

# POLDAW 1.8m WIND PUMP SPECIFICATIONS

## Description:

- WINDPUMP (WATER PUMPING WIND PUMP) suitable for wells and boreholes up to a maximum 30 metres head.
- Output (typical) 5,000 to 11,000 litres/day with 10 metres head.
- Life 20 years plus, high reliability, low maintenance, simple installation. Automatic storm protection mechanism.
- Mild steel welded construction, grease lubricated ball bearings.




- Rotor diameter            1.8 m
- No of blades                8
- Tower height                6 m (with option for 9m)
- Maximum rotor speed    150 rpm
- Typical rotor speed       60 - 80 rpm
  
- Starting windspeed       2.5 –3+ m/s (depending on pump selected).
- Operating windspeed     2.5 to 15 m/s
- Survival windspeed       50 m/s
- Automatic storm protection: - in winds of over 15 m/s the rotor turns edge-on to wind, and when the wind drops, it automatically restores to normal operation.
  
- Maintenance requirements: greasing of all bearings once per year.
  
- Pump stroke                 40 - 50 mm
- Pump diameters            40 to 150 mm, depending on pumping head.
- Optimum output in litres per day: see table below.

Total pumping head metres (feet)	Light wind 3m/s (6¾ mph)	Medium wind 4m/s (9 mph)	Strong wind 5m/s (11¼ mph)
4 (13')	13,000	30,000	49,000
6 (20')	8700	19,000	32,000
8 (26')	6500	14,000	23,000
10 (32')	5200	11,000	18,000
15 (49')	3500	7000	11,000
20 (65')	2600	4900	8300
25 (82')	1900	3600	6300
30 (98')	1400	2800	4900

# SPECIFICATION FOR POLDAW 3.5m WIND PUMP FOR WELLS OF UP TO 90 METER.

This unit is manufactured entirely locally, with design and technical support from Neale Consulting Engineers Ltd, UK (Poldaw Designs). All materials and components are available in locally, so there are no imports required. The same design is made in a number of countries, and has demonstrated high reliability since 1993.

Rotor diameter      12 feet (3.5 m)	
Blades                Galvanised steel, 12 off.	
Tower height        9 m (30 feet)	
Starting windspeed      2.5 -3 m/s	
Cut-out windspeed  15 m/s	
Survival windspeed =      50 m/s	

Mechanism: direct drive (no gears) using sealed ball bearings.

Maintenance: apply grease gun to bearings once per year.

Typical rotor speed 40 - 80 rpm

Pump stroke            100 mm

Pump diameters and output :- Depends on depth of well and strength of wind. See table below.

## PUMP DELIVERY CHART PER DAY

Pump Head	Light wind	Med wind	Strong wind
M	10 Km/h	14 Km/h	18 Km/h
5	45 000lit	92 000lit	149 000lit
10	22 000	45 000	73 000
15	15 000	29 000	48 000
20	11 000	21 000	35 000
25	9 000	16 000	28 000
30	7 000	13 000	22 000
40	5 500	9 500	16 000
50	4 000	7 000	12 000
60	3 000	5 500	10 000
70	2 500	4 500	8 000
90	1 500	3 000	6 000

# POLDAW 5.0m WINDPUMP SPECIFICATIONS

## Description:

- WINDPUMP (WATER PUMPING WIND PUMP) suitable for wells and boreholes up to a maximum 140 metres head.
- Output (typical) 30,000 to 40,000 litres/day with 15 metres head.
- Life 20 years plus, high reliability, low maintenance, simple installation. Automatic storm protection mechanism.
- Mild steel welded construction, grease lubricated ball bearings.



- Rotor diameter 5.0 m
- No of blades 18
- Tower height 9 m, with option for 12m
- Maximum rotor speed 70 rpm
- Typical rotor speed 30 - 40 rpm
- Starting windspeed 2.5 -3 m/s (depending on pump selected).
- Operating windspeed 2.5 to 15 m/s
- Survival windspeed 50 m/s
- Automatic storm protection: - in winds of over 15 m/s the rotor turns edge-on to wind, and when the wind drops, it automatically restores to normal operation.
- Maintenance requirements: greasing of all bearings once per year.
- Pump stroke 200 mm
- Pump diameters 40 to 300 mm, depending on pumping head.
- Typical output in litres per day: see table below.

Total pumping head (metres)	Light wind 3m/s (6¾ mph)	Medium wind 4m/s (9 mph)	Strong wind 5m/s (11¼ mph)
5 (16')	93,000 litres	185,000	301,000
10 (33')	46,000	90,000	145,000
20 (66')	23,000	42,000	70,000
30 (100')	15,000	26,000	45,000
40 (130')	11,000	19,000	32,000
50 (164')	8,000	14,000	24,000
60 (200')	6,000	11,000	19,000
80 (260')	5,000	8,000	13,000
100 (330')	3,400	6,000	9,000
120 (390')	2,400	4,600	6,700
140 (450')	1,700	3,500	4,900