



STAMFORD® & AvK® MARINE ALTERNATORS



**Powering peace of mind
through the evolving
energy journey**

STAMFORD | AvK™

POWERING TOMORROW, TOGETHER

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YOUR MARINE PARTNER
FOR MAXIMUM UPTIME
THROUGH WORLD CLASS
ALTERNATORS AND A 24/7
GLOBAL SERVICE NETWORK



Reliable
Performance

with best-in-class marine insulation protection. 3 year warranty as standard on STAMFORD® S-Range and AvK A-Range



Responsive
Service

within 24hrs and regional inventory



Personal
Support

for service and parts wherever you are



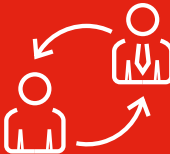
Service
Support

a large service network to support you wherever you are



Superior
Protection

Winding insulation resistance tested to a level multitude of times higher than its normal operational level



Technical
Expertise

delivering the right solution to your needs



Customisation

to meet all your requirements



DELIVERING IN ALL ENVIRONMENTS ALL THE TIME

Like you, we understand the challenges of operating in the marine environment. And through our experience, we're able to help you determine the best course.

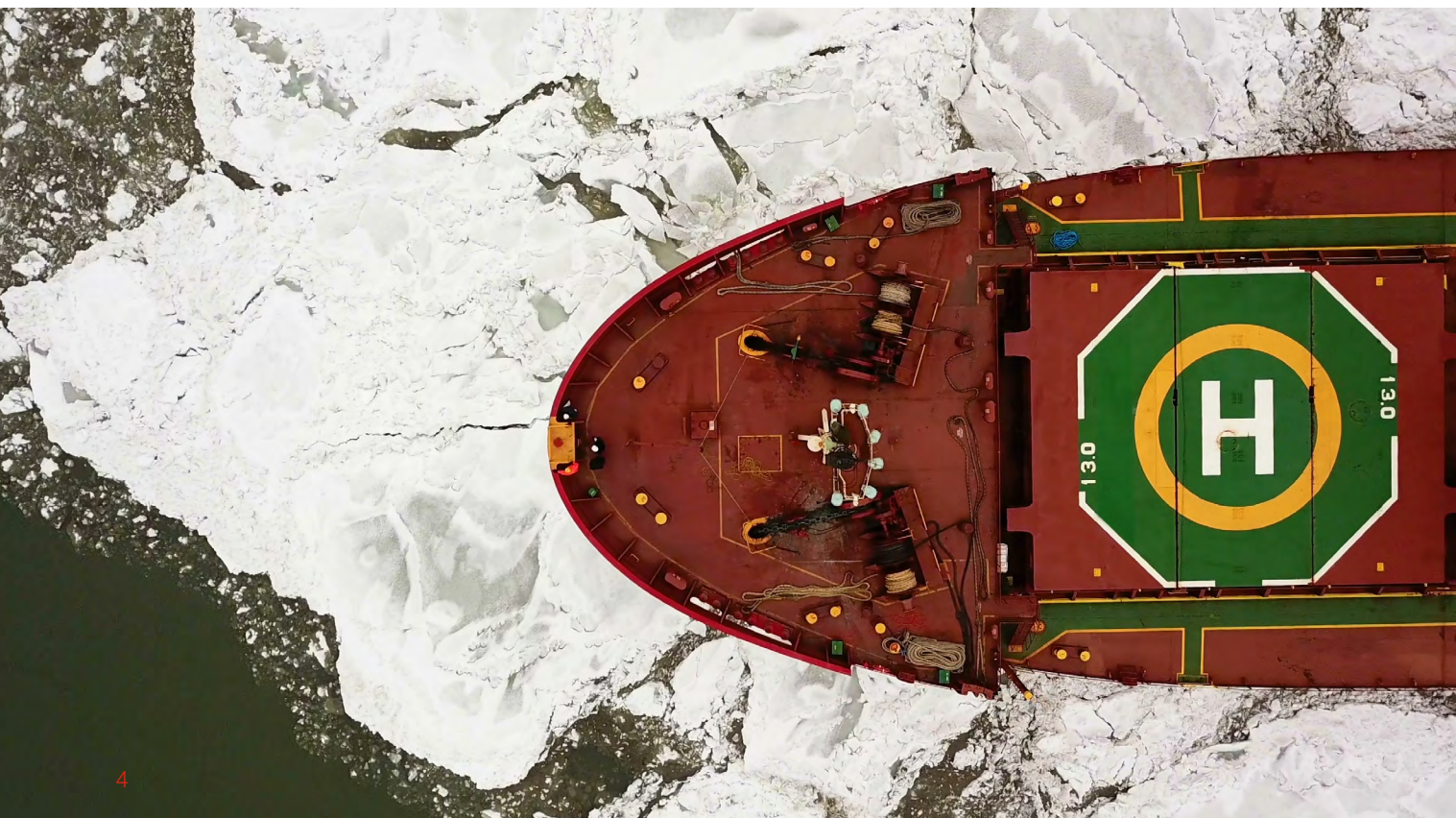
For over half a century, countless vessels have relied on the dependability of STAMFORD® and AvK® alternators and the technical skills from our support teams.

As an industry leader in advanced alternator design, we have a proven track record of delivering dependable products for the marine, offshore and oil and gas markets.

Through our experience, we understand the complexities and challenges you face integrating alternators and gensets into marine vessels. Whether for shaft propulsion, auxiliary power, diesel electric propulsion or hybrid systems, you can rely on our support to help you win in marine.

Our customers benefit from active support throughout the project life cycle - including preparation of specifications, alternator selection and sizing, installation, testing and commissioning, after sales service and maintenance.

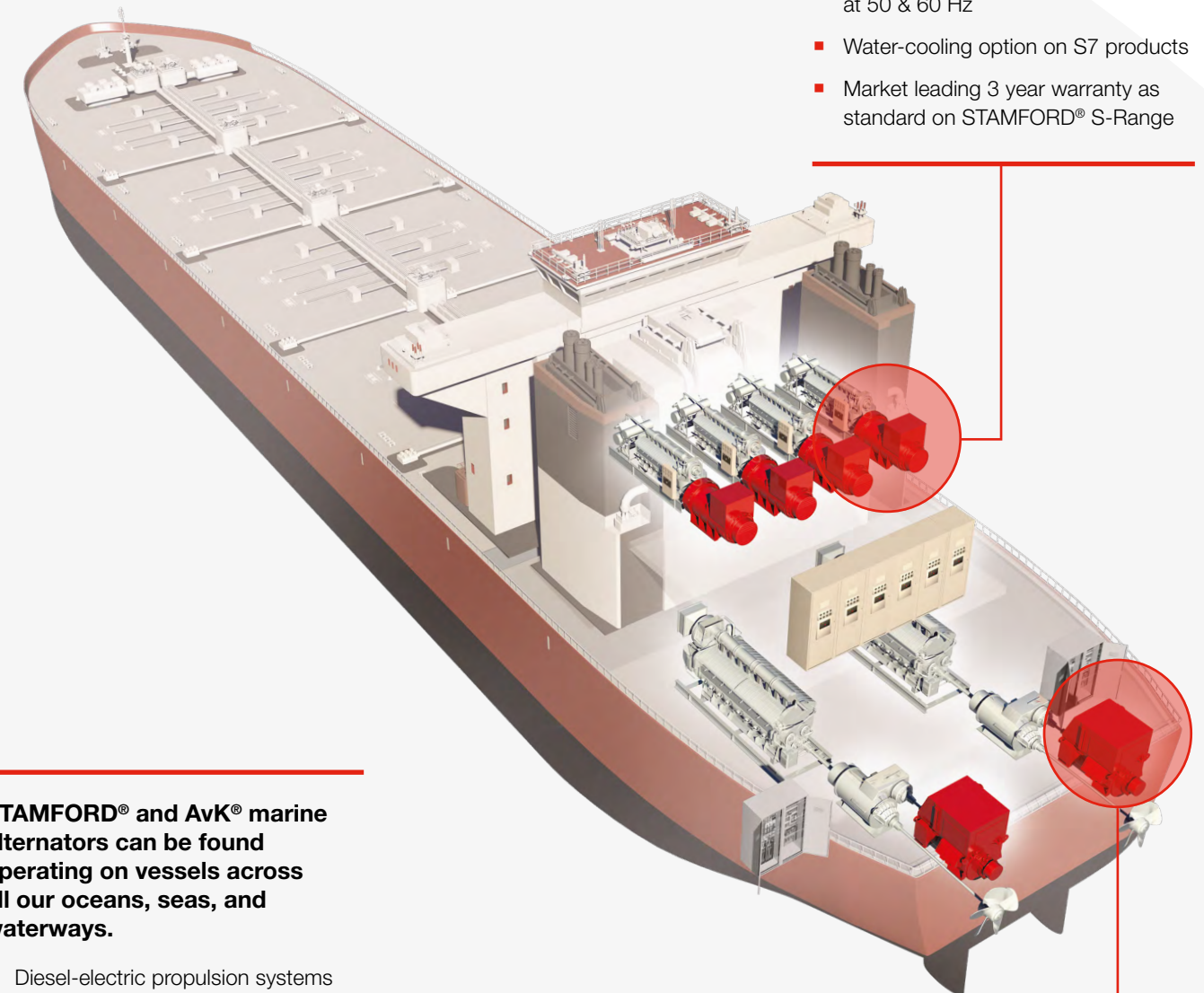
Marine alternators designed and built by us offer efficient power generation, superior durability and longevity.



STAMFORD®

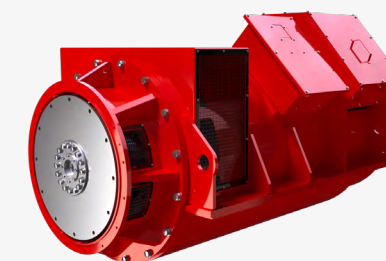
High-quality, durable alternators utilising wire-wound technology for marine main power and auxiliary gensets and shaft alternators:

- 4 pole, 1,500 or 1,800rpm
- Power range: 5 – 4000kVA
- Voltage range: 220 – 690V at 50 & 60 Hz
- Water-cooling option on S7 products
- Market leading 3 year warranty as standard on STAMFORD® S-Range



STAMFORD® and AvK® marine alternators can be found operating on vessels across all our oceans, seas, and waterways.

- Diesel-electric propulsion systems
- Power Take Out (PTO) shaft alternators for economical generation of electrical power
- PTO/PTI (Power Take In) shaft alternators operating as auxiliary propulsion drive systems
- Auxiliary and onboard power supply
- Self-starting Power Take Home (PTH) shaft alternators for emergency propulsion
- Compliant to Fixed Water Based Local Application Fire Fighting Systems (FWBLAFFS)



AvK®

Robust bar and wire wound alternator designed to meet the challenges of the most arduous applications and environments. AvK alternators can be customised to meet customer needs:

- Power range: 830 – 8,000kVA
- Voltage range: 380 – 13,800V at 50 & 60Hz
- A choice of running speeds in most Frames (4, 6, 8 and 10 pole options)

ELECTRIC AND HYBRID PROPULSION



Diesel Electric Propulsion (DEP) technology is well established, as is our experience assisting customers integrate alternators and gensets into DEP marine systems. With our expertise, global support networks and highly dependable product range, marine architects are consistently specifying STAMFORD® and AvK® alternators for DEP. Increasingly our customers are looking to add flexibility to marine propulsion systems through use of hybrid configurations. Hybrid propulsion packages typically deliver fuel-savings for boat operators.

Hybrid propulsion systems comprise diesel electric, diesel mechanical and a combination of hybrid drive options enabling the ship to optimise power efficiency through use of a flexible choice of operational modes. In addition to fuel savings, exhaust emissions are also limited, making hybrid systems environmentally friendly.

The global demand for Offshore Support Vessels (OSV), Platform Support Vessels (PSV) and Anchor Handling Tug Supply (AHTS) vessels incorporating DEP and hybrid propulsion technology is increasing, and in response, we have developed our marine range to offer a reduction in both size and weight. STAMFORD and AvK alternators have proven their suitability for continuous operation in the demanding offshore environment, and can operate both as auxiliaries for hotel loads and as a supply for propulsion systems. They can handle the high currents that are seen in these high-power, low-voltage machines, and are perfectly suited to start large electrical machinery as seen on many vessels.

Our expert marine application engineers can help you specify which alternators from our range will reduce capital expenditure and operating costs. We can help you design a hybrid propulsion system to optimise the need for high generating capacity at cruising speeds whilst saving on machinery volume.

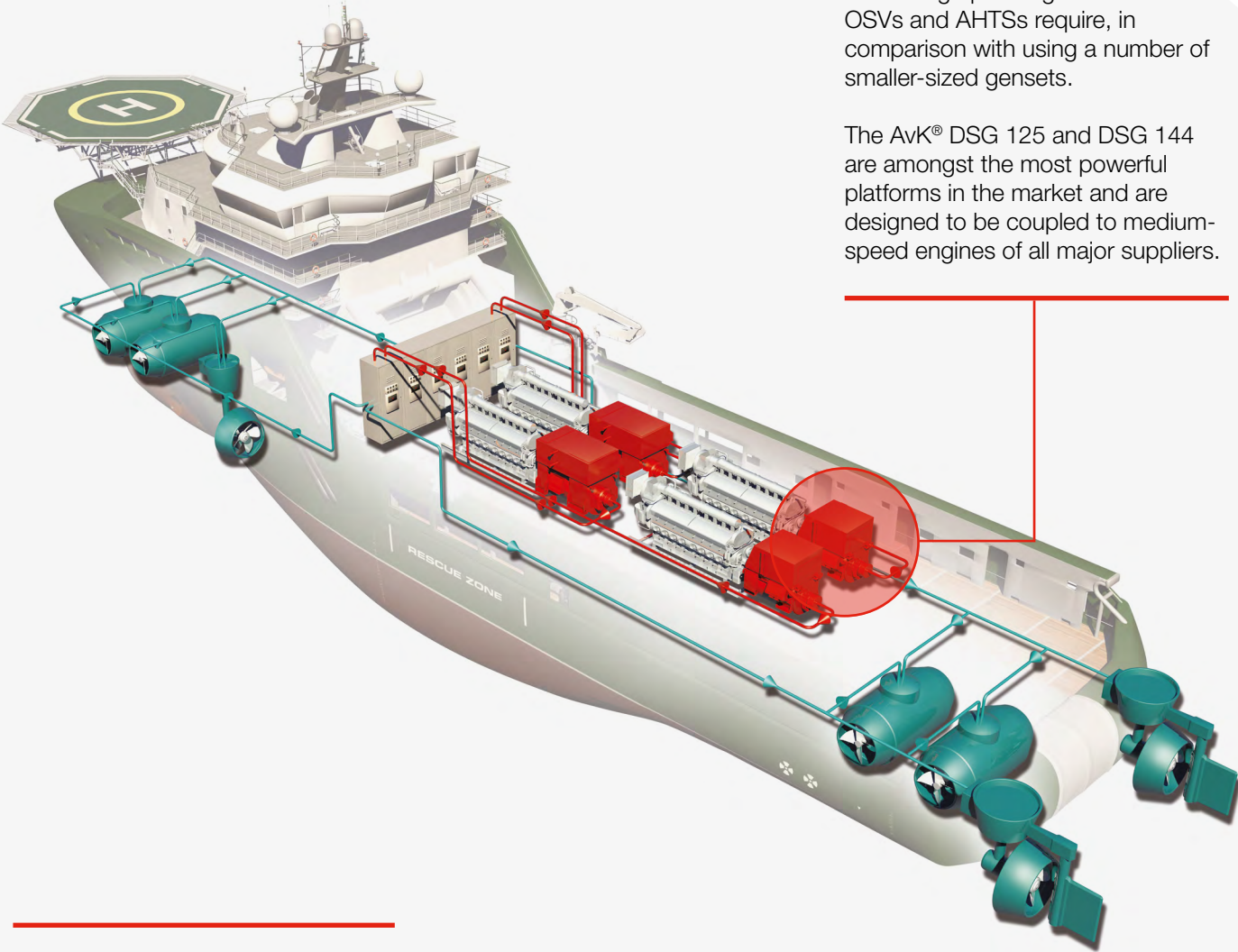
AvK® ALTERNATORS



AvK® DSG 125 and DSG 144 alternators save space and reduce capital expense

Talk to our application engineers to learn how our powerful AvK® DSG 125 and DSG 144 alternators can reduce overall footprint, with high-power, low-voltage power generation that OSVs and AHTSs require, in comparison with using a number of smaller-sized gensets.

The AvK® DSG 125 and DSG 144 are amongst the most powerful platforms in the market and are designed to be coupled to medium-speed engines of all major suppliers.



TECHNICAL CONSIDERATIONS

- Understand the electrical characteristics of the inverter loads connected to the gensets.
- Define the variable speed operation requirements specific to the project.
- Consider any special requirements for bearings, due to high angles of inclination, running speed, lubrication and cooling, etc...

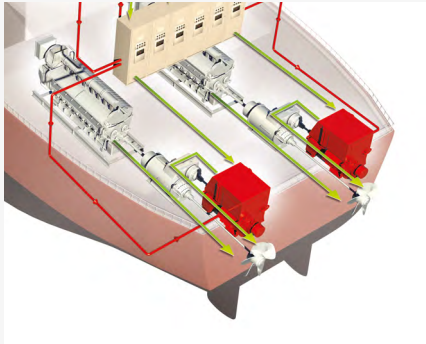
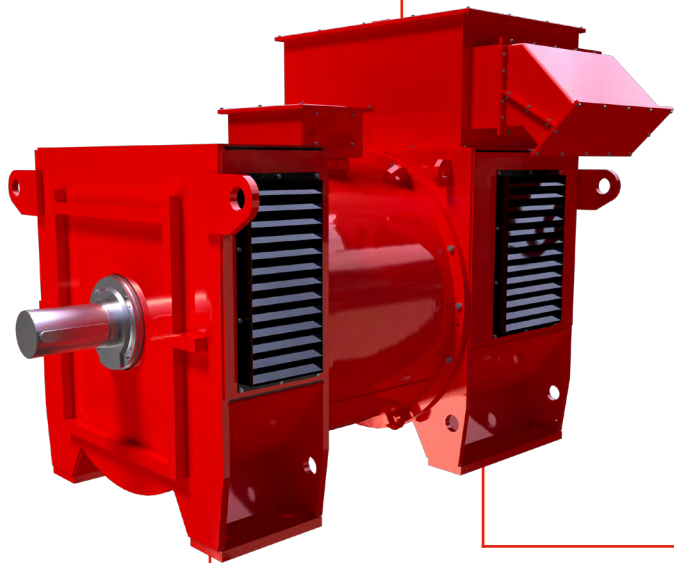


We are here to support your future decarbonisation goals, through our end-to-end expertise in versatile solutions. Backed by the reassurance of our world-renowned brands recognised for reliability and complete peace of mind, we are with you on your journey towards sustainability.

stamfordavk.li/future-ready



MARINE SHAFT ALTERNATORS



POWER TAKE OFF (PTO)

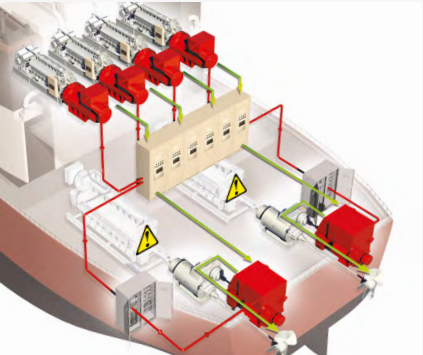
Operation as shaft alternator for boardnet supply only

- Auxiliary diesel gensets can be stopped; reducing maintenance costs
- Boardnet powered by main diesel engine; reduces operating hours of auxiliary gensets

POWER TAKE HOME (PTH)

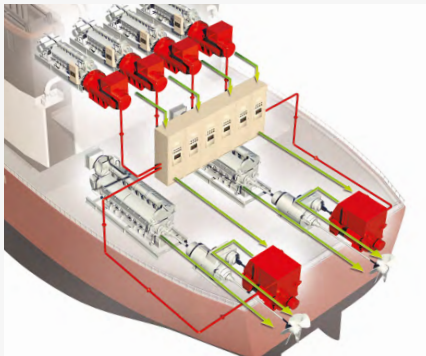
Alternator and start-up transformer (start-up system) individually engineered to customer requirements

- Redundant power in case of main engine malfunction - self start capability required
- Shaft alternator to be started by the auxiliary gensets



TECHNICAL CONSIDERATIONS

- If the alternator requires a self starting capability when in motor mode (Power Take Home - PTH). Confirm what starting method is to be employed.
- During starting the electrical machines output shaft should be completely de-coupled from gearbox or prop drive shaft on board.
- Determine the PTH mode of operation. Emergency situation only, or more regular operation, such as harbour manoeuvring.
- Establish if there are any special requirements for bearings, due to high angles of inclination, running speed, lubrication and cooling, etc.



POWER TAKE IN (PTI)

Operation as shaft motor for "booster" operation - no selfstart capability required

- Additional propulsion power available
- Smaller main engine for "normal" operation lowers main engine costs
- Shaft alternator/motor to be started as normal PTO machine



MARINE AUXILIARY ALTERNATORS

For a complete line up of marine auxiliary alternators, designed specifically for applications including emergency power, ship service power, harbour power, power take home and diesel electric propulsion, the STAMFORD® and AvK® ranges are unbeatable.

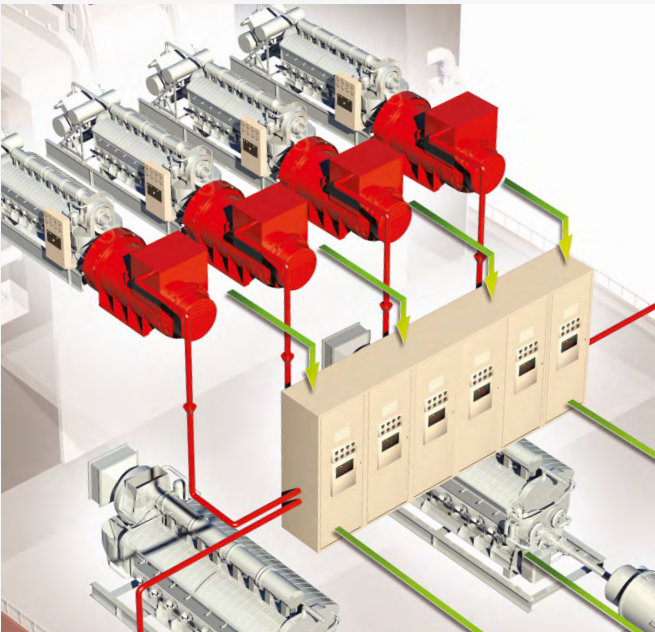
The difference is experience.

For all custom genset configurations, our team of Applications Engineers specialising in marine applications are located in strategic regional offices. We are able to assist with engine/alternator matching to ensure maximum efficiency whether simply for emergency use or for use with shaft alternators for propulsion.



THE INDUSTRY STANDARD

Compact in design STAMFORD® alternators are easy to install and maintain for marine applications. A range of single and three phase voltages are available from either 6 or 12 wire reconnectable windings. 2/3 pitch main stator and damper windings make STAMFORD also suitable for parallel operation when equipped with suitable voltage regulator and quadrature droop kit. Most alternator models are fitted with a Permanent Magnet Generator (PMG) to power the excitation system as standard.



TECHNICAL CONSIDERATIONS

- Establish the duty cycle and, if the genset are purely for emergency, or are they working in conjunction with shaft alternators to provide power for propulsion.
- It is important to understand the vessels power and propulsion system modes of operation.
- Recognise any special requirements for bearings, due to high angles of inclination, running speed, lubrication and cooling, etc.

MARINE CLASSIFICATIONS

STAMFORD® and AvK® alternators meet the classification requirements of major marine societies.

Details on conformance to requirements of societies and international marine safety standards can be obtained from our sales offices.

Spare Parts
According to classification requirements spare parts can be offered separately.

AFTERMARKET SUPPORT

When it comes to powering your world, STAMFORD | AvK stands as unrivalled in ensuring maximum alternator uptime and efficiency. With a steadfast commitment to excellence, we are your trusted partner for all your alternator needs.



Authorised Dealer network for worldwide support
Our reach extends across the globe, thanks to an extensive STAMFORD | AvK Authorised Dealer network offering superior parts and service support, equipped with a global inventory and highly trained technicians.

Power your expertise through world-class training
At STAMFORD | AvK, we not only provide the ultimate power solution alternators, but also offer world-class training programs to enhance your expertise.



Maximise uptime, minimise costly downtime
We understand the importance of minimising downtime and saving costs. That's why we offer planned maintenance kits designed to keep your alternator in peak condition, together with our alternator maintenance reminderservice ensures you never miss a crucial maintenance task again.

Visit our Parts and Services web pages for more information. www.stamford-avk.com/parts

TESTIMONIALS



FISH CARRIER VESSEL

Specified:
STAMFORD® S4L1M4D1

The tenth ship built in cooperation with the Larsnes Mek Verksted and the eighth fish carrier.

“For reliability, quality and their technical expertise STAMFORD | AvK is always our preferred choice.”



WIND POWER INSTALLATION VESSEL

Specified:
STAMFORD® S7 Water-cooled

Wind power installation vessel in China, as part of national decarbonisation initiatives.

“Maximum uptime was key for this project, with superior performance and 24/7 support as part of the world-renowned STAMFORD brand promise.”



OFFSHORE OIL & GAS VESSEL

Specified:
STAMFORD®

Replacement marine certified alternator required immediately due to the failure of a non-STAMFORD® machine onboard the FS Aquarius.

“Going on word-of-mouth recommendations, we chose STAMFORD in the hope it could deliver for us. STAMFORD alternators run for years, but more importantly, the way they responded to our urgent needs was outstanding.”



OFFSHORE WIND CONSTRUCTION SERVICE OPERATIONAL VESSEL (CSOVs)

Specified:
AvK® DSG 99

Robustly engineered alternators for two hybrid powered CSOVs delivering 5.15 MW per vessel

“Ulstein has used STAMFORD | AvK alternators in our designs previously, and have been impressed by their durability, and the company's responsiveness and speed of replies. The decision to use them again was a logical step and has now been more than vindicated.”



DUAL FUELLED HYBRID FERRY

Specified:
AvK® DSG 114 per vessel

Each of the five ferries are equipped with hybrid gas-electric propulsion plus battery systems to reduce fuel consumption and emissions, meeting the latest requirements for energy efficiency.

“Over the years AvK have proven to be one of our most valuable suppliers, offering the product reliability we look for together with the shortest response time to our requests.”



ANCHOR HANDLING TUG SUPPLY HYBRID VESSEL

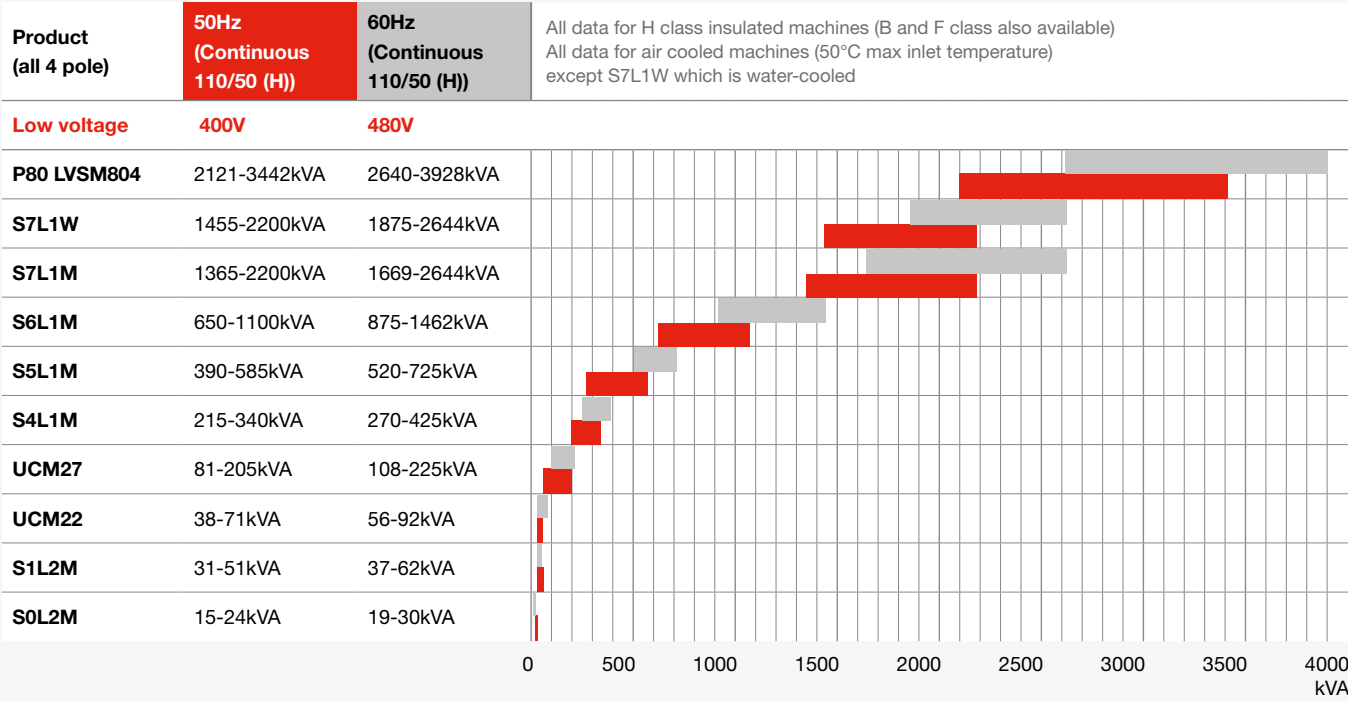
Specified:
AvK® DSG 144 and AvK® DSG 114

Onboard hybrid marine propulsion power system designed for offshore operation in the oil & gas sector.

“The DOF Subsea design called for a number of modifications, which VARD and STAMFORD | AvK successfully delivered.”

MARINE ALTERNATOR RANGE

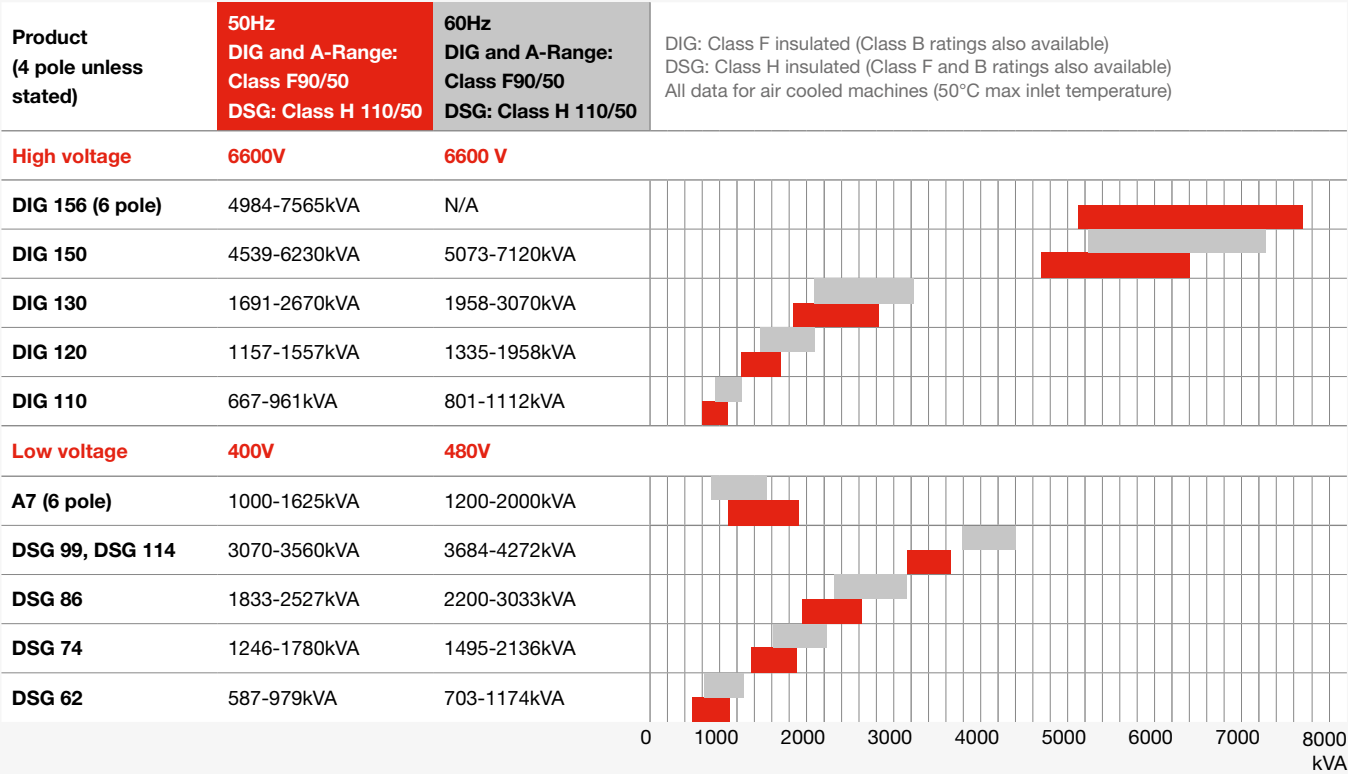
STAMFORD® ALTERNATOR RANGE



Low voltage (LV) standard marine alternators	
Power range	15-3442kVA 50Hz
	19-3928kVA (60Hz)
Voltage	380-690V (50Hz)
	380-690V (60Hz)
Speed range	50Hz: 1500rpm (4 pole)
	60Hz: 1800rpm (4 pole)

Applications options
Auxillary and onboard power supply
Power Take Off (PTO) shaft
Power Take In (PTI) shaft
Hybrid Electric Propulsion Systems

AvK® ALTERNATOR RANGE



Low voltage (LV) and high voltage (HV) marine alternators	
Power range	587-7565kVA (50Hz)
	703-7120kVA (60Hz)
Voltage	380-11000V (50Hz)
	415-13800V (60Hz)
Speed range	50Hz: 600, 750, 1000, 1500rpm
	60Hz: 720, 900, 1200, 1800rpm (4/6/8/10 pole)

Applications options
Auxillary and onboard power supply
Power Take Off (PTO) shaft
Power Take In (PTI) shaft
Power Take Home (PTH) shaft
Hybrid Electric Propulsion Systems

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www.stamford-avk.com



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