

NORWIN 47-ASR-500 kW

TECHNICAL DATA

Nominal electric power:	200/500 kW
Power regulation:	Active Stall Regulation (ASR)
IEC wind class:	IB and IIA
Rotor diameter:	47 m
Rotor speed:	25.2 rpm at full load
Rotor:	Three blades placed upwind of tower
Swept area:	1735 m ²
Tilt angle:	4°
Coning angle:	3.0° forward
Blades length:	21 m
Tip speed:	63 m/s at full load
Pitch angle:	ASR control
Pitch bearings:	Slew rings (4 point ball bearing)
Air brake, normal:	Blade pitch to -20°
Air brake, emergency:	Blade pitch to -85° fail safe position
Nominal pitch speed:	7.5°/second
Mechanical brake:	Fail-safe type disk brake
Brake torque:	1.8 times of nominal torque
RPM max. value:	1600 (50 Hz) or 1920 (60 Hz), observed on the high-speed shaft
Generator:	Closed, 6/4-pole, asynchronous, induction, IP54
Generator speed:	1000/1500 (50 Hz) or 1200/1800 (60 Hz) rpm at sync. speed
Loss in generator:	3% at nominal power
Generator cut-in:	Thyristor controlled gradual cut-in
Grid connection:	50 Hz - 690 V or 60 Hz - 690 V
Yaw motors:	4 pcs. with electrical brakes built in
Yaw brakes:	4 pcs. hydraulic brakes of disk brake type
Yaw bearing:	Slew ring (4 point ball bearing)
Tower type:	Conical steel tower (40-65 m hub height)
Controller:	PLC and microprocessor based
Cut-in wind speed:	3-4 m/s
Cut-out wind speed:	25 m/s, based on 5-min. average
Mass of blade:	6600 kg (total 3 pieces)
Mass of hub:	8000 kg
Mass of nacelle:	24000 kg
Mass total, excl. tower:	38600 kg
Reference noise level:	100 dBA

Rights to changes are reserved



NORWIN A/S
Kildeager 7
DK-4621 Gadstrup
Denmark
Tel.: +45 4638 5529 • Fax.: +45 4638 5013
norwin@norwin.dk • www.norwin.dk

