



**ANGLO BELGIAN  
CORPORATION**

We power your future



**MARINE ENGINES**  
Power & propulsion solutions

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**Anglo Belgian Corporation (ABC) is one of Europe’s leading medium speed engine manufacturers. The company offers more than a century of expertise in ship propulsion.**

ABC was originally established in 1912 by a group of industrialists, with participation of the inventor of the diesel engine, Rudolf Diesel himself. An important step in ABC’s history was the acquisition by **OGEPAR** (1985), a strong financial holding with a large base in metal industry and engineering. Today, ABC has risen far above the standard of engine manufacturer.

The company is constantly evolving, developing new solutions in the field of **marine propulsion, power generation and locomotive traction**. Through innovative thinking, ABC aims to increase sustainability and supply reliable and efficient products within a framework of ecological development. All engines are designed for **heavy duty** and **continuous operation**, straightforward applications and **easy maintenance**.



ABC headquarters and production facility in Ghent, Belgium



## ABC engines, your partner at sea

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**For more than 100 years** ABC has been supplying power solutions to all those who know that the engine is the heart of their vessels. ABC engines stand for reliability and **good performance** under the hardest and most demanding conditions while still offering **low fuel** and lube oil **consumption**. Equally important as the performance, is the easy maintenance, ensuring long periods between overhauling and offering an engine with a low engine noise level for a user-friendly work space. The characteristic medium speed **below 1000 rpm** and cleverly engineered distribution of the loads ensure a high mechanical performance and therefore guarantees **the longevity of the engine and its components**. As such, ABC contributes to your business and makes sure you and **your crew get home safely**.

**\* Polar cruise vessel equipped with:**  
2 x 12DZC @ 750 rpm  
2 x 6DZC @ 750 rpm

The best quality indicators of our work and engines are those **clients** who have trusted us, since **4 generations**, with the installation of **our engines** in their ships, showing this trust from father to son.

Only by **listening** to the **people** who work with our engines and understanding them and their needs, we have managed to earn their trust.

ABC wishes to **thank all those people** who have become part of the ABC family allowing us to become part of theirs.

# Since the very start ABC has been supplying engines for ship propulsion

This expertise allows us to deliver reliable power solutions for professional heavy duty applications where reliability can be a matter of survival.

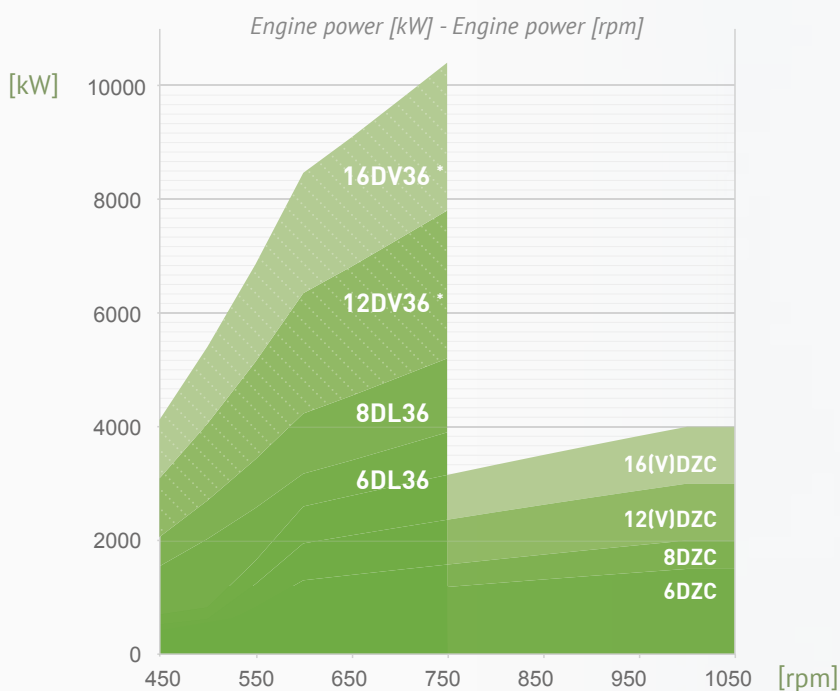
A high total cylinder volume, a **low BMEP\***, a mechanical injection system and an **increasing torque curve** at decreasing engine speed are the main technical advantages of the ABC engines in tugboats, dredgers, ferries, fishing boats, workboats, barges, navy ships and other heavy duty applications.

The high torque delivered from the ABC engine with a **well designed** propulsion system ensures an optimal performance at the **lowest fuel consumption** while complying with the existing and future emission regulations.

**Easy access** to the engine components and **low noise** levels ensure a more efficient work space. The smooth and **excellent performance** of the engine is what makes the users of ABC engines recommend them all around the world. Your crew deserves quality too.

*\* Brake Mean Effective Pressure*

## Power range



*\* Coming soon*



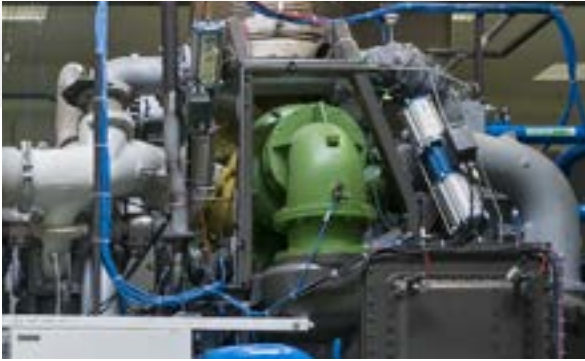
“ABC engines are designed to operate in harsh environments. They are a very reliable and efficient source of energy and perfectly suited for heavy duty towage.”

... and many others  
powered by ABC

\* Tugboat equipped with:  
2 x 8DZC @ 1000 rpm



# Engine range



2-STAGE TURBOCHARGING

650 kW/CYLINDER



## 6/8DL36 (3900 - 5200 kW)

With the design and development of this new engine family, ABC confirms its intention to become one of the **major players on the medium speed engine** market. Introducing state-of-the-art technology such as 2-stage turbocharging and common rail, the engine's emissions comply with **IMO Tier III** regulations while providing very low fuel consumption. To be as versatile as possible, a **wide variety of fuels** like MDO, HFO, dual fuel and bio-fuels will be possible.



The 6/8DL36 is available both in common rail and PLN (Pump-Line-Nozzle) versions.

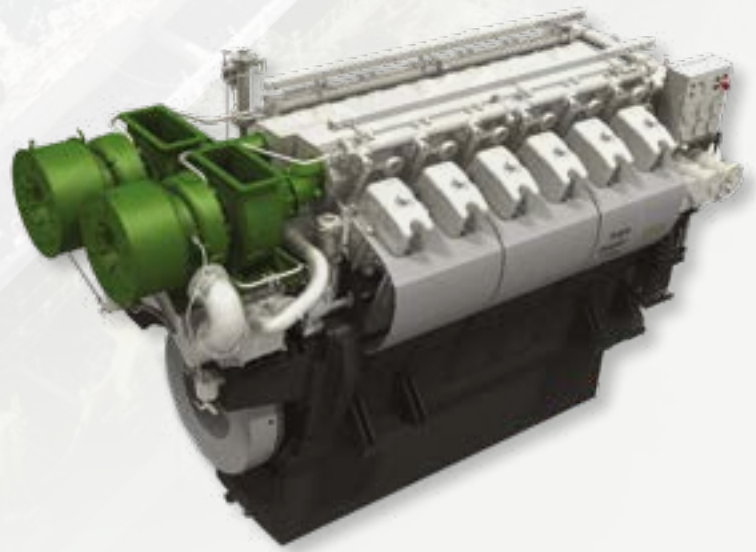


## 6/8DZC (600 - 2000 kW)

ABC's **four-stroke line engine** earned its good reputation thanks to its reliability and durability. The ease to install has turned this engine into one of the most wanted ones for **various propulsion applications**. Repairing or renewing defective or damaged components, adjusting settings and controls to maintain the required or specified performance has never been easier.

## SMART engines

ABC's medium speed engines are designed to be **SMART**. **SMART** stands for **Simple, Mechanical, Affordable, Reliable** and **Tailormade**. Servicing is both simple and fast hence the first choice of customers operating all over the world. ABC engines offer **real value** for money. They are user-friendly and deliver outstanding performance under the **toughest and most demanding conditions**. ABC engines are characterized by low fuel and lube oil consumption, resulting in an exceptionally low lifecycle cost. **Each engine is customized** to the specific requirements of the customer.



## 12/16(V)DZC (2000 - 4000 kW)

Our medium speed V-engine based on the DZ family is offering a perfect balance between performance and required investment. This makes the engine most **suitable for tugs, inland vessels and power plants**. All these engines are able to run on HFO, LNG and CNG which makes them very suitable for marine applications.

## Did you know ?

**ABC builds over 80%** of the engine with own manufactured parts. The company casts parts in France and Germany and assembles 100% of the engines in Belgium. The turbochargers are produced in Germany.

# Texelstroom

RoPax ferry with 4 ABC  
diesel-electric generating sets

\* RoPax ferry equipped with:  
2 x 12DZD @ 1000 rpm  
2 x 12DZC @ 750 rpm



# Power generation



## DZC - series GENSET

ABC gensets combine all **technical advantages** of our engines in order to obtain a reliable source of power for vessels, offshore platforms or any other maritime application.

Anglo Belgian Corporation is much more than an engine manufacturer. ABC's engineering department provides complete diesel-electric propulsion solutions in order to **power those ships** with the highest **technical requirements**.

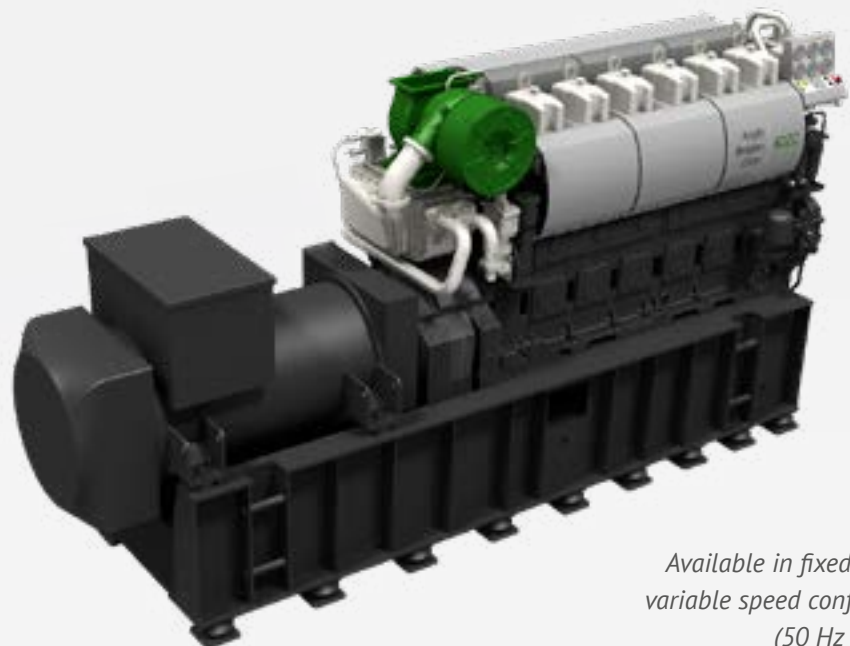
ABC gensets are widely used **around the world** as main power gensets in tankers, dredgers, offshore vessels, floating cranes and ports.

With the heavy-duty flywheel and the axial-radial turbo compressor, the ABC's are able to absorb huge shock loads allowing stable operations.

A low fuel and oil consumption in addition to our characteristic **high reliability** ensures a safe investment. We listen to you. Our engineers' goal is to deliver the most **optimized solution** to each project and find the power **solution** you are **looking for**.



The marine Power Management System (PMS) is a complete switchboard and generator control system to synchronize the auxiliary engines of the ships by implementing automatic load sharing and optimizing the efficiency of the ship's power plant.



*Available in fixed speed or variable speed configuration (50 Hz or 60 Hz)*

# Marine solutions

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**Over the past 100 years, Anglo Belgian Corporation has demonstrated market-leading expertise in developing reliable medium speed diesel engines in an international environment.**

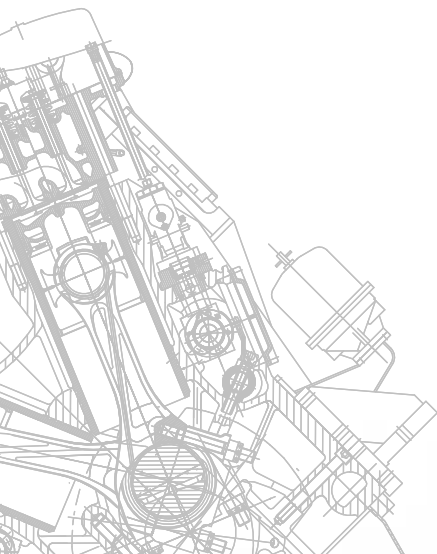
One of the typical characteristics of ABC is looking into the future and continuously investing in research and development. ABC constantly optimizes its standard engines on diesel and HFO. We also attach great importance to fuel diversity, allowing engines to run on alternative fuels (CNG, LNG, methanol, biofuels, etc.).

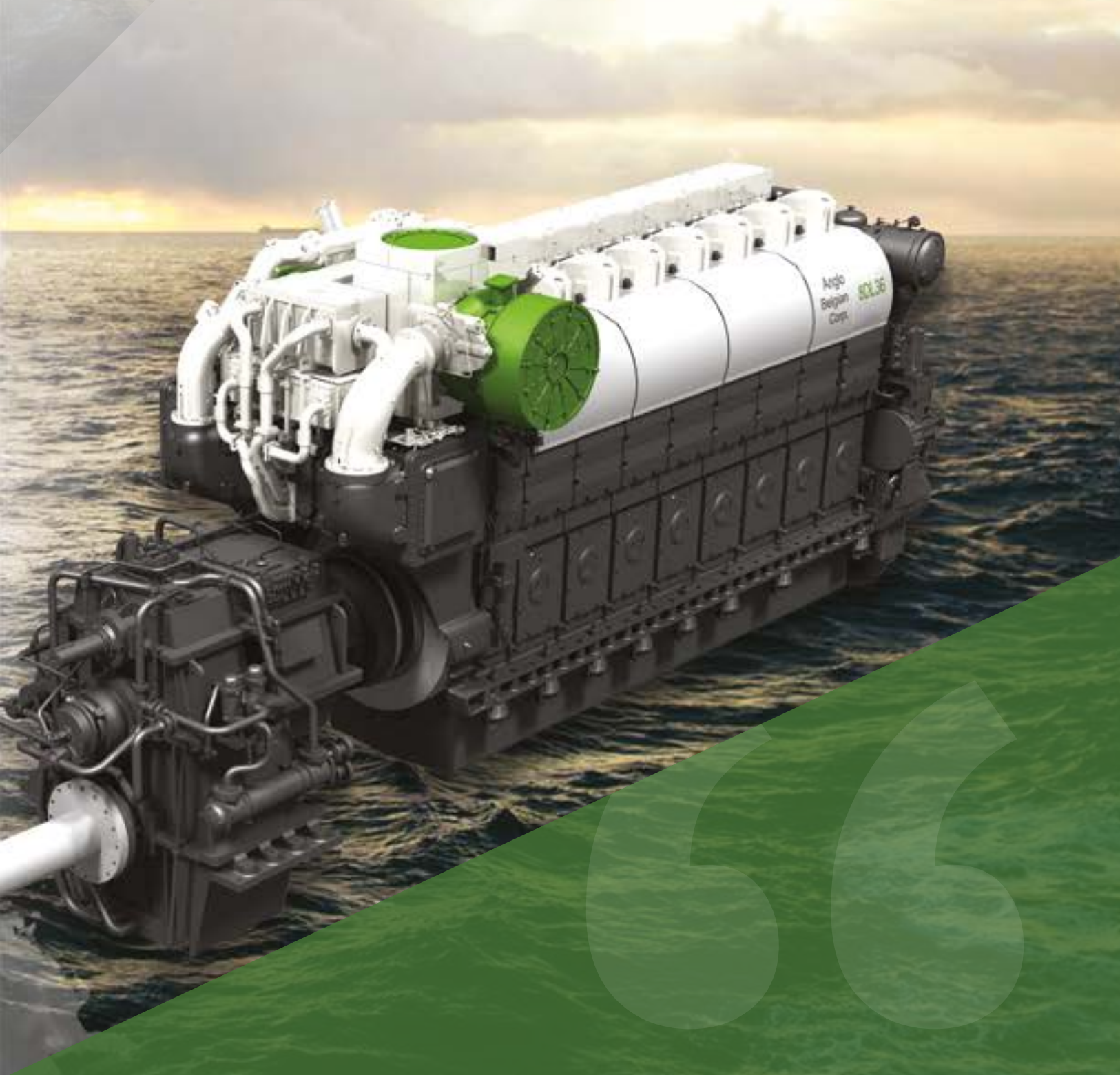
Anglo Belgian Corporation has an extensive engineering department, offering a vast range of cost-effective and customized solutions for individual requirements and organizations seeking to achieve competitive excellence.



DL36

**DL36 PROPULSION**

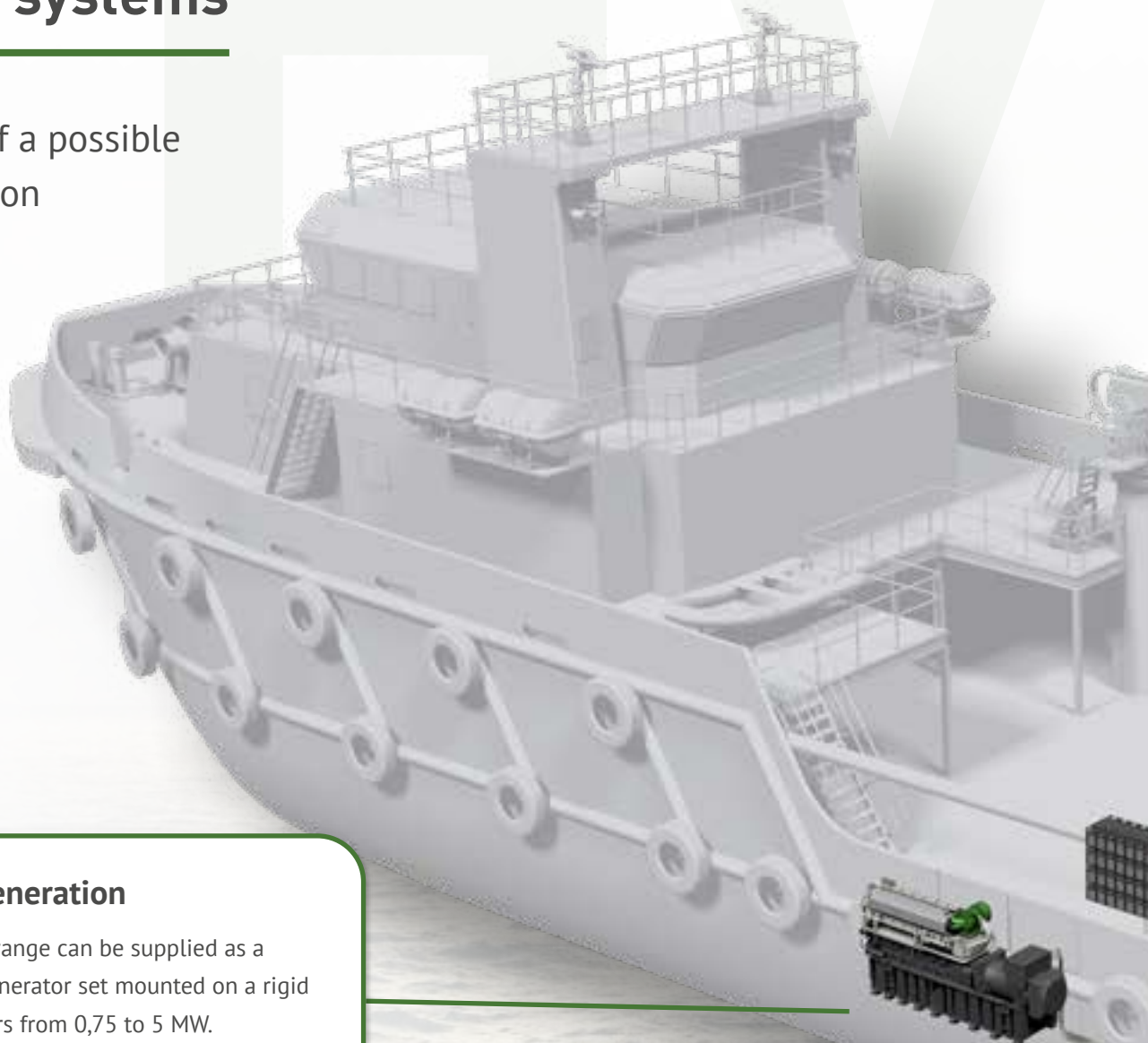




Because the engine is at **the heart** of most propulsion systems and customers prefer a “one stop shop”, **ABC** has decided to partner with various experienced and flexible players in the propulsion and gearbox area in order to provide each customer with the best possible combination of **advanced technology** rather than proposing standard solutions. In times where **battery technology** and **electric motors** are developing fast, it allows us to remain on top of what the market is able to offer at **the very best cost per kWh**.

# Hybrid systems

Example of a possible configuration



## Power generation

The engine range can be supplied as a complete generator set mounted on a rigid frame. Powers from 0,75 to 5 MW.

*See "Power Generation"*

## Prime mover

Our engines can be supplied in various configurations (Line or V engines). They also run on various fuels and fuel qualities for example:

- MDO (Marine Diesel Oil)
- HFO (Heavy Fuel Oil)
- LNG (Liquefied Natural Gas)
- CNG (Compressed Natural Gas)
- Biofuels (various)

*See "Engine Range"*

## Alternative power sources

Our hybrid systems can be supplied with battery packages up to 10 MW for the application of:

- Propulsion
- Peak shaving
- Hotel load
- Standby modes
- Low-speed modes
- ...

## Electric propulsion

Low and medium voltage systems up to 5 MW (asynchronous and permanent magnet).

- Diesel-electric propulsion
- Serial hybrid systems
- Parallel hybrid systems

## Electronics

Power management and integrated power and propulsion management can be customized to customer and ship specifications.

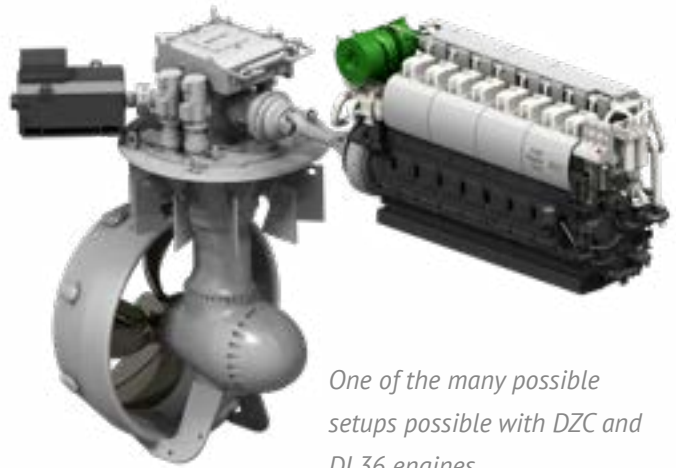


# One stop shop

Our systems combine the best of both worlds: a trustworthy **main engine** in **combination** with a modern and highly efficient **electric motor**.

This flexible solution allows us to customize each powertrain to meet the demands of the operational profile of the ship.

**Inline propulsion systems** can also be realized in the same configuration. We do not need to implement a special gearbox with a high complexity grade. A standard gearbox can be fitted with an electric motor in the propeller shaft. The electric propulsion works separately from the mechanical propulsion and relies on the thrust bearing of the gearbox. In this way, **no extra (expensive) components are needed**. Our hybrid system is equipped with the most modern Integrated Power and Propulsion Management System (PPMS). In this way, we get the most efficient and



*One of the many possible setups possible with DZC and DL36 engines*

dynamic propulsion system that can even interact with the ECU (Engine Control Unit) of the prime mover. This provides **the best fuel efficiency** for the variable ship operational profiles.

Complete diesel–electric propulsion solutions are also **part of the hybrid systems** and can be supplied with variable speed alternators to optimize the output and fuel efficiency (AC & Common DC bus). With ABC “Hybrid Systems” you get a complete powertrain from one supplier. **One system, one partner for the future... while benefitting from all the experience and support of our selected partners.**

**ABC thruster solutions** are possible in 2 different configurations:

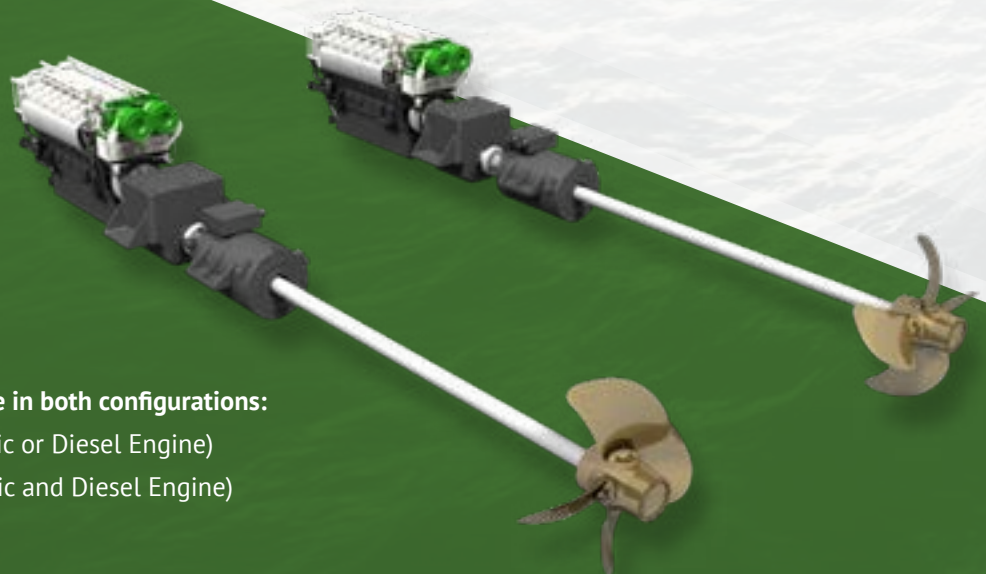
- Fixed Pitch Propeller (FPP)
- Controllable Pitch Propeller (CPP)

## ABC inline Solutions

All our hybrid systems are possible in both configurations:

**CODLOD** (Combined Diesel - Electric or Diesel Engine)

**CODLAD** (Combined Diesel - Electric and Diesel Engine)



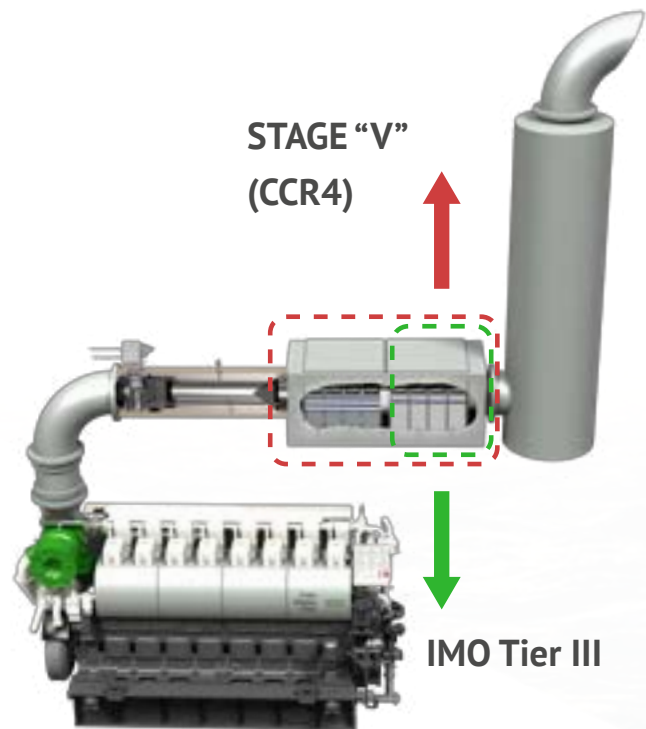
When choosing an **ABC after-treatment system**, one gets **100% European quality**. ABC's SCR solutions are manufactured and assembled according to European standards, guaranteeing business reliability, service and short delivery times.

Lack of space is a common challenge in engine rooms. An important advantage of **ABC's SCR solutions** lies in the fact that it is a very **flexible and modular** system.

ABC's SCR solutions have Type Approval certifying that the SCR after-treatment system, in combination with an ABC engine, complies with the **IMO Tier III regulations**.

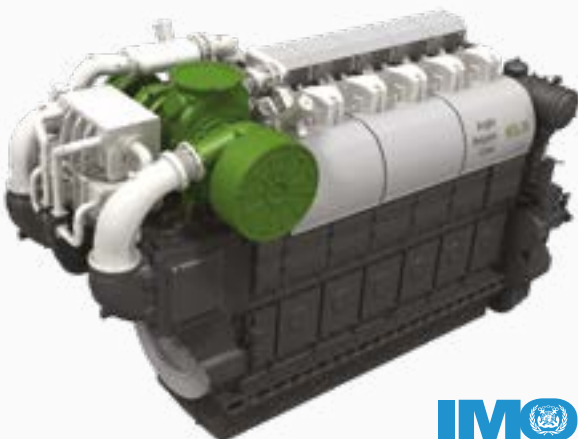
In addition, the SCR package **can be extended with a Diesel Particulate Filter (DPF)**, allowing our (V)DZC engine range to meet the stringent Stage V (FIVE) and future CCR4 regulations.

## We reduce emissions



## DL36 EGR solutions

Introducing **innovative technology** such as EGR, 2-stage turbocharging and a radically optimized common rail system, ABC's 6/8DL36 engines comply with the **IMO Tier III requirements** without catalyst, maintaining an excellent competitive fuel and lube oil consumption.



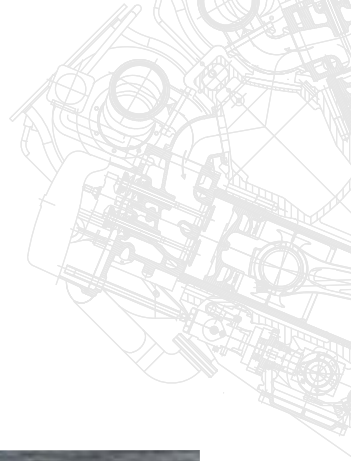
No additional storage space for urea or other liquids need to be foreseen on the ship as there is no use of after-treatment systems such as SCR or oxidation catalysts. The engine is **more compact, less complex** to use and requires **no AdBlue® bunkering** which offers the user very interesting operational advantages. For those applications not requiring IMO Tier III, a full mechanical version is available. To be as versatile as possible, a **wide variety of fuels** like MDO, HFO, dual fuel and bio-fuels are available.

# Some references

Find out many more references on our website [www.abc-engines.com](http://www.abc-engines.com)







# Service and training

Anglo Belgian Corporation operates throughout the world with branches in more than 70 countries. These divisions provide on-site commissioning, installation works, repairs and preventive maintenance and advice for ABC engines 24/7. The service organization and certified technicians ensure to exceed the required service level standard. The service staff is dedicated to help ABC's customers, maximizing the productivity and uptime of the engines.

## Spare parts

ABC's large-scale stock of spare parts ensures that components can be sent within hours to any location in the world. In addition to this service, local service stations provide the fastest delivery with their individual substantial stock of spares and consumables.



## ABC academy

The service department offers tailormade training programs to clients and new partners, according to specific requirements at the plant in Ghent or anywhere else in the world.

ABC training courses are taught by senior and experienced technicians who are glad to share their know-how and enthusiasm for ABC engines.

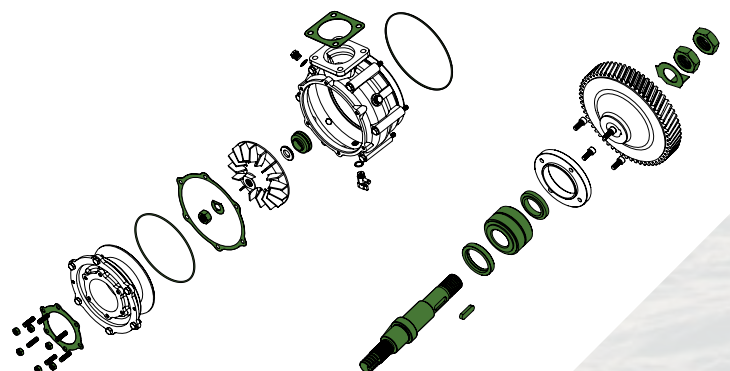


## Genuine Exchange Parts & Genuine Service kits

Overhauling your ABC water pump or injector on site? No problem! But having the exact parts you need in advance will save time and money, that's the simple truth!

### A simple ordering system:

One code and one package, available through the entire ABC dealer network. This might be a good time to **ReSet** your overhaul standards!



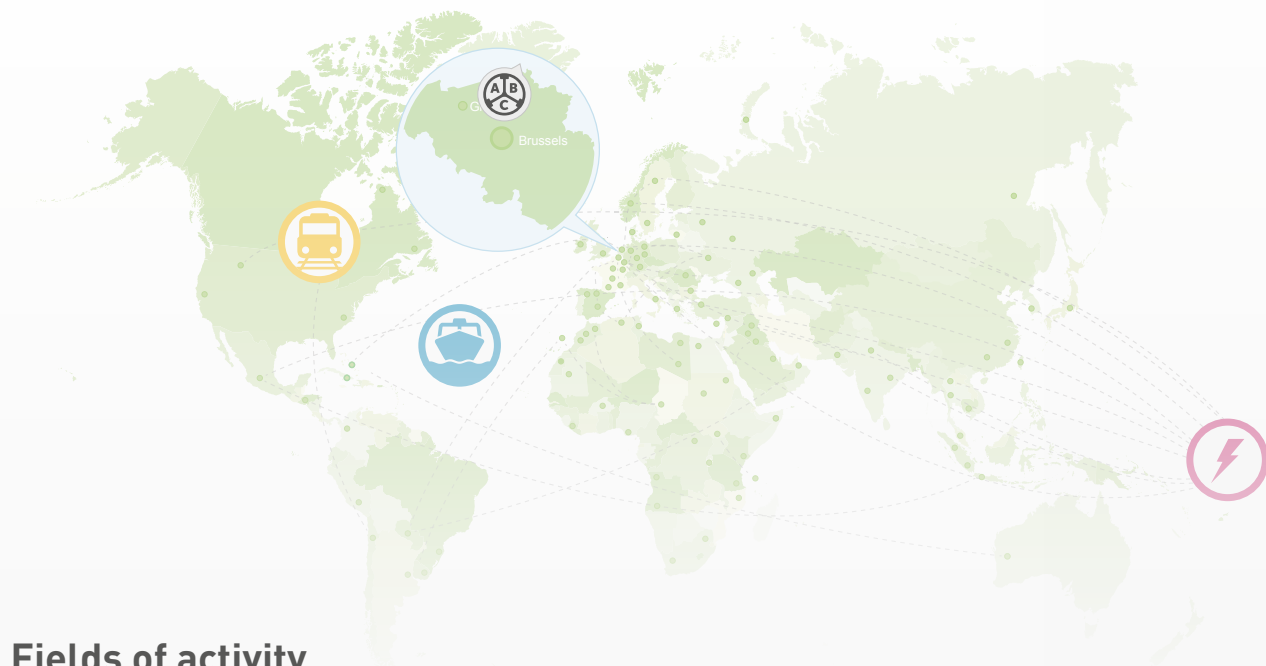
# Overall data

|            |        | Engine power (ISO 3046 – I) |             |             |             | Nominal power of gensets |             |                      |             |                          |             |                      |      |
|------------|--------|-----------------------------|-------------|-------------|-------------|--------------------------|-------------|----------------------|-------------|--------------------------|-------------|----------------------|------|
|            |        | kW                          |             | HP          |             | 50 Hz electric - 3 phase |             |                      |             | 60 Hz electric - 3 phase |             |                      |      |
|            |        |                             |             |             |             | P <sub>w</sub> (kW)      |             | P <sub>n</sub> (kVA) |             | P <sub>w</sub> (kW)      |             | P <sub>n</sub> (kVA) |      |
| Engine     | rpm    | mdo/hfo/bio                 | dual fuel** | mdo/hfo/bio | mdo/hfo/bio | dual fuel**              | mdo/hfo/bio | dual fuel**          | mdo/hfo/bio | dual fuel**              | mdo/hfo/bio | dual fuel**          |      |
| DL36       | 8 DL36 | 750                         | 5274        | —           | 7166        | 5063                     | —           | 6328                 | —           | —                        | —           | —                    |      |
|            | 8 DL36 | 720                         | 5063        | —           | 6879        | —                        | —           | —                    | —           | 4860                     | —           | 6075                 |      |
|            | 8 DL36 | 600                         | 4219        | —           | 5732        | 4050                     | —           | 5063                 | —           | 4050                     | —           | 5063                 |      |
|            | 6 DL36 | 750                         | 3955        | —           | 5374        | 3797                     | —           | 4746                 | —           | —                        | —           | —                    |      |
|            | 6 DL36 | 720                         | 3797        | —           | 5159        | —                        | —           | —                    | —           | 3645                     | —           | 4556                 |      |
|            | 6 DL36 | 600                         | 3164        | —           | 4299        | 3038                     | —           | 3797                 | —           | 3038                     | —           | 3797                 |      |
| 16 (V) DZC | 16 DZC | 1000                        | 4000 *      | —           | 5435        | 3840                     | —           | 4800                 | —           | —                        | —           | —                    |      |
|            | 16 DZC | 900                         | 3600 *      | —           | 4891        | —                        | —           | —                    | —           | 3456                     | —           | 4320                 |      |
|            | 16 DZC | 1000                        | 3536        | 2670        | 4804        | 3395                     | 2537        | 4244                 | 3171        | —                        | —           | —                    |      |
|            | 16 DZC | 900                         | 3184        | 2400        | 4326        | —                        | —           | —                    | —           | 3057                     | 2280        | 3821                 | 2850 |
|            | 16 DZC | 800                         | 2944        | —           | 4000        | —                        | —           | —                    | —           | —                        | —           | —                    | —    |
|            | 16 DZC | 750                         | 2840        | 2000        | 3859        | 2726                     | 1900        | 3408                 | 2375        | —                        | —           | —                    | —    |
|            | 16 DZC | 720                         | 2752        | 1920        | 3739        | —                        | —           | —                    | —           | 2642                     | 1824        | 3302                 | 2280 |
| 12 (V) DZC | 12 DZC | 1000                        | 3000 *      | —           | 4076        | 2880                     | —           | 3600                 | —           | —                        | —           | —                    |      |
|            | 12 DZC | 900                         | 2700 *      | —           | 3668        | —                        | —           | —                    | —           | 2592                     | —           | 3240                 |      |
|            | 12 DZC | 1000                        | 2652        | 2000        | 3603        | 2546                     | 1900        | 3183                 | 2375        | —                        | —           | —                    |      |
|            | 12 DZC | 900                         | 2388        | 1800        | 3245        | —                        | —           | —                    | —           | 2292                     | 1710        | 2866                 | 2138 |
|            | 12 DZC | 800                         | 2208        | —           | 3000        | —                        | —           | —                    | —           | —                        | —           | —                    | —    |
|            | 12 DZC | 750                         | 2130        | 1500        | 2894        | 2045                     | 1425        | 2556                 | 1781        | —                        | —           | —                    | —    |
|            | 12 DZC | 720                         | 2064        | 1440        | 2804        | —                        | —           | —                    | —           | 1981                     | 1368        | 2477                 | 1710 |
| 8 DZC      | 8 DZC  | 1000                        | 2000 *      | —           | 2717        | 1920                     | —           | 2400                 | —           | —                        | —           | —                    |      |
|            | 8 DZC  | 900                         | 1800 *      | —           | 2446        | —                        | —           | —                    | —           | 1728                     | —           | 2160                 |      |
|            | 8 DZC  | 1000                        | 1768        | 1335        | 2402        | 1697                     | 1268        | 2122                 | 1585        | —                        | —           | —                    |      |
|            | 8 DZC  | 900                         | 1592        | 1200        | 2163        | —                        | —           | —                    | —           | 1528                     | 1140        | 1910                 | 1425 |
|            | 8 DZC  | 800                         | 1472        | —           | 2000        | —                        | —           | —                    | —           | —                        | —           | —                    | —    |
|            | 8 DZC  | 750                         | 1420        | 1000        | 1929        | 1363                     | 950         | 1704                 | 1188        | —                        | —           | —                    | —    |
|            | 8 DZC  | 720                         | 1376        | 960         | 1870        | —                        | —           | —                    | —           | 1321                     | 912         | 1651                 | 1140 |
| 6 DZC      | 6 DZC  | 1000                        | 1500 *      | —           | 2038        | 1440                     | —           | 1800                 | —           | —                        | —           | —                    |      |
|            | 6 DZC  | 900                         | 1350 *      | —           | 1834        | —                        | —           | —                    | —           | 1296                     | —           | 1620                 |      |
|            | 6 DZC  | 1000                        | 1326        | 1000        | 1802        | 1273                     | 950         | 1591                 | 1188        | —                        | —           | —                    |      |
|            | 6 DZC  | 900                         | 1194        | 900         | 1622        | —                        | —           | —                    | —           | 1146                     | 855         | 1433                 | 1069 |
|            | 6 DZC  | 800                         | 1104        | —           | 1500        | —                        | —           | —                    | —           | —                        | —           | —                    | —    |
|            | 6 DZC  | 750                         | 1065        | 750         | 1447        | 1022                     | 713         | 1278                 | 891         | —                        | —           | —                    | —    |
|            | 6 DZC  | 720                         | 1032        | 720         | 1402        | —                        | —           | —                    | —           | 991                      | 684         | 1238                 | 855  |

Conversion factors used: 1 metric HP = 0,736 kW → Generator efficiency:  $\eta_G = 0,96$  → Power factor:  $\cos \varphi = 0,8$

\* For special applications, contact ABC for more information

\*\* Natural gas with Methane Index = 73 → Lower Calorific Value gas = 39.000 kJ/Nm<sup>3</sup> → Lower Calorific Value diesel = 42.700 kJ/kg  
Possible gases: natural gas, waste gas, landfill gas (the ability to burn other gases should be done in consultation with ABC)



## Fields of activity



### Marine engines

Propulsion & power solutions

Originally, ABC has established its brand in the marine sector. The company has been known for decades for the propulsion and power generating of inland ships, fishing boats, tugboats, dredgers, ferries, coasters, etc.



### Generating sets

and turn-key solutions

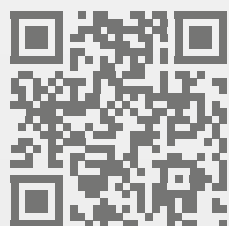
Anglo Belgian Corporation provides energy solutions in the most remote areas and extreme environments: from industrial and mine gensets, to complete turnkey projects such as containerized power plants, CHP projects and biofuel powerstations.



### Diesel engines for traction

Since 1950, the company is supplying diesel engines to railway companies. We deliver powerful engines for traction applications both in mainline and shunting service. As such, ABC is powering the world's largest diesel-hydraulic locomotive.

For more information on our service and sales support, please visit our website [www.abc-engines.com](http://www.abc-engines.com)



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