

Environmentally Friendly
Engines Compliant with
IMO Secondary
Regulations



DAIHATSU

MARINE GENSETS DIESEL ENGINE



DAIHATSU DIESEL MFG.CO.,LTD.

Daihatsu: An Environmentally Ori

We are living in an era when looking after the world we live in is a growing concern.

Daihatsu is committed to doing its part in protecting and restoring the world's environment with its unique, cutting-edge technology and the wealth of experience it has gathered over the decades.



ented Company in the 21st Century



High Reliability and Environmental Uncompromising Quality ——— Daihatsu Diesel Engines

The industry-leading quality assurance systems of Daihatsu Diesel's Headquarters and Moriyama Factory, which cover every aspect of design, development, manufacture and off-site maintenance, were the first in Japan to be accredited as satisfying the requirements of ISO 9001 in this field. As a result, all engines, gas turbines and marine-use equipment from Daihatsu Diesel are manufactured under quality assurance systems that also meet the requirements of EN ISO 9001, JIS Z9901 and BSEN ISO 9001.



ISO 9001 Accredited
Quality Assurance System Standards of the International
Organization for Standardization
Conforming Sites : Head Office - Moriyama Factory



Our factory (in Moriyama city) acquired
ISO14001 certificate on Dec. 2000



Friendliness.



Environmentally Friendly Engines Compliant with
IMO Secondary Regulations

Quality Certificate

ABS(American Bureau of Shipping), BV(Bureau Veritas),
CCS(China Shipping Classification Association), DNV(Det Norske Veritas),
GL(Germanischer Lloyd), KR(Korean Register of shipping),
LRS(Lloyd's Register of Shipping), NK(Nippon Kaiji Kyokai)

ABS

BV

CCS

DNV

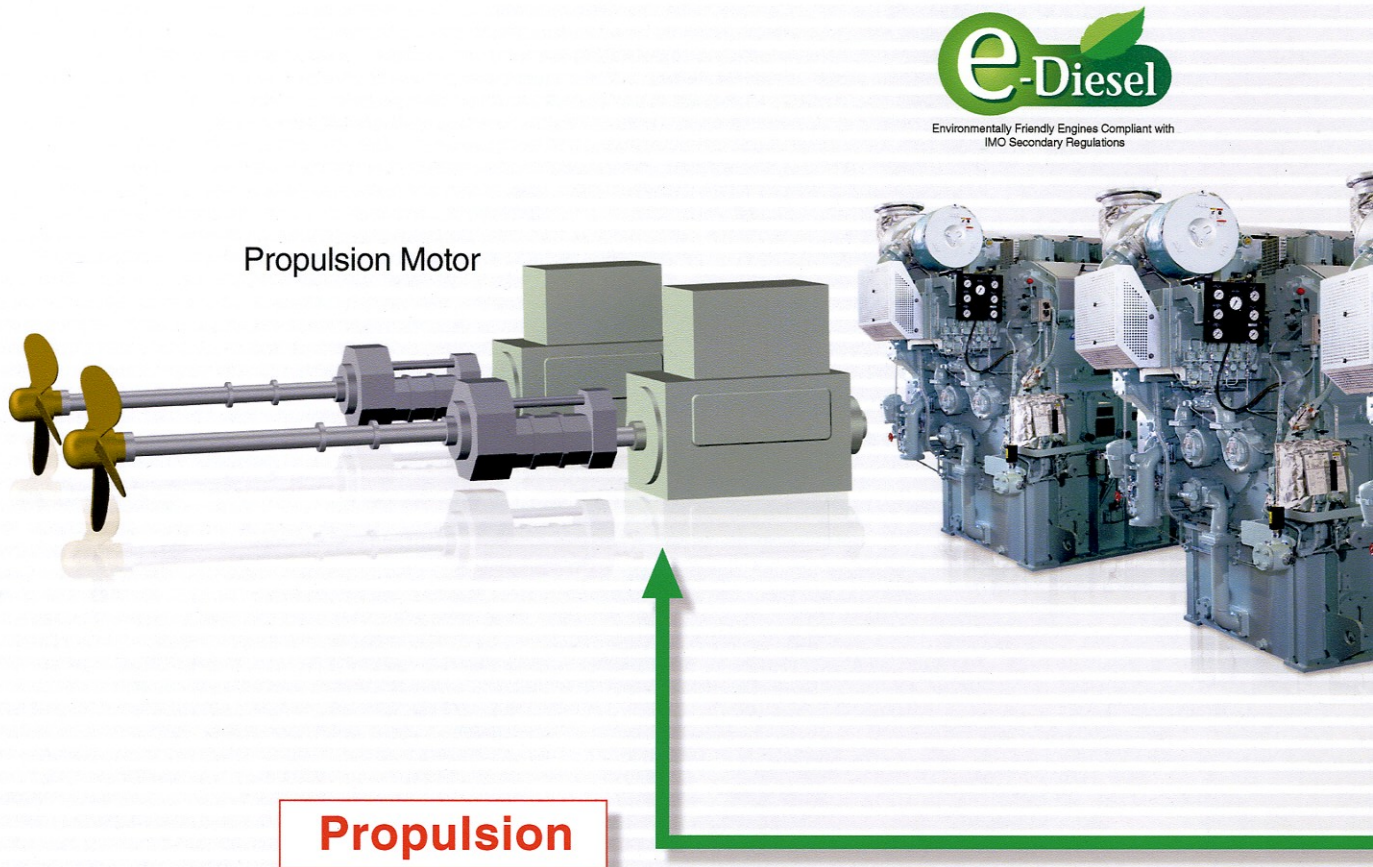
GL

KR

LRS

NK

Electrical Propulsion Systems That Are Kinder to the Earth



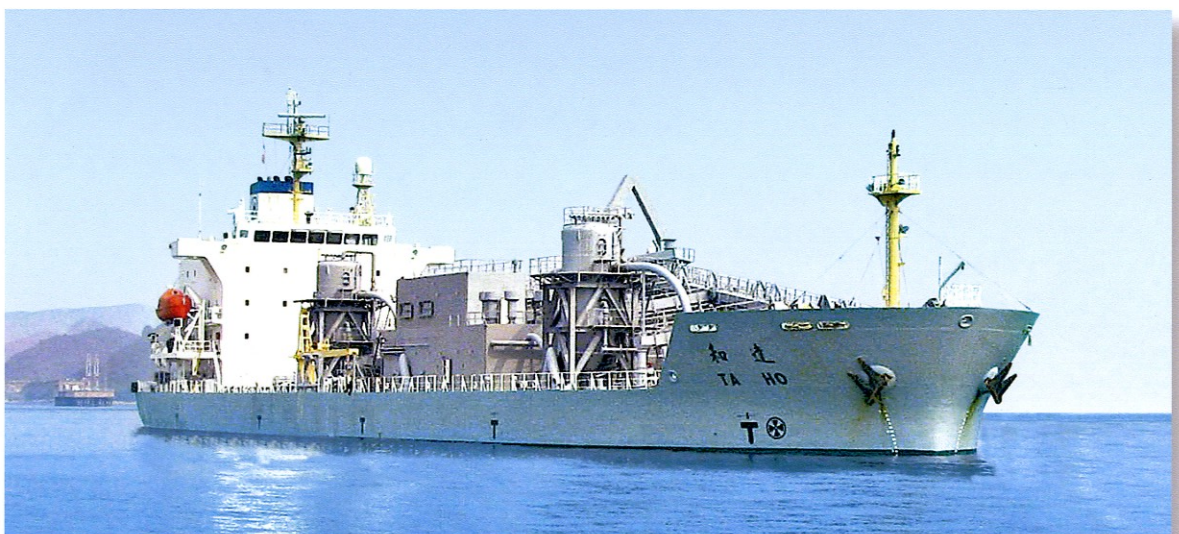
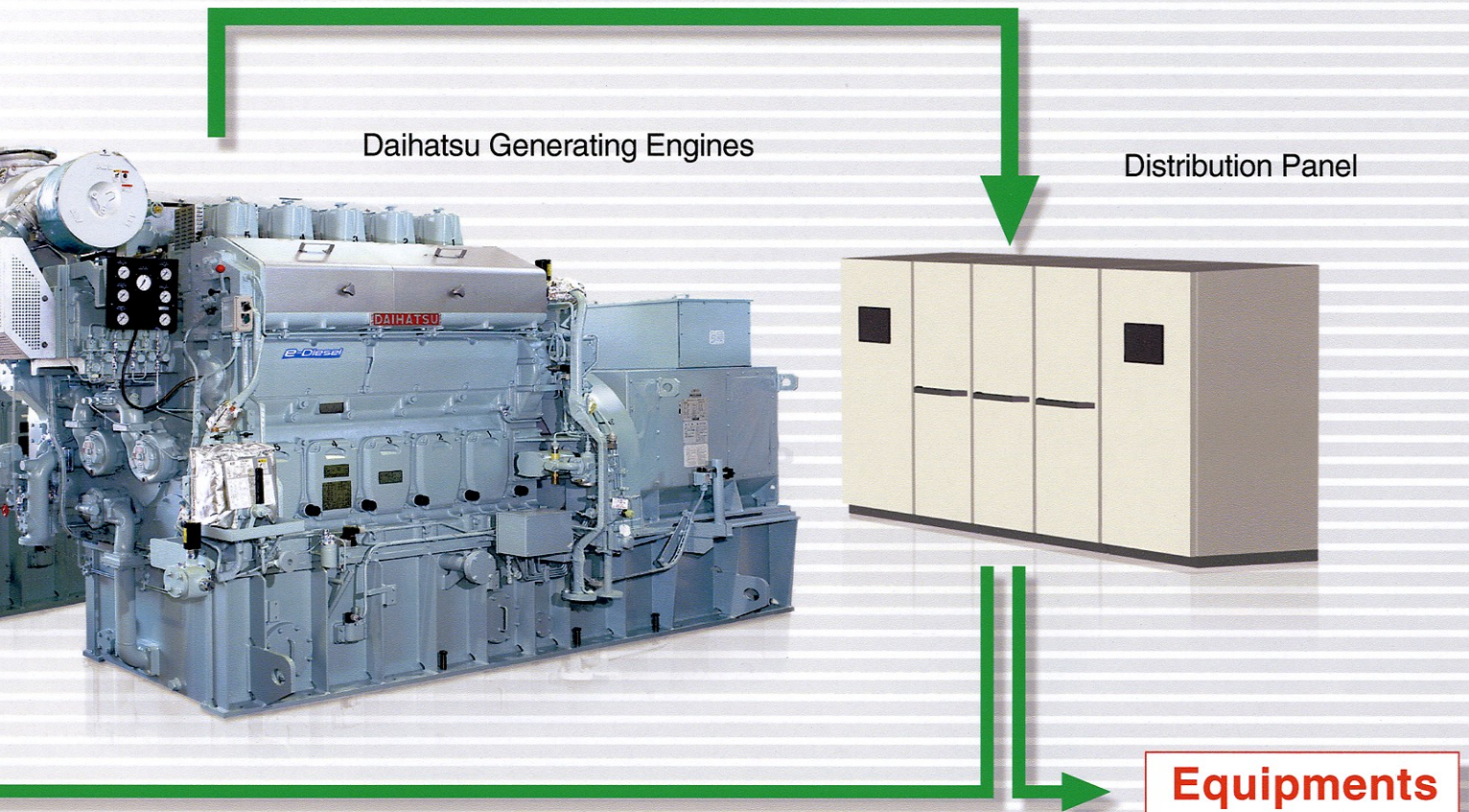
Electrical propulsion systems are different from the systems on conventional ships, where the propellers are turned directly by the main diesel engine; instead, the propellers are turned by an electric motor.

This energy-saving, next-generation system covers economical, propulsion and safety demands.

Here too, Daihatsu Diesel engines are working to save energy and lower CO₂ emissions.

Electrical Propulsion Systems

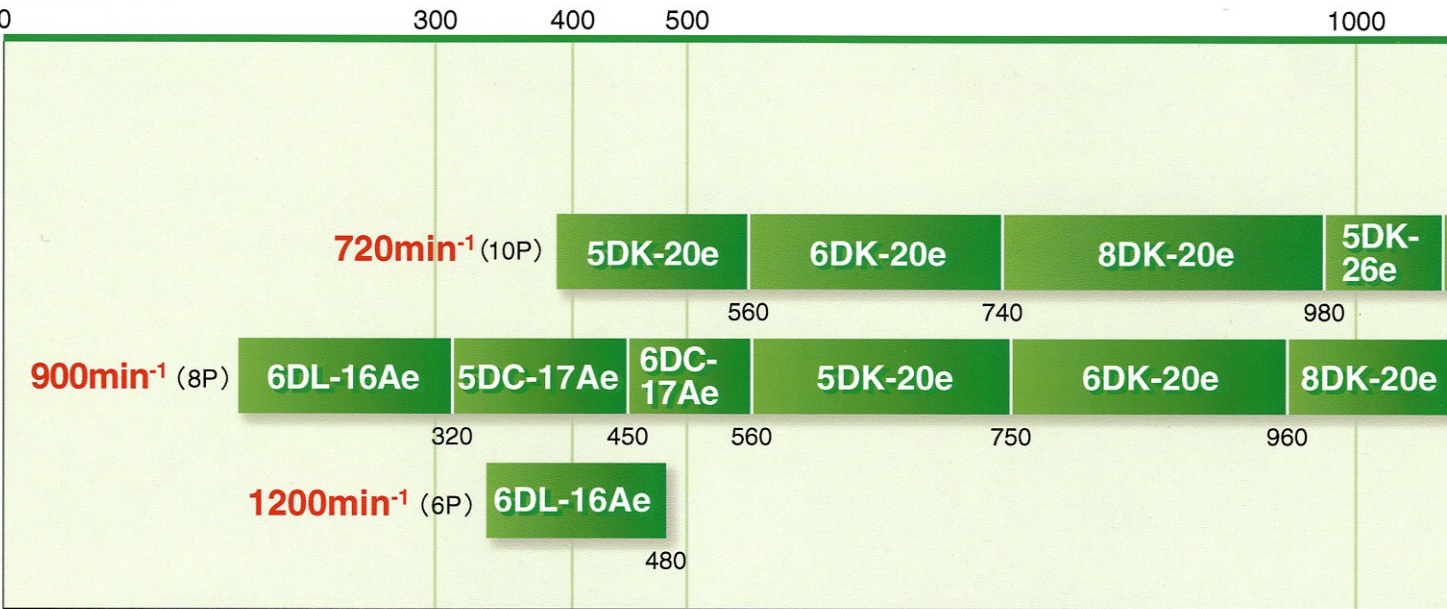
Electric Power



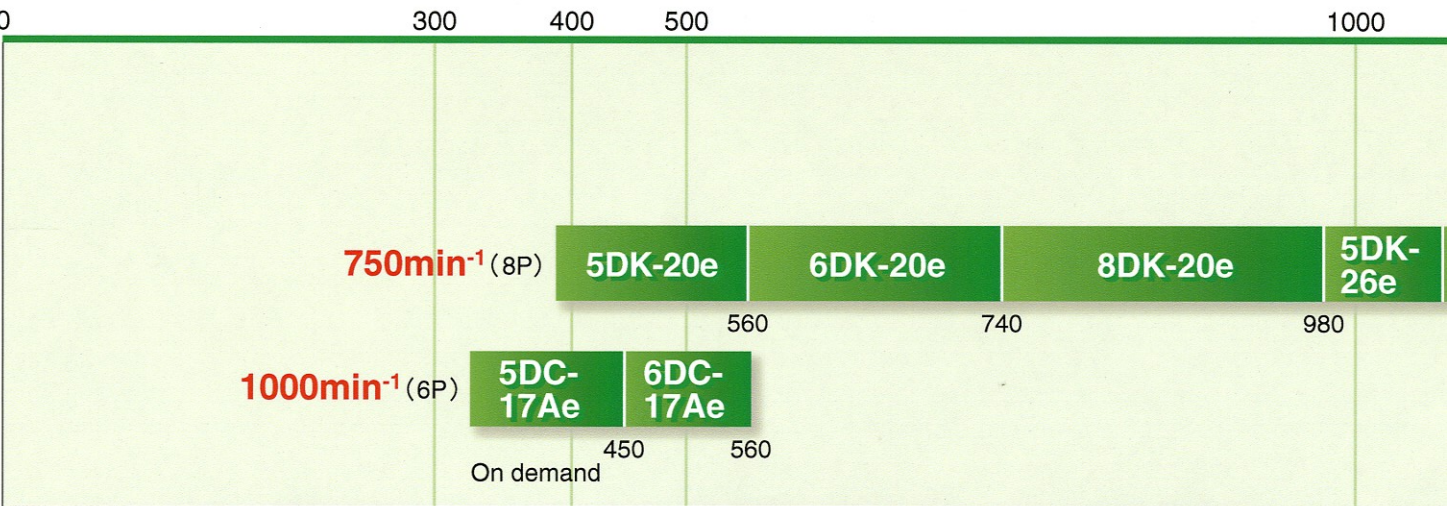
"TAHO" Cement Carrier

Power table

60Hz



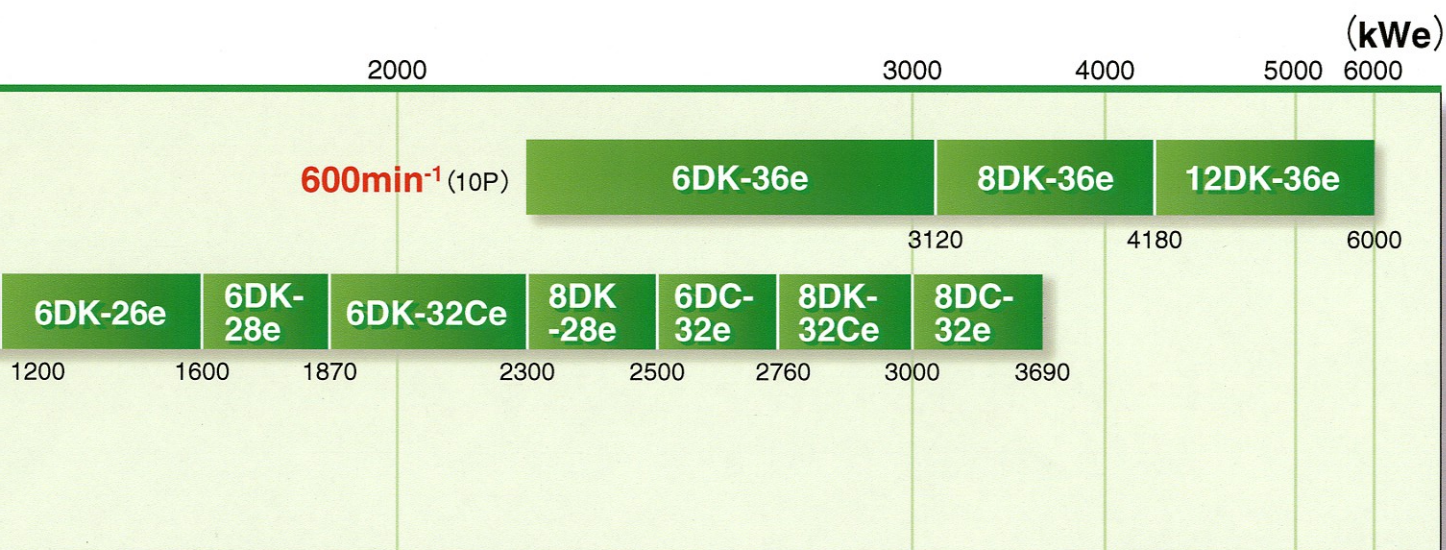
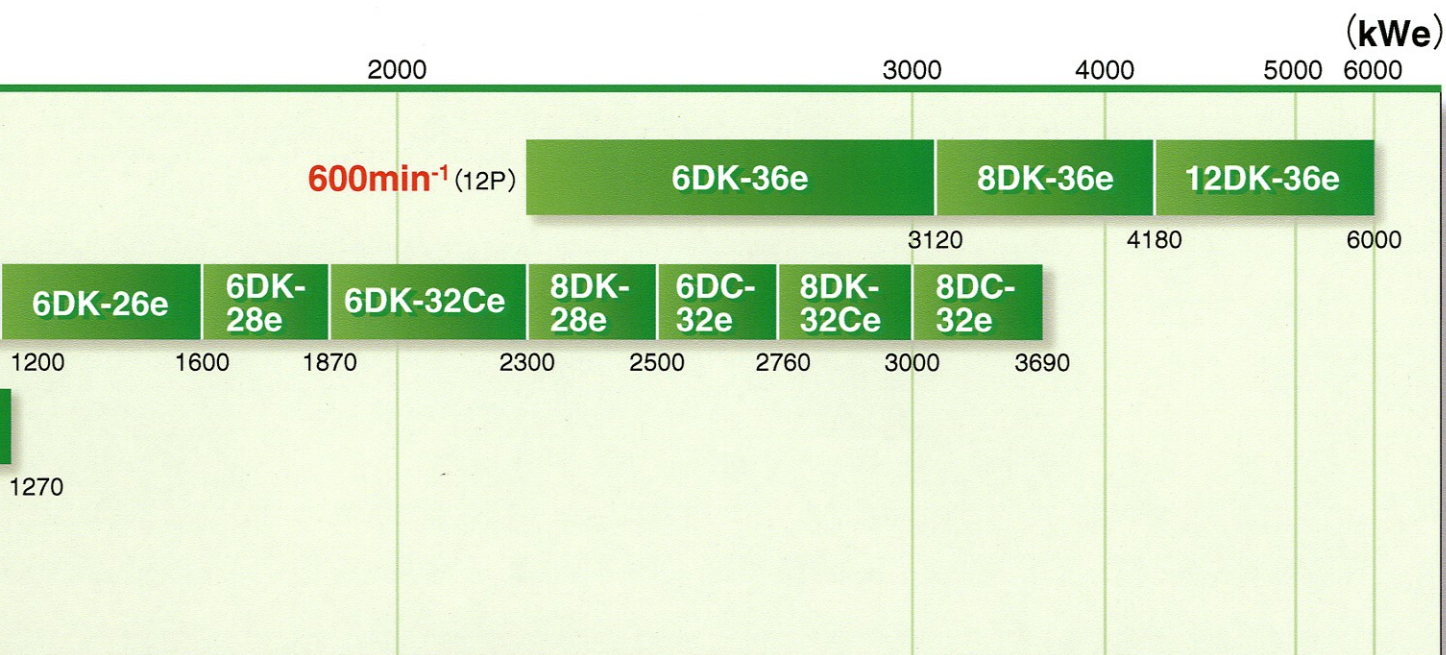
50Hz



Bulk carrier



LNG tanker



Daihatsu Marine Gensets

Diesel Engine Output Table

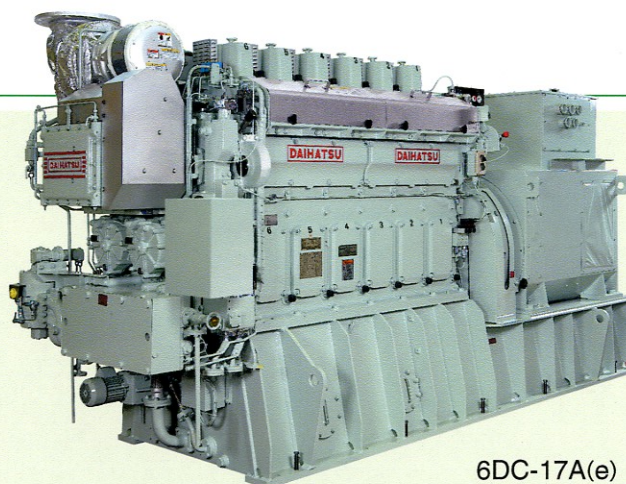
Generator Output		1200min ⁻¹ (6p)		
		Eng Model	Engine Output	
kVA	kWe		kWm	PS
600	480	6DL-16Ae	530	720

Generator Output		900min ⁻¹ (8p)			720/750min ⁻¹ (10/8p)			600min ⁻¹ (12p)		
		Eng Model	Engine Output		Eng Model	Engine Output		Eng Model	Engine Output	
kVA	kWe		kWm	PS		kWm	PS		kWm	PS
400	320	6DL-16Ae	350	476						
450	360	5DC-17Ae	400	544						
500	400		440	598		440	598			
550	440		480	653		480	653			
562.5	450		485	659		485	659			
600	480	6DC-17Ae	530	721	5DK-20e	530	721			
625	500		550	748		550	748			
650	520	5DK-20e	570	775		570	775			
700	560		610	829		610	829			
750	600	5DK-20e	660	897		660	897			
850	680		740	1006		740	1006			
900	720		770	1047	6DK-20e	770	1047			
937.5	750		800	1088		800	1088			
1000	800	6DK-20e	860	1169		860	1169			
1125	900		960	1305	8DK-20e	960	1305			
1200	960	8DK-20e	1040	1414		1040	1414			
1225	980		1065	1448		1065	1448			
1250	1000		1080	1468		1080	1468			
1375	1100		1180	1604	5DK-26e	1180	1604			
1500	1200		1280	1740		1280	1740			
1587.5	1270		1360	1849		1360	1849			
1625	1300				6DK-26e	1400	1903			
1750	1400					1500	2039			
1875	1500					1600	2175			
2000	1600					1710	2325			
2250	1800				6DK-28e	1900	2583			
2337.5	1870				6DK-32Ce	1990	2706			
2500	2000				8DK-28e	2120	2882			
2875	2300				6DK-32Ce	2445	3324			
3125	2500				8DK-28e					
					8DK-32Ce	2635	3583			
					6DC-32e					
3250	2600				6DC-32e	2760	3753	6DK-36e	2760	3753
3450	2760				8DK-32Ce	2905	3950		2905	3950
3750	3000				8DK-32Ce	3162	4299		3162	4299
					8DC-32e					
3900	3120					3310	4500	8DK-36e	3310	4500
4320	3456					3600	4895		3600	4895
4613	3690					3844	5226		3844	5226
4800	3840								4050	5506
5225	4180								4413	6000
5938	4750							12DK-36e	5000	6798
6750	5400								5700	7750
7500	6000								6325	8600

DC-17Ae

Main data

Cylinder bore : 170mm
 Piston stroke : 270mm
 No. of cylinder : 5, 6
 Pme : 5DC; 2.13MPa, 6DC; 2.21MPa
 Piston speed : 8.10m/sec (at 900min⁻¹)
 Fuel oil : MDO~up to 700mm²/s/50°C HFO



6DC-17A(e)

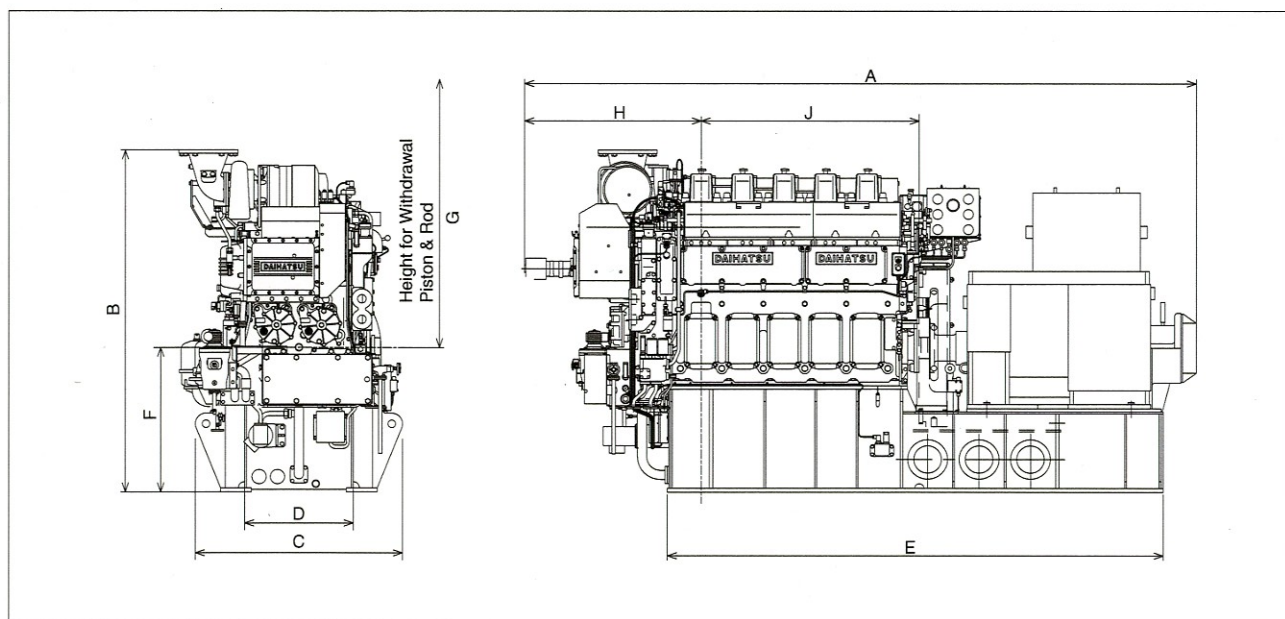
PRINCIPAL PARTICULARS

Model	Output	Fuel oil Rev. (min ⁻¹)	H.O. 700 ~ 180mm ² /s /50°C		Diesel oil	
			900	1000	900	1000
5DC-17Ae	Engine	kW	490		490	
	Generator	kW	450		450	
6DC-17Ae	Engine	kW	610		610	
	Generator	kW	560		560	

DIMENSIONS & WEIGHTS

DIMENSIONS & WEIGHTS										(mm)	(ton)
Model \ Mark	A	B	C	D	E	F	G	H	J	Dry Weight	
											Total ※
5DC-17Ae	4070	2250	1350	950	3230	950	1435	845	1420	10.0	
6DC-17Ae	4510				3565				1690	11.0	

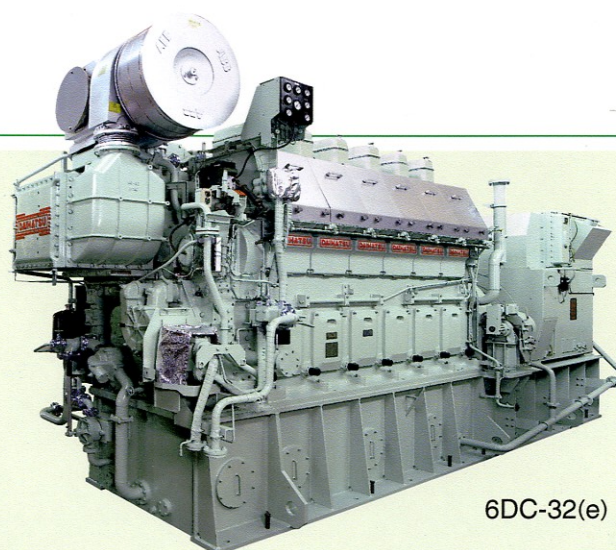
※ Depending on alternator maker



DC-32e

Main data

Cylinder bore : 320mm
 Piston stroke : 400mm
 No. of cylinder : 6, 8
 Pme : 6DC; 2.51MPa, 8DC; 2.49MPa
 Piston speed : 9.6m/sec. (at 720min⁻¹)
 Fuel oil : MDO~up to 700mm²/s/50°C HFO



6DC-32(e)

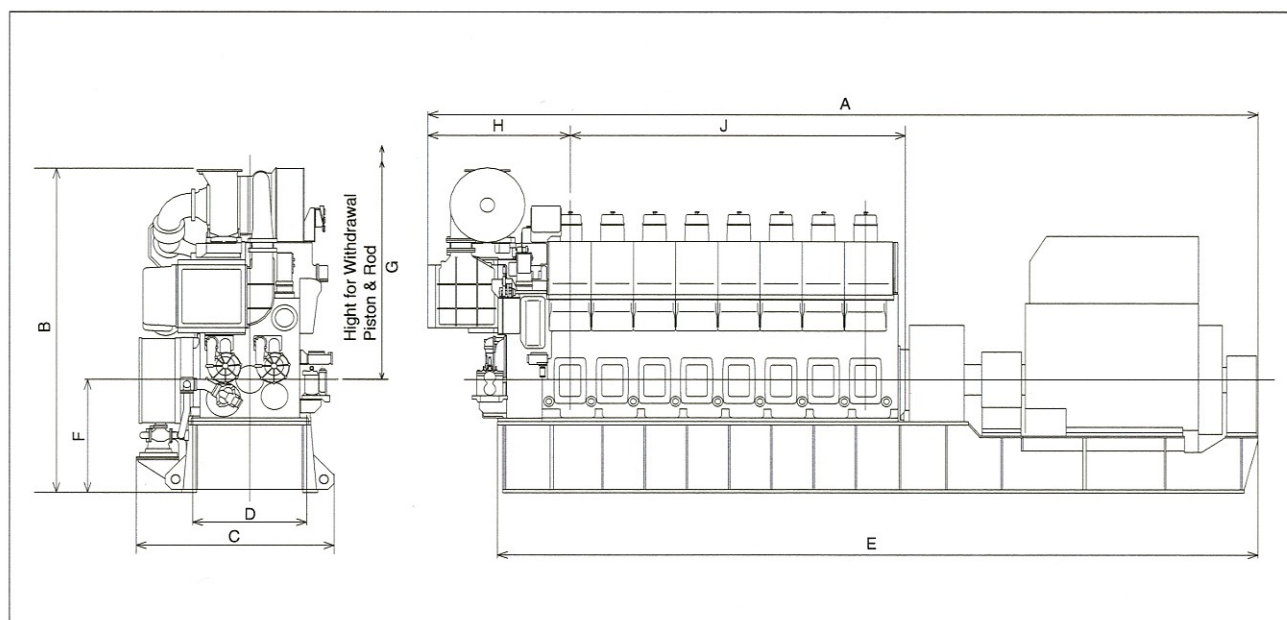
PRINCIPAL PARTICULARS

Model	Output	Fuel oil Rev. (min ⁻¹)	H.O. 700 ~ 180mm ² /s /50°C		Diesel oil	
			720	750	720	750
6DC-32e	Engine	kW	2905		2905	
	Generator	kW	2760		2760	
8DC-32e	Engine	kW	3844		3844	
	Generator	kW	3690		3690	

DIMENSIONS & WEIGHTS

DIMENSIONS & WEIGHTS										(mm)	(ton)
Model \ Mark	A	B	C	D	E	F	G	H	J	Dry Weight	
											Total *
6DC-32e	8800	4310	2345	1350	7900	1350	2295	1685	3040	58.0	
8DC-32e	9835	4360			9008				4040	67.0	

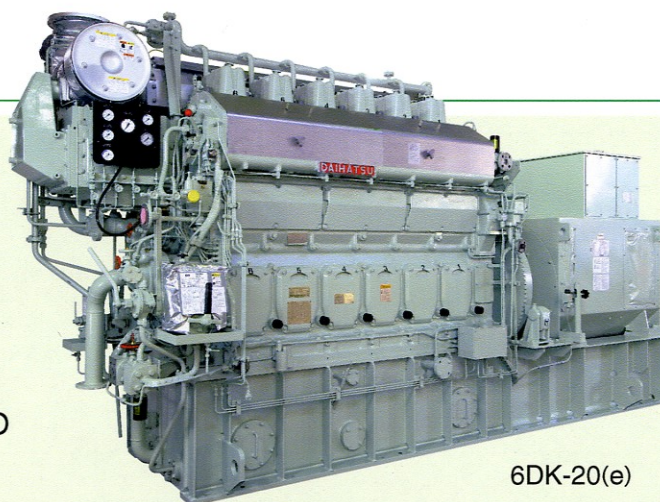
※ Depending on alternator maker



DK-20e

Main data

Cylinder bore : 200mm
 Piston stroke : 300mm
 No. of cylinder : 5, 6, 8
 Pme : 2.26MPa
 Piston speed : 9.00m/sec (at 900min⁻¹)
 Fuel oil : MDO~up to 700mm²/s/50°C HFO



6DK-20(e)

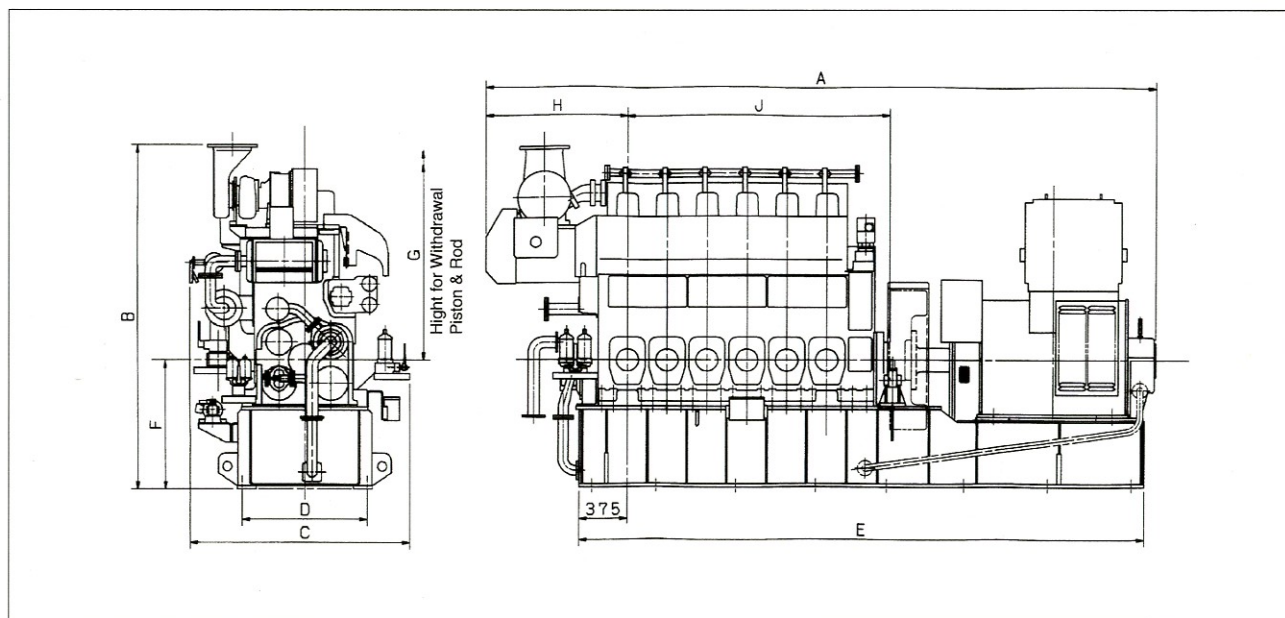
PRINCIPAL PARTICULARS

Model	Output	Fuel oil Rev. (min ⁻¹)	H.O. 700 ~ 180mm ² /s /50°C			Diesel oil		
			720	750	900	720	750	900
5DK-20e	Engine	kW	610	610	800	610	610	800
	Generator	kW	560	560	750	560	560	750
6DK-20e	Engine	kW	800	800	1040	800	800	1040
	Generator	kW	740	740	960	740	740	960
8DK-20e	Engine	kW	1065	1065	1360	1065	1065	1360
	Generator	kW	980	980	1270	980	980	1270

DIMENSIONS & WEIGHTS

DIMENSIONS & WEIGHTS										(mm)	(ton)
Model \ Mark	A	B	C	D	E	F	G	H	J	Dry Weight	
											Total *
5DK-20	4850	2670	1670	960	3980	1000	1575	1100	1725	13.5	
6DK-20	5480	2890	1800		4430			1240	2035	16.0	
8DK-20	6350	2890			5300				2655	22.0	

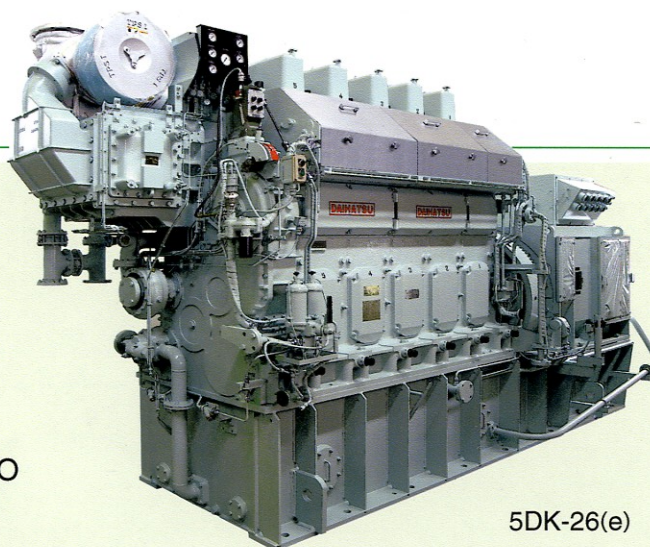
※ Depending on alternator maker



DK-26e

Main data

Cylinder bore : 260mm
 Piston stroke : 380mm
 No. of cylinder : 5, 6
 Pme : 2.20MPa
 Piston speed : 9.12m/sec. (at 720min⁻¹)
 Fuel oil : MDO~up to 700mm²/s/50°C HFO



5DK-26(e)

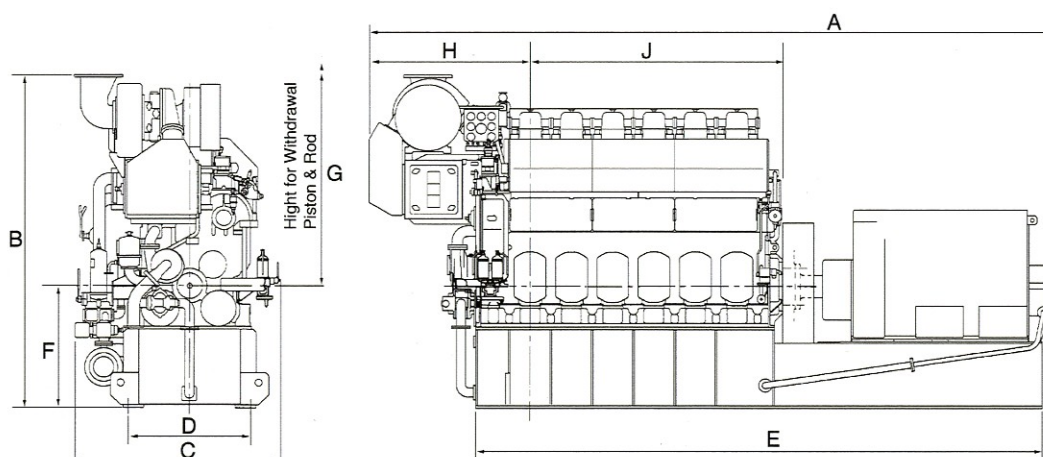
PRINCIPAL PARTICULARS

Model	Output	Fuel oil Rev. (min ⁻¹)	H.O. 700 ~ 180mm ² /s /50°C		Diesel oil	
			720	750	720	750
5DK-26e	Engine	kW	1280	1280	1280	1280
	Generator	kW	1200	1200	1200	1200
6DK-26e	Engine	kW	1710	1710	1710	1710
	Generator	kW	1600	1600	1600	1600

DIMENSIONS & WEIGHTS

Model	Mark	(mm)								(ton)	
		A	B	C	D	E	F	G	H	J	Dry Weight Total *
5DK-26e		5770	3250	1990	1190	4700	1200	1970	1580	2065	24.0
6DK-26e		6465	3310			5400				2470	30.0

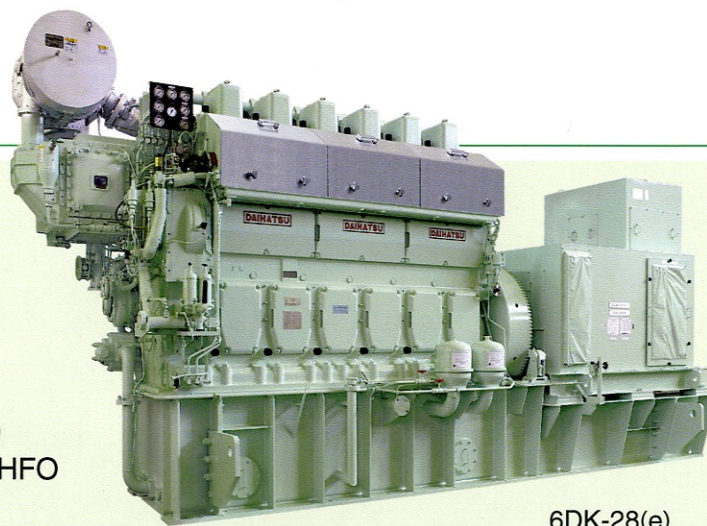
※ Depending on alternator maker



DK-28e

Main data

Cylinder bore : 280mm
 Piston stroke : 390mm
 No. of cylinder : 6, 8
 Pme : 2.21MPa
 Piston speed : 9.36m/sec (at 720min⁻¹)
 Fuel oil : MDO~up to 700mm²/s/50°C HFO



6DK-28(e)

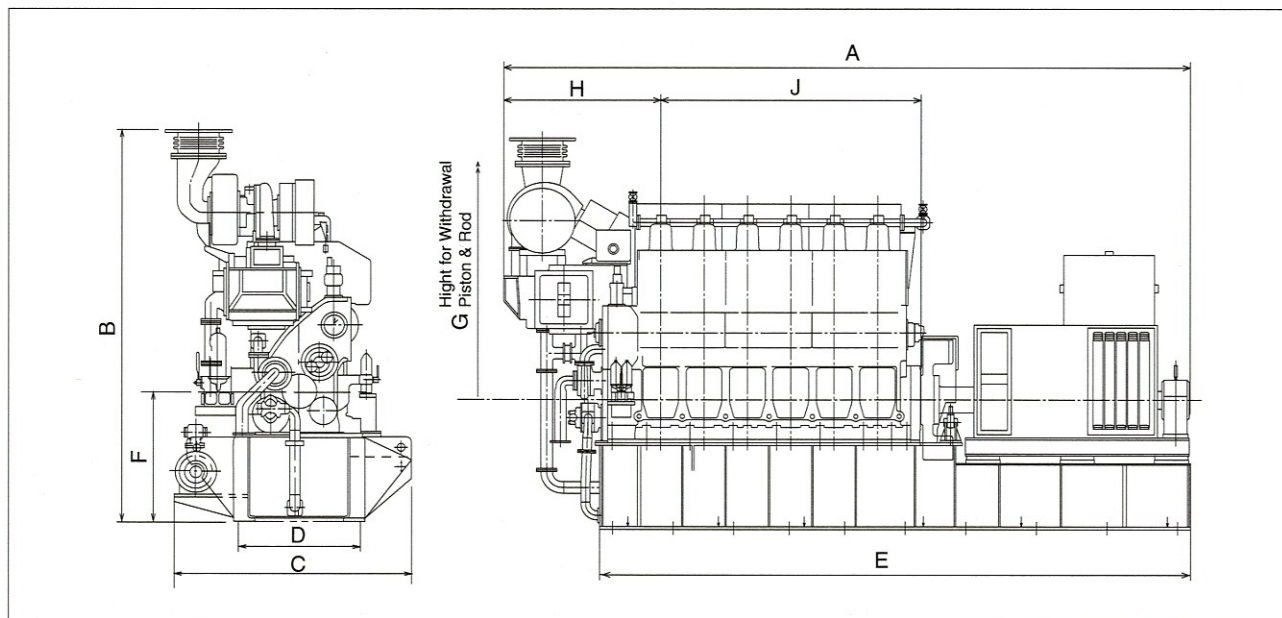
PRINCIPAL PARTICULARS

Model	Output	Fuel oil Rev. (min ⁻¹)	H.O. 700 ~ 180mm ² /s /50°C		Diesel oil	
			720	750	720	750
6DK-28e	Engine	kW	1990	1990	1990	1990
	Generator	kW	1870	1870	1870	1870
8DK-28e	Engine	kW	2635	2635	2635	2635
	Generator	kW	2500	2500	2500	2500

DIMENSIONS & WEIGHTS

Model	Mark	A	B	C	D	E	F	G	H	J	Dry Weight
											Total*
6DK-28e		6825	3710	2235	1230	6100	1300	2065	1095	2580	35.0
8DK-28e		7865	3830			6780				3440	45.5

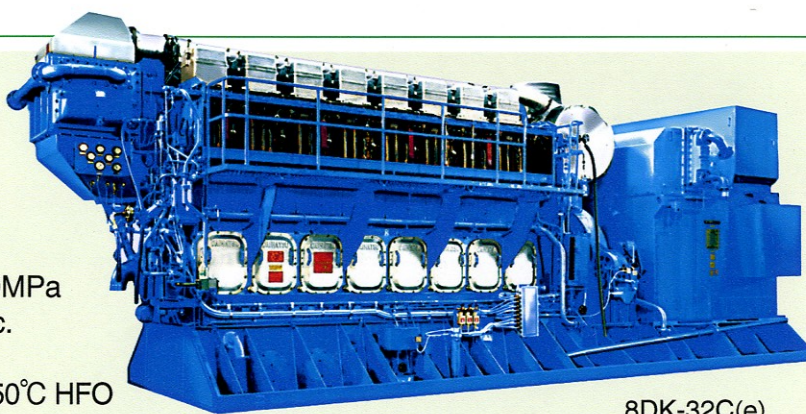
※ Depending on alternator maker



DK-32e

Main data

Cylinder bore : 320mm
 Piston stroke : 390mm
 No. of cylinder : 6, 8
 Pme : 6DK; 2.17MPa, 8DK; 2.10MPa
 Piston speed : 6,8DK; 9.36m/sec.
 (at 720min⁻¹)
 Fuel oil : MDO~up to 700mm²/s/50°C HFO



8DK-32C(e)

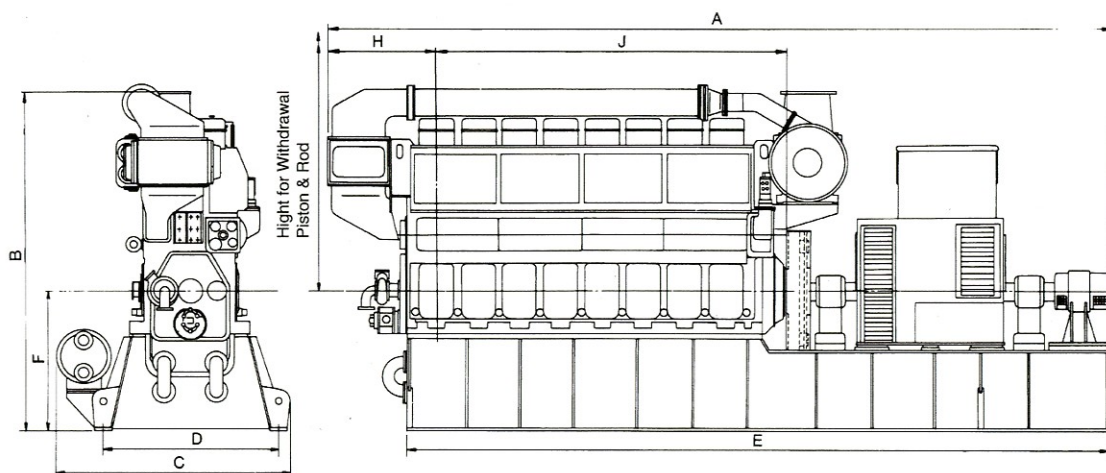
PRINCIPAL PARTICULARS

Model	Output	Fuel oil Rev. (min ⁻¹)	H.O. 700 ~ 180mm ² /s /50°C		Diesel oil	
			720	750	720	750
6DK-32Ce	Engine	kW	2445	2445	2445	2445
	Generator	kW	2300	2300	2300	2300
8DK-32Ce	Engine	kW	3162	3162	3162	3162
	Generator	kW	3000	3000	3000	3000

DIMENSIONS & WEIGHTS

Mark	(mm)									(ton)
	A	B	C	D	E	F	G	H	J	Dry Weight Total *
6DK-32Ce	7500	3818	2830	2050	6500	1600	2470	1145	3110	41.5
8DK-32Ce	8600	3950	2830	2050	7400	1600	2470	1145	4070	56.0

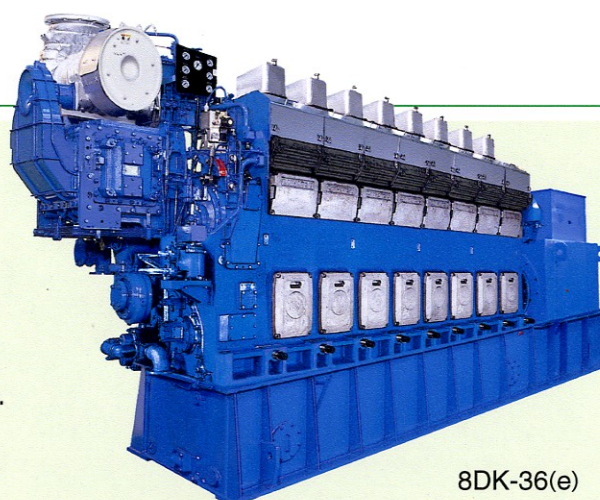
※ Depending on alternator maker



DK-36e

Main data

Cylinder bore : 360mm
 Piston stroke : 6,8DK; 480mm, 12DK; 460mm
 No. of cylinder : 6, 8 (in-line), 12 (Vee)
 Pme : 2.26MPa
 Piston speed : 6,8DK; 9.60m/sec. 12DK; 9.20m/sec.
 Fuel oil : MDO~up to 700mm²/s/50°C HFO



8DK-36(e)

PRINCIPAL PARTICULARS

Model	Output	Rev. (min ⁻¹)	Fuel oil	H.O. 700 ~ 180mm ² /s /50°C	Diesel oil
				600	600
6DK-36e	Engine	kW		3310	3310
	Generator	kW		3120	3120
8DK-36e	Engine	kW		4413	4413
	Generator	kW		4180	4180
12DK-36e	Engine	kW		6325	6325
	Generator	kW		6000	6000

DIMENSIONS & WEIGHTS

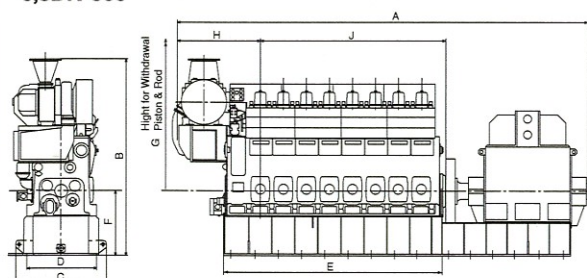
DIMENSIONS & WEIGHTS										(mm)	(ton)
Model \ Mark	A	B	C	D	E	F	G	H	J	Dry Weight	
											Total *
6DK-36e	7500	3818	3360	2300	7400	1800	2930	1965	3445	73.0	
8DK-36e	9430				7900				4575	95.0	
12DK-36e	11728				4280				2500	5065	1325

Eng only

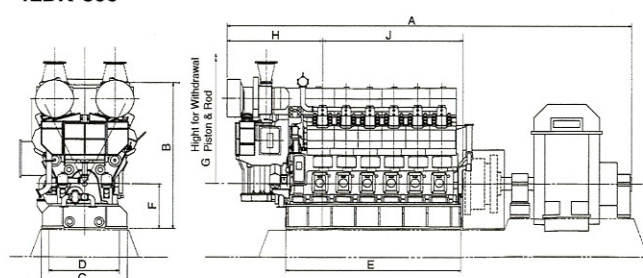
Eng only

※ Depending on alternator maker

6,8DK-36e



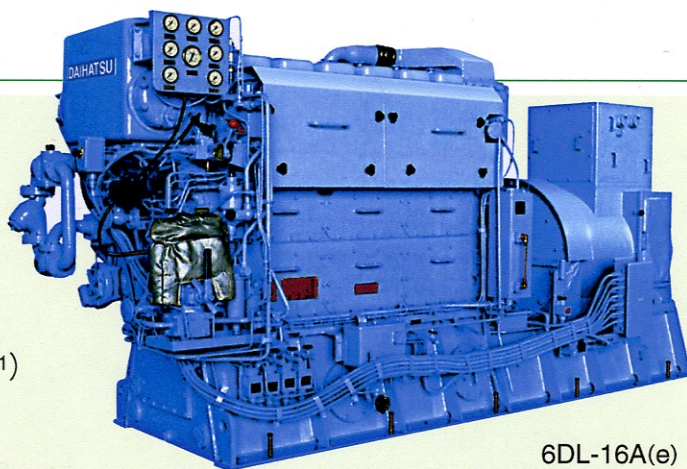
12DK-36e



DL-16Ae

Main data

Cylinder bore : 165mm
 Piston stroke : 210mm
 No. of cylinder : 6
 Pme : 1.63MPa
 Piston speed : 8.40m/sec. (at 1200min⁻¹)
 Fuel oil : MDO



6DL-16A(e)

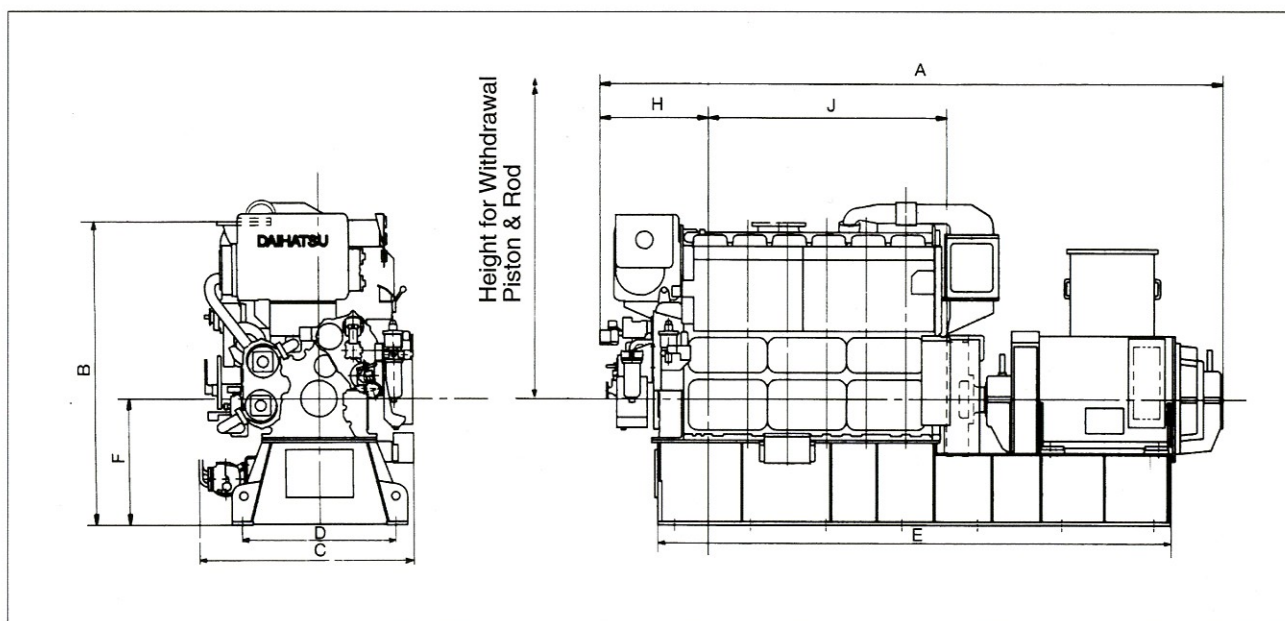
PRINCIPAL PARTICULARS

Model	Output	Rev. (min ⁻¹)	Fuel oil	Diesel oil	
				900	1200
6DL-16Ae	Engine	kW		350	530
	Generator	kW		320	480

DIMENSIONS & WEIGHTS

DIMENSIONS & WEIGHTS										(mm)	(ton)
Model \ Mark	A	B	C	D	E	F	G	H	J	Dry Weight	
											Total *
6DL-16Ae	3700	1800	1230	960	3260	750	1195	645	1418	5.9	

※ Depending on alternator maker



Daihatsu Diesel Equipment for Marine Applications

Oil Mist Detector

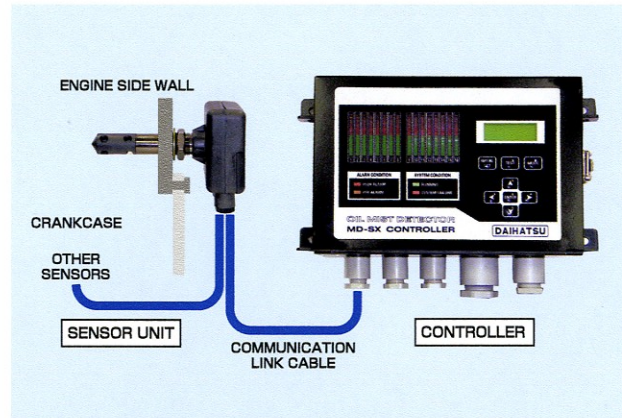
MD-SX (Sensor Type)



The Oil Mist Detector Monitors your engine to engine to detect major engine failure.

This equipment consists of plural sensor units, inserted into crankcase side wall of each cylinder on diesel engine, and an integrated controller which controls sensor units by the communication link. Sensor units is compactly designed to detect oil mist by the natural diffusion system without air suction mechanism by moving parts like a fan, driving air, and piping, as well as, realizes improved reliability, and easy maintenance.

Controller constantly monitors the oil mist density in the crankcase, and indicates the oil mist level. Additionally it will indicate status with alarm in case the oil mist density will be increased over normal level by overheated bearing etc, so can realize early detecting and reasonable precaution for the serious accident in a low-, medium-, and high-speed diesel engines.



Oil Mist Monitor

DOMM



Early detection of the oil mist abnormalities in the engine room and prevention of firing

Since 1976, Daihatsu Diesel Mfg. Co., Ltd. has put OIL MIST DETECTOR continuously on the market. In 2004, model MD-SX which is of sensor type mounted on crankcase was developed. It can directly measure the oil mist density inside crankcase in a way the sensor is so mounted that the sensing part is sticking into the crankcase. Conventional system has to take out oil mist for measurement from crankcase inside through piping.

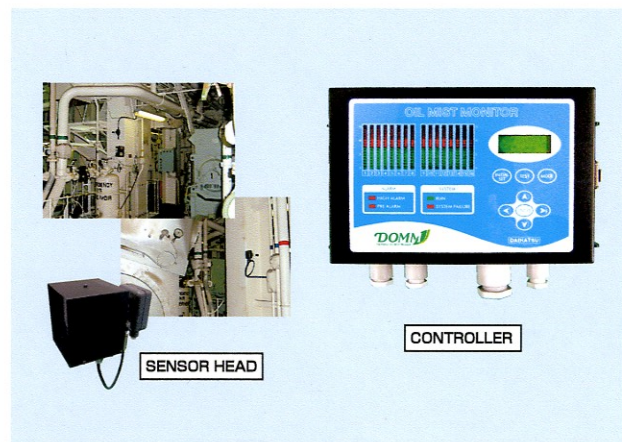
The new system provides following merits by the oil mist level is sent out for the controller as digital signal.

- (1) Speedy response in less than 1 sec. with max. No. of sensor 16
- (2) Self diagnosis functions to display the time for sensor replacement

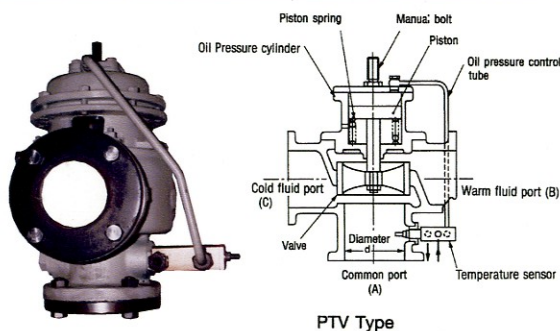
In recent years, as fire prevention measures for tankers, earlier detection on abnormal oil mist level in engine room is required as it is thought to be effective in pin-point the cause and its measures. Daihatsu Diesel Mfg. Co., Ltd. has further advanced MD-SX type detector into OIL MIST MONITORING DEVICE, OMM type, whose development is based on the technologies of MD-SX type many classes give TYPE APPROVAL. The new OMM type can provide visual display on oil mist level where it is likely to generate.

The OMM type is expected to go into the market October, '07.

The system does not guarantee prevention of disaster, such as a fire.

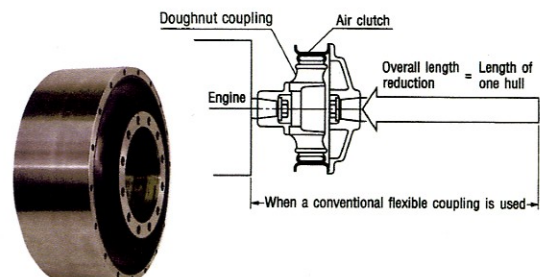


Automatic Temperature Control Valve



A temperature sensor featuring an ultra-small wax element detects the fluid temperature and uses an oil-pressure servo function with a trigonal main valve to control the fluid temperature automatically. This unit offers easy operation as well as excellent response and sensitivity.

Doughnut RD coupling



This new flexible coupling combines a conventional flexible coupling with an air clutch. This design greatly reduces engine room space requirements compared to conventional installation of independent components.



ISO 9001 Accredited
Quality Assurance System Standards of the International
Organization for Standardization
Conforming Sites : Head Office - Moriyama Factory

DAIHATSU ダイハツディーゼル販売会社

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