

RE Practices in Pakistan – Wind Energy Technologies (Small) Wind Pumps by ‘The SOLAR Energy’

LIBRA WINDPUMPS

FOR DRINKIN, GARDENING AND FARMING WATER
DESIGN APPROVED BY GOVT. BALOUCHISTAN

Design for low cost and high reliability. Very simple but elegant design. Uses a simple crank and rocker arrangement, with specially developed rotor. Lubrication needs only once a year, because for the continually moving joints, oblong ball bearing units are used. The pump itself consists of a simple cylinder incorporating a non-return valve at the bottom and another in the piston. Libra wind pumps protect themselves from damage in very strong winds, by turning the rotor edge on the wind.

PUMPING PERFORMANCE

The output capacities for the range of possible Libra wind pumps applications (3.5m) can be seen in the following table (Approximate outputs in liters per 24 hour)



TOTAL PUMPING HEAD (meters)	Amount of Water Pumped - liters		
	LIGHT WIND 3m/s (6.5 mph)	MEDIUM WIND 4m/s (9 mph)	STRONG WIND 5m/s (11.5 mph)
5	45000	92000	149000
10	22000	45000	73000
15	15000	29000	48000
20	11000	21000	35000
25	9000	16000	28000
30	7000	13000	22000
40	5500	9500	16000
50	4000	7000	12000
60	3000	5500	10000
70	2500	4500	8000

Contact:

The Solar Energy
A-1530 Phase 1 Alfalah Town Lahore Cantt Pakistan.
Ph: +92-42-5086233,
Fax: +92-42-5733055
E-mail: info@solarenergy.com.pk; www.solarenergy.com.pk

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Wind Electrification of Villages by “Clean Power”

Typically a micro wind turbine of 400 W is used to charge batteries which light up 4 households. The load design for each home is almost similar to that of Solar Solutions. It is understandable that wind based solution is suitable in areas having higher wind speed.



Contact:

Clean Power (Pvt.) Ltd
216, Street 74, I-8/3, Islamabad, Pakistan.
Off: +92 51 4102271-3, Fax: +92 51 4102274
www.cleanpower.com.pk

RE Practices in Pakistan – Wind Energy Technologies (Small)

Wind Generators by ‘Interworld Trade Corporation’



Model: MINI-450

Rated Power(W) : 450W
Max. Power(W) : 600W
Startup wind speed : 2.3m/s
Cut-In wind speed : 3m/s
Rated wind speed : 12m/s
Safety wind speed : 35m/s
Rated Voltage (V) : 12 / 24V / 48
Rotor Diameter : 1.4m
Number Of Blade : 3
Blade material : Fiberglass reinforced composite
Generator Type : Permanent magnet brushless
Charge controller : Hybrid solar-wind charge controller, LCD display, PWM Charger
Over-speed protection : Stall Control
Dump Load : Manual Electromagnetic Brake
Battery Capacity : 100Ah/12v*2



Model: WM20000

Rated power : 20000W
Rotor Diameter : 20000mm
Rated wind speed : 10 m/s
Startup wind speed : 1.1m/s
Working wind speed : 3m/s
Working voltage : 3-25
Material and number of the blades : Reinforced fiber glass*3
Generator style : Three phase, permanent magnet
Speed regulation method : Tail furl / Electronic controller
Stop method : Manual electronic brake/
Manual mechanical Brake/
Automatic electric brake
Tower height : 18m

Contact:

Interworld Trading Corporation
312, Almas Heights, Pechs Block-2,, Karachi-75400, Pakistan., Sindh, Pakistan
Zip/Postal 75400
www.interworld-trading-corporation.tradenote.net

RE Practices in Pakistan – Wind Energy Technologies (Small)

Wind Generators by ‘Interworld Trade Corporation’



Rated power	: 5000W
Rotor Diameter	: 5 m
Rated wind speed	: 10 m/s
Startup wind speed	: 3 m/s
Working wind speed	: 3-25 m/s
Working voltage	: 240V
Material and number of the blades	: Reinforced fibber glass*3
Generator style	: Three phase, permanent magnet
Speed regulation method	: Tail furl / Electronic controller
Stop method	: Manual electronic brake / Manual mechanical Brake / Automatic electric brake
Tower height (m)	: 12



Model	:FWM1000
Rated power	: 1000W
Rotor Diameter	: 2.8 m
Rated wind speed	: 9 m/s
Startup wind speed	: 3 m/s
Working wind speed	: 3-25 m/s
Working voltage	: 48V
Material and number of the blades	: Reinforced fibber glass*3
Generator style	: Three phase, permanent magnet
Speed regulation method	: Tail furl
Stop method	: Manual electronic brake / Automatic electric brake
Tower height	: 6m

Contact:

Interworld Trading Corporation
312, Almas Heights, Pechs Block-2,, Karachi-75400, Pakistan., Sindh, Pakistan
Zip/Postal 75400
www.interworld-trading-corporation.tradenote.net

Wind Energy Manufacturers in Pakistan

Al-Hassan Technology & Engineering Services (Pvt.) Ltd.

- **Business type:** manufacturer, exporter, contractor, supplier
- **Product types:** wind energy systems (small), DC to AC power inverters, solar electric power systems, solar water heating systems, air cooling systems, sealed lead acid batteries.
- **Service types:** Design, Consultancy
- **Address:** Suit # 17, Hill Top Arcade, Gizri Boulevard, D.H.A., Phase IV, Karachi, Sindh Pakistan 75500
- **Telephone:** +92-21-5833752, 5821478
- **FAX:** +92-21-5871034

East West Infiniti (Pvt) Ltd

- **Business type:** Manufacturer, Importer, Exporter
- **Product types:** Wind Energy Logging System, Meteorological Data Logger, Radio Tide Gauge, Rain Gauge, Solar tracking Systems, Telecommunication Power systems, Solar Charge regulators, Wind Energy Power Controllers.
- **Address:** Plot 146 Industrial Triangle, Kahuta Road, Islamabad, Pakistan 44000
- **Telephone:** +9251-111-222-102
- **FAX:** +9251-449-1845:

Fine Metal Technolog Engineering Associates

- **Business type:** manufacturer, exporter, importer
- **Product types:** photovoltaic systems, remote home power systems, wind energy systems (large), wind energy towers and structures (small), solar water pumping systems, hybrid power systems, Consultant for Renewable Energy Technologies Applications.
- **Address:** # Office-12, Rehamat Centre, I-8 Marakez, Islamabad, Islamabad Capital Territory Pakistan 44000
- **Telephone:** ++(92-51) 5478016

IST (Integrated Sustainable Technologies)

- **Business type:** manufacturer and supplier
- **Product types:** Photovoltaic module manufacturing equipment, Modules, Charge controllers, Inverters, UPS, wind energy systems (small), solar thermal water heating systems and Micro hydro power Equipment. .
- **Service types:** Manufacturing, Imports and exports
- **Address:** Industrial Plot No 33, Street No 10, Sector I-9/2, , Islamabad , Federal Capital Pakistan NIL
- **Telephone:** 92 51 4438110, Mobile: 9251 0333 5252747
- **FAX:** 92 51 4434313

M.E.F.T (PAKISTAN) PRIVATE LIMITED

- **Business type:** manufacturer, wholesale, supplier, importer
- **Product types:** Photovoltaic systems, air heating systems, wind energy system components (large), LED lighting, LED flood lights, LED Decoration Lights, LED Spot Lights, LED Building Decorations and LED Traffic Signals, Alternative home and building construction materials, solar vaccine refrigerators and solar water pumping system, Solar Cookers both Box Type and Parabolic Type,.
- **Service types:** Installation and Consultancy Services.
- **Address:** House 65, Gomal Road, Sector E-7, Islamabad, Federal Province Pakistan 44000

- **Telephone:** +9251 2654765
- **FAX:** +9251 2654764

MESEC

- **Business type:** manufacturer, exporter, importer,
- **Product types:** wind power plants, water pumping windmills, DC to AC power inverters, alternative fuel vehicles, backup power systems, renewable energy system batteries. MESEC group of companies. contact +92-21-4971610, +92-21-4971642 & Fax: +92-21-4971813. Mobile +92-0321-2919959 Karachi Pakistan.
- **Service types:** Installation of windpower systems, Sales/service of automotive service equipment
- **Address:** M-3 Akbar Paradise oposite Aladdin park Rashid-minhas road, Karachi , Pakistan Pakistan 75300
- **Telephone:** +92-21-4971610 and +92-21-4971642, Mobile +92-333 2109318
- **FAX:** +92-21-4971813

Pak Wind Energy (Pvt) Ltd.

- **Business type:** manufacturer, wholesale supplier, importer
- **Product types:** wind turbines (large), wind power plants, wind energy systems (large), wind energy systems (large), wind turbines (large), wind power plants, AUTOMOTIVE SERVICE EQUIPMENT, CLEANING EQUIPMENT, UPS, ALTERNATE ENERGY, WINDPOWER, SOLAR POWER . contact 021-4971610 & 021-4971642, fax 4971813.
- **Service types:** Manufacturing, installation,
- **Address:** M-3 Akbar Paradise Gulshan-e-Iqbal 10 A, Karachi, Sind Pakistan 75300
- **Telephone:** +92-21-4971610
- **FAX:** +92-21-4971813

Prime Wind Power International

- **Product types:** wind power plants, wind turbines (large).
- **Address:** 828 Block E, Multan Road, Lahore, Pakistan
- **Telephone:** +92 42 543 7314
- **FAX:** +92 42 543 7312

Rockwell Group

- **Business type:** manufacturer, wholesale supplier, exporter, importer
- **Product types:** photovoltaic cells, photovoltaic modules, solar water pumping systems, solar air cooling system, solar cooler, solar air heating system, solar air conditioner, solar A.C, solar garden lights, solar street/road light, solar water heating systems, solar lighting systems, solar traffic lights, solar DC fan, solar tracking system, solar electric charge controller, Inverter, wind energy towers and structures (large), water proofing for various structures (off- shore & on-shores)..
- **Address:** 9-T, Gulbrg-2, Lahore, Punjab Pakistan 54000
- **Telephone:** 0092-42-5756301
- **FAX:** 0092-42-5756303

Specialists Group Inc. (Pvt) Limited (SGI)

- **Business type:** manufacturer, retail sales, wholesale supplier, exporter,
- **Product types:** composting system components, wind power plants, waste treatment systems, air filtering and purification system components.

- **Address:** Suite # 203-4, Saman Arcade, 1-J, Gulberg-3,, Lahore, PK Pakistan 54660
- **Telephone:** +92-42-5865120, +92-300-8440901 (Cell)

Specialists Group Inc. (Pvt.) Limited

- **Business type:** manufacturer, retail sales, wholesale supplier, exporter
- **Product types:** wind energy towers and structures (large), wind energy towers and structures (small), air cooling systems, solar electric power systems, composting systems, Mobile Communication & High Voltage Energy Towers. We manufacture and invest in the development of telecom infrastructure for single use and co-sharing. We also manufacture towers on wheels. (Tower in an Hour (TIH)).
- **Service types:** Energy & Telecom Towers all kind.
- **Address:** Suite # 203-4, Saman Arcade, 1-J, Gulberg-3,, Lahore-Pakistan, PK Pakistan 54600
- **Telephone:** +92-300-4698944
- **FAX:** +92-42-5867647

Vital Power Solutions

- **Business type:** retail sales, wholesale supplier, importer
- **Product types:** solar outdoor lighting systems, solar outdoor lighting systems, solar garden lights, DC to AC power inverters, wind energy system components (small), solar and windo powered complete solutions.
- **Address:** 156/S, Block 2, Sir Syed Road, P.E.C.H.S., Karachi, Sindh Pakistan 75400
- **Telephone:** 92-21-453 4061, 923008282662
- **FAX:** +1-770-818-5475

windsun

- **Business type:** manufacturer
- **Product types:** wind energy systems (small), wind energy systems (small).
- **Service types:** design, installation, construction, engineering, project development services, contractor services, maintenance and repair services
- **Address:** jinnah road near N.R.S.P.office, talagang Dist chakwal, punjab pakistan 44600
- **Telephone:** 03045712492

Zakaria & Zakaria

- **Business type:** manufacturer, exporter
- **Product types:** wind energy towers and structures (large), emergency backup batteries.
- **Address:** 29 Sattar Chamber, West Wharf., Karachi, Sindh Pakistan 75500
- **Telephone:** 09221 2312614.CELL 0921 0300 2132864

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www.energy.sourceguides.com