

RISE ABOVE

AW3000



ACCIONA Windpower has seen explosive growth of orders for its AW3000 platform. This success is due to a track record of reliability and product innovation coming from one of the most experienced wind energy companies in the world. The latest evolution is the AW132/3000 for low-wind sites, which delivers the lowest cost of energy in this segment. Partner with ACCIONA Windpower to make your projects rise above the competition.

OPTIMIZED PERFORMANCE FOR ALL SITES

- Full suite of rotor options covering all wind conditions, including the AW132/3000 for low wind sites
- Steel and concrete tower options with hub heights from 84 to 137.5 meters
- Proven and bankable designs including double-bearing support on main shaft, glassfiber and epoxy blades and DFIG electrical generation

BUILT BY OPERATORS FOR OPERATORS

- Based on a scaled design of our successful AW1500, the AW3000 provides more energy capture per wind turbine location
- Our track record of fleet wind turbine performance includes global average availability over 98% and extremely low failure rates of major components

COMPATIBILITY & CONTROL

- Zero voltage ride-through beyond current regulatory requirements, in addition to grid integration and reactive power solutions to allow for maximum control for stringent grid codes
- Control software that allows intelligent automatic monitoring and operation

SAFETY

- Hydraulic pitch control for safe and reliable blade pitching in all wind environments
- Two-person lift; hub access from inside the nacelle; and spacious, ergonomic nacelle design allow for operational efficiency

12 KV VERSUS 690 V

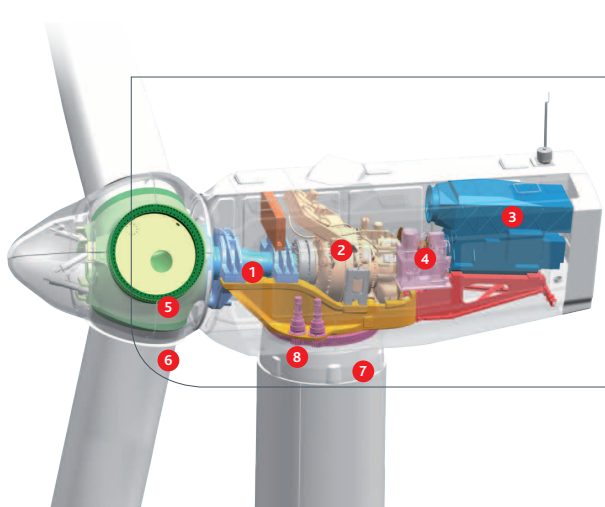
- This configuration, proven in our wind turbines, can remove the step-up transformer from the equation and is ideal for projects that are in close proximity to the substation
- The result is a significant saving over the life of the project
- Up to 50% savings in collection system costs
- Average of 1% greater energy productions due to the avoidance of transformer electrical losses
- Avoidance of maintenance and potential failures of transformers

AW3000 DESIGN ADVANTAGES

- 1) Double bearing supported main shaft
- 2) Robust gearbox with HALT completed
- 3) 6 pole DFIG 12 kV generator
- 4) Elastic coupling
- 5) Cast hub with access from nacelle
- 6) Blades with structural shell design and proven materials including glass fiber and epoxy resin
- 7) Steel and concrete tower options from 84m to 137.5m hub heights
- 8) Yaw bearing and caliper brakes

AW 100/3000 | AW 116/3000 | AW 125/3000 | AW 132/3000

AW3000



AW3000

TECHNICAL SPECIFICATIONS

| MODEL | AW 100/3000 | AW 116/3000 | AW 125/3000 | AW 132/3000 |
|-------|-------------|-------------|-------------|-------------|
|-------|-------------|-------------|-------------|-------------|

| | | | | |
|---------------------|-----------------|--|---|--|
| Rotor diameter | 100 m | 116 m | 125 m | 132 m |
| Wind class | IEC Ia | IEC IIa | IEC IIb/IIIa | IEC IIIb |
| Turbine suitability | High wind sites | Medium wind sites with higher turbulence intensity | Medium wind sites with low turbulence intensity | Low wind sites with low turbulence intensity |

OPERATING DATA

| | | | | |
|---|--|---------|---------|--------|
| Cut-in wind speed | 4 m/s | 3.5 m/s | 3.5 m/s | 3 m/s |
| Cut-out wind speed | 25 m/s | 25 m/s | 25 m/s | 25 m/s |
| Cold Weather Operational Temperature range (Optional) | -30°C to + 40°C | | | |
| Power factor range | +/- 0.93 (1,200 kVA) dynamic between +/- 5% p.u. voltage | | | |
| Zero voltage ride through | Meets or exceeds global requirements | | | |

ROTOR

| | | | | |
|------------------|---|-----------------------|-----------------------|-----------------------|
| Swept area | 7,854 m ² | 10,568 m ² | 12,305 m ² | 13,720 m ² |
| Power regulation | Independent pitch regulated with variable speed | | | |

DRIVE TRAIN

| | | | | |
|-------------|--|--|--|--|
| Gearbox | 3 stages: 2 planetary, 1 parallel (helical) | | | |
| Bearings | Double spherical roller bearings | | | |
| Lubrication | Pressure and splash with oil cooler/oil filter | | | |

PITCH SYSTEM

| | | | | |
|-----------|--|--|--|--|
| Actuation | Hydraulic cylinders | | | |
| Failsafes | Blade independent piston accumulators on hub | | | |

YAW SYSTEM

| | | | | |
|----------------|---|--|--|--|
| Type | Four point ball bearing, external gear | | | |
| Slewing ring | External | | | |
| Braking system | Disk+callipers, plus electro mechanical brake per motor drive | | | |

GENERATOR

| | | | | |
|-----------------|---|--|--|--|
| Type | 6 poles, double feeding | | | |
| Frequency | 50/60 Hz | | | |
| Nominal voltage | 12,000 V (able to eliminate step-up transformers depending on wind farm layout) | | | |

TOWER

| | | | | |
|-----------------------------------|-----|----------|-----------------|-----|
| Steel hub height options (m) | - | 92 | 87.5 | 84 |
| Steel tower number of sections | - | 4 | 4 | 4 |
| Concrete hub height options (m) | 100 | 100, 120 | 100, 120, 137.5 | 120 |
| Concrete tower number of sections | 5 | 5, 6 | 5, 6, 7 | 6 |

NACELLE

| | | | | |
|------------------|--|--|--|--|
| Weight (tons) | 111 t (without hub) | | | |
| Dimensions | 10.9 m (length) 4.09 m (width) 4.15 m (height) | | | |
| Transportability | Four options (split nacelle), and rail capable | | | |

LIFE AND HOIST CAPACITIES

| | | | | |
|-----------------------------------|--------|--|--|--|
| Service lift capacity | 250 kg | | | |
| Onboard crane hoist lift capacity | 500 kg | | | |



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