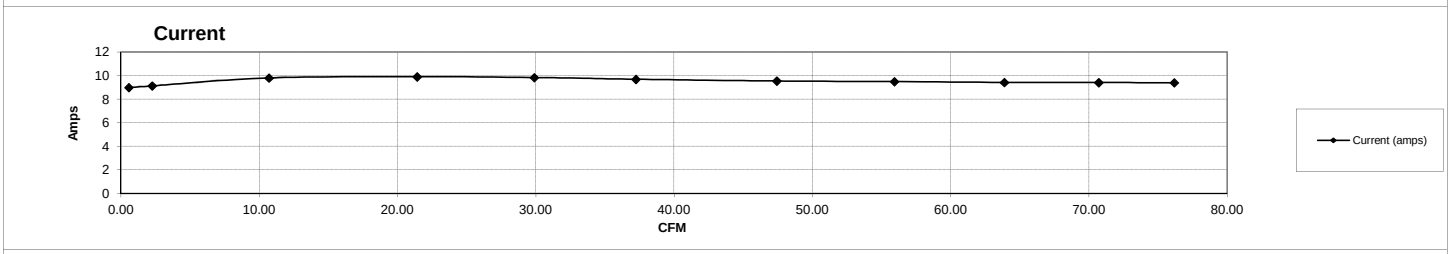
NORTHLAND 4" LAMINAR FLOW ELEMENT PRESSURE PERFORMANCE

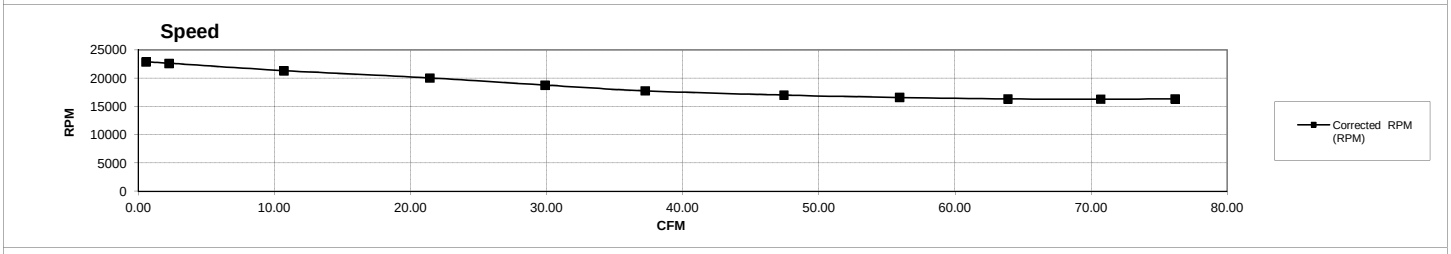
Barometric pressure	**30.06**
Relative Humidity	**35**
Dry Bulb Temp.	**71**
Wet Bulb Temp.	**56**
Test Voltage	**240**
Test HZ	**60**

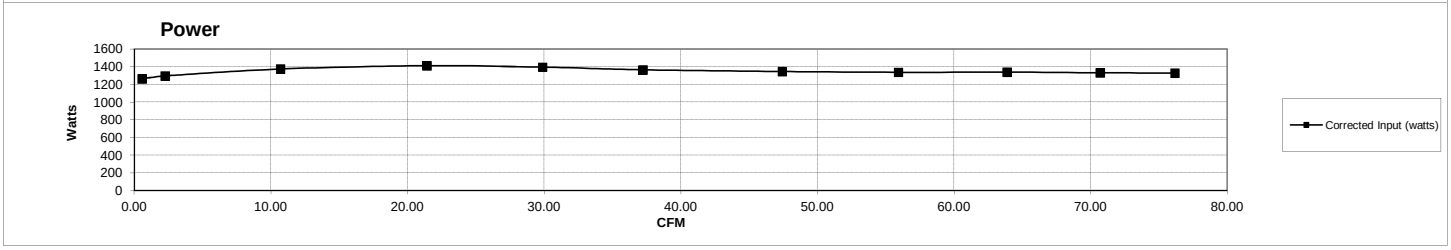
Model # **BBA14-223SxB-00**

	Calculated Values						
Valve Position	Corrected P1 Pressure (in. H_20)	Corrected Current (A)	Corrected Input *(watts)*	Corrected RPM *(RPM)*	Flow *(cfm)*	Air Power *(watts)*	Efficiency *(percent)*
CALCULATED	0	9.39	1328	16350	76.161	0	0.00
OPEN	0.10	9.38550512	1329	16374	75.816	1	0.07
	18.39	9.39550033	1331	16297	70.696	153	11.48
	36.08	9.40549554	1338	16347	63.875	271	20.25
	53.97	9.47546203	1336	16597	55.926	355	26.56
	72.25	9.5254381	1345	17017	47.421	403	29.95
	89.94	9.6753663	1364	17770	37.229	394	28.86
	107.83	9.81529928	1394	18770	29.879	379	27.17
	126.02	9.88526577	1410	20026	21.408	317	22.50
	143.51	9.78531364	1373	21304	10.695	180	13.14
	162.10	9.11563436	1295	22607	2.250	43	3.31
	173.59	9.08564872	1274	22805	0.562	11	0.90
SEALED	180.38	8.97570138	1263	22860	0.562	12	0.94









NORTHLAND 4" LAMINAR FLOW ELEMENT VACUUM PERFORMANCE

Barometric pressure	**30.17**
Relative Humidity	**36**
Dry Bulb Temp.	**69**
Wet Bulb Temp.	**54**
Test Voltage	**240**
Test HZ	**60**

Model # **BBA14-223SxB-00**

	Calculated Values						
Valve Position	Corrected P1 Suction (in. H_20)	Corrected Current (A)	Corrected Input *(watts)*	Corrected RPM *(RPM)*	Flow *(cfm)*	Air Power *(watts)*	Efficiency *(percent)*
CALCULATED	0	9.50	1357	16190	78.566	0	0.00
OPEN	1.77	9.52936039	1361	16222	77.524	16	1.18
	13.69	9.40898952	1340	16378	72.402	117	8.70
	28.08	9.46917495	1345	16605	65.011	215	15.96
	41.99	9.47920586	1355	16914	57.061	282	20.79
	55.70	9.53939129	1363	17455	49.121	322	23.60
	69.60	9.65976216	1378	18070	41.191	337	24.46
	83.26	9.76007122	1399	18998	33.270	326	23.28
	97.11	9.83028756	1411	20247	24.231	277	19.61
	111.20	9.69988578	1371	21753	14.640	191	13.96
	124.89	8.17518812	1142	23709	4.501	66	5.79
	129.25	8.21531174	1111	23691	2.250	34	3.08
SEALED	139.52	8.39586804	1179	23552	0.000	0	0.00