



MODEL  
**HSY-20 M6**  
HS | STATIONARY RANGE  
Standard soundproofing  
Powered by YANMAR

-  HS20
-  WATER-COOLED
-  SINGLE PHASE
-  60 HZ
-  DIESEL

## Generating Rates



| SERVICE               |         | PRP     | ESP  |
|-----------------------|---------|---------|------|
| Power                 | kVA     | 16,5    | 18,1 |
| Power                 | kW      | 16,5    | 18,1 |
| Rated Speed           | r.p.m.  | 1.800   |      |
| Main voltage          | V       | 240/120 |      |
| Rated at power factor | Cos Phi | 1       |      |

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HIMOINSA Company with quality certification ISO 9001

HIMOINSA gensets are compliant with EC mark which includes the following directives:

- 2006/42/CE Machinery safety.
- 2014/30/UE Electromagnetic compatibility.
- 2014/35/UE electrical equipment designed for use within certain voltage limits
- 2000/14/EC Sound Power level. Noise emissions outdoor equipment. (amended by 2005/88/EC)
- EN 12100, EN 13857, EN 60204

Ambient conditions of reference according to ISO 8528-1:2020 normative: 1000 mbar, 25°C, 30% relative humidity.

Limited-time running power (LTP):

According to Standard ISO 8528-1:2020, this is the maximum power available for a limited operating time of 500 Hours a year between the maintenance times recommended by the manufacturer under the environmental conditions established by the same.

Emergency Standby Power (ESP):

According to ISO 8528-1:2020, Emergency standby power is the maximum power available during a variable electrical power sequence, under the stated operating conditions, for which a generating set is capable of delivering in the event of a utility power outage or under test conditions for up to 200 h of operation per year with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. The permissible average power output over 24 h of operation shall not exceed 70 % of the ESP

"Class G2" performance according to the load impact test according to ISO 8528-5:2020

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**HIMOINSA**  
A YANMAR COMPANY

## Engine Specifications 1.800 r.p.m.

| ENGINE                              |       | PRP                                 | ESP  |
|-------------------------------------|-------|-------------------------------------|------|
| Rated Engine Output                 | kW    | 19,6                                | 21,6 |
| Manufacturer                        |       | YANMAR                              |      |
| Model                               |       | 4TNV88BGGEH6R                       |      |
| Engine Type                         |       | 4-stroke diesel                     |      |
| Injection Type                      |       | Direct                              |      |
| Aspiration Type                     |       | Natural                             |      |
| Number of cylinders and arrangement |       | 4-L                                 |      |
| Bore and Stroke                     | mm    | 88 x 90                             |      |
| Displacement                        | L     | 2,19                                |      |
| Cooling System                      |       | Water                               |      |
| Lube Oil Specifications             |       | SAE 3 class 10W30 / API grade CD,CF |      |
| Compression Ratio                   |       | 19,1                                |      |
| Lube oil consumption with full load | g/kWh | 0,27                                |      |
| Total oil capacity                  | L     | 7,4                                 |      |
| Total coolant capacity              | L     | 5,5                                 |      |
| Governor                            | Type  | Mechanical                          |      |
| Air Filter                          | Type  | Dry                                 |      |
| Inner diameter exhaust pipe         | mm    | 51,6                                |      |

## Generator

| Generator                      |       |                                |
|--------------------------------|-------|--------------------------------|
| Manufacturer                   |       | STAMFORD                       |
| Poles                          | No.   | 4                              |
| Connection type (standard)     |       | Double delta                   |
| Mounting type                  |       | S-4 7,5"                       |
| Insulation                     | Class | H class                        |
| Enclosure (according IEC-34-5) |       | IP23                           |
| Exciter system                 |       | Self-excited, brushless        |
| Voltage regulator              |       | A.V.R. (Electronic)            |
| Bracket type                   |       | Single bearing                 |
| Coupling system                |       | Flexible disc                  |
| Coating type                   |       | Standard (Vacuum impregnation) |

## Application Data

| Exhaust System                          |                     |      |  |
|-----------------------------------------|---------------------|------|--|
| Maximum exhaust temperature             | °C                  | 530  |  |
| Exhaust Gas Flow                        | m <sup>3</sup> /min | 5,59 |  |
| Maximum allowed back pressure           | mm H <sub>2</sub> O | 1300 |  |
| Exhaust Flange Size (external diameter) | mm                  | 60   |  |

| Necessary Amount Of Air |                   |        |  |
|-------------------------|-------------------|--------|--|
| Intake air flow         | m <sup>3</sup> /h | 106,43 |  |
| Cooling Air Flow        | m <sup>3</sup> /s | 0,987  |  |
| Alternator fan air flow | m <sup>3</sup> /s | 0,126  |  |

| Starting System     |     |     |  |
|---------------------|-----|-----|--|
| Starting power      | kW  | 1,4 |  |
| Starting power      | CV  | 1,9 |  |
| Recommended battery | Ah  | 92  |  |
| Auxiliary Voltage   | Vdc | 12  |  |

| Fuel System                |     |                       |  |
|----------------------------|-----|-----------------------|--|
| Fuel Oil Specifications    |     | Diesel                |  |
| Fuel Tank                  | L   | 115                   |  |
| Other fuel tank capacities | L   | 165, 215, 265, 460, 0 |  |
| Fuel Consumption ESP       | l/h | 5,95                  |  |
| Fuel Consumption 100% PRP  | l/h | 5,38                  |  |
| Fuel Consumption 70 % PRP  | l/h | 3,88                  |  |
| Fuel Consumption 50 % PRP  | l/h | 3                     |  |

## Dimensions



### Weight and Dimensions

|                                              |                |          |
|----------------------------------------------|----------------|----------|
| (L) Length                                   | mm             | 1.980    |
| (H) Height                                   | mm             | 1.270    |
| (W) Width                                    | mm             | 750      |
| Maximum shipping volume                      | m <sup>3</sup> | 1,89     |
| (*) Weight with liquids in radiator and sump | kg             | 655      |
| Fuel tank capacity                           | L              | 115      |
| Autonomy (70% PRP)                           | Hours          | 30       |
| Autonomy (100% PRP)                          | Hours          | 21       |
| Sound pressure level                         | dB(A)@7m       | 71 ± 2,4 |
| Sound pressure level with attenuation system | dB(A)@7m       | 68 ± 2,4 |

(\*) (with standard accessories)

HIMOINSA CHINA has the right to modify any feature without prior notice.

Weights and dimensions based on standard products. Illustrations may include optional equipment.

Technical data described in this catalogue correspond to the available information at the moment of printing.

Industrial design under patent.

STANDARD VERSION (Steel tank)

Local Distributor

## Dimensions of Other Available Versions

| Weight and Dimensions                        |                |          |
|----------------------------------------------|----------------|----------|
| (L) Length                                   | mm             | 1.980    |
| (H) Height                                   | mm             | 1.320    |
| (W) Width                                    | mm             | 750      |
| Maximum shipping volume                      | m <sup>3</sup> | 1,96     |
| (*) Weight with liquids in radiator and sump | kg             | Ask      |
| Fuel tank capacity                           | L              | 165      |
| Autonomy (70% PRP)                           | Hours          | 43       |
| Autonomy (100% PRP)                          | Hours          | 31       |
| Sound pressure level                         | dB(A)@7m       | 71 ± 2,4 |
| Sound pressure level with attenuation system | dB(A)@7m       | 68 ± 2,4 |
| (*) (with standard accessories)              |                |          |
| Weight and Dimensions                        |                |          |
| (L) Length                                   | mm             | 1.980    |
| (H) Height                                   | mm             | 1.370    |
| (W) Width                                    | mm             | 750      |
| Maximum shipping volume                      | m <sup>3</sup> | 2,03     |
| (*) Weight with liquids in radiator and sump | kg             | Ask      |
| Fuel tank capacity                           | L              | 215      |
| Autonomy (70% PRP)                           | Hours          | 55       |
| Autonomy (100% PRP)                          | Hours          | 40       |
| Sound pressure level                         | dB(A)@7m       | 71 ± 2,4 |
| Sound pressure level with attenuation system | dB(A)@7m       | 68 ± 2,4 |
| (*) (with standard accessories)              |                |          |
| Weight and Dimensions                        |                |          |
| (L) Length                                   | mm             | 1.980    |
| (H) Height                                   | mm             | 1.420    |
| (W) Width                                    | mm             | 750      |
| Maximum shipping volume                      | m <sup>3</sup> | 2,11     |
| (*) Weight with liquids in radiator and sump | kg             | Ask      |
| Fuel tank capacity                           | L              | 265      |
| Autonomy (70% PRP)                           | Hours          | 68       |
| Autonomy (100% PRP)                          | Hours          | 49       |
| Sound pressure level                         | dB(A)@7m       | 71 ± 2,4 |
| Sound pressure level with attenuation system | dB(A)@7m       | 68 ± 2,4 |
| (*) (with standard accessories)              |                |          |

OPTIONAL VERSION (Steel tank)

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## Dimensions of Other Available Versions

| Weight and Dimensions                        |                |          |
|----------------------------------------------|----------------|----------|
| (L) Length                                   | mm             | 1.980    |
| (H) Height                                   | mm             | 1.620    |
| (W) Width                                    | mm             | 750      |
| Maximum shipping volume                      | m <sup>3</sup> | 2,41     |
| (*) Weight with liquids in radiator and sump | kg             | 851      |
| Fuel tank capacity                           | L              | 460      |
| Autonomy (70% PRP)                           | Hours          | 119      |
| Autonomy (100% PRP)                          | Hours          | 86       |
| Sound pressure level                         | dB(A)@7m       | 71 ± 2,4 |
| Sound pressure level with attenuation system | dB(A)@7m       | 68 ± 2,4 |

(\*) (with standard accessories)

OPTIONAL VERSION (Steel tank)

| Weight and Dimensions                        |                |          |
|----------------------------------------------|----------------|----------|
| (L) Length                                   | mm             | 1.980    |
| (H) Height                                   | mm             | 1.120    |
| (W) Width                                    | mm             | 750      |
| Maximum shipping volume                      | m <sup>3</sup> | 1,66     |
| (*) Weight with liquids in radiator and sump | kg             | Ask      |
| Sound pressure level                         | dB(A)@7m       | 71 ± 2,4 |
| Sound pressure level with attenuation system | dB(A)@7m       | 68 ± 2,4 |

(\*) (with standard accessories)

OPTIONAL VERSION (Steel tank)

## CONTROL PANEL MODEL

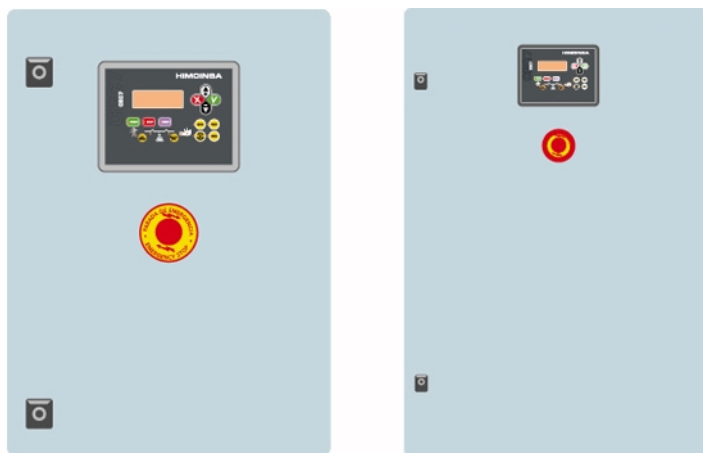
### AS7

Automatic control panel *WITHOUT* Transfer Switch and *WITHOUT* mains control with M7X unit. Digital control unit M7X



### CC2

Himoinsa Switching cabinet *WITH* display. Digital control unit CEC7



### AS7 + CC2

Automatic control panel *WITH* transfer switch and *WITH* mains control. The display will be on the genset and on the cabinet. Digital control unit M7X+CEC7



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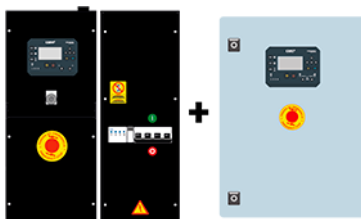
### AS5

Automatic panel **WITHOUT** transfer switch and **WITHOUT** mains control with CEM8 unit. (\*) AS5 as optional with CEA8 unit. Automatic panel without transfer switch and **WITH** mains control. Digital control unit CEM8 CEA8



### AS5 + CC2

Automatic panel **WITH** transfer switch and with mains control. The display will be on the genset and on the cabinet. Digital control unit CEM8+CEC8



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## Controller features (I)

- : Standard
- x : Not included
- : Optional

| Generator Readings                 | M7X | CEC 7 | M7X+CEC7 | CEM 8 |
|------------------------------------|-----|-------|----------|-------|
| Voltage between phases             | •   | •     | •        | •     |
| Voltage between neutral and phase  | •   | •     | •        | •     |
| Current intensities                | •   | •     | •        | •     |
| Frequency                          | •   | •     | •        | •     |
| Apparent power (Kva)               | •   | •     | •        | •     |
| Active power (Kw)                  | •   | •     | •        | •     |
| Reactive power (kVAr)              | •   | •     | •        | •     |
| Power factor                       | •   | •     | •        | •     |
| Mains Readings                     | M7X | CEC 7 | M7X+CEC7 | CEM 8 |
| Voltage between phases             | x   | •     | •        | x     |
| Voltage between phases and neutral | x   | •     | •        | x     |
| Current intensities                | x   | •     | •        | x     |
| Frequency                          | x   | •     | •        | x     |
| Apparent power                     | x   | x     | x        | x     |
| Active power                       | x   | x     | x        | x     |
| Reactive power                     | x   | x     | x        | x     |
| Power factor                       | x   | x     | x        | x     |
| Engine Readings                    | M7X | CEC 7 | M7X+CEC7 | CEM 8 |
| Coolant temperature                | •   | x     | •        | •     |
| Oil pressure                       | •   | x     | •        | •     |
| Fuel level (%)                     | •   | x     | •        | •     |
| Battery voltage                    | •   | x     | •        | •     |
| R.P.M.                             | •   | x     | •        | •     |
| Battery charge alternator voltage  | •   | x     | •        | •     |
| Engine Protections                 | M7X | CEC 7 | M7X+CEC7 | CEM 8 |
| High water temperature             | •   | x     | •        | •     |
| High water temperature by sensor   | •   | x     | •        | •     |
| Low water temperature by sensor    | •   | x     | •        | •     |
| Low oil pressure                   | •   | x     | •        | •     |
| Low oil pressure by sensor         | •   | x     | •        | •     |
| Low water level                    | •   | x     | •        | •     |
| Unexpected shutdown                | •   | x     | •        | •     |

## Controller features (II)

- : Standard
- x : Not included
- : Optional

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| Engine Protections                | M7X | CEC 7 | M7X+CEC7 | CEM 8 |
|-----------------------------------|-----|-------|----------|-------|
| Fuel storage                      | •   | x     | •        | •     |
| Fuel storage by sensor            | •   | x     | •        | •     |
| Stop failure                      | •   | x     | •        | •     |
| Battery voltage failure           | •   | x     | •        | •     |
| Battery charge alternator failure | •   | x     | •        | •     |
| Overspeed                         | •   | x     | •        | •     |
| Underspeed                        | •   | x     | •        | •     |
| Start failure                     | •   | x     | •        | •     |
| Emergency stop                    | •   | •     | •        | •     |
| Alternator Protections            | M7X | CEC 7 | M7X+CEC7 | CEM 8 |
| High frequency                    | •   | •     | •        | •     |
| Low frequency                     | •   | •     | •        | •     |
| High voltage                      | •   | •     | •        | •     |
| Low voltage                       | •   | •     | •        | •     |
| Short-circuit                     | •   | x     | •        | •     |
| Asymmetry between phases          | •   | •     | •        | •     |
| Incorrect phase sequence          | •   | •     | •        | •     |
| Inverse power                     | •   | x     | •        | •     |
| Overload                          | •   | x     | •        | •     |
| Genset signal drop                | •   | •     | •        | •     |
| Counters                          | M7X | CEC 7 | M7X+CEC7 | CEM 8 |
| Total hour counter                | •   | •     | •        | •     |
| Partial hour counter              | •   | •     | •        | •     |
| Kilowatt meter                    | •   | •     | •        | •     |
| Starts valid counters             | •   | •     | •        | •     |
| Starts failure counters           | •   | •     | •        | •     |
| Maintenance                       | •   | •     | •        | •     |
| Communications                    | M7X | CEC 7 | M7X+CEC7 | CEM 8 |
| RS232                             | x   | •     | •        | x     |
| RS485                             | x   | •     | •        | •     |
| Modbus IP                         | x   | •     | •        | •     |
| Modbus                            | x   | •     | •        | •     |

## Controller features (III)

- : Standard
- x : Not included
- : Optional

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| Communications                      | M7X     | CEC 7   | M7X+CEC7 | CEM 8 |
|-------------------------------------|---------|---------|----------|-------|
| CCLAN                               | x       | x       | x        | •     |
| Software for PC                     | x       | •       | •        | •     |
| Analogue modem                      | x       | •       | •        | •     |
| GSM/GPRS modem                      | x       | •       | •        | x     |
| Remote screen                       | x       | x       | x        | •     |
| Tele signal                         | x       | x       | x        | •     |
| J1939                               | • M7XJ  | x       | • M7XJ   | •     |
| Features                            | M7X     | CEC 7   | M7X+CEC7 | CEM 8 |
| Alarm history                       | • (100) | • (100) | • (100)  | •     |
| External start                      | •       | •       | •        | •     |
| Start inhibition                    | •       | •       | •        | •     |
| Mains failure start                 | x       | •       | •        | x     |
| Start under normative EJP           | •       | x       | •        | •     |
| Pre-heating engine control          | •       | x       | •        | •     |
| Genset contactor activation         | •       | •       | •        | •     |
| Mains & Genset contactor activation | x       | •       | •        | x     |
| Fuel transfer control               | •       | x       | •        | •     |
| Engine temperature control          | •       | x       | •        | •     |
| Manual override                     | •       | x       | •        | •     |
| Programmable alarms                 | •       | x       | •        | •     |
| Genset start function in test mode  | •       | •       | •        | •     |
| Programmable outputs                | •       | x       | •        | •     |
| Multilingual                        | x       | •       | •        | •     |
| Special Functions                   | M7X     | CEC 7   | M7X+CEC7 | CEM 8 |
| GPS Positioning                     | x       | x       | x        | x     |
| Synchronisation                     | x       | x       | x        | x     |
| Mains synchronization               | x       | x       | x        | x     |
| Second Zero elimination             | x       | x       | x        | x     |
| RAM7                                | x       | x       | x        | •     |
| Remote screen                       | x       | x       | x        | •     |

## Generator set features

### Engine

- Diesel engine
- 4-stroke cycle
- Water-cooled
- 12V electrical system
- Dry air filter
- Radiator with pusher fan
- Mechanical governor
- Hot parts protection
- Moving parts protection

### Alternator

- Self-excited and self-regulated
- IP23 protection
- H class insulation

### Electrical system

- Electric control and power panel with measurements devices and control unit (according to necessity and configuration)
- Adjustable earth leakage protection
- Leakage detector
- Battery charger (standard on gensets with automatic control panels)
- Heating resistor (standard on sets with automatic control panels)
- Battery charger alternator with ground connection
- Starter battery/ies installed (cables and bracket included)
- Ground connection electrical installation with connection ready for ground spike (not supplied)
- Optional :
  - Battery Switch
  - Optional Battery (Optima)

### Soundproofed version

- Steel chassis
- Lower power cable outlet with aluminum cover
- Side auxiliary cable outlet with aluminum cover
- Modular tank and retention tray system. Allows easy removal and / or maintenance of the equipment
- Wide access to the engine compartment because of a removable door

## Generator set features

### Soundproofed version

- Fuel tank in retention tray
- Soundproofing with foam and polyurethane film
- 4 side lifting points
- Anti-vibration shock absorbers
- Fuel tank
- Fuel level gauge
- External emergency stop switch
- Bodywork made from high quality steel plate
- High mechanical strength
- Epoxy polyester powder coating
- Full access for maintenance (water, oil and filters, no need to remove the canopy)
- Versatility to assemble a high capacity chassis with a metallic fuel tank
- IP Protection according to ISO 8528-13:2016
- Optional :
  - Manual oil extraction pump
  - Noise reduction kit
  - Retention Tray
  - Manual oil drain pump
  - Fuel transfer pump

## PDF Summary

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