

SINFT Solutions for Wind Power

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• Brief Introduction

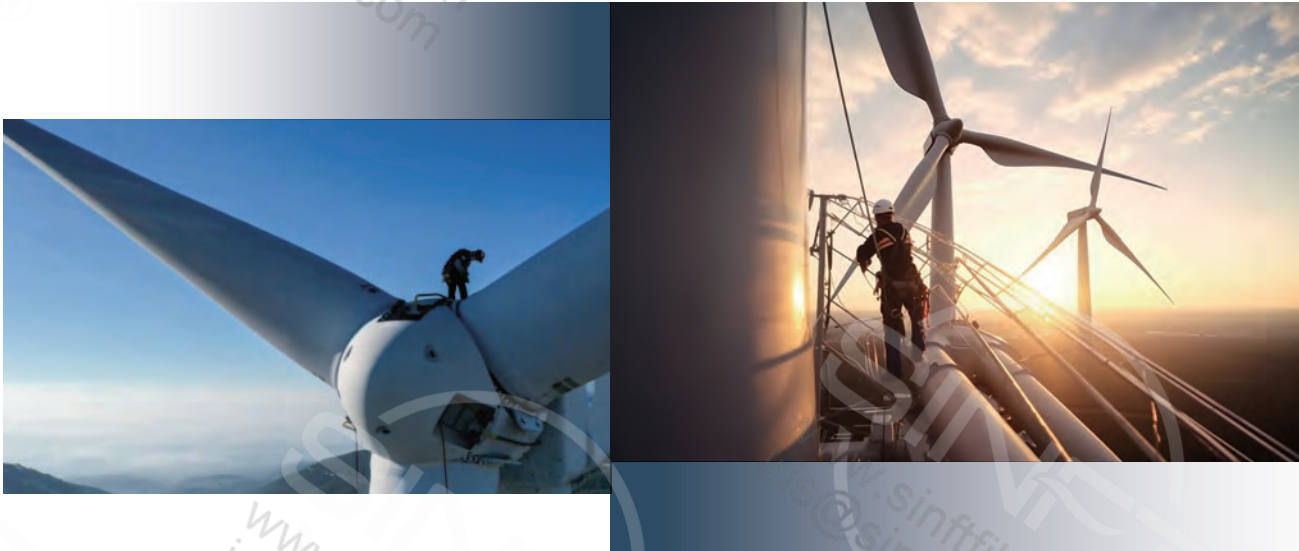
For over 16 years, SINFT has accumulated extensive experience in manufacturing filtration systems and filters for wind turbines.

The wind industry makes an important contribution to the energy revolution and to a future-oriented power supply. The wind power industry faces a series of unique and very demanding challenges.

By utilizing the latest technology, SINFT filter elements can be installed in many wind turbines to provide comprehensive gearbox protection.

Filtration Importance for Wind Power

Ensuring the mechanical reliability of wind turbines is a particularly challenging task, as poor lubrication methods can lead to system gearbox, hydraulic system, and bearing failures, which can be costly to repair.

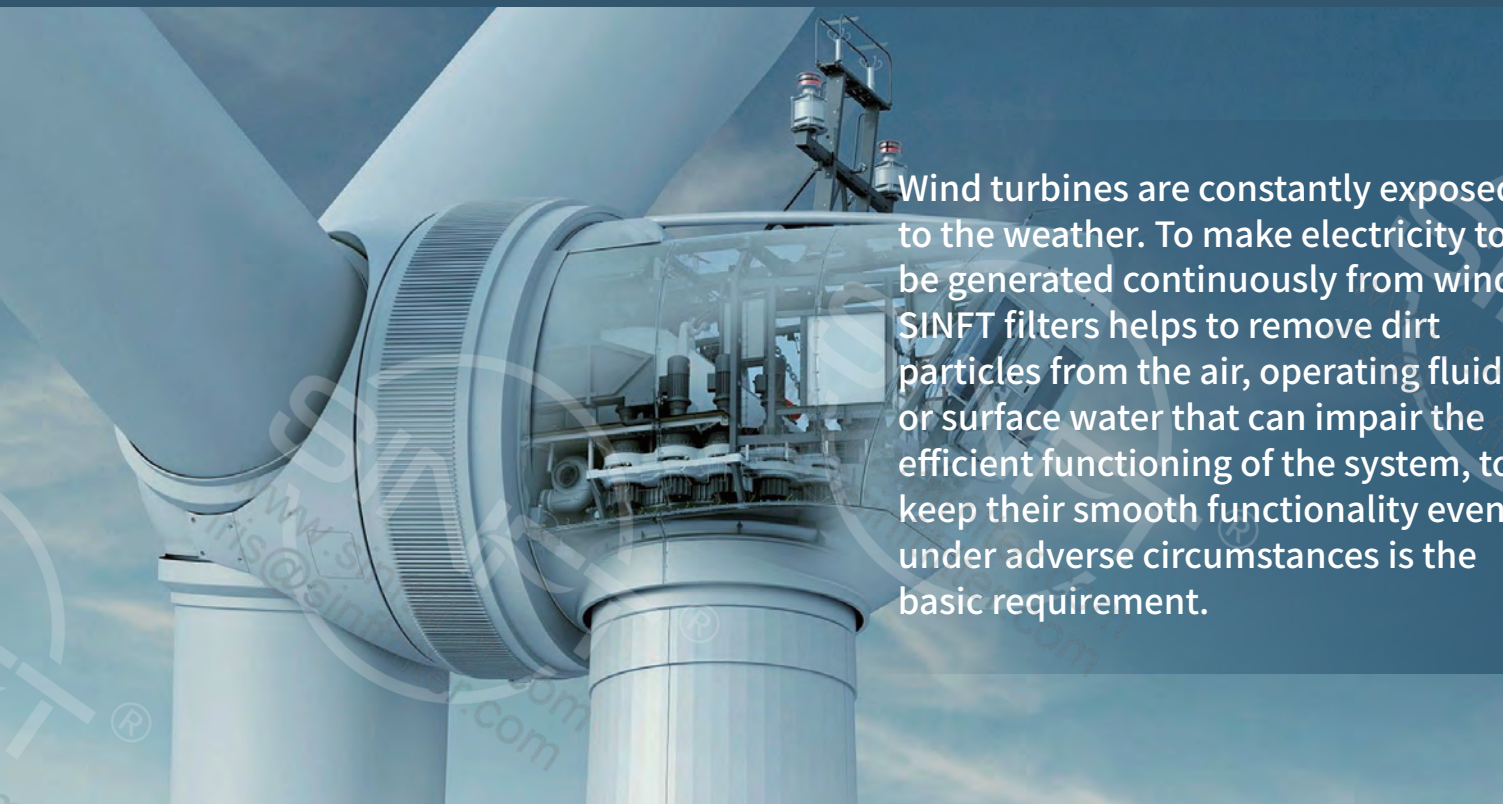


With extreme operating conditions and the demand for continuous availability and efficiency, it is crucial to extend the interval between regular maintenance, reduce the cost of lubricating oil replacement, protect the system from faults, and prevent and handle pollution.

To ensure a low wear and tear and thus also low-maintenance operation of the wind power system, we have to do filtration process. SINFT offers the solutions for wind turbine equipment.

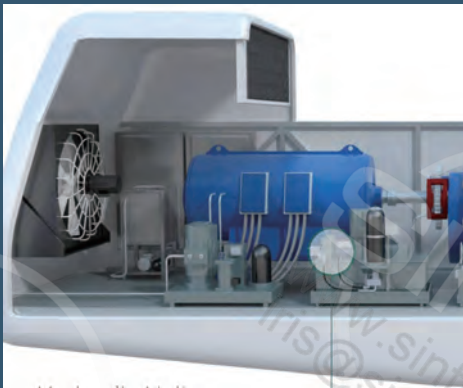
- **Desiccant Breather**
- **Interchangeable Filter Element**

How and Where SINFT can Help?



Wind turbines are constantly exposed to the weather. To make electricity to be generated continuously from wind, SINFT filters helps to remove dirt particles from the air, operating fluids or surface water that can impair the efficient functioning of the system, to keep their smooth functionality even under adverse circumstances is the basic requirement.

Particle Contamination Is the Leading Cause of Hydraulic and Gearbox Failures.



Hydraulic Unit

A hydraulic system in the turbines provides a braking mechanism for a unit, but can also be used for hydraulic pitch control on the blades. The oil in this application not only transmits power, but it also provides lubrication, heat transfer, and transports contaminants to be filtered out.



Gearbox

Gearboxes in wind turbines act as a significant role. In wind turbines, the impact of contaminants on slower turning gear drives is slow and insidious. Nevertheless, the mean time between failure for gears and shaft-support bearings can be increased by as much as two to three times by maintaining optimum levels of fluid cleanliness and dryness.

SINFT Solutions for Contamination Control

Water, often considered the second most harmful contaminant, causes corrosion, cavitation erosion, lubricant degradation and significantly degrades the lubricant's film strength leading to more mechanical wear.

Attacks contamination of your system at the source, removing water from the oil to protect the system running smoothly is always an important project.

SINFT Desiccant Breather Series

Use vacuum tank filling with silicone particles

- increase contact area
- enhance dehydration effect
- Working temperature: -29° to 93°
- Filtration efficiency ($\beta_3 \geq 200$)



Different Choices for Desiccant Breathers

Height (in / mm)	Diameter (in / mm)	Connection Sizes	Silicone Particles Weight (lbs/g)	Water Absorption (fl oz/ml)	MAX Flow Rate (lpm)	Reflux Rate at 1PSID (lpm)
3.87 / 98	2.52 / 64	3/8" (NPT, BSPP, BSPT)	0.1 / 59	0.8 / 23	129	41/129
5.36 / 136			0.3 / 127	1.7 / 50	118	413*118
6.00 / 152	4.10 / 104	1" (NPT, BSPP, BSPT)	0.8 / 365	5 / 142	453	340/453
8.00 / 203			1.4 / 643	9 / 251	453	311/453
10.00 / 254			2.0 / 913	12 / 365	453	283/453



SINFT desiccant breathers are produced with a check valve. The check valve isolates the system and ventilates only when necessary, offering the ideal solution for intermittent operation to protect low-flow applications.

SINFT Solutions for Contamination Control

Filter Elements from SINFT

Managing fluid contamination levels is a key factor in hydraulic system reliability. SINFT provide high-efficiency filter elements for brands with low pressure drop. With a high dirt-holding capacity, they are ideal for highly contaminated lubricants.

SINFT Interchangeable Hydraulic Filter Elements for Wind Power to Filtrec

Pictures	Models	OD (mm)	ID (mm)	L (mm)
	B251G10	85	53	61
	C713G25	79	61	431
	C713G10	79	61	431
	AWG108	136	1/2-16 UN2B	309.5
	D181G25A	70	33.5	210
	A150G10	128	1/2-16 UN2B	170
	DMD0008E10B	47	25.5	172
	RHR1300G10B4/005	143.5	96.5	483

Solutions for Contamination Control

Filter Elements Series for Wind Power Gearbox Lubrication

SINFT interchangeable filter elements to PALL :

- HCY143 series
- HC8300 FTP-FWT series



HCY143 series:

HCY143483FRS18Z
HCY143922FRS36Z
HCY8900EOM26H



HC8300 FTP-FWT series:

HC8300FTT16Z/HC8300FTT16Z
HC8300FWT16H/HC8300FWT16H
HC8300FWT16Z/HC8300FWT16Z
HC8300FRS30HYC11
HC8300FRS39HYC11
HC8300FWT39Z/HC8300FWT39Z

Filter Elements Series for Wind Power Gearbox Lubrication

SINFT interchangeable filter elements to PALL :

• HC8300 FCS-FMT series

HC8300FRS8Z/HC8300FCS8H
HC8300FRS8Z/HC8300FCS8Z
HC8300FCS8ZX321
HC8300FRS16Z/HC8300FCS16H
HC8300FRS16Z/HC8300FCS16HX321
HC8300FRS16Z/HC8300FCS16Z
HC8300FRS16Z/HC8300FCS16ZX321
HC8300FRS26Z/HC8300FCS26H
HC8300FCS26HX321
HC8300FRS26Z/HC8300FCS26Z
HC8300FCS26ZX321
HC8300FRS39Z/HC8300FCS39H
HC8300FRS39Z/HC8300FCS39HX321
HC8300FRS39Z/HC8300FCS39Z
HC8300FCS39ZX321
HC8300FRT8Z/HC8300FCT8H
HC8300FRT8Z/HC8300FCT8Z
HC8300FRT16Z/HC8300FCT16H
HC8300FRT16Z/HC8300FCT16HX321
HC8300FRT16Z/HC8300FCT16Z
HC8300FRT16Z/HC8300FCT16ZX321
HC8300FRT30ZYGE/HC8300FCT30ZYGE
HC8300FRT39Z/HC8300FCT39H
HC8300FRT39Z/HC8300FCT39HX321
HC8300FRT39Z/HC8300FCT39ZX321
HC8300FRZ16Z/HC8300FCZ16H
HC8300FRZ16Z/HC8300FCZ16Z
HC8300FRZ39Z/HC8300FCZ39H
HC8300FRZ39Z/HC8300FCZ39Z
HC8300FRS26Z/HC8300FMS26H
HC8300FRS39Z/HC8300FMS39H
HC8300FRT30ZYGE/HC8300FMT30ZYGE



Filter Elements Series for Wind Power Gearbox Lubrication

SINFT interchangeable filter elements to PALL :

• HC8300 EOJ-FCP series:

HC8300EOJ6HYC11A
HC8300EOM16H
HC8300EOM39H
HC8300EON20HK
HC8300EOS16H
HC8300EOS39H
HC8300EOT16H
HC8300EOT16Z
HC8300FRS26Z/HC8300FAS26H
HC8300FRS39Z/HC8300FAS39H
HC8300FRT30ZYGE/HC8300FAT30ZYGE
HC8300FRN8Z/HC8300FCN8H
HC8300FRN8Z/HC8300FCN8Z
HC8300FRN16Z/HC8300FCN16H
HC8300FRN16Z/HC8300FCN16HX321
HC8300FRN16Z/HC8300FCN16Z
HC8300FRN16Z/HC8300FCN16ZX321
HC8300FRN39Z/HC8300FCN39HX321
HC8300FRN39Z/HC8300FCN39H
HC8300FRN39Z/HC8300FCN39Z
HC8300FRN39Z/HC8300FCN39ZX321
HC8300FRP8Z/HC8300FCP8H
HC8300FRP8Z/HC8300FCP8Z
HC8300FRP8Z/HC8300FCP8ZX321
HC8300FRP16Z/HC8300FCP16H
HC8300FRP16Z/HC8300FCP16HX321
HC8300FRP16Z/HC8300FCP16Z
HC8300FRP16Z/HC8300FCP16ZX321
HC8300FRP39Z/HC8300FCP39H
HC8300FRP39Z/HC8300FCP39HX321
HC8300FRP39Z/HC8300FCP39Z
HC8300FRP39Z/HC8300FCP39ZX321



SINFT Solutions for Contamination Control

SINFT offers solutions for gearbox lubrication, gearbox cooling and oil filtration that are tried-and-tested on the market. SINFT is at your side with extensive know how and optimized lubrication systems for low-maintenance operation of your wind turbine.

SINFT Interchangeable Gearbox Filter Elements to HYDAC:

The gearbox filter element from SINFT ensures that only filtered oil gets into the lubrication system even when the bypass valve is opened. Increase your wind turbine's availability and safety with replacement element.

High-quality Filtration

- Extended service life
- Operating safety



SINFT Replacement for the Types for Wind Power:

- Stat-FreeElements® to prevent static charging
- Optimized filter elements (e.g. BN4HX) also with Quality Protection to protect against product piracy
- Trimicron elements Offline filter elements for combined removal of oil ageing products, water and solid particles
- Breather Dryer BDE

Materials & Components

1. Media Type: Microglass with Stainless Steel End Caps: Nylon & Steel
2. Center Tube: Corrosion Protected Steel
3. Seals: Viton (FPM)

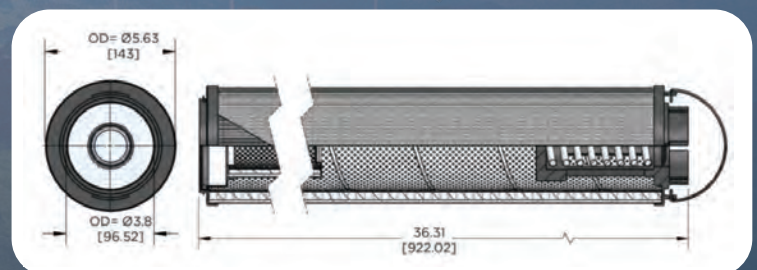
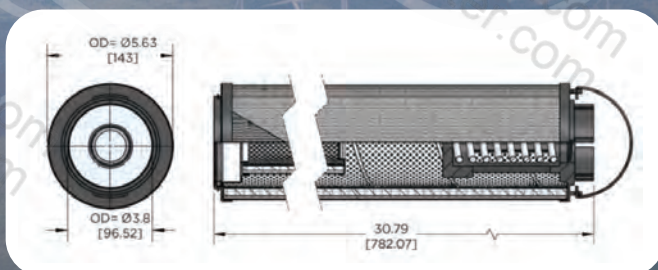
Chemical Compatibility

1. Compatible with all mineral oils, most synthetic oil (PAO & PAG)

Dimension Samples:

2600 series :

2200 series :



Note: All dimensions are in inches/[mm]