

MADE | IN EUROPE  
WITH PASSION



**ANGLO BELGIAN  
CORPORATION**

We power your future



**EVOLVE  
4EL23**

**“A history of building  
the future, a future built  
on history”**



For more than 100 years, ABC has been dedicated to keep your business going by producing reliable & innovative engines & gensets.

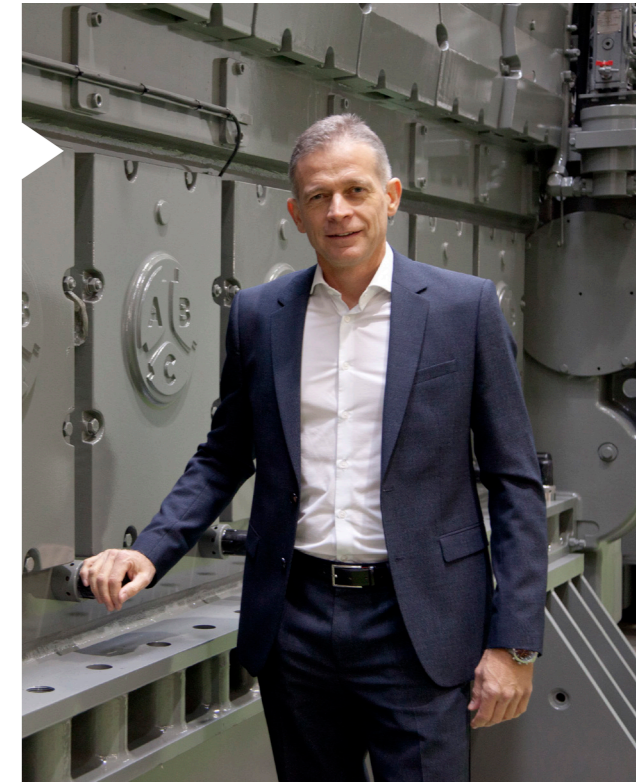
Today, with the first engine of the EVOLVE range, we open up a new route towards a green future for maritime transportation. We present the combustion engine of the next century, whatever the fuel.

The 4EL23 is the first multifuel medium speed engine to face the transition from fossil-based to zero-carbon head-on. We are changing the game. As such, we both propel the profitable growth of our clients and protect the future of our planet. At ABC, performance, efficiency and future proof versatility go together. We innovate uncertainty and unpredictability out of the equation.

No matter which future materializes, we power it.

A handwritten signature in black ink, appearing to read 'Tim Berckmoes'.

Tim Berckmoes  
CEO  
Anglo Belgian Corporation



# EVOLVE

OUR ENGINES ARE FLEXIBLE, YOUR FUTURE IS SAFE

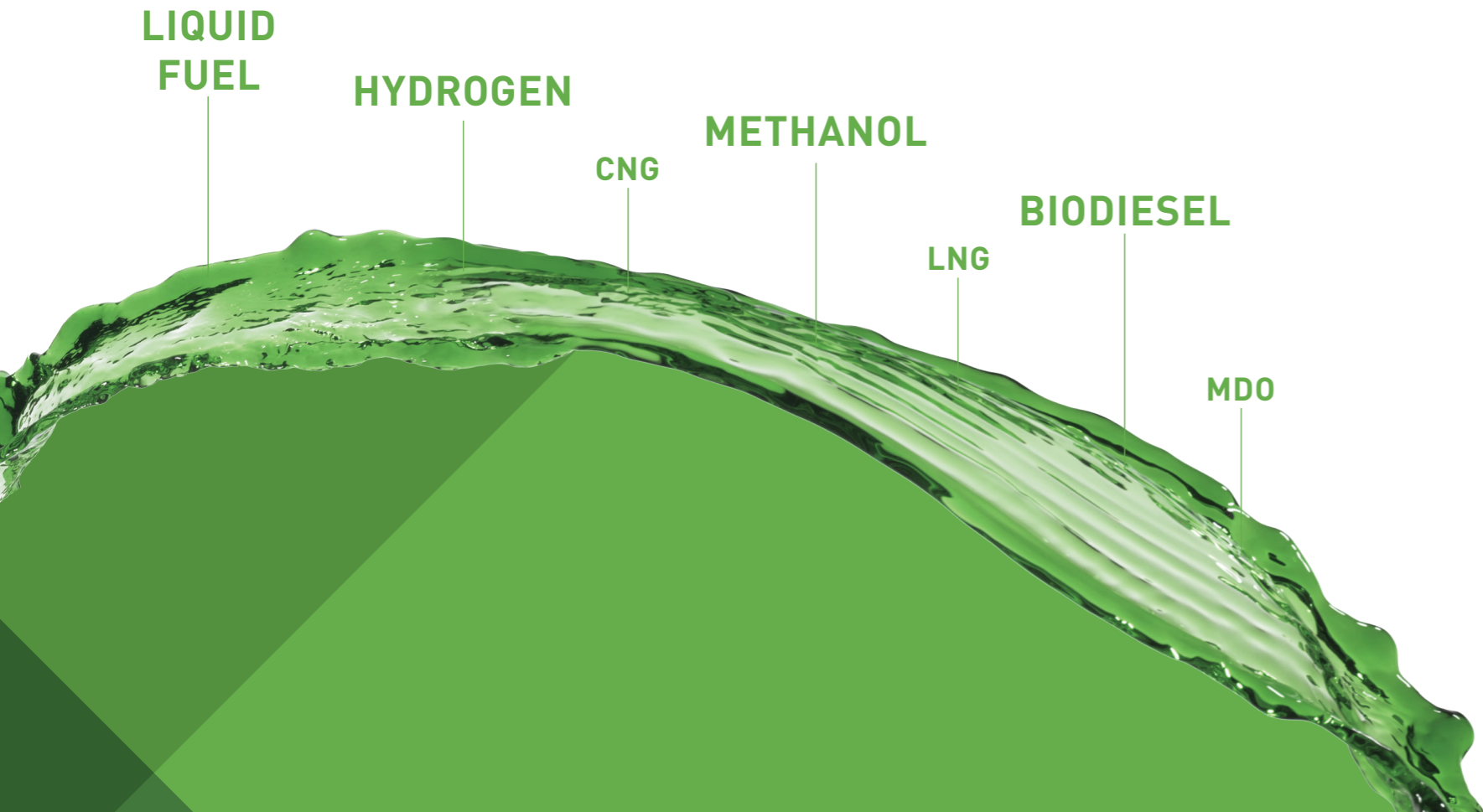
*Will harbours become low emission zones, just like cities? Will hydrogen replace all other fuels? You just can't predict the future. And with ABC engines, you don't have to.*

*Count on us to be one step ahead of developments, anytime. We will always use our long lasting tradition of high R&D investments to offer you a versatile engine that is able to navigate the future.*



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# EVOLVE

OUR ENGINES ARE FLEXIBLE, YOUR FUTURE IS SAFE

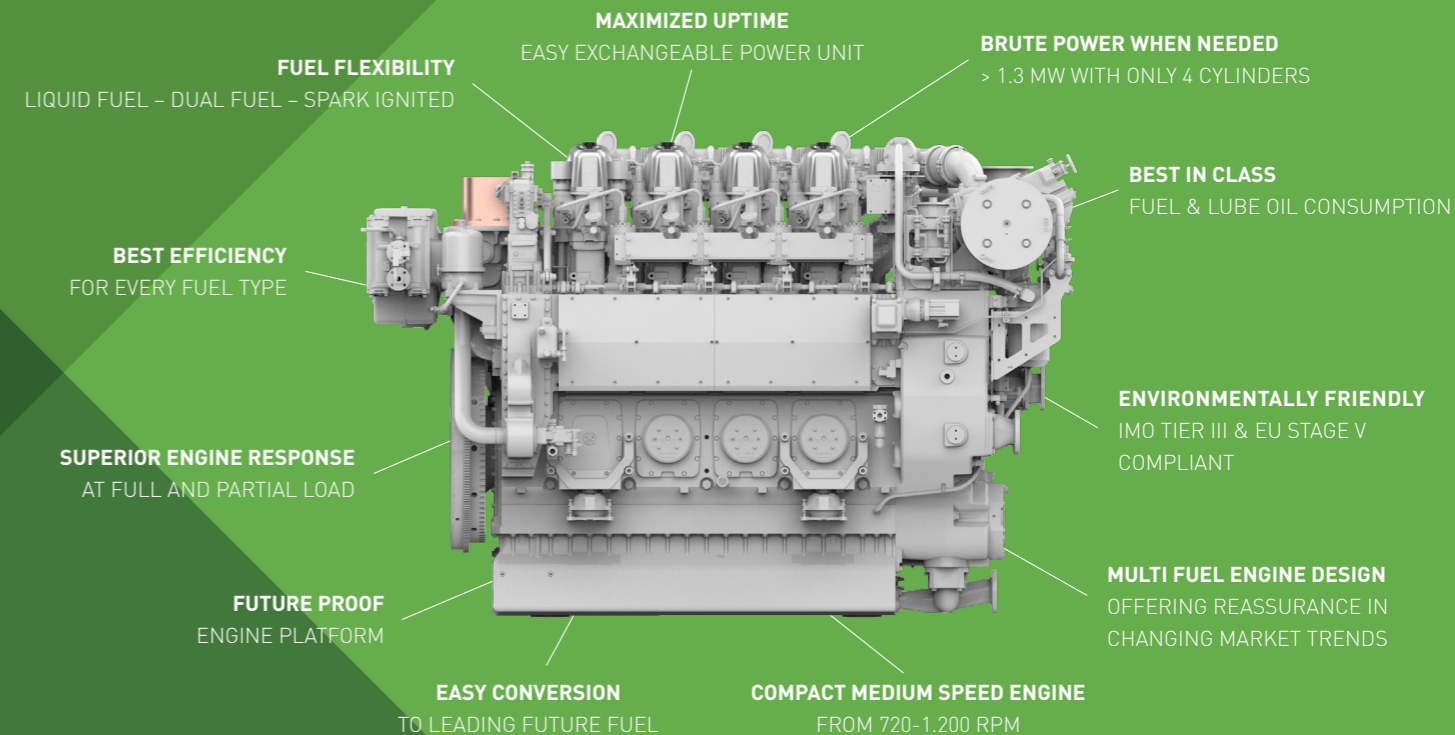
- Future proof & Compact Engine Platform
- Predesigned to integrate the most recent future technologies (liquid fuel, dual fuel, spark-ignited)
- Facilitating financially viable conversion/retrofit to new fuel types using the same engine
- Diesel, biodiesel, MDO, HFO, hydrogen, methanol, LNG, CNG, ...
- Best efficiency for every fuel type
- IMO Tier III certified and EU stage V compliant



# EVOLVE

OUR ENGINES ARE FLEXIBLE, YOUR FUTURE IS SAFE

## The versatile engine for a solid future.



# E-NOVATION

Our innovative mindset keeps us ahead of market developments. Not by predicting 'the' future, but by developing smart, sustainable open-ended solutions.

## Fuel Flexible Evolving together to ultra low or zero emission

Present



Liquid Fuel

Near Future



Liquid Fuel



Dual Fuel



Gaseous Fuel



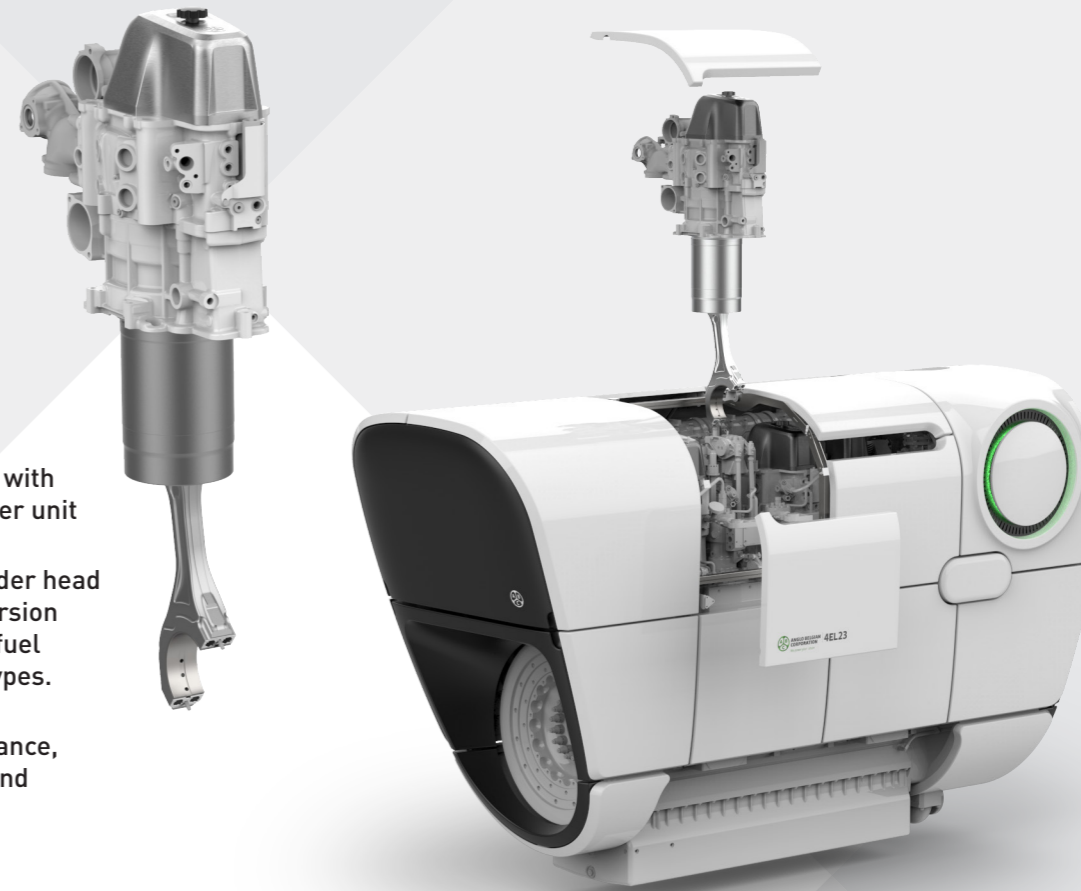
## EFFORTLESS

Innovation should make things more simple, not more complex. It should give you more options, not less. It should make changing and implementing choices effortless, in any circumstance.

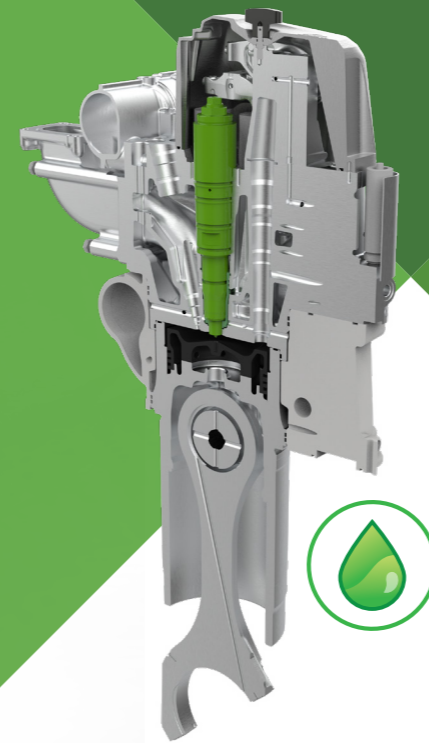
Innovation should be smart, by making things easy for you. Especially when every minute of uptime counts.

Maximized uptime with exchangeable power unit

- Versatile cylinder head for easy conversion from liquified fuel to other fuel types.
- Easy: maintenance, replacement and conversion.



Combustion engines will be around for a very long time to come. Many fuel options become available. A conversion from liquid fuel to hydrogen piloted dual fuel or spark ignition is just a snap of the finger away. A range of options providing clean and affordable reliability for the next decades.



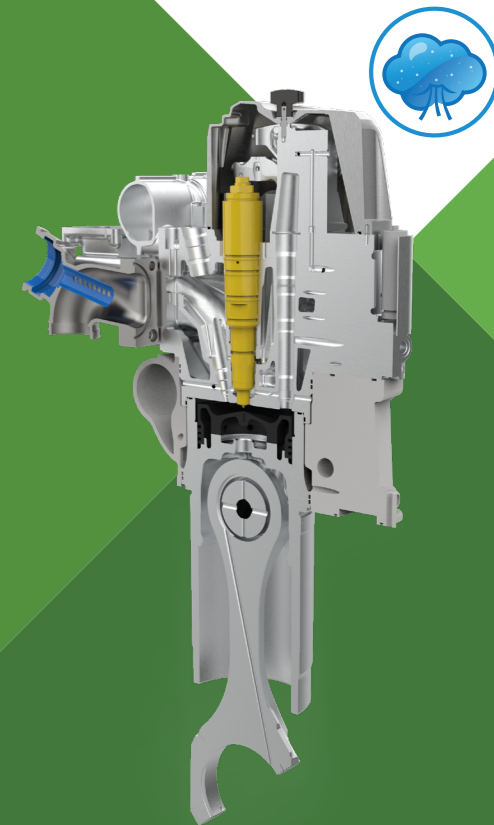
### Liquid fuel

Highly efficient Common Rail or PLN fuel injection system for liquid fuels.



### Dual fuel

Micro pilot liquid fuel injection combined with gas injection system.



### Spark ignited

100 % gas using a spark plug.



## EXCELLENCE

The 4EL23 is made for heavy-duty applications offering sheer acceleration ability and speed when needed. The high responsiveness additionally ensures for extra safety when manoeuvring in critical locations and contributes to operation without any stress.

- >1,3 MW power output with only 4 cylinders
- Superior engine performance full & partial load
- Immediate abundance of power when needed
- 100 % power available on PTO

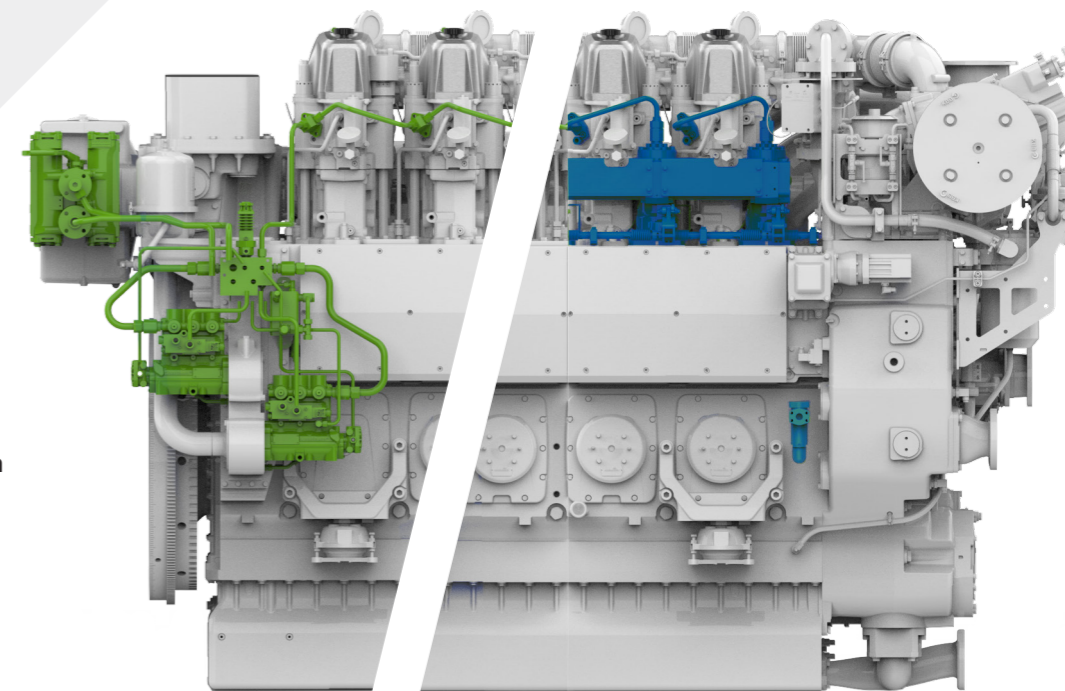


## EFFICIENCY

The 4EL23 gets more power out of less fuel, which significantly reduces total cost of ownership. Meanwhile, they do their job in even the toughest of circumstances, while being extremely low-maintenance.

Common Rail

Pump-Line-Nozzle (PLN)



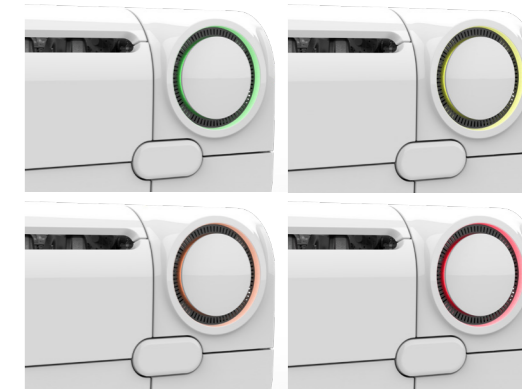
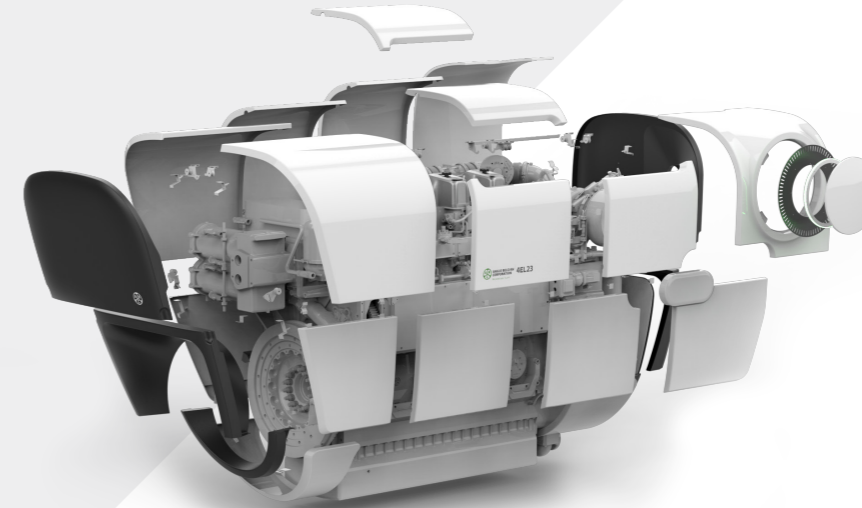
- Best-in-class fuel & lube oil consumption
- Best efficiency for every type of fuel
- PLN or Common Rail with micro pilot fuel injection
- Micro pilot fuel injection for future dual fuel
- Variable Valve Timing (VVT) & Miller cycle



## E-MOTION

ABC introduces the protective engine shell, giving the 4EL23 a smooth and modern look. But there's more than meets the eye. For ABC, design is an integral part of functionality. The protective engine shell protects engine *and* crew from damage or injuries. It tampers heat, noise and vibrations. The user friendly LED interface creates tool free access.

Do you prefer the naked, raw beauty of cylinders?  
The protective engine shell is an option. So the choice is all yours.



### Design engine shell



Impact proof



Tool Free Acces



Protection from heat radiaton



Heat protection for hands



Noise Covers

### Engine Health

The engine health or engine status can be easily and quickly spotted by means of LED lighting warning.

The LED colour can be assigned on different engine parameters.



## ENDURANCE

We are determined to keep on pushing the advantages of medium speed engines to the ultimate. These workhorses are a perfect match for the day-in, day-out routes of the customer. This was the case 100 years ago, and thanks to the EVOLVE range, it will continue to be the case for the next 100 years. They envision our brand promise of reliable, affordable and smart engines well into the future.

- Robust medium speed engine from 720 to 1.200 rpm
- Much lower wear and tear
- Long overhaul intervals and less maintenance costs



## ENVIRONMENT

The key to green combustion engines lies in the performance of the EVOLVE Exhaust Aftertreatment System (EATS). The EVOLVE virtually eradicates NO<sub>x</sub> and particle emissions, allowing you to help pave the way towards a sustainable future. Without concessions to performance. And with less fuel to consume.

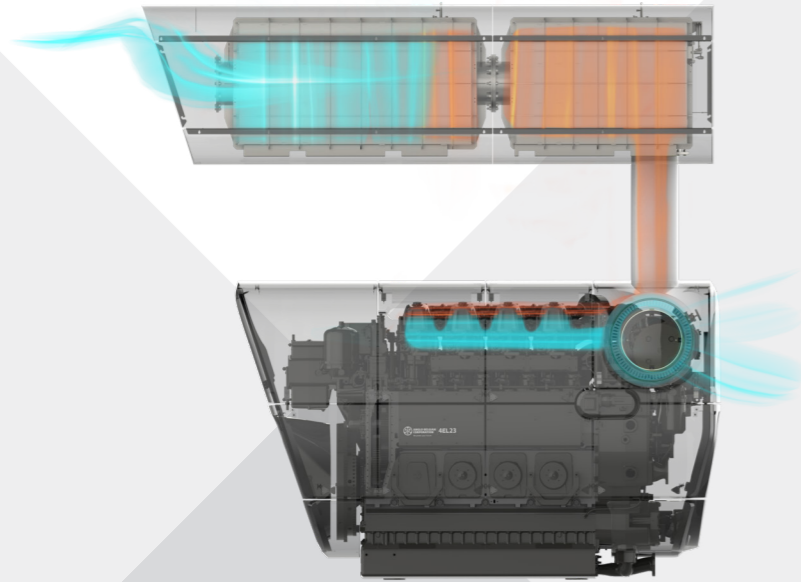
- Modular EATS for easy integration and maintenance
- Compact DPF and SCR design with integrated mixing pipe
- IMO Tier III certified and EU stage V compliant





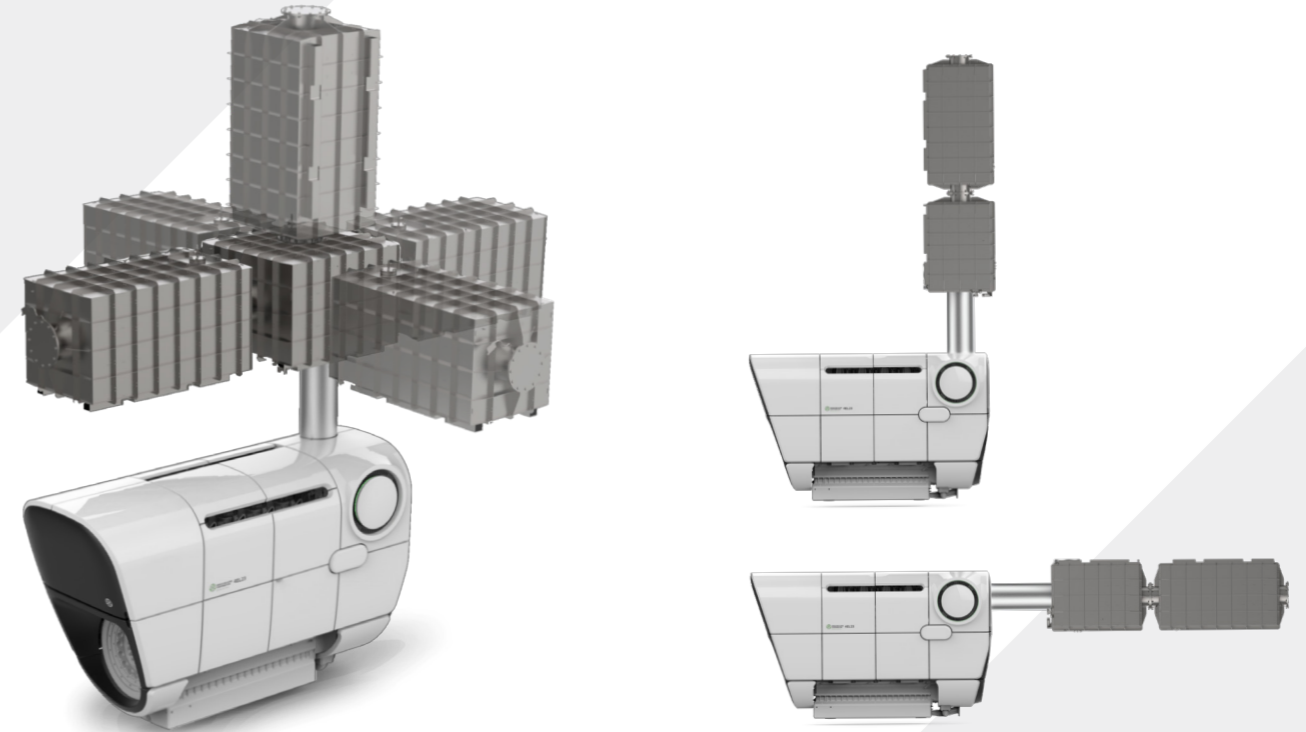
## Compact Diesel Particulate Filter (DPF) & Selective Catalytic Reduction (SCR)

with integrated mixing pipe

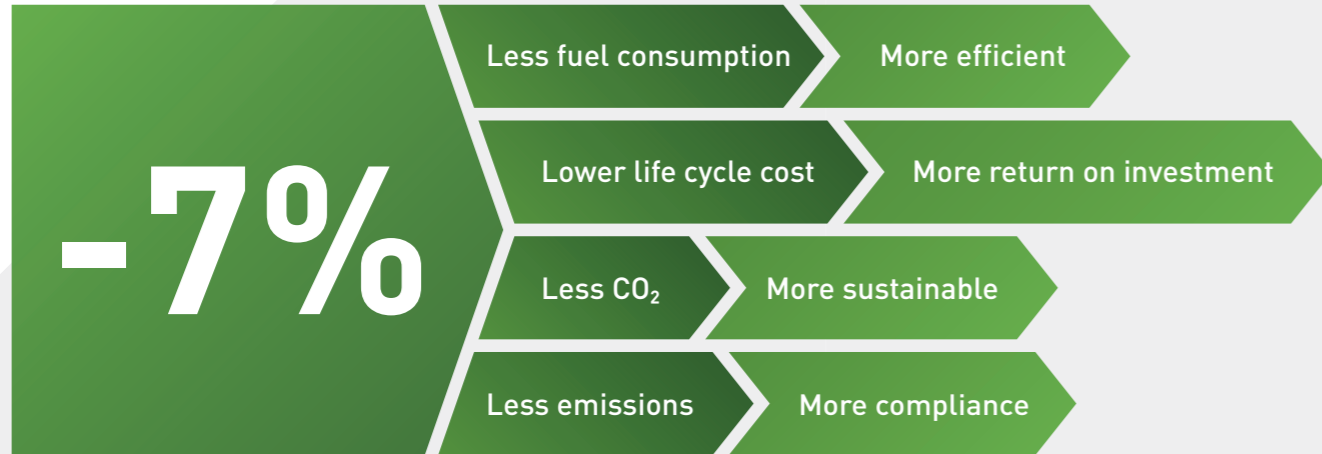


## Modular & versatile EATS design

for easy integration and maintenance



# Less is more: how care for the environment creates a win-win situation



## Facts & figures

### 4-stroke diesel engine

Nominal power range	749–1.320 kW 1.114–1.795 HP
Cylinders	4 inline
Engine speed	400 rpm (idling) 1.200 rpm
Bore	230 mm
Stroke	310 mm

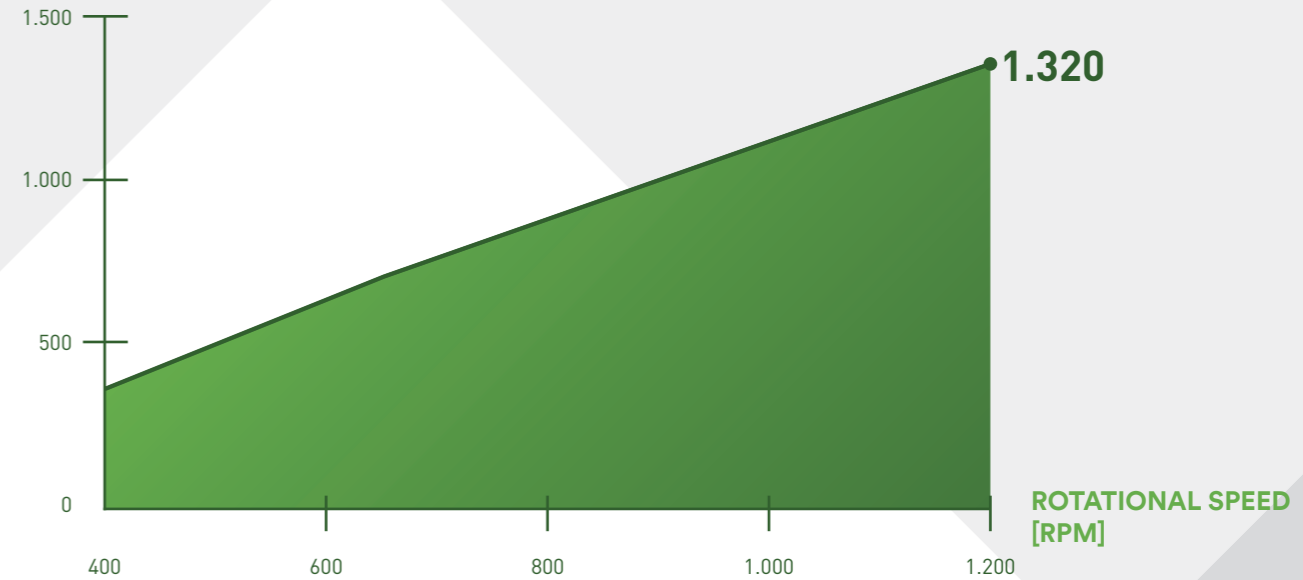
### Emission compliance

IMO TIER II  
IMO TIER III  
EU Stage V

Specifications	4EL @720 rpm	4EL @750 rpm	4EL @900 rpm	4EL @1000 rpm	4EL @1200 rpm
Engine speed	720 rpm	750 rpm	900 rpm	1.000 rpm	1.200 rpm
Power (ISO 3046-1)	749 kW 1.000 HP	820 kW 1.114 HP	1.000 kW 1.358 HP	1.100 kW 1.494 HP	1.320 kW 1.795 HP
Nominal torque	9.800 kNm	10.441 kNm	10.609 kNm	10.480 kNm	10.505 kNm

## Power

POWER OUTPUT  
[kW]



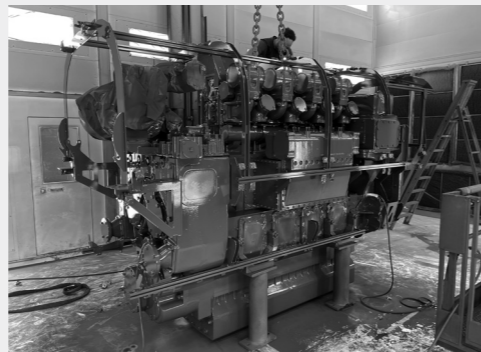
## Made in Europe

For over 100 years, ABC has been operating from Ghent, in the heart of Europe. One of our driving forces is built-in stability: by sticking to our geographic roots at the crossroads of many logistic routes; and by building on a rock steady ownership structure with passion, knowledge and entrepreneurship handed over from generation to generation.

This unique and steady position has allowed ABC to build a strong track record in R&D and innovation; to create a highly skilled and passionate workforce; to roll out a seamless network of production units for a vertically integrated value chain. This gives our customers the biggest advantage in a globalized economy: reliability.

Our commitment is always to you and to helping you make future proof choices. That is why we are currently expanding our workshop and factory capacity again in Ghent.

This is where new solutions will be born. This is where we will keep on powering your future.



Discover  
the virtual tour  
of the factory



## Worldwide agents



Get closer and contact  
one of our agents  
worldwide



Uncertain policy reforms, competing technologies and volatile fuel prices... how to mitigate unpleasant surprises as you prepare the future of your fleet?

**EVOLVE** is developed to tackle that challenge for you. Stay fuel independent and efficient. Go harder, longer and cleaner, year after year. And get it all wrapped up in a compact 4 cylinder design.

Make a smart and safe investment in your maritime activities, as you win a cost competitive edge with every mile you cleave through the water.

# EVOLVE

**OUR ENGINES ARE FLEXIBLE, YOUR FUTURE IS SAFE**

**EVOLVE** is the missing link to your project!

Get in touch, tell us about your plans.

We'll be proud to power your future.

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Belgium



**Our engines are flexible,  
your future is safe.**



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CORPORATION**

We power your future