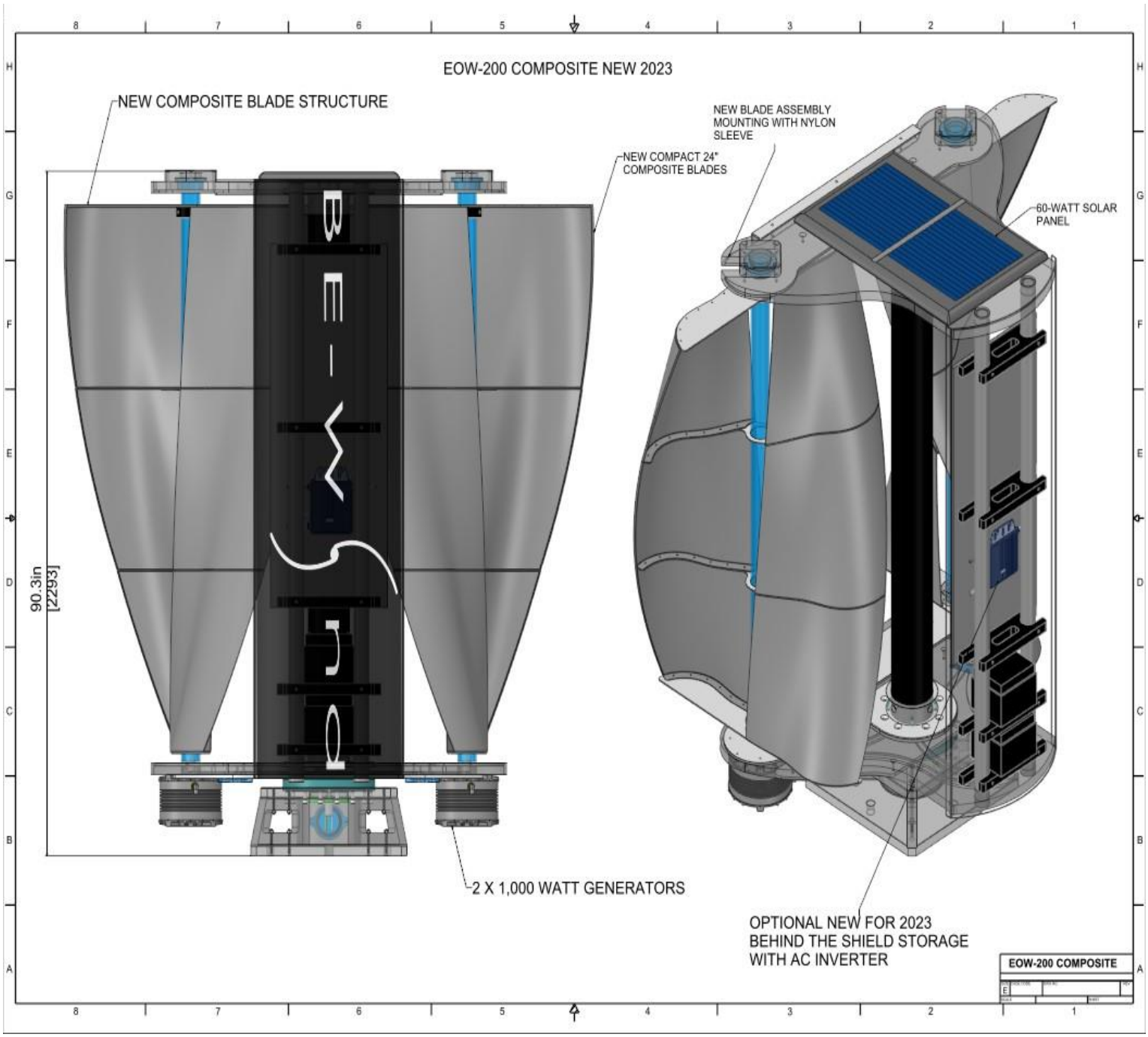
BE-WIND EOW-200 COMPOSITE SERIES TURBINE.

TECHNICAL ASPECTS.



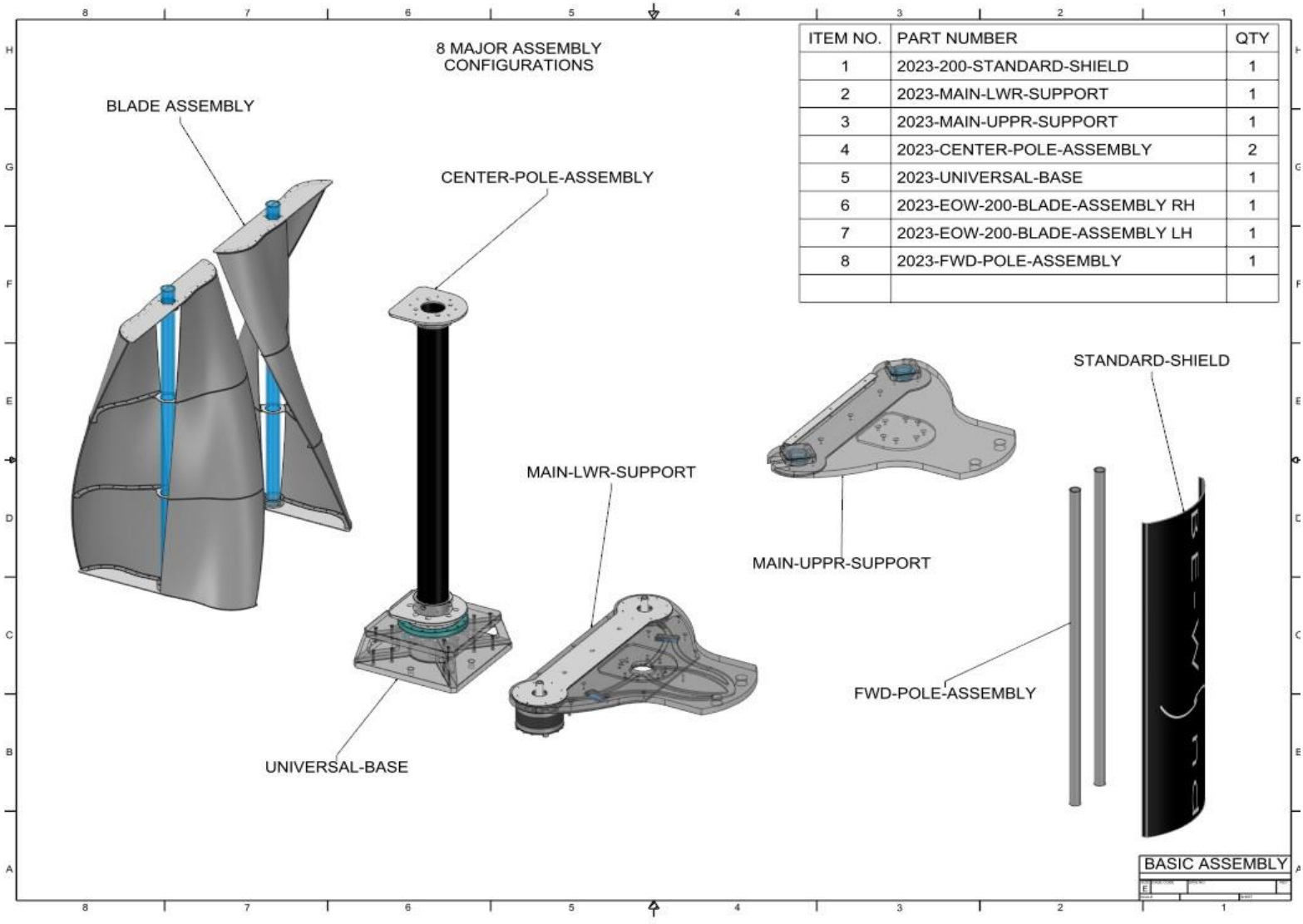
The EOW-200 series turbine is the flagship design by BE-WIND.
Manufactured with HDPE ST structural marine grade plastic for the main Base and Top structures,
The mounting and slew bearing attachment known as the universal base assembly.

The blades and Front shield are composed of Resin transfer Carbon fiber material
With inlay of E-glass for support.

The Center structural pole assembly is composed of Carbon fiber filament wound to .375” thick and supported on either end by an aluminum 6061 T-6 collar.

The EOW-200 was designed for Medium Urban power requirements or small micro grid technology
Focused Basically on production of energy to be stored in a battery system. Then converted to an on-grid application thru a Hybrid Inverter / charger supporting North American energy standards. 110/220 single phase.

The system is also designed for areas of Max winds of 50 m/s, with built in RPM restriction of 400 RPM at 20 m/s



ITEM NO.	PART NUMBER	QTY
1	2023-200-STANDARD-SHIELD	1
2	2023-MAIN-LWR-SUPPORT	1
3	2023-MAIN-UPPR-SUPPORT	1
4	2023-CENTER-POLE-ASSEMBLY	2
5	2023-UNIVERSAL-BASE	1
6	2023-EOW-200-BLADE-ASSEMBLY RH	1
7	2023-EOW-200-BLADE-ASSEMBLY LH	1
8	2023-FWD-POLE-ASSEMBLY	1

Technical Data

EOW-200

TYPE:	**Dual Helical Savonius VWAT**
Swept Area:	**1.0 Meters x 2**
Rotor Dimension:	**1.0 m wide x 1.8m tall**
Overall Height:	**2.2 Meters / 88”**
Weight:	**260 Kg / 575 lbs.**
Rotor Material:	**Carbon Fiber / Composite / Aluminum.**
Coatings:	**NONE REQUIRED**
Start Up Speed:	**1.5-2.0 m/s 3-4 Mph.**
Power Production Speed:	**3 m/s 6.5 Mph. 12 volts 1 amps**
Survival Wind Speed:	**60 m/s- 65 m/s 130 Mph -145 Mph**
Estimate at 14 m/s 3 phase AC:	**3 phase 96 VAC @ 10 amps 1 Kw x 2**
Generators:	**PMG 3 phase VAC 1.0 Kw x 2**
Max Rotor Speed:	**0-350 rpm**
Rated Voltage:	**0-96 VAC 3 phase AC**
Protection Class:	**IP 54**
Braking:	**No Braking Required, (Except for Service: Electrical Brake)**
Grid Tie:	**110-220 VAC, 50-60 Hz**
Battery Setup:	**24–48-volt charging.**
Safety Compliance:	**UL1741**
Design Life Span:	**50 Years +**
Operating Temperature:	**-20 Deg. C to 60 Deg. C**
Operating Pole Height:	**3.5 meters (12 Ft.) 6.0 meters (20 Ft.)**
Warranty:	**5 Years Standard 10 Year Service Contract.**

Generator Specifications: 1.0 kw @96 VAC x 2

INNOTEC POWER PMG TECHNOLOGY

Innotec Power Alternator Test Data

INNOTEC POWER PMG TECHNOLOGY

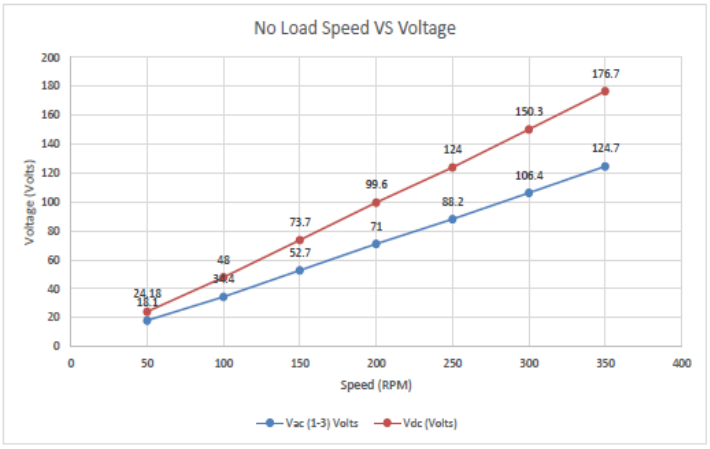
Product Type:	PM Alternator	**Project:**	Be-Wind	**Rated Power:**	1 kW	**Rated Speed (RPM):**	300-350 RPM
Rated voltage:	96 Vac						
Model No.: PMAWT255-3		**S.No.:**	210922	**Date of Testing:**	20 December 2021	**No. of poles:**	10

Phase-Phase Resistance

Phase	R-Y/1-2	R-B/1-3	Y-B/2-3	Unit
Resistance	3.85	3.83	3.74	Ohms

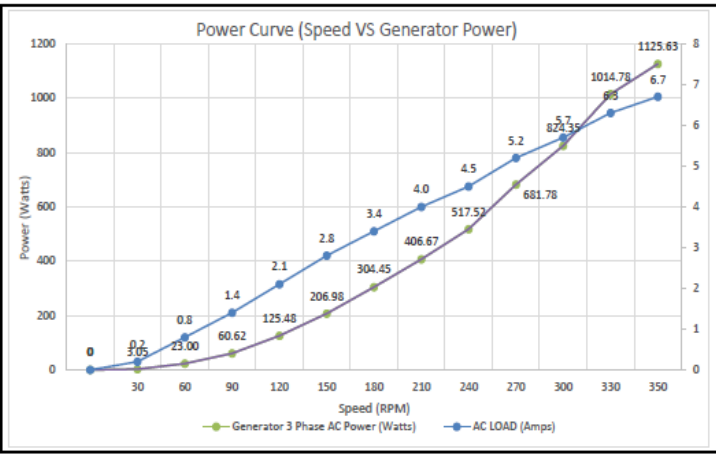
No Load Testing

RPM	Vac(1-2) Volts	Vac (1-3) Volts	Vac(2-3) Volts	Vdc (Volts)
50	18	18.1	18.1	24.18
100	34.3	34.4	34.42	48
150	52.4	52.7	52.6	73.7
200	71	71	71	99.6
250	88.2	88.2	88.2	124
300	106.3	106.4	106.5	150.3
350	124.6	124.7	124.7	176.7



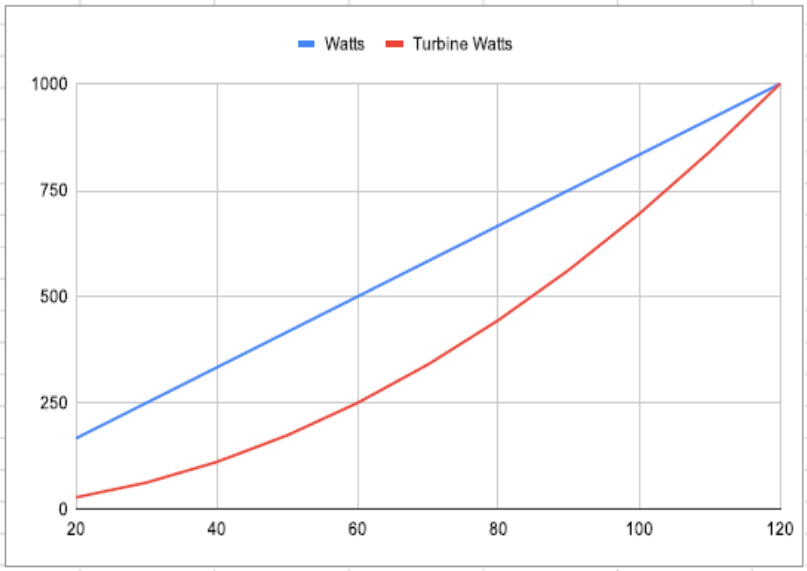
POWER CURVE LOAD TESTING

RPM	AC LOAD (Amps)	DC LOAD (Amps)	Vac 1-2 (Volts)	VDC (Volts)	Generator 3 Phase AC Power (Watts)	DC Power (Watts)
30	0.2	0.70	8.81	10.61	3.05	7.43
60	0.8	1.60	16.60	22.24	23.00	35.58
90	1.4	2.40	25.00	33.81	60.62	81.14
120	2.1	3.30	34.50	45.00	125.48	148.50
150	2.8	4.00	42.68	55.05	206.98	220.20
180	3.4	4.70	51.70	65.80	304.45	309.26
210	4.0	5.40	58.70	74.50	406.67	402.30
240	4.5	6.10	66.40	84.00	517.52	512.40
270	5.2	6.90	75.70	95.10	681.78	656.19
300	5.7	7.70	83.50	104.60	824.35	805.42
330	6.3	8.30	93.00	114.50	1014.78	950.35
350	6.7	8.8	97	120.4	1125.63	1059.52



Power Curve Programing Data:

	Generator Power Curve		Turbine Power Curve
RPM	Vdc	Watts	Turbine Watts
50	20	167	28
75	30	250	63
100	40	333	111
125	50	417	174
150	60	500	250
175	70	583	340
200	80	667	444
225	90	750	563
250	100	833	694
275	110	917	840
300	120	1000	1000



PRODUCT IMAGE: