



MODEL  
**HSY-20 T6**  
HS | STATIONARY RANGE  
Standard soundproofing  
Powered by YANMAR

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

## Generating Rates



| SERVICE               |         | PRP                                             | ESP  |
|-----------------------|---------|-------------------------------------------------|------|
| Power                 | kVA     | 21                                              | 23   |
| Power                 | kW      | 17                                              | 18,4 |
| Rated Speed           | r.p.m.  | 1.800                                           |      |
| Main voltage          | V       | 480/277                                         |      |
| Available Voltages    | V       | 208/120 - 220/127 - 380/220 - 416/240 - 440/254 |      |
| Rated at power factor | Cos Phi | 0,8                                             |      |

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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 ISO 8528-1:2020, Prime power is the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year under the agreed operating conditions with the maintenance intervals and procedures being carried out as prescribed by the manufacturer. The permissible average power output (Ppp) over 24 h of operation shall not exceed 70 % of the PRP.

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

**HIMOINSA HEADQUARTERS:**

Fábrica: Ctra. Murcia - San Javier, Km. 23,6 | 30730 SAN JAVIER (Murcia) Spain  
Tel.+34 968 19 11 28 Fax +34 968 19 12 17 Fax +34 968 19 04 20 | info@himoinsa.com | www.himoinsa.com

**Manufacture facilities:**

SPAIN • FRANCE • INDIA • CHINA • USA • BRAZIL • ARGENTINA

**Subsidiaries:**

PORTUGAL | POLAND | GERMANY | UK | SINGAPORE | UAE | PANAMA | DOMINICAN REPUBLIC | ARGENTINA | ANGOLA | SOUTH AFRICA



HIMOINSA CHINA CO. LTD - TLF. +86 519 8622 66 88 | FAX: +86 519 86 22 66 87 | E-mail: china@asia.himoinsa.com  
N° 10 FENGMIN ROAD, SOUTH PART OF WUJIN, HI-TECH INDUSTRIAL DEVELOPMENT ZONE  
CHANGZHOU 213164 JIANGSU PROVINCE P.R. CHINA

**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                               |       | 4TNV88BGGEH                         |      |
| 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                      |       | Coolant                             |      |
| 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)     |       | Star-series                    |
| 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



| HS20 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             | 640      |
| 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             | Ask      |
| 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



### 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



+



### AS5

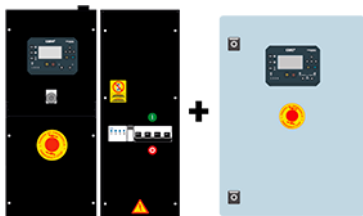
Automatic panel *WITHOUT* transfer switch and *WITHOUT* mains control with CEM8 unit. (\*) AS5 as optional with CEA8 unit. Automatic panel without transfer switch and *WITH* mains control. Digital control unit CEM8 CEA8



## CONTROL PANEL MODEL

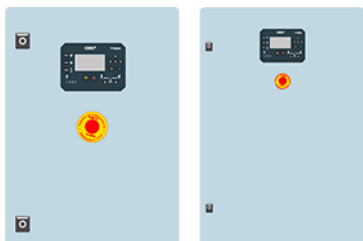
### AS5 + CC2

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



### CC2

Himoinsa Switching cabinet WITH display. Digital control unit CEC8



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## Controller features (I)

- : Standard
- x : Not included
- : Optional

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| 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
- 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
- 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
  - Leakage detector
  - 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
- Fuel tank in retention tray

## Generator set features

### Soundproofed version

- 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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Page 1. Genset data

Page 2. Engine Specifications. Generator Specifications.

Page 3. Installation Data

Page 4. Dimensions

Page 5. Dimensions of Other Available Versions

Page 6. Dimensions of Other Available Versions

Page 7. Control Panel Model

Page 8. Control Panel Model

Page 9. Controller features (I)

Page 10. Controller features (II)

Page 11. Controller features (III)

Page 12. Generator Features & Options

Page 13. Generator Features & Options

Page 14. PDF Summary

