

# REGEN8

Wind turbine dry air breather for gearboxes



Protecting wind turbine  
gearboxes lubrication from water,  
high humidity, condensation  
and corrosion

## Specifications

### Technical Key Features:

- Easy installation
- Compact design
- Intelligent control
- Minimal energy consumption
- Maintenance free
- All weather protection
- Telemetry option
- Up to 10000 litre oil capacity
- Floor mounting option
- Maximum adsorbent efficiency
- Non condensation operation



Maintaining the quality of gearbox oil is vital in maximising the service life of a gearbox and provide reliable and trouble free operation. An important characteristic and property of the gearbox oil is the dissolved and free water content.

Minimising the water content of the gearbox oil improves the viscosity, lowers corrosion, reduces pitting and water crystallisation at low temperatures.

REGEN8 is an affective system to protect gearbox oil from water contamination and provides a dry air blanket preventing water ingress.

The dry air blanket is constantly maintained within gearbox reducing water content in the gear box oil.

### Specifications:

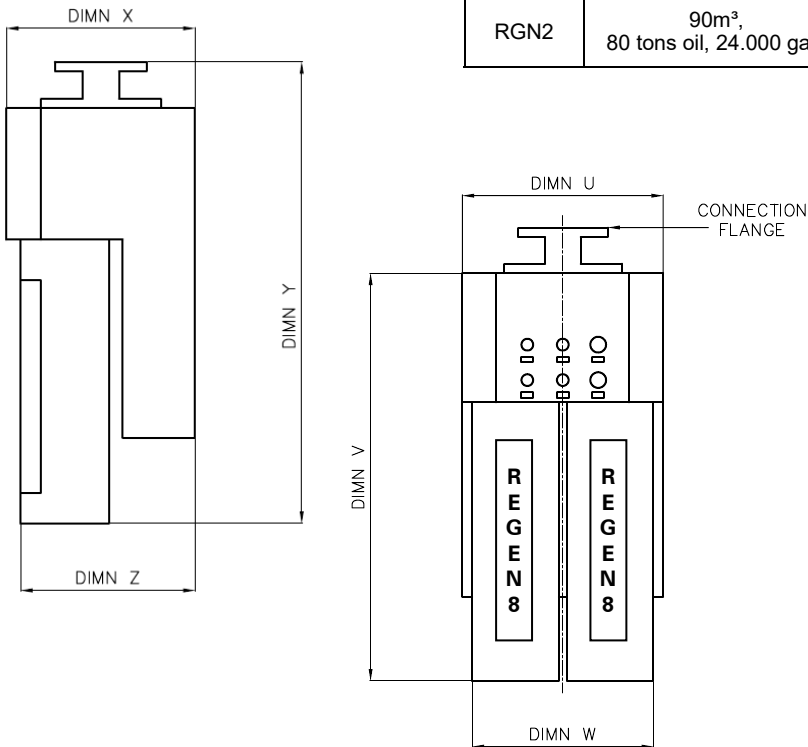
Material	mild steel with passivation and powder coating finish
Connection	flange, pipe thread or remote connection
Mounting modes	direct floor mounting
IP Rating	54
Operating temperature	-20 C° to + 60 C°
Humidity	95% RH non condensing
Desiccant type	Non indicating Silica gel
Desiccant contents	RGN1 2 kilograms RGN2 4 kilograms
Desiccant capacity	at 30% RH 15% by weight
Reactivation control temperature	Fully automatic
Saturation indicator	RH display
Maximum pressure	1 psi
Maximum flow rate	20 litres/min
Reactivation time	Nominal 6 hours
Power consumption	RGN1; 230 volts 5 amps RGN2; 100 volts 10 amps

# Dimensions & Power Specifications

Type	Dimn U	Dimn V	Dimn W	Dimn X	Dimn Y	Dimn Z
RGN1	255 mm	518 mm	230 mm	235 mm	576 mm	218 mm
RGN2	255 mm	518 mm	317 mm	235 mm	576 mm	254 mm

Type	Max. Oil vol.
RGN1	45m <sup>3</sup> , 40 tons oil, 12.000 gals
RGN2	90m <sup>3</sup> , 80 tons oil, 24.000 gals

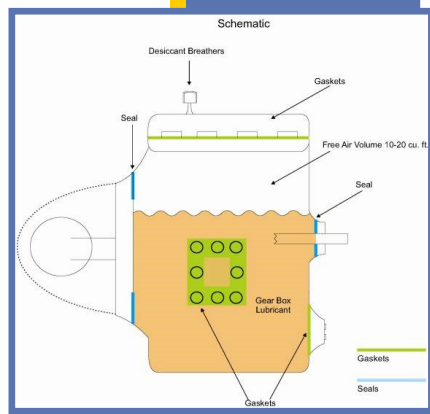
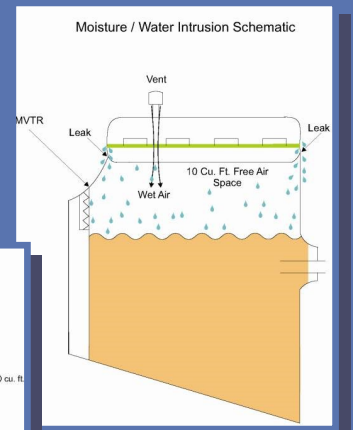
Weight of desiccant	Supply voltage	Power
2 Kg	230V /AC 50Hz	5 Amp
4 Kg	230V /AC 50Hz	10 Amp



## How It Works

Gearboxes present the biggest challenge to wind turbine reliability due to the extreme stresses imposed by the turbine blades directly connected to the gearbox assembly. These problems are further exacerbated by lubricant degradation caused by moisture, particulate, viscosity issues and acidity. Once liquid water is adsorbed into oil it emulsifies and can never be removed, despite the use of cellulose filter systems.

Recognizing that desiccant breathers provide inadequate protection for the large wind turbines being produced (1-3MW range). Brownell has developed a stand alone continuous air drying membrane system, REGEN8, that will provide an on going source of dry air <-30° F Dew Point (<400 ppm) to envelop the gearbox free airspace, preventing oil contamination from moisture.



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