



CJC™ Wind

Oil filtration systems for removal of particles, water and oil degradation products from hydraulics and lubrication systems



Oil contamination wears
down your wind turbine
Let CJC™ protect your investment!



Install a CJC™ Oil Filter to protect your turbine and your investment

The main cause for

The oil film between the mechanical parts of a wind turbine is Impurities in the oil will break the oil film and create

Why is CJC™ different?

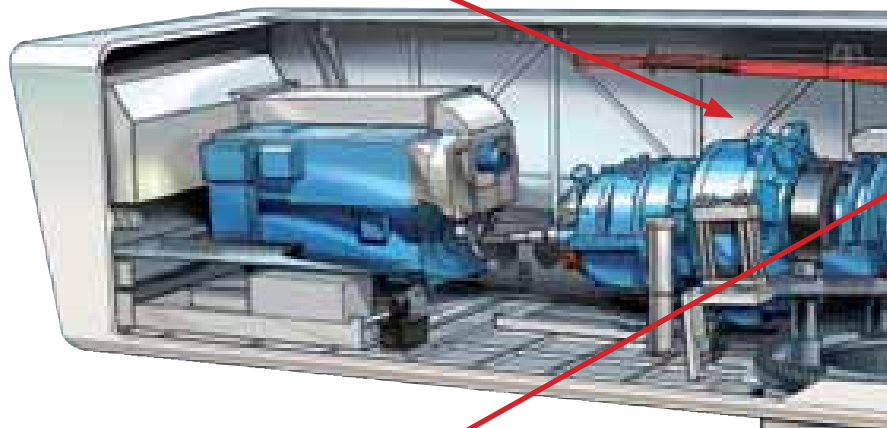
- We remove particles – even the smallest and very harmful small particles – water and varnish
- We deliver depth filtration systems, removing particles down to 0.8 microns
- Our filters have the industry's highest dirt-holding capacity
- Particles are retained in the cellulose fibers, water is absorbed inside the cellulose and oxidation is adsorbed on the outside of the cellulose fibers
- We clean oil, tanks, gearboxes and systems while in operation
- We have 60 years of oil filtration knowledge
- High service level and fast delivery times
- Worldwide contact points

Gearbox

Keep your gearbox oil clean with a CJC™ Oil Filter to prolong the lifetime of your gearbox and reduce the risk of expensive gearbox repair, thus protecting your wind turbine investment!



CJC™ Fine Filter HDU 27/27 with CJC™ Oil Contamination Monitor



Main bearing

Keep your main bearing clean with a CJC™ Oil Filter to obtain optimum oil lifetime, thereby avoiding costly and time-consuming oil changes.



CJC™ Fine Filter HDU 27/54

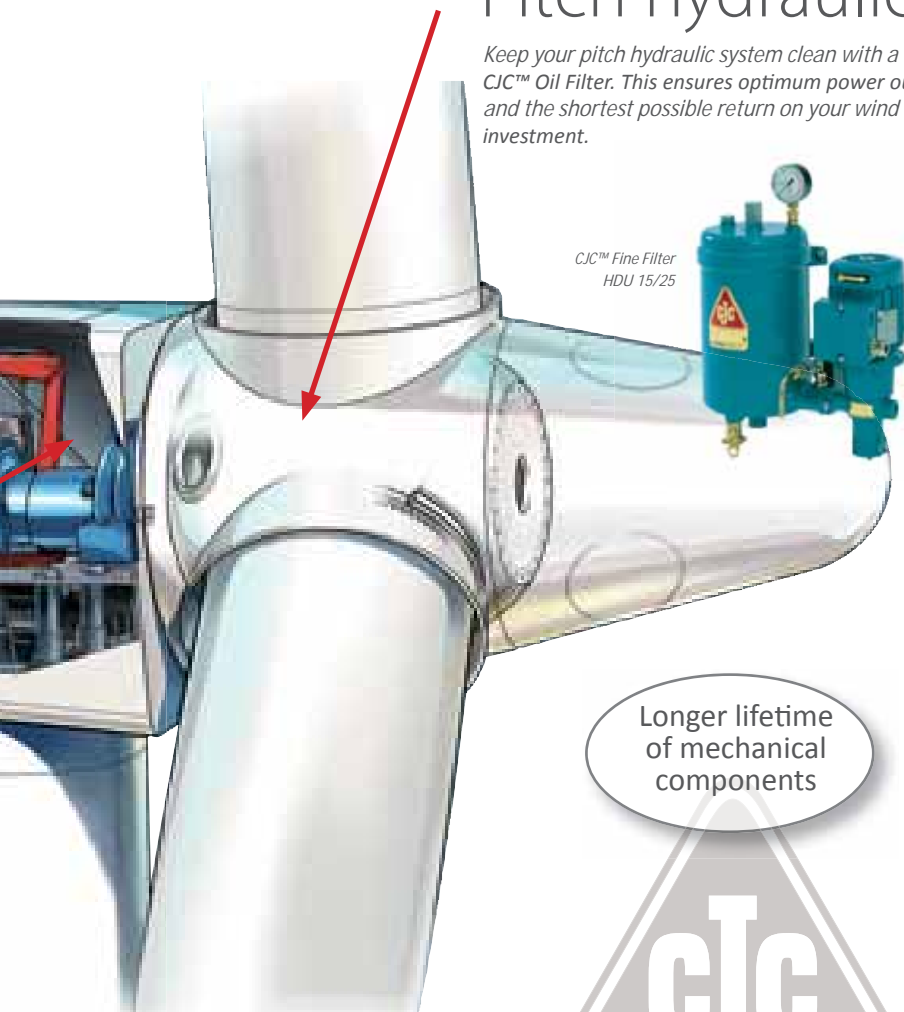
Install a CJC™ Oil Filter to protect your gearbox,

equipment breakdown

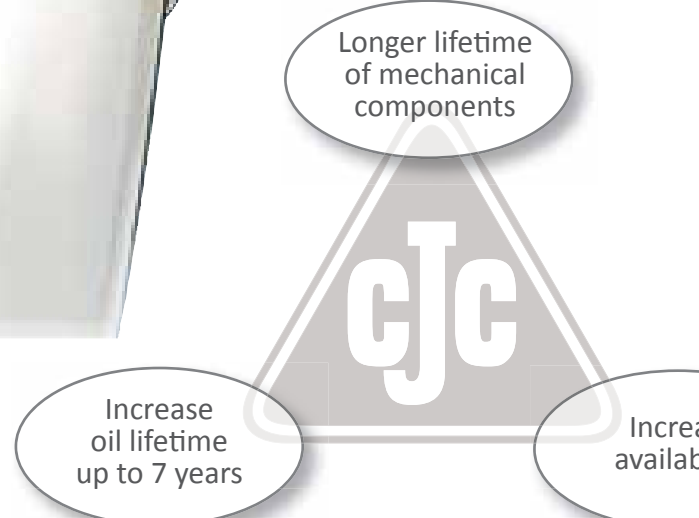
the only thing keeping your turbine from immediate breakdown.
mechanical contact, generating enormous friction.

Pitch hydraulic

Keep your pitch hydraulic system clean with a CJC™ Oil Filter. This ensures optimum power output and the shortest possible return on your wind turbine investment.



CJC™ Fine Filter
HDU 15/25



- Longer lifetime of mechanical components
- Increase oil lifetime up to 7 years
- Increase availability

Your benefits

- Prolong the lifetime of your gearbox
- Reduce the risk of expensive gearbox repair
- Avoid expensive system breakdown
- Increase oil lifetime, up to 7 years
- Avoid costly and time-consuming oil changes
- Reduce component wear and tear
- Increase availability
- Optimized power output and increased profit
- Increased return on investment
- Reduce your WTG lost production factor

your wind turbine and your investment!

Satisfied customers – worldwide!

GE 1.5 MW, USA



GE 1.5 Wind Turbine

System

Wind turbine type	GE 1.5 ESS
Gearbox	Winergy
Oil type	Castrol Optigear A320
Oil volume	265 L

Problem

After two years using O.E.M 10-micron in-line filter – particle count + 500,000 4-micron particles per/100 ml. ISO 20/18/15.

Solution

CJC™ Fine Filter HDU 15/25
incl. air bleed hose
Filter insert: CJC™ BG 15/25, 3 µm absolute filtration
Pump flow: 57 L/h

Customer statement:

John Hail Jr.

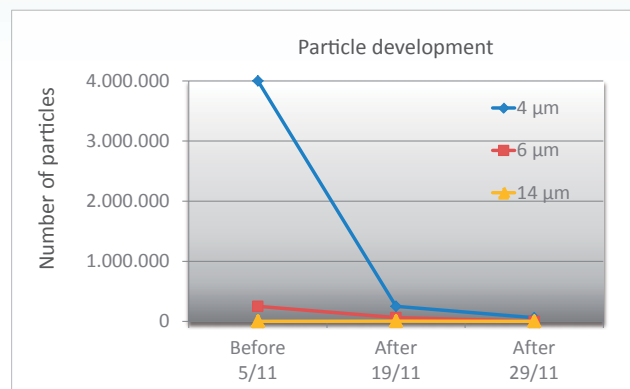
Director at North American Wind Research and Training Center

"Since adding our C.C.JENSEN Offline Oil Filter, our oil analysis has showed considerable improvement, and our gearbox has yet to have a single bearing failure, vibration analysis alarm, or high-heat signature.

We are likely to save major repairs that may cost over \$ 900,000"

Results

Date	Before CJC™	After CJC™	
	11.07.2010	01.24.2011	02.25.2011
ISO Code	20/18/15	17/16/12	16/15/11
>4 µm	591,000	129,200	42,800
>6 µm	230,000	50,300	16,600
>14 µm	17,400	3,800	1,200



NORDEX – Enersis, France & ERG renew



NORDEX N90 Wind Turbine

System

Wind turbine type	Nordex N90/2300R80
Gearbox	Eickhoff
Oil type	Mobilgear XMP 320
Oil volume	340 L

Solution

CJC™ Offline Fine Filter, type HDU 27/27
 With CJC™ Filter Inserts, type B 27/27, 3 µm abs.
 Pump flow: 120 L/h

Site

Two units in Voie Bleriot Est and three units in Oise Lihus.

Problem

The wind turbine gearboxes were all having problems related to high oil contamination of particles and oxidation deposits in the gear oil.

The high contamination level caused accelerated wear on gearbox components and reduced oil lifetime, leading to increased O&M costs, unforeseen breakdowns and lost productivity. The oil was so contaminated that it had to be changed.

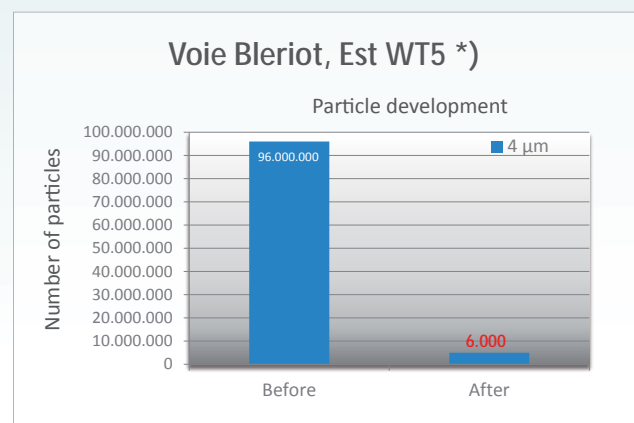
Results

Turbine	BEFORE installation 4 µm		AFTER installation 4 µm		Life improvement factor
	Count/100 ml	ISO	Count/100 ml	ISO	
Voie Bleriot Est WT3	≈ 12,000,000	25	≈ 24,000	15	x 5
Voie Bleriot Est WT5 *)	≈ 96,000,000	28	≈ 6,000	13	x 10
Oise Lihus WT2	≈ 3,000,000	22	≈ 12,000	14	x 4
Oise Lihus WT3	≈ 12,000,000	24	≈ 24,000	15	x 4
Oise Lihus WT4	≈ 1,500,000	21	≈ 48,000	16	x 2

Result

After installing the CJC™ Offline Fine Filter, the contamination level in the oil was reduced by a factor of more than 1,000. An oil change was no longer necessary.

The payback time of the CJC™ Offline Fine Filter was less than one month. On top of this, gearbox wear was reduced dramatically, leading to longer component lifetime, higher availability and reduced O&M costs.



The Chosen Market Leader

More than 75,000 CJC™ Oil Filters installed

With more than 75,000 CJC™ Oil Filter installed worldwide in wind turbines and more than 20 OEM customers trusting us to protect their gearbox designs, we have proven ourselves to be the clear market leader in oil treatment of wind turbine gearboxes.

CJC™ Oil Filters are constantly protecting gearboxes, pitch hydraulic and main bearing systems

- optimizing our customers' investment in wind turbines!

Chosen by OEMs

We are proud to be chosen by leading manufactures like Vestas, Siemens, GE, Gamesa, and Mitsubishi, as we base our collaboration on mutual trust, approved and documented quality, flexibility and a strong business case for all parties



The original filter

Always use the original CJC™ Filter Insert in you CJC™ Oil Filter – the only product approved by the OEMs and the only product that guarantees protection of your wind turbine and your investment.



R&D engineers

Our R&D Engineers are continuously developing new solutions to address the challenges we meet in the wind turbine industry. We have CJC™ Oil Filter and CJC™ Filter Inserts especially developed for wind industry applications. No lubricant is approved by the leading wind turbine manufactures without passing our 2,000 hour test carried out at our state-of-the-art test facilities.



Test of oil samples at C.C.JENSEN A/S laboratory

Close to you – worldwide!

Worldwide organisation

C.C.JENSEN is very proud of being the trusted partner of more than 20 wind turbine manufacturers in countries like Germany, US, Denmark, China, India, Spain, South Korea, Japan, etc.

All CCJ personnel in the wind segment have passed application-specific technical courses in order to ensure our wind industry customers a professional and rapid response – worldwide.



Our Global C.C.JENSEN Wind Team

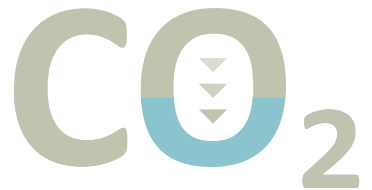
CO₂ reduction

At C.C.JENSEN, we have during the past five years worked intensively on reducing our carbon footprint and with great success as we have managed to reduce our CO₂ emissions by 50%.

We have invested in our own wind turbine, installed solar power panels for electricity production and reduced our consumption of oil using alternative energy in our production processes.

At C.C.JENSEN, our CO₂ mission is unmistakable

CO₂ emissions must be reduced to help the global environment!



Join our Wind Service Center Network

C.C.JENSEN A/S has developed a network of certified Independent Service Providers that are trained in servicing or retrofitting CJC™ Oil Filters in wind turbines.

Join our
network – today!

We look for more companies to expand our Service Center Network – would you like to join us?

www.cjc.dk/wind-service



C.C.JENSEN - contact us today!



Manufacturing & headquarters

C.C.JENSEN A/S

Løvholmen 13 | DK - 5700 Svendborg | Denmark
Tel. +45 6321 2014 | Fax: +45 6222 4615
sales@cjc.dk | www.cjc.dk

C.C.JENSEN subsidiaries and sales offices

Belgium

C.C.JENSEN Belgium
Tel.: +32 484 25 36 96
ccjensen.be@cjc.dk
www.ccjensen.dk

Benelux

C.C.JENSEN Benelux B.V.
Tel.: +31 182 37 90 29
ccjensen.nl@cjc.dk
www.ccjensen.nl

Chile

C.C.JENSEN S.L. Limitada
Tel.: +56 2 739 2910
ccjensen.cl@cjc.dk
www.ccjensen.cl

China

C.C.JENSEN Filtration
Equipment (Tianjin) Co. Ltd.
Tel.: +86 10 6436 4838
ccjensen.cn@cjc.dk
www.ccjensen.cn

Denmark

C.C.JENSEN Danmark
Tel.: +45 7228 2222
ccjensen.dk@cjc.dk
www.cjc.dk

France

C.C.JENSEN France
Tel.: +33 3 59 56 16 58
ccjensen.fr@cjc.dk
www.ccjensen.fr

Germany

KARBERG & HENNEMANN
GmbH & Co. KG
Tel.: +49 (0)40 855 04 79 0
kontakt@cjc.de
www.cjc.de

Greece

C.C.JENSEN Greece Ltd.
Tel.: +30 210 42 81 260
ccjensen.gr@cjc.dk
www.ccjensen.gr

India

C.C.JENSEN India
Tel.: +91 4426241364
ccjensen.in@cjc.dk
www.ccjensen.in

Ireland

C.C.JENSEN Ireland
Tel.: +353 86 827 1508
ccjensen.ie@cjc.dk
www.ccjensen.ie

Italy

KARBERG & HENNEMANN srl
Tel.: +39 059 29 29 498
info@cjc.it
www.cjc.it

Poland

C.C.JENSEN Polska Sp. z o.o.
Tel.: +48 22 648 83 43
ccjensen@ccjensen.com.pl
www.ccjensen.pl

Spain

C.C.JENSEN Ibérica, S. L.
Tel.: +34 93 590 63 31
ccjensen.es@cjc.dk
www.cjc.dk

Sweden

C.C.JENSEN AB
Tel.: +46 8 755 4411
sales@ccjensen.se
www.ccjensen.se

United Arab Emirates

C.C.JENSEN Middle East
Tel.: +971 4 447 2886
ccjensen.uae@cjc.dk
www.cjc.ae

United Kingdom

C.C.JENSEN Ltd.
Tel.: +44 1 388 420 721
filtration@cjcuk.co.uk
www.ccjensen.co.uk

USA

C.C.JENSEN Inc.
Tel.: +1 770 692 6001
ccjensen@ccjensen.com
www.ccjensen.com



Your local C.C.JENSEN Distributor:

Scan the QR code and find
your nearest distributors
at www.cjc.dk

- or give us a call!

Clean Oil - Bright Ideas

C.C.JENSEN A/S | www.cjc.dk

