generator design specifications

Design	Brushless, four pole, revolving field, power take-off
Frequency	All units adjustable to 50 or 60 Hertz
Phase	Three phase and single phase
Power Factor	0.8 at 3-phase, unity PF at 1-phase
Wire	12 lead reconnectible
Voltage regulation	Standard +/- 1% no load to full load
Frequency regulation	0.30 Hz (0.5%) no load to full load
Insulation	Class "H", as defined by NEMA MG1-1.65
Cooling	Direct drive centrifugal blower
Temperature rise	Within NEMA MG1-22.40 definition when operating at full load
Electromagnetic interference level	Meets "CE" requirements

Voltage Output	60 Hertz		50 Hertz		Ø
Configuration	L-L	L-N	L-L	L-N	3Ø
Series Star	480	277	400	230	3Ø
Parallel Star	208	120	230	127	3Ø
Series Delta	240	120	230	115	3Ø
Parallel Delta	130		110		3Ø
Zig Zag	400	230	330	190	3Ø
Double Delta	240	120	230	115	1Ø

Voltage regulator is adjustable +/- 5%
3 Phase amperage calculation:
Amps = Watts / [Voltage x 1.732 x P.F.]

GENERATOR MODEL @ 60Hz (50Hz)	THREE PHASE / SINGLE PHASE	45BED (35BED) 40 BED (30BED)	55BED (45BED)	65BED (55BED) 60BED (50BED)	95BED (80BED)
3Ø	Generator power @ 1800 (1500) rpm	45kW (35kW)	55kW (45kW)	65kW (55kW)	95kW (80kW)
1Ø	Generator power @ 1800 (1500) rpm	40kW (30kW)	N/A	60kW (50kW)	N/A
	Engine power @ 1800 (1500) rpm	70HP (60HP)	90HP (80HP)	100HP (85HP)	145HP (125HP)
	Cylinders	4		6	
	Cycles	4			
	Aspiration	Natural	Turbo	Natural	Turbo
	Displacement – cu.in. (liters)	262 (4.3)		396 (6.5)	
	Bore and stroke – in. (mm)	4.13 x 4.92 (105 x 125)			
	Compression ratio	17:1			
	Cylinder head/block	Cast iron, replaceable dry liners			
	Crankshaft	Forged high carbon steel			
	Fuel system	High pressure direct injection			
	Fuel injection pump	Zexel, in-line, Bosch "A" type			
	Fuel supply and return piping – in. (mm)	3/8 (9.53) I.D.			
	Fuel filter	Full flow, spin-on, paper element			
	Full load fuel consumption @ 1800-rpm	3.5 GPH (13.2 LPH)	4.8 GPH (18.2 LPH)	4.9 GPH (18.5 LPH)	7.2 GPH (27.3 LPH)
	Full load fuel consumption @ 1500-rpm	3.1 GPH (11.7 LPH)	4.0 GPH (15.3 LPH)	4.1 GPH (15.5 LPH)	6.4 GPH (24.2 LPH)
	Cooling system	Fresh water cooled with oversized shell and tube heat exchanger			
	Cooling capacity – qts. (liters)	17 (16.1)		25 (23.7)	
	Raw water connection – in. (mm)	1.25 (31.8) O.D.			
	Raw water pump	Gear driven			
	Exhaust manifold	Cast aluminum, fresh water cooled			
	Exhaust elbow connection – in. (mm)	4.0 (101.6) O.D.			
	Lubrication system	Full pressure feed			
	Lube oil cooler	Fresh water cooled			
	Lubricant capacity – qts. (liters)	14.5 (13.8)		22.0 (20.8)	
	Oil fill	Top			
	Lube oil filter	Full flow, spin-on, paper element			
	Electrical system	12 volts DC, negative ground			
	Starting motor	2.9 kW, 12 volt solenoid, actuated shift			
	Battery charging alternator	50 amp, 12 volt			
	Starting aid	12 volt sheathed glow plug			
	Cold cranking amps	450 amps @ 25 degrees C			
	Start	Local or optional remote			
	Maximum angle of operation	10 degrees continuous, 30 degrees intermittent			
3Ø	Generator dry weight – lbs. (kgs.)	1585 (719)	1646 (747)	1937 (879)	2100 (953)
1Ø	Generator dry weight – lbs. (kgs.)	1630 (739)	N/A	2042 (926)	N/A
	Generator dimensions – LxWxH in inches	62.50 x 30.63 x 33.66		74.94 x 30.63 x 34.15	
	Generator dimensions – LxWxH in millimeters	1588 x 778 x 855		1903 x 778 x 867	
	Sound Guard weight - lbs. (kgs)	112 (51)		127 (58)	
	Sound Guard dimensions – LxWxH in inches	62.50 x 30.63 x 36.56		74.94 x 30.63 x 36.56	
	Sound Guard dimensions – LxWxH in millimeters	1588 x 778 x 929		1903 x 778 x 929	

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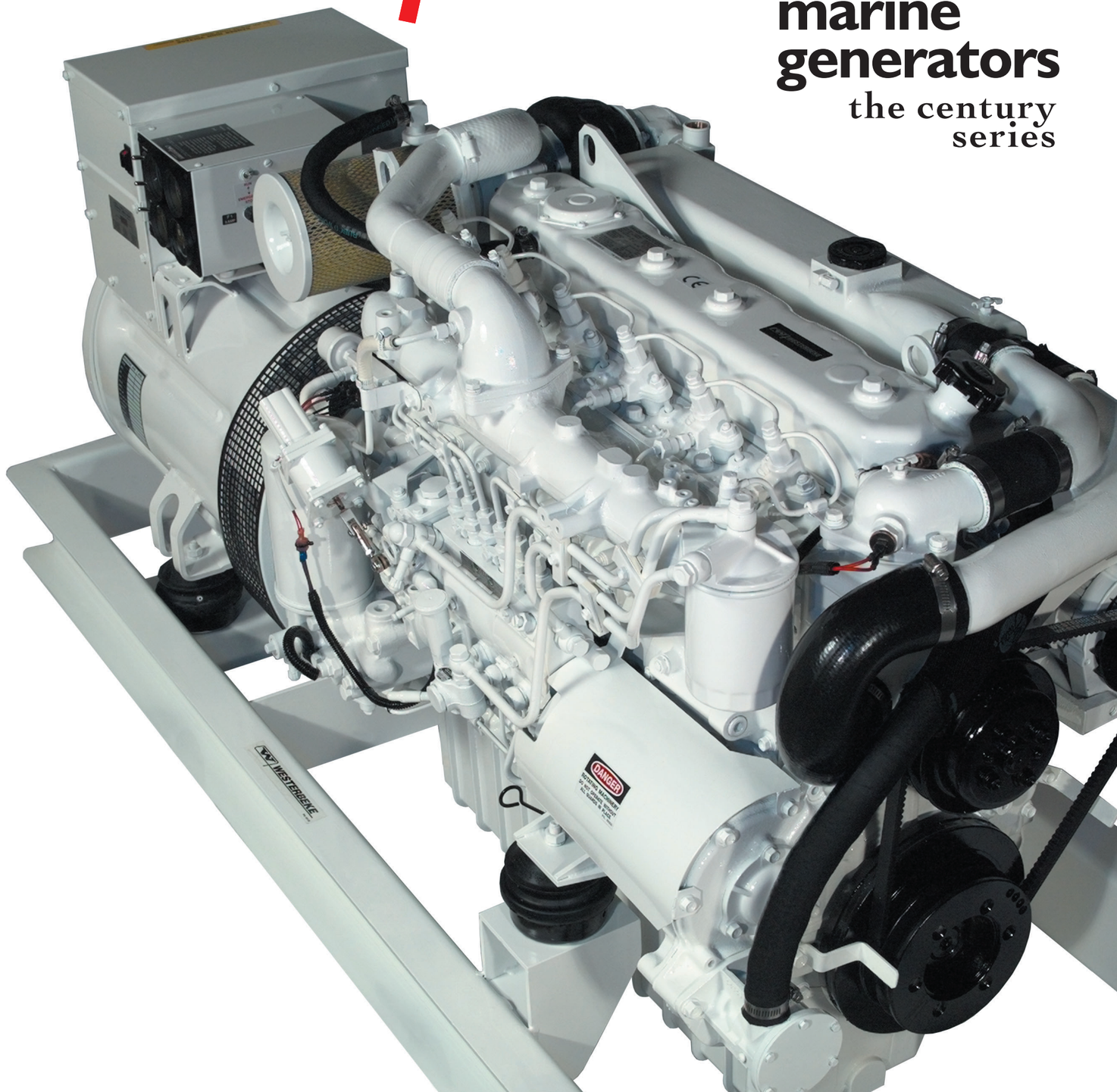
WESTERBEKE™

marine generators

the century series



The Century Series Advantage

Extremely lightweight and compact…

Six models rated 40, 45, 55, 60, 65, and 95

Westerbeke's Century Series generators are

kilowatts at 60 Hertz and 30, 35, 45, 50, 55,

intended for use on larger motor yachts and

and 80 kilowatts at 50 Hertz are powered by

sailboats as well as in demanding government,

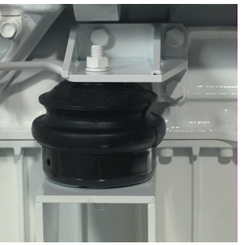
two naturally aspirated and two turbo

military and commercial applications.

charged diesel engines. All four generators are among the most compact in their class with especially short lengths and low heights. Even more noticeable is the extremely light weight of each model. Century Series generators are lighter, lower in height and shorter than most competitors in their class!

Smooth and Quiet Operation

Unique to the Century Series generators are fluidlastic isolation mounts that are provided as standard. These mounts provide the best possible vibration isolation and eliminate noise transmission to the vessel's hull.



Engine

Naturally aspirated and turbo charged 4.3 and 6.5 liter diesel engines power the Century Series generators. Both the cylinder head and block are cast iron while the crankshaft is made of forged high carbon steel for additional strength. Replaceable chromium plated, dry cylinder liners contribute to an extended engine life. Glow plugs aid cold weather starting. An easily accessible oil drain hose assists with routine maintenance.

AC Generator

The AC generators are all class "H" insulated (the highest NEMA insulation rating) and double vacuum epoxy impregnated for protection against the harsh marine environment. Electronic governing and voltage regulation provide .5% frequency regulation and 1% voltage regulation.

Safety Devices

All Century Series models are equipped with overspeed, low oil pressure, high coolant temperature and high exhaust temperature safety shutdowns. AC short circuit and overload protection are provided using a generator field circuit breaker. Other safety devices include an oil bypass alarm and fail safe mounts.

Cupro-Nickel Heat Exchanger

Century Series generators are fresh water cooled with a standard cupro-nickel heat exchanger that mounts directly to the underside of the water-jacketed exhaust manifold for more efficient cooling. This unique Westerbeke design and the use of cast aluminum piping minimizes the use of hose connections in the cooling system, providing added reliability and reduced maintenance.

Durable Anti-Corrosive Paint

Westerbeke's new paint system now offers increased resistance to the harsh marine environment through the use of an iron phosphate pre-treatment, a non-chrome sealer and a special high gloss acrylic enamel. Westerbeke's system is not only durable but environmentally friendly. The paint and sealers meet state and federal clean air and water standards.

Gear-Driven Raw Water Pump

A new gear-driven raw water pump, designed and manufactured by Westerbeke for optimum performance, is made of marine grade materials for the best possible corrosion protection.

Full Torque Power Take-Off Interface

All the Century Series generators have Westerbeke's renowned full torque power take-off interface at the rear of the generator.

Engine Instrumentation Panel

A unit-mounted instrument panel includes water temperature and oil pressure gauges, voltmeter and hourmeter as well as preheat and start/stop switches. All panels are provided with a standard, 15-pin, plug-in connector should a remote instrument panel or start/stop panel be required.

Emission Standards & Regulations

All Century Series engines meet current EPA standards and have the "CE" mark.

Electronic Governing for Parallel Operation

Allows for automatic or remote adjustment of engine speed for paralleling and load sharing during operation.

Paralleling Switchboard

Complete system for manual paralleling or automatic paralleling.

Westerbeke Patented Sound Guard

Sound Guard sound enclosures are available for all models and are made of self-supporting panels that attach to the standard generator base with no increase to the length and width of the unit. The rear panel of the sound guard is equipped with a removable plate to accept the optional power take-off and electric clutch. Individual panels can be easily removed for routine inspection or all panels for major service.

Also Available

Other options such as keel cooling with dry or wet exhaust, spare parts kits, battery splitters, remote lube oil filters, fuel-water separators with filter, hydro-hush mufflers and anti-siphon valves with stainless loops are also offered.

OPTIONAL ACCESSORIES

Full Torque Power Take-Off with Electric Clutch

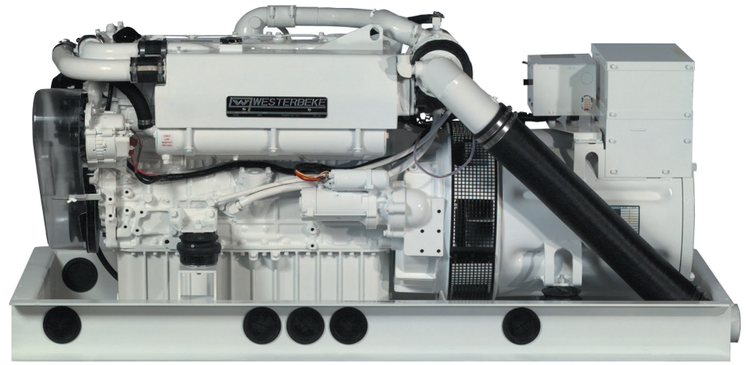
Century Series generators are available with full torque power take-off and electric clutch for hydraulic pumps used to power bow thrusters and other hydraulic equipment. The PTO and electric clutch is available in both 12 and 24 Volts (400 Series & 1000 Series).

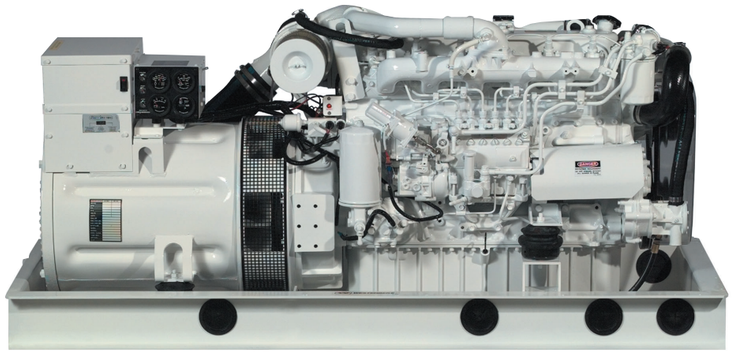
Electrical Systems

All generators are available with 24 Volt electrical systems as well as ungrounded 12 and 24 Volt electrical systems.

Remote Panels

Remote start-stop panel or second instrument panel available with 15-pin, 15 or 30 foot harnesses. Harnesses are equipped with Westerbeke's standard remote connector for extended lengths.





above: generator left side
below: generator right side