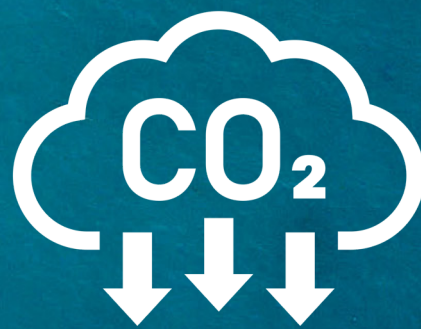


Replace Your Centrifugal Separator with CJC[®]

and get up to 2% CII improvement



Engine Lube Oil Filtration

CJC[®] Engine Lube Oil Filter solutions for 2- & 4- Stroke Engines
- be in compliance with IMO Decarbonization Targets.

IMO Decarbonization Targets

EEXI, EEDI & CII

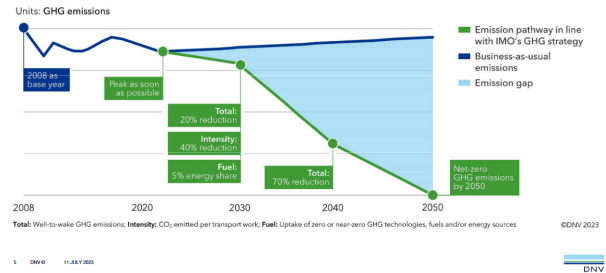
IMO Targets

The International Maritime Organization (IMO) has set ambitious decarbonisation targets for the shipping industry, with key compliance dates rapidly approaching.

By 2030, the IMO aims to reduce carbon emissions per transport work from vessels by at least 40% compared to 2008 levels.

This objective is to be pursued alongside a complete (100%) reduction in greenhouse gas (GHG) emissions on a well-to-wake basis by 2050, as established during the recent MEPC 80 session.

Strengthened IMO strategy on GHG reductions



Revolutionary Technology for 2- and 4-Stroke Engines

Replace your Centrifugal Separator with CJC®

C.C.JENSEN A/S, Headquartered in Svendborg, Denmark, the leader and the expert with over 70 years of experience in offline oil filtration, offers a revolutionary technology designed to replace traditional centrifugal separators.

This technology is developed for both 2-stroke and 4-stroke engines running on all fuel types, significantly reducing OPEX costs associated with maintaining engine lube oil in proper condition, with a return on investment (ROI) typically achieved in less than a year.

CJC® Engine Lube Oil Filters typically consume only 3% of the energy required by a centrifugal separator. This results in a substantial reduction in CO₂ emissions and extends the life of the oil in a more sustainable manner.



CJC® Engine Lube Oil Filter

Benefits

- Up to 2% CII improvement
- 97% energy savings
- 97% CO₂ reduction
- Up to 60% less oil consumption
- 99% lube oil sludge reduction
- Increased oil & component lifetime
- Increased operational reliability & availability
- Reduced maintenance costs



CJC® Filter Inserts

Customer Case

MR Tanker, MAN 6S 50MC-C with 11,640 kW

An example of a 46,921 DWT MR Tanker, with three different trading area scenarios:

- Between EU/EEA and non-EU/EEA Ports
- Within EU/EEA Ports
- Outside EU/EEA Ports

The vessel operates on HFO with Daily Fuel Oil Consumption of 23.6 MT at Sea at 13 knots & 5.25 MT at Port/Anchorage.

Savings by installing CJC[®] Lube Oil Filter:

- Power consumption 639.91 MWh/year
- Fuel for energy 81.94 MT/year
- % Total L.O. reduction
 - Main Engine 27.16 %
 - Aux. Engine 51.20 %
- Desludge of Centrifugal Separator
 - Lube Oil 3,247 ltr/year
- Sludge production 11,122 ltr/year

Annual CO₂ Savings =
255 tonnes CO₂ / year

IMAGINE

if you install CJC[®] on your ENTIRE FLEET of e.g. 40 vessels =

10,200 tonnes CO₂ / year

The table below provides a detailed breakdown of the initial investment, annual savings, EU ETS Allowance savings, FuelEU Maritime savings, and the payback period across three different operational scenarios:

- Between EU/EEA & non-EU/EEA Ports
- Within EU/EEA Ports
- Outside EU/EEA Ports

This analysis highlights how the CJC[®] Engine Lube Oil Filter delivers both cost savings and environmental benefits under varying operational conditions, offering a clear return on investment. By optimising fuel efficiency and reducing emissions, the CJC[®] Engine Lube Oil Filter not only lowers operating costs but also supports compliance with EU emission regulations.

	Annual savings with CJC [®]	ETS EU Allowance savings	FuelEU Maritime savings	Payback Period
Between EU/EEA & non-EU/EEA Ports	72,364 USD	8,549 USD	2,401 USD	0.58 year
Within EU/EEA Ports	83,314 USD	17,098 USD	4,802 USD	0.51 year
Outside EU/EEA Ports	61,414 USD	0.00 USD	0.00 USD	0.69 year

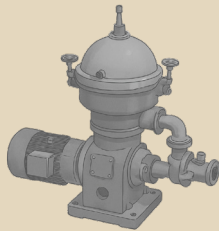
CII Rating - Centrifug

Based on 2024 data, the table below illustrates the annual savings in fuel oil consumption and the improvement in the Carbon Intensity Indicator (CII) achieved by replacing the traditional Lube Oil Centrifuge with the CJC® Engine Lube Oil Filter. These figures are expected to remain consistent in 2025, provided the vessel maintains the same trading patterns.

The blue column represents 150 sailing days, corresponding to actual annual Main Engine Running Hours of 3,600 RHS. Under typical sea-going conditions at 13 knots, the tanker consumes 23.6 metric tonnes of fuel oil per day, and 5.25 metric tonnes per day while in port.

The table presents savings across various trading scenarios, ranging from 100 to 200 sailing days, underscoring the significant impact of the CJC® Engine Lube Oil Filter on fuel consumption and overall operational efficiency.

Based on year 2025



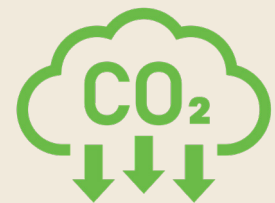
	CII Rating -			
Sailing Days	100	115	130	140
Port Days	265	250	235	225
Distance	31,200	35,880	40,560	43,680
Total FOC, MT	3,751	4,027	4,302	4,485
CO ₂ Emissions	11,682	12,540	13,397	13,968
Attained CII	7.98	7.45	7.04	6.82
CII Rating	D	D	C	C



	CII Rating -			
Sailing Days	100	115	130	140
Port Days	265	250	235	225
FOC Savings, MT	100.51	94.94	89.37	85.66
FOC, %	2.68%	2.36%	2.08%	1.91%
Total FOC, MT	3,651	3,932	4,212	4,400
CO ₂ Emissions	11,369	12,244	13,119	13,702
Attained CII	7.77	7.27	6.89	6.69
CII Rating	D	C	C	C

al Separators vs CJC[®]

By switching from the traditional Lube Oil Centrifuge to the CJC[®] Engine Lube Oil Filter, you are not only enhancing your vessel's performance but also contributing to a more sustainable and environmentally friendly shipping industry.



WITH Lube Oil Centrifuge

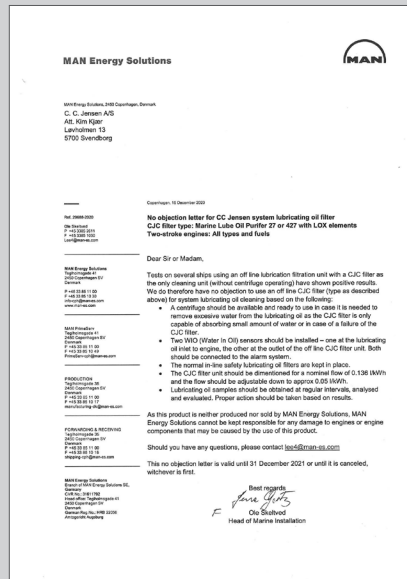
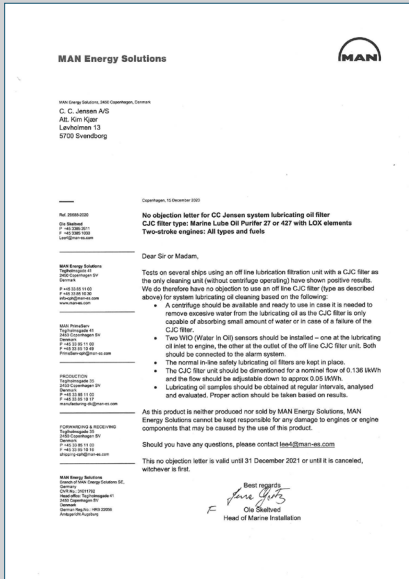
145	155	165	180	190	200	150
220	210	200	185	175	165	215
45,240	48,360	51,480	56,160	59,280	62,400	46,800
4,577	4,761	4,944	5,219	5,403	5,586	4,669
14,254	14,826	15,397	16,254	16,826	17,397	14,540
6.72	6.53	6.37	6.17	6.05	5.94	6.62
C	C	C	B	B	B	C

WITH CJC[®] Engine Lube Oil Filter

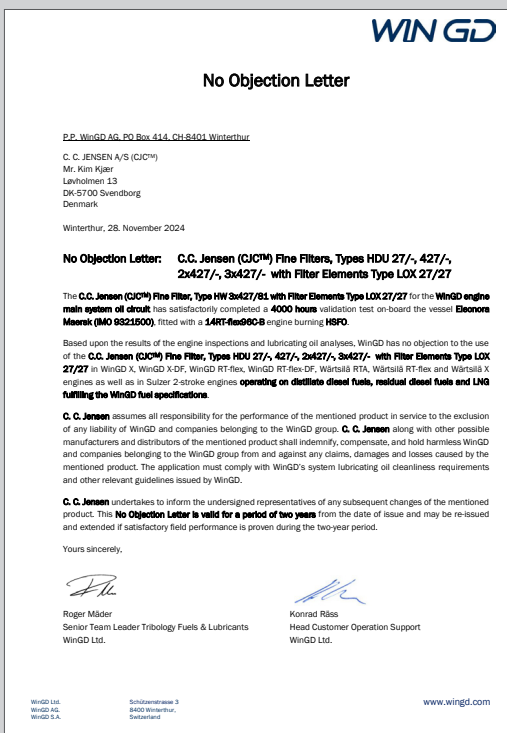
145	155	165	180	190	200	150
220	210	200	185	175	165	215
83.80	80.09	67.37	70.80	67.09	63.38	81.94
1.83%	1.68%	1.54%	1.36%	1.24%	1.13%	1.76%
4,493	4,680	4,868	5,148	5,336	5,523	4,587
13,993	14,576	15,159	16,034	16,617	17,200	14,285
6.59	6.42	6.28	6.08	5.97	5.87	6.51
C	C	B	B	B	B	C

OEM Approvals benefitting both OEM & End-user

No Objection Letter - signed by **MAN Energy Solutions**



NOLs for 2- & 4-stroke engines.



















No Objection Letter - signed by **WinGD**

NOL for 2-stroke Engines
based on a 4000 hour test onboard **ELEONORA MAERSK**.
CJC® Engine Lube Oil Filter and CJC® Filter Insert Type LOX
installed on the lube oil system of the **WinGD Main Engine**.

Global Marine Team

C.C.JENSEN

The Team is ready to calculate
YOUR Savings - *just call us!*

							
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Watch the video about our
CJC® Engine Lube Oil Treatment Solutions

Made in Denmark

Supporting the Entire World with Clean Oil



Find your nearest
C.C.JENSEN Expert at
www.cjc.dk/contact

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