

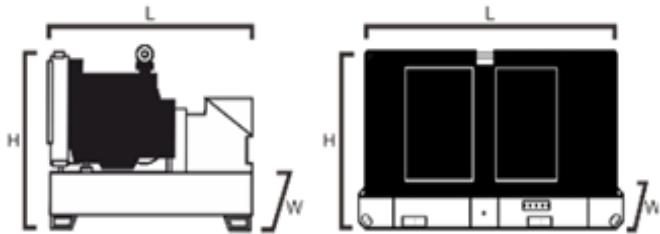
## Technical Data

| Engine         |             | Alternator              |               | Generator Model   |               |            |
|----------------|-------------|-------------------------|---------------|-------------------|---------------|------------|
| Quanchai N490D |             | Tide FPA18-166          |               | PC24X-QC / Silent |               |            |
| Frequency      | Phase       | Power Factor            |               |                   | Emissions     |            |
| 60Hz/1800rpm   | 3-Phase     | Factor Cos $\Phi$ = 0.8 |               |                   | N/A           |            |
| RATINGS        | Prime Power |                         | Standby Power |                   | Rated Current |            |
|                | (PRP)       |                         | (ESP)         |                   | Amps          |            |
| Voltage (V)    | kWe         | kVA                     | kWe           | kVA               | (A)           | L/h        |
| 380/220        | 19          | 24                      | 21            | 26                | 36,1          | 5,4        |
| 440/254        | 19          | 24                      | 21            | 26                | 31,2          | 5,4        |
| <b>220/127</b> | <b>19</b>   | <b>24</b>               | <b>21</b>     | <b>26</b>         | <b>62,3</b>   | <b>5,4</b> |
| 230/132        | 19          | 24                      | 21            | 26                | 59,6          | 5,4        |

### Key Features:



- High efficient water cooled diesel engine.
- Single bearing with brushless alternators (Class H, with AVR).
- Radiator with pressure cap and drain point.
- Fully guarded engine-driven fan.
- Fully welded steel skid base with lifting holes and fork lift legs.
- Integral fuel tank with filler cap and gauge ( $\leq 650$ kVA).
- Heavy duty rubber anti-vibration mountings.
- 12V or 24V maintenance free starter battery and connecting cables.
- Separate engine-driven battery charging alternator.
- Spin on oil and fuel filters and dry type air filter element.
- Industrial silencer (15dBA reduction) supplied loose.
- Auto start control system with LCD show.
- Battery charger provided.
- Main line 3P circuit breaker.
- Rigorous factory test wiring with IEC standard.
- Operation & Maintenance manual & Wiring diagrams.
- Wide range of optional extra features available.



| Dimensions & Weights | Silent    |
|----------------------|-----------|
| Length (L)-mm:       | 2150      |
| Width (W)-mm:        | 950       |
| Height (H)-mm:       | 1150      |
| Dry Weight-kg:       | 720       |
| Fuel tank-h          | 12        |
| (dBA)@7m no load     | $\leq 85$ |

### Ratings:

All three phase generator sets are rated at 0.8 power factor. All single-phase generator sets are rated at 0.8 or 1.0 power factor.

#### (1)PRP (Prime Power):

Available continuously at variable load in lieu of commercially purchased power for an unlimited number of hours per year accordance with ISO8528-1, and an overload of 10% permitted for one hour in every twelve hours of operation in accordance with ISO 3046-1.

#### (2)ESP (Standby Power):

Emergency Standby Power in variable load applications in accordance with ISO8528-1 in the event of a utility power failure.

#### (3)STD:Standard Alternator.

**Tide Power reserves the right to change the design or specifications without notice and without any obligation or liability.**

|  Engine       | Quanchai N490D                          |                            |          |    |
|---|---|----------------------------|----------|----|
| General Performance   | Frequency                               | Hz                         | 60       |    |
|   | Engine Speed                            | r/min                      | 1800     |    |
|   | Cylinders / Type                        | 4 cyl / in line / 4-stroke |          |    |
|   | Aspiration                              | Natural                    |          |    |
|   | Governor Type                           | Mechanical                 |          |    |
|   | Bore / Stroke                           | mm                         | 90 / 100 |    |
|   | Displacement                            | Litres                     | 2,544    |    |
|   | Compression Ratio                       | 18:1                       |          |    |
|   | Piston Speed                            | m/s                        | 6        |    |
| Fuel System   | Engine Power                            | kWm                        | 24       | 27 |
|   | Fuel Consumption at 110% Prime Power    | Litres/hour                | 6,0      |    |
|   | Fuel Consumption at 100% Prime Power    | Litres/hour                | 5,4      |    |
|   | Fuel Consumption at 75% Prime Power     | Litres/hour                | 4,2      |    |
|   | Fuel Consumption at 50% Prime Power     | Litres/hour                | 3,5      |    |
|   | Fuel Consumption at 25% Prime Power     | Litres/hour                | 2,1      |    |
| Oil System  | Standard Fuel Tank Capacity             | Hours                      | 12       |    |
|   | Total Oil System Capacity               | Litres                     | 6,5      |    |
|   | Low Oil Pressure Warning                | kPa                        | 650      |    |
|   | Low Oil Pressure Shutdown               | kPa                        | 100      |    |
| Cooling System  | Max. Permissible Oil Temperature        | °C                         | 115      |    |
|   | Coolant Capacity - Engine Only          | Litres                     | 4,1      |    |
|   | Coolant Capacity for Radiator           | Litres                     | 6,5      |    |
|   | Max. Permissible Temperature            | °C                         | 95       |    |
|   | Max. Coolant Warning Temperature        | °C                         | 100      |    |
| Intake & Exhaust System   | Standard Thermostat (Modulating) Range  | °C                         | 70-82    |    |
|   | Max. Intake Restriction                 | kPa                        | ≤4       |    |
|   | Max. Exhaust Back Pressure              | kPa                        | ≤10      |    |
| Electric System   | Max. Exhaust Temperature (Before Turbo) | °C                         | ≤550     |    |
|   | Electrical System Voltage               | V                          | 12       |    |
|  Alternator | 60Hz/1800rpm                            |                            |          |    |
|   | Manufacture / Brand                     | Tide                       |          |    |
| General Data  | Model                                   | FPA18-166                  |          |    |
|   | Coupling / No. of Bearings              | Direct / Single Bearing    |          |    |
|   | Phase / Poles                           | 3-Phase / 4-Pole           |          |    |
|   | Power Factor                            | Cos $\Phi$ = 0.8           |          |    |
|   | AVR Regulation                          | Yes                        |          |    |
|   | Voltage Regulation                      | ±1 %                       |          |    |
|   | Insulation Class                        | H                          |          |    |
|   | Drip Proof                              | IP23                       |          |    |
|   | Voltage Regulator                       | AVR                        |          |    |

## Tide Power Easycon Function Summary

### SMARTGEN HGM420N

**HGM420N:** used for automation of single unit, between genset and mairs controls generator to start/stop by remote start signal. AMF (Auto Mains Failure) and Mains/Gens automatic transfer control functions.



#### **Main characteristics are as below:**

132x64 LCD with backlight, selectable language interface (Chinese, English, Spanish, Turkish, Russian and French), push-button operation;

Improved LCD wear-resistance and scratch resistance due to hard screen acrylic;

Silicon panel and pushbuttons for better operation in high/low temperature environment;

Suitable for 3-phase 4-wire, 3-phase 3-wire, single phase 2-wire, and 2-phase 3-wire systems with voltage 120/240V and frequency 50/60Hz;

Collects and shows 3-phase voltage, 3-phase current, power parameter and frequency of generator or mains.

For Mains, controller has over voltage, under voltage and loss of phase detection functions; For generator, controller has over voltage, under voltage, over frequency, under frequency, over current and over power detection functions;

Precisely collect and display all parameters of engine;

Control and protection function: automatic start/stop of the genset, ATS (Auto Transfer Switch) control and perfect fault indication and protection function;

ETS (Energize To Stop), idle control, pre-heat control, speed raise control and speed drop control functions, and all output ports are relay outputs;

Parameter setting function: allows users to modify and set the parameters and meanwhile will be stored in internal FLASH and won't be lost even in case of power outage; all controller parameters can be adjusted on front panel of the controller or via USB interface on PC.

Multiplex input port 3 and 4 can be used in various occasions: input 3 can be used as auxiliary input port or fuel level sensor, while input 4 can be used as auxiliary input port or configurable sensor.

Multiple temperature, oil pressure, and fuel level sensors can be used directly, and parameters can be users-defined.

One configurable sensor: can be set to temperature sensor, oil pressure sensor or fuel level sensor, which enables the detection of double temperatures, double oil-pressures and double fuel levels.

Multiple crank disconnect conditions (magnetic pickup, oil pressure, generator) are optional;

Emergency start function;

Fly teeth auto-recognition function;

Wide power supply range: DC(8~35)V, which suitable for different starter battery voltage environments.

All parameters apply digital adjustment, instead of conventional analog modulation with normal potentiometer, improving the wholesome reliability and stability;

Maintenance function: types can be set to date or running time. Actions (warning, alarm shutdown) can also be set when maintenance time is out;

Event log function (max. 99 pieces of records), real-time clock, and schedule to start/stop generator function (start once monthly/weekly/daily on/off load can be set).

IP55 waterproofness with rubber-ring gasket between enclosure and screen;

Metal fixing clips are used to fix the controller;

Modular design, self-extinguished ABS plastic enclosure, pluggable connection terminals and embedded installation way; compact structure with easy mounting.