HYW SERIES

Power Range	kW	kVA
Standby	18 - 22.6	18 - 28.3
Prime	18 - 20.2	18 - 25.3

MODEL: HYW - 25

STANDARD EQUIPMENT

Open Type Set

- Skid with integral day fuel tank (non-UL)
- DEEPSEA 5310 digital auto-start control panel
- Dry-type replaceable element air-cleaner
- Industrial muffler
- Battery, battery rack, and cables
- Fuel and lubrication oil replaceable element filters
- Stamford AVR brushless 12-wire reconnectable alternator
- Oil drain hand pump
- Vibration Isolators between base and set assembly
- Main Line Circuit Breaker for overload protection
- Belt driven charging alternator
- Guards for shielding all rotating parts
- Fuel cut-off solenoid and protection switches
- Radiator with pusher fan
- Operation and installation manuals

Sound Attenuated Enclosure

- Fully sound attenuated enclosure (equipped as open set)
- Powder Painted with finish that exceeds 1000-hr salt test
- Rock wool insulation behind protective barrier
- Curved edges and minimum outside fasteners
- Single lifting point

Accessories Available for HYW-25

Mechanical Accessories Offered

- Road towing trailers to DOT standards
- Critical grade exhaust mufflers
- UL double wall fuel tanks to customer specification
- Oil field type skid
- Flexible exhaust connection for open sets
- Oil pressure and engine temperature gauges
- Water Jacket heater
- Extended warranty coverage period

Generator End Accessories Offered

- Anti-condensation heaters in alternator

Electrical and Control Accessories Offered

- Automatic battery chargers 1.5 and 6 amp
- NFPA 110 controls and remote annunciator
- Transfer switch and paralleling control panels
- Remote control from PC via hard and/or wireless link
- Digital Timer

GENERATOR RATINGS

				Standby Rating		Prime Rating	
Alternator	Voltage	Ph	Hz	kW/kVA	Amps	kW/kVA	Amps
	120 / 208	3	60	22.4 / 28.0	78	20.0 / 25.0	69
	127 / 220	3	60	22.4 / 28.0	74	20.0 / 25.0	66
	120 / 240	3	60	22.4 / 28.0	67	20.0 / 25.0	60
BCI 184E	139 / 240	3	60	22.6 / 28.3	68	20.2 / 25.3	61
	277 / 480	3	60	22.6 / 28.3	34	20.2 / 25.3	30
	347 / 600	3	60	22.6 / 28.3	27	20.2 / 25.3	24
	120 / 240	1	60	18 / 18	75	18 / 18	75

Application Data

Alternator Specifications

Manufacturer	Newage Stamford
Type	4-pole, rotating field
Exciter type	Brushless, self excited.
Leads: quantity, type	12, reconnectable
Voltage regulator	Solid state, volts/Hz and excitation overload protection
Insulation: Material..... Temperature rise.....	 Class H 150° C , standby
Bearing: quantity, type	Single bearing sealed
Coupling	Flexible disc
Amortisseur Windings	Full
Voltage regulation, no-load to full load	± 1.5%
Unbalanced load capability	100% of rated standby current
Load acceptance	Per ISO - 8528
Peak motor starting kVA: 480 V	(30% dip) self-excited series - 61 kVA

Engine Electrical Specifications

Engine Electrical System (12 Volt) 60 Hz

Battery charging alternator: Ground (negative/positive). Volts (DC)..... Ampere rating.....	 Negative V A
Starter motor rated voltage (DC)	V
Starter motor rated kW: Battery CCA rating: Battery & qty, AH rating:	Kw A x AH
Battery Voltage (DC)	12V

Engine Mechanical Specifications

Engine model	4TNV84T
Engine type	4-cycle, Turbocharged
Cylinder arrangement	4 in line
EPA Certification :	TIER 3
Displacement, L (cu. in.)	2.0 (122)
Bore and stroke, mm (in.)	84 x 90 (3.31 x 3.54)
Compression ratio	18.9 : 1
Piston speed, m/min. (ft./min.)	324 (1063)
Main bearings: quantity, type	5, replaceable insert
Rated rpm	1,800
Max. power at rated rpm, kWm (BHP)	27.7 (37.1)
BMEP, gross, psi (Bar)	134 (9.26)
Overall thermal efficiency	35.4%
Exhaust Gas Flow, m^3 /min (cfm) Exhaust gas temperature °C (°F)	7.96 (281.2) 560 (1040)
Frequency regulation, no-load to full load	4.5 %
Governor: Type: Make: Standard:	Mechanical Yanmar
Frequency regulation, steady state	±0.4%
Frequency	Fixed
Air cleaner type	Dry

Remote Radiator System

Exhaust manifold type	Not Available
Connection sizes:	
Water inlet ID hose, mm (in)	
Water outlet ID hose, mm (in)	
Charge air cooling (CAC)	
Water inlet ID hose, mm (in)	
Water outlet ID hose, mm (in)	
Static head allowable above engine, ft.H^2O (kPa)	
Maximum CAC restriction H^2O in.	

Fuel Consumption 60 Hz

Diesel gal/hr (L/hr)	Standby Rating
100%	2.06 (7.8)
75%	1.65 (6.2)
50%	1.24 (4.7)
25%	0.72 (2.7)
Diesel gal/hr (L/hr)	**Prime Power Rating**
100%	1.87 (7.1)
75%	1.50 (5.7)
50%	1.12 (4.2)
25%	0.65 (2.5)

Application Data

Cooling

Radiator Systems	60 Hz
Ambient temperature, °C (°F)	NA
Engine jacket water capacity L (gal)	3.2 (0.85)
Radiator system capacity, including engine, L (gal.)	NA
Engine jacket water flow, L/min (g/min)	34 (9.0)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	19.0 (1081)
Water pump type	Centrifugal
Fan, kWm (HP)	0.8 (1.1)
Max. restriction of cooling air, intake and discharge side of radiator, Pa (in. H^2O)	62.2 (0.25)
dB(A) LEVEL SOUND ATTENUATED ENCLOSED	58 dB(A) @ 23 feet

Lubrication

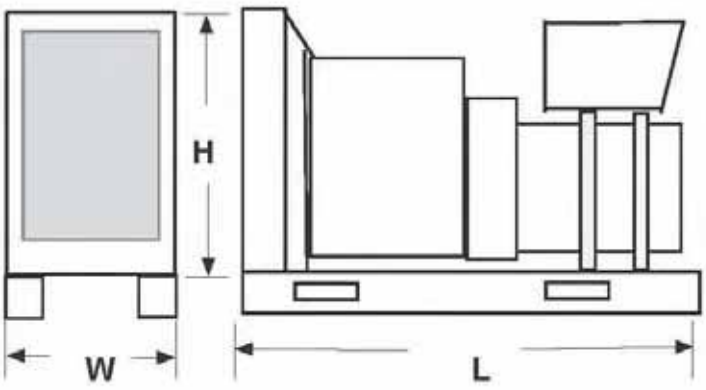
Lubricating System	60 Hz
Type	Full pressure
Oil pan capacity, L, (qt.) Recommended lube oil	7.4 (7.8) SAE15W40 ; API CF-4
Oil pan capacity with filter, L (qt.)	NA
Oil filter: quantity, type	1, cartridge
Oil cooler Maximum oil temperature, °C(°F)	Oil to water 120 (248)

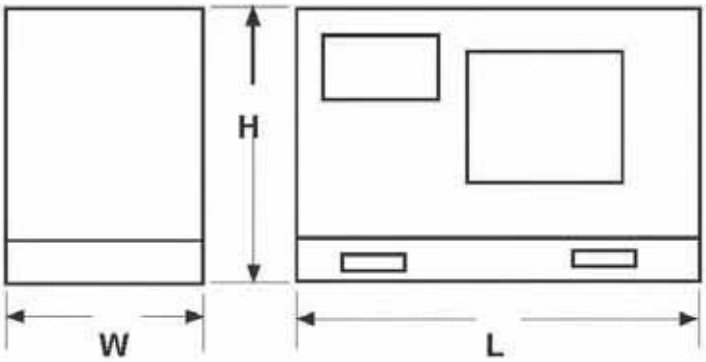
Ventilation and Air-Flow Requirements

Air Requirements	60 Hz
Radiator-cooled cooling air, m^3/min. (scfm)	NA
Air density kg/m^3 (ibm/ft^3)	1.20 (0.075)
Heat rejected to exhaust, kW (btu/min)	25.8 (1468)
Heat radiated to surrounding air Engine: kW (Btu)	5.2 (296)
Combustion air, m^3/min. (cfm)	2.34 (82.6)

Dimensions and Weights

Open Skid Model		Sound Attenuated Enclosure	
Overall size, L x W x H, mm (ins.)	1,700 x 620 x 1,280	Overall size, L x W x H, mm (ins.)	2,250 x 1100 x 1,340
	66.9 x 24.4 x 50.4		(88.6 x 43.3 x 52.8)
Weight, radiator-mounted model, wet, kg (lb.):	416 (917)	Weight, radiator-mounted model, wet, kg (lb.):	1,050 (2,315)
Fuel Tank Capacity, L (US gal)	64 (16.9)	Fuel Tank Capacity, L (US gal)	100 (26.4)





NOTE: The drawings above are only representative of the overall dimensions. For full detailed installation drawings please consult your local distributor

RATINGS: Power factor three-phase is 0.8 and single-phase unity. Standby Ratings: Standby ratings assume installation normally served by reliable utility power. The standby rating is available for varying loads for the length of the power outage. No overload is available with the standby rating. Ratings are in accordance with ISO-3046/1 and DIN 6271. Prime Power Ratings: Prime power ratings assume no or unreliable utility power. For varying loads the generator set has unlimited operating hours. A 10% overload capacity is available for any 1 hour in a 12 hour continous running period. Ratings are in acoordance with ISO-3046/1 and DIN 6271. ConsultTriton Powerfor limited running time and base load ratings. Triton Power reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. DERATION GUIDELINES: Altitude: Derate 1.3% per 100 m (328 ft) elevation above 1000 m (3280 ft). Temperature: Derate 1.0% per 10°C (18°F) temperature above 40°C (104°F).

5310

ELECTRONIC ENGINE COMPATIBLE AUTO-START MODULE

Issue 3
20/01/06 AH
055-019

FEATURES

- ***Can connect to 'Eco friendly' engine management systems of electronic engines providing engine protection and instrumentation without requiring additional senders.***
- ***Comprehensive remote communication via optional RS232 port. Provides RS232 Modem link to PC via either PSTN line or GSM network (using a suitable modem). The module can also signal engineers via their cell phones using the GSM SMS messaging system to advise of system alarms.***
- ***Optional RS485 'Modbus' output. Using industry standard communication protocol allows full system integration into new and existing building management and control schemes.***
- ***Engine diagnostic information removes the need for both service equipment and cryptic diagnostic lamp (when used in conjunction with electronic engines)***
- ***LCD 4-line text based display to provide 'at-a-glance' diagnosis of fault conditions, instrumentation and operating state.***
- ***Comprehensive PC configuration and status monitoring using 5xxx PC software.***
- ***PIN number protected front panel programming of selected trip points and timers, allows field changes to be made to the module settings.***
- ***Built in exercise timer.***
- ***'Sleep mode' to ensure very low battery power usage when in "Off" mode.***
- ***Multiple LCD languages (English, French, Spanish, German etc) possible.***
- ***Automatic and Manual operation modes.***
- ***Six configurable auxiliary inputs for connection to external fault detection equipment.***
- ***Three configurable outputs to meet demanding industry specifications***
- ***Integral load switch control capability.***

DESCRIPTION

The Model 5310 is an *Autostart Control Module.* The module is used to automatically start a generator set upon application of a remote signal or by manual control. The module also provides indication of operational status and fault conditions automatically shutting down the genset and indicating failures by means of an LCD display.

Alterations to the system are made using the 5xxx PC configuration software in conjunction with the 810 interface. This interface also provides real time diagnostic facilities.

Selected timers and alarms can be altered by the customer or site engineer via the front panel. This can be PIN code protected to prevent unauthorised access.

Easy push button control
Operation of the module is via pushbutton controls (with security locking facility) mounted on the front panel with STOP/RESET, AUTO, MANUAL and START pushbuttons. The first three pushbuttons feature LED 'selected' indications. Further pushbuttons provide LCD DISPLAY SCROLL, LAMP TEST and MUTE functions.

Microprocessor control
The module features 16-Bit microprocessor control and a comprehensive list of timers and pre-configured sequences. This allows demanding industry specifications to be achieved.

Accessed via the LCD DISPLAY SCROLL push-buttons, the 5310 module provides the following instrumentation displays:

Generator Instruments:
Volts, Hz, Amps, kW, kVA, cosθ

Engine Instruments:
RPM, Oil Pressure, Coolant Temperature, Hours Run, Charging voltage, Battery Volts.

Electronic Engines:
Enhanced instrumentation and Engine ECU diagnostics via electronic engine interface.

SPECIFICATION

DC Supply:
8V to 35V Continuous.

Cranking Dropouts:
Able to survive 0V for 50mS, providing supply was at least 10V before dropout and supply recovers to 5V. *This is achieved without the need for internal batteries.*

Max. Operating Current:
12V – 400mA
24V – 200mA

Sleep Mode Current:
12V – 70mA
24V – 45mA

Standby Current (when in auto):
12V – 230mA
24V – 120mA

Auxiliary Outputs 1-3:
Relay outputs 5A DC at supply voltage. Switches to battery negative when active.

Dimensions:
240mm x 172mm x 57mm
(9½" x 6¾" x 2¼")

Panel cutout:
220mm x 160mm
(8.7" x 6.3")

Operating Temperature Range:
-30°C to +70°C

Enclosure protection:
IP55 with optional gasket

Engine ECU interface:
CAN and RS485