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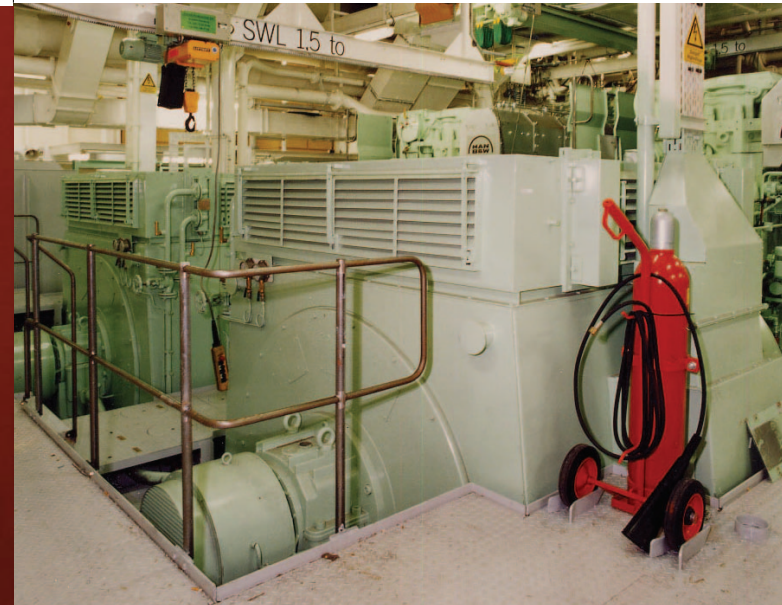
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marine product guide

# Marine Power Solutions





# together a global player

### NEWAGE AVK SEG

- Has 100 years experience in the electrical power generation industry
- Employs 2700 people from 22 nationalities in 27 locations in 15 countries
- Supports a sales and service presence in over 60 countries
- Serves over 3000 OEM and utility customers worldwide



## TECHNICAL SUPPORT AND AFTER SALES SERVICE

NEWAGE AVK SEG, service engineers are experienced professionals with extensive training in electrical, electronic, electronic and mechanical operations. They in turn, are supported by a worldwide parts and service network.

Our global service network offers

- 24 hour response to service emergencies - 7 days a week every day of the year
- Commissioning of generators on site
- Onsite bearing maintenance and bearing condition monitoring
- Onsite insulation integrity checks
- AVR and accessories set up on site
- Trained engineers available locally, speaking local language



### PARTS SUPPORT

NEWAGE AVK SEG parts distribution network offers exceptional customer service. We support our generators for a minimum of 10 years from the date of manufacture. A large central parts inventory is maintained at the NEWAGE AVK SEG Parts Distribution Centre in the UK. Service parts are stocked extensively by our subsidiary companies and authorised parts stockists worldwide to ensure prompt local availability of key parts.

### PRODUCT TRAINING

Product familiarity will ensure maximum productivity and optimum use. The Customer Support Department offers product training courses for engineers, sales, operators, service and support staff. Each course is individually tailored to suit the needs of the customer, the gen-set builder or the end user. Product familiarisation courses, with a choice of training modules, including generator control systems, applications, trouble shooting, maintenance and other specific requirements are also available.

# STAMFORD



## BCM RANGE



For more than 30 years Newage have supplied STAMFORD generators for marine applications. With a range of ratings from 15kVA to 2245kVA STAMFORD ac generators are the ideal choice for all your marine requirements.

**BCM Range** - 15kVA to 38.7 at class F rises. This range is fitted with an auxiliary winding to power the excitation system and maintain short circuit current in the event of a fault. The auxiliary winding also provides excellent motor starting performance.

## UCM RANGE



**UCM, HCM and PM Range** - from 35kVA to 2245kVA at class F rises. These generators are fitted with a Permanent Magnet Generators (PMG), to power the excitation system.

The PMG provides a clean supply of power unaffected by disruptions within the generators magnetic field. This clean supply provides: power to maintain short circuit current for fault clearance, full field forcing for good motor starting, positive voltage build up even when fully loaded, clean power to the excitation system unaffected by external load conditions.

## HCM RANGE



Suitable for use with water mist, and vapour fog automatic fire fighting systems (FWBLAFFS) as recommended by IMO MSC/Circ.913 and ship safety systems. 'SOLAS'.

All STAMFORD marine generators have a class H insulation system, with environmental protection to IP23 as standard. Additional drip proof louvers are also fitted.

The stators of STAMFORD ac generators are wound with 2/3 pitch winding suitable for parallel operation with the addition of a Quadrature droop kit. A loss of excitation module is also recommended when generators are run in parallel.

## PM7 RANGE



Large terminal boxes allow easy access for installation. Access to the AVR from outside of the terminal box provides a safe environment for setting-up the system.

	Winding No.	BCM18	UCM224	UCM274	HCM4	HCM5	HCM6	PM7
<b>Voltages</b>								
380 - 440v 50Hz	311/312	•	•	•	•	•	•	•
440 - 480v 60Hz	311/312	•	•	•	•	•	•	•
380 - 416v 60Hz	13/14	•	•	•	•	•	•	•
660 - 690v 50Hz	25/26	•	•	•	•	•	•	•
660 - 690v 60Hz	27/28	•	•	•	•	•	•	•
600v 60Hz	07/17	•	•	•	•	•	•	•
Single Phase 240v 50/60Hz	05/06	•	•	•	•	•	•	•
<b>Speeds</b>								
4-pole 1500/1800 min <sup>-1</sup>		•	•	•	•	•	•	•
<b>Output Range F Marine - 4 pole</b>								
Up to 40kVA		•						
Up to 80kVA			•					
Up to 220kVA				•				
Up to 400kVA					•			
Up to 650kVA						•		
Up to 1200kVA							•	
Up to 2245kVA								•
<b>Output Range F Marine - 6 pole</b>								
250 - 625kVA							•	
480 - 1240kVA								•
<b>Designs</b>								
Single bearing SAE coupling disc		•	•	•	•	•	•	•
Double bearing arrangement		•	•	•	•	•	•	•
Double bearing with adaptor		•	•	•	•	•	•	•
<b>Bearings</b>								
Standard anti-friction bearings		•	•	•	•	•	•	•
<b>Types of enclosure and cooling</b>								
Standard IP23		•	•	•	•	•	•	•
IP44 Option							•	•
Air filter built-in/added on		•	•	•	•	•	•	•
<b>Weight kg</b>								
< 180		•						
< 400			•					
< 650				•				
< 1200					•			
< 1700						•		
< 2700							•	
< 4100								•
<b>Excitation systems</b>								
PMG		•	•	•	•	•	•	•
Auxiliary winding		•						

	DSG 62 ... 74	DSG 86 ... 99	LV8	DSG 114 ... 125	MV7	DIG 110 ... 130	MV8 / HV8	DIG 140 ... 156	DIG 161 ... 171	DIG 181 ... 191
<b>Ratings / kVA</b>										
600 ... 2250	•									
565 ... 4500		•								
1800 ... 4750			•							
1500 ... 5500				•						
875 ... 2188					•					
600 ... 4000						•				
1740 ... 4140							•			
1150 ... 11000								•		
4350 ... 16000									•	
6600 ... 27800										•
<b>Voltages</b>										
Low voltage up to 450 V	•	•	•	•						
Low voltage 690 up to 1 kV	•	•	•	•						
Medium voltage 1,5 ... 4,16 kV					•	•	•	•	•	•
Medium voltage 4,2 ... 6,9 kV						•	•	•	•	•
Medium voltage 7 ... 11,5 kV							•	•	•	•
Medium voltage 11,6 ... 13,8 kV								•	•	•
Medium voltage 15 kV									•	•
<b>Speeds</b>										
4-pole 1500/1800 min <sup>-1</sup>	•	•	•	•	•	•	•	•	•	•
6-pole 1000/1200 min <sup>-1</sup>	•	•	•	•	•	•	•	•	•	•
8-pole 750/900 min <sup>-1</sup>	•	•	•	•	•	•	•	•	•	•
10-pole 600/720 min <sup>-1</sup>		•	•	•	•	•	•	•	•	•
12-pole 500/600 min <sup>-1</sup>			•	•	•	•	•	•	•	•
14-pole 428/514 min <sup>-1</sup>								•	•	•
16-pole 375/450 min <sup>-1</sup>									•	•
18-pole 333/400 min <sup>-1</sup>										•
<b>Designs</b>										
Single bearing/flanged shaft	•	•	•	•	•	•	•	•	•	•
Single bearing/flexible disc	•	•	•	•	•	•	•	•	•	•
Double bearing, standard	•	•	•	•	•	•	•	•	•	•
Double bearing with adaptor	•	•	•	•	•	•	•	•	•	•
Vertical design	•	•	•	•	•	•	•	•	•	•
Special designs	•	•	•	•	•	•	•	•	•	•
<b>Bearings</b>										
Standard anti-friction bearings	•	•	•	•	•	•	•	•	•	•
Special anti-friction bearings	•	•	•	•	•	•	•	•	•	•
Flanged sleeve bearings	•	•	•	•	•	•	•	•	•	•
Pedestal sleeve bearings				•	•	•	•	•	•	•
<b>Types of enclosure and cooling</b>										
Standard IP 21 Option IP 23						•				
Standard IP 23	•	•	•	•	•	•	•	•	•	•
Dust filter IP 43	•	•	•	•	•	•	•	•	•	•
Dust filter IP 44	•	•	•	•	•	•	•	•	•	•
Duct connections IPR 44/IPR 54	•	•	•	•	•	•	•	•	•	•
Water-cooling CACW/IP 54	•	•	•	•	•	•	•	•	•	•
Air-cooling CACA/IP 54	•	•	•	•	•	•	•	•	•	•
Special solutions	•	•	•	•	•	•	•	•	•	•

Standard alternator AVK marine alternators have shown their extraordinary strength and reliability in thousands of vessels all over the world. They are operating as shaft alternators, in auxiliary gensets or as main propulsion alternators for diesel electrical applications.

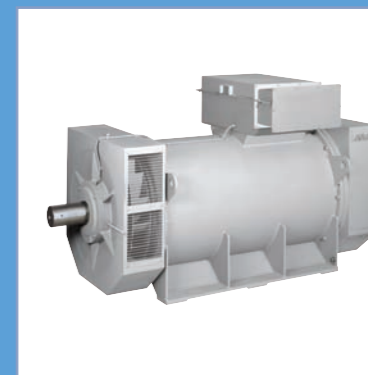
Together with the AVK impregnation system and form wound coils the generators are fit for the harshest ambient conditions.

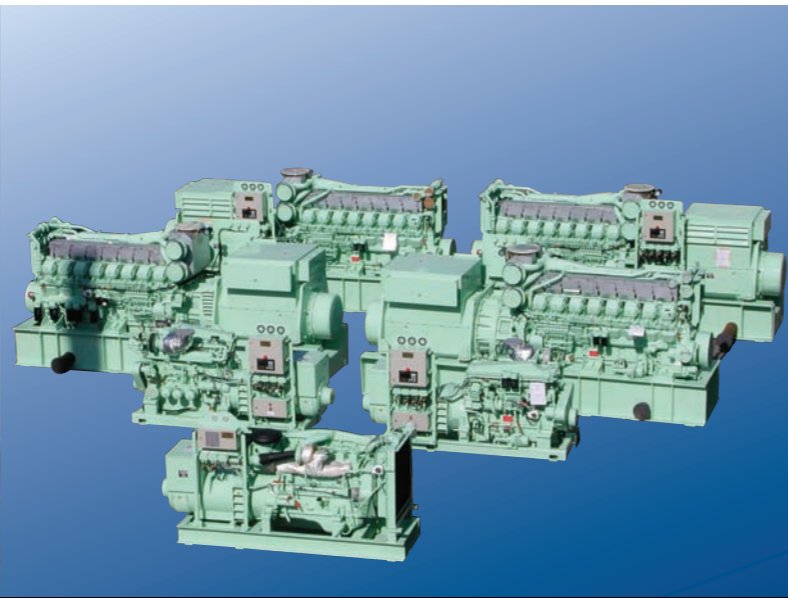
Many options are available upon request, e. g.  
 - water cooler for IP44 or higher  
 - sleeve bearings with accessories  
 - self-starting machines for PT/PTH operation.

**SOLAS:**  
 AVK alternators can fulfil the IMO requirements for local fire-fighting systems - FWBLAFFS with heat exchanger or air filters.

**Offshore application**  
 Oil drilling rigs and unmanned platforms have an extensive need for reliable and highly engineered solutions. AVK has a long-term experience in special alternators for emergency and firefighting pump gensets according to NORSOK standards.

**Diesel electric propulsion**  
 More and more vessels with a need of a very flexible electrical system are using diesel electrical concepts. AVK has a traditional relation with system suppliers in the main propulsion and dredging industry all over the world.





## HARSH ENVIRONMENT APPLICATIONS

The AVK range offers various levels of insulation schemes to meet the different harsh environmental conditions. The impregnation processes and materials have been chosen to withstand and provide reliability under extreme environmental conditions. All internal parts are painted and/or protected. The standard generator conforms to IP23 protection. Variations to higher IP protection levels, water cooled or air to air cooled are also available to suit the arduous conditions.

Stator windings with form wound coils can be offered for high mechanical integrity in Oil & Gas and Drill Rig applications.



## PRODUCT RANGE

The STAMFORD and AVK brand offers a comprehensive portfolio of ac generators for marine applications including customer specific engineered products.

- 4 pole to 18 pole ac generators
- 10kVA to 5,500kVA with voltages upto 1kV
- 600kVA to 30,000kVA with voltages of 3.3kV - 15kV
- AVR controlled excitation systems
- IP23, IP54 (CACA, CACW) enclosure protections
- Diesel engine, gas engine, gas/steam turbine driven



## MARINE CLASSIFICATION

STAMFORD and AVK machines meet the classification requirements of various marine societies

- American Bureau of Shipping (ABS)
- Bureau Veritas (BV)
- China Corporation Register of Shipping (CCRS)
- China Classification Society (CCS)
- Det Norske Veritas (DNV)
- Germanischer Lloyd (GL)
- Korean Register of Shipping (KRS)
- Lloyds Register of Shipping (LRS)
- Nippon Kaiji Kyokai (NKK)
- Polish Register of Shipping (PRS)
- Registro Italiano Navale (RINA)
- Russian Maritime Register of Shipping (RMRS)

Details on conformance to requirements of other societies can be obtained from our sales offices.