

# GENERATING SET GE 45 YSC

The images are for reference



## FEATURES

- Automatic voltage regulation AVR with three-phase sensing
- The rounded edges of the canopy designed for rainwater drainage away
- Bundled base suitable to contain any liquids leakage from engine avoiding environmental pollution
- External caps for oil and water drain
- Engine cowling side, can be completely opened, which facilitates all maintenance operations
- Central lifting eye
- Control panel with digital control unit
- The forklifts handling is possible from all sides
- Meets EC directives for noise and safety



water cooled



diesel



three-phase power



electric



silenced

| POWER RATINGS                |                                 |
|------------------------------|---------------------------------|
| * Stand-By three-phase power | 44 kVA (35,2 kW) / 400V / 63,5A |
| * PRP three-phase power      | 40 kVA (32 kW) / 400V / 57,7A   |
| * PRP single-phase power     | 15.5 kVA / 230V / 67.4 A        |
| * COP three-phase power      | /                               |
| Frequency                    | 50 Hz                           |
| Cos φ                        | 0.8                             |

\* Output powers according to ISO 8528-1

## DEFINITION

Valid declared powers up to the followings environmental conditions: temperature 25°C, altitude 100 meters above sea level

**LTP power: stand-by power:** Maximum available power for use with variable loads for a yearly number of hours limited at 500 h. No overload is admitted.

**PRP power:** continue power with variable loads. Maximum power for use with variable loads for a yearly illimited nubers of hours.

**COP power:** continuous power with constant load. Maximum power for use with constant loads for a yearly unlimited numbers of hours.

## ENGINE 1500 RPM

| 4 STROKE, DIRECT INJECTION, TURBOCHARGED         |                                  |
|--|----------------------------------|
| Model  | YANMAR 4TNV98T                   |
| * Stand-By net power                             | 41.9 kW (57 hp)                  |
| * PRP net power                                  | 37.9 kW (51.5 hp)                |
| * COP net power                                  | /                                |
| Cylinders / Displacement                         | 4/ 3.3. lit.                     |
| Bore / Stroke                                    | 98 / 110 (mm)                    |
| Compression ratio                                | 18.5 : 1                         |
| BMEP (Brake Mean Effective Pressure : LTP - PRP) | /                                |
| Speed governor type                              | Mechanical                       |
| <b>FUEL CONSUMPTION</b>                          |                                  |
| 110 % (Stand-by power)                           | 11 lit./h                        |
| 100 % to PRP                                     | 9.8 lit./h                       |
| 75 % to PRP                                      | 7.4 lit./h                       |
| 50 % to PRP                                      | 5.1 lit./h                       |
| <b>COOLING SYSTEM</b>                            |                                  |
| Total system cap. - only engine                  | 9 lit. - 4.2 lit.                |
| Fan air flow                                     | 70 m <sup>3</sup> /min           |
| <b>LUBRICATION SYSTEM</b>                        |                                  |
| Total oil system capacity                        | /                                |
| Oil capacity in sump                             | 4.5 lit. (min) - 11.2 lit. (max) |
| Oil consumption at full load                     | /                                |

\* Output powers according to ISO 3046-1

|                                   |                         |
|-----------------------------------|-------------------------|
| <b>EXHAUST SYSTEM</b>             |                         |
| Maximum exhaust gas flow          | /                       |
| Max. exhaust gas temp.            | 620 °C                  |
| Maximum back pressure             | 9.8 kPa (0.1 bar)       |
| External diameter exhaust pipe    | /                       |
| <b>ELECTRICAL SYSTEM</b>          |                         |
| Starter motor power               | 2.3 kW                  |
| Battery charging alternator cap.  | 40 A                    |
| Cold start                        | - 15 °C                 |
| With cold start aid               | /                       |
| <b>AIR FILTER</b>                 |                         |
| Combustion air flow               | 3.2 m <sup>3</sup> /min |
| <b>HEAT REJECTED AT FULL LOAD</b> |                         |
| To exhaust system                 | /                       |
| To water and oil                  | /                       |
| Radiated to room                  | /                       |
| To charge cooler                  | /                       |



## ALTERNATOR

| SYNCHRONOUS, THREE-PHASE, SELF-EXCITED, SELF-REGULATED, BRUSHLESS |                           |
|---|---------------------------|
| Continuous power  | 42 kVA                    |
| Stand-by power  | 47 kVA                    |
| Three phase voltage   | 380-415 Vac               |
| Frequency   | 50 Hz                     |
| Cos φ   | 0.8                       |
| Model A.V.R.  | HVR-30 (3ph.sensing)      |
| Voltage regulation acc.   | ± 1.0 %                   |
| Sustained short circuit current                                   | 3 In                      |
| Transient dip (100% load)   | 10 %                      |
| Recovery time   | ≤ 3 sec.                  |
| Efficiency at 100% load   | 89.3 % (400V - Cos φ 0.8) |
| Insulation  | Class H                   |
| Connection - Terminals  | Star - N°12               |
| Electromagnetic compatibility (R.F.I. suppr.)                     | EN 55011                  |
| Waveform distorsion - THD   | < 3 %                     |
| Telephone interference - THF                                      | /                         |

| REACTANCES (30 kVA - 400V)       |                            |
|----------------------------------|----------------------------|
| Direct axis synchronuos - Xd     | 253 %                      |
| Direct axis transient - X'd      | 20 %                       |
| Subdirect axis transient - X''d  | 8 %                        |
| Quadrature axis synchronuos - Xq | 141 %                      |
| Quadr. axis subtransient - X''q  | /                          |
| Negative sequence - X2           | /                          |
| Zero sequence - X0               | /                          |
| TIME CONSTANTS                   |                            |
| Transient - T'd                  | 0.014 sec                  |
| Subtransient - T''d              | 0.008 sec                  |
| Open circuit - T'do              | 0.180 sec                  |
| Armature - Ta                    | /                          |
| Short-circuit ratio Kcc          | 0.60                       |
| Cooling air flow                 | 0.13 m³/sec.               |
| Coupling   Bearing               | Direct SAE 3 -11.5 ½ - N°1 |

## GENERAL SPECIFICATIONS

|                           |              |
|---------------------------|--------------|
| Fuel tank capacity        | 55 lt.       |
| Running time (75% to PRP) | 7.5 h        |
| Starter battery           | 12 Vdc -80Ah |
| IP protection degree      | IP 23        |

|  |                          |
|--|--------------------------|
| * Measured acoustic power LwA (pressure LpA)   | 95 dB(A) (70 dB(A) @ 7m) |
| * Guaranteed acoustic power LwA (pressure LpA) | 97 dB(A) (72 dB(A) @ 7m) |
| Performance class (ISO 8528)                   | G2                       |

\* Acoustic power according to European Directive 2000/14/CE

## AUTOMATIC CONTROL PANEL

- Controller InteliNano Plus
- Controller supply switch
- Battery charge warning light fault
- Emergency stop button
- TCM 35 remote control plug
- Connection terminal-board PAC (ATS) (Automatic control panel only)
- Battery charger (Automatic control panel only)
- Circuit breaker - ELCB-GFI (Ground Fault Interruptor)
- Circuit breaker
- Power terminal-board
- Earth terminal (PE)

| INTELINANO PLUS CONTROLLER CHARACTERISTICS |  |
|--|--|
| Operating mode                             | <ul style="list-style-type: none"> <li>• MAN.- AUTO</li> </ul>   |
| Display                                    | <ul style="list-style-type: none"> <li>• Graphic back-light LCD display 128x64 pixels</li> </ul>   |
| LEDs                                       | <ul style="list-style-type: none"> <li>• Engine operation</li> <li>• AUTO operating mode</li> <li>• Alarm</li> </ul>   |
| Buttons                                    | <ul style="list-style-type: none"> <li>• START button</li> <li>• STOP button</li> <li>• AUTO button</li> <li>• N° 2 buttons for controller programming</li> </ul>  |
| Generator Measures                         | <ul style="list-style-type: none"> <li>• Voltage : L1-L2/L2-L3/L3-L1/N-L1/N-L2/N-L3</li> <li>• Voltage : L1-L2 (Automatic control panel only)</li> <li>• Current : I1</li> <li>• Powers : kVA</li> <li>• Frequency</li> </ul>  |
| Engine Measures                            | <ul style="list-style-type: none"> <li>• Water temperature (optional)</li> <li>• Oil pressure (optional)</li> <li>• Fuel level</li> <li>• Rpm meter</li> <li>• Battery voltage</li> <li>• Maintenance</li> <li>• Hours meter</li> </ul>  |
| Generator Protections                      | <ul style="list-style-type: none"> <li>• Short circuit</li> <li>• Over-Undervoltage</li> <li>• Over-Underfrequency</li> <li>• Phase sequence (Automatic control panel only)</li> </ul>   |
| Engine Protections                         | <ul style="list-style-type: none"> <li>• Overspeed</li> <li>• High water temperature alarm</li> <li>• High water temperature warning</li> <li>• Low oil pressure warning</li> <li>• Low fuel level warning</li> <li>• Under battery voltage</li> <li>• Battery charge alternator failure</li> <li>• Start failure</li> <li>• Stop failure</li> <li>• Emergency stop</li> </ul> |

|  |  |
|--|--|
| AMF functions (Automatic control panel only) | <ul style="list-style-type: none"> <li>• Measure mains voltage : L1-L2 / L2-L3 / L3-L1 - N-L1 / N-L2 / N-L3</li> <li>• Measure mains frequency</li> <li>• Three phase detection</li> <li>• Over-Under mains voltage</li> <li>• Over-Under mains frequency</li> <li>• Phase sequence</li> </ul>   |
| Features                                     | <ul style="list-style-type: none"> <li>• Event log and alarms (10 events)</li> <li>• Operator interface with icons, no text</li> <li>• Remote Start and Stop</li> <li>• Pre-heating</li> <li>• Fully programmable from the panel or from PC</li> <li>• Direct connection to engines with ECU via Can bus J1939</li> <li>• Manual operation (MRS) with remote start</li> <li>• IP65 protection</li> <li>• Operation temperature: -20°C / +70°C</li> </ul> |
| Communication                                | <ul style="list-style-type: none"> <li>• Setup USB port</li> <li>• CAN BUS interface (J1939 only)</li> </ul>   |

| CONTROL PANEL VERSION WITH OUTPUT SOCKETS            |   |
|--|---|
| <b>SOCKETS</b>                                       | <ul style="list-style-type: none"> <li>1x 400V 63A 3P+T CEE</li> <li>1x 400V 32A 3P+T CEE</li> <li>1x 400V 16A 3P+T CEE</li> <li>1x 230V 16A 2P+T CEE</li> <li>1x 230V 16A 2P+T SCHUKO</li> </ul> |
| Every socket is protected by its own circuit breaker |   |

# WEIGHT - DIMENSIONS AND ACCESSORIES

GE 45 YSC



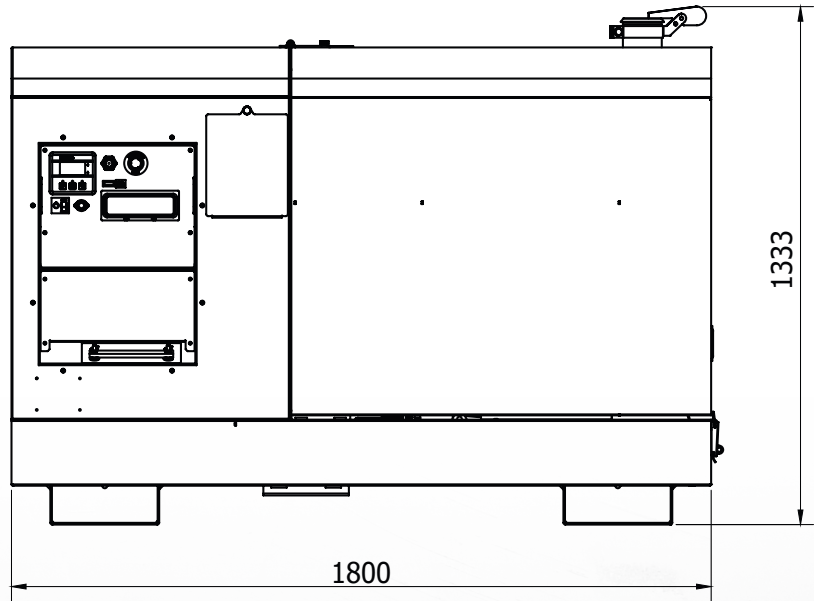
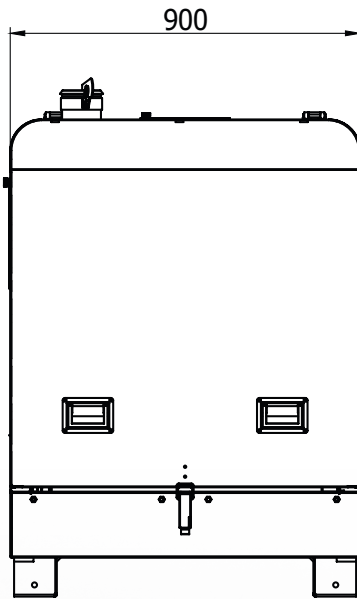
### DRY WEIGHT MACHINE:

- 880 Kg

Generating set pictured may include optional accessories.



### DIMENSIONS DRAW



### OPTIONS ON REQUEST

- Automatic transfer switch unit (ATS) PAC 42-M (60A)
- Remote control TCM35
- Site tow
- Earthing kit



### VERSIONS ON REQUEST

- Manual digital control panel with sockets CEE and SCHUKO
- Digital control panel (without sockets)



### FACTORY INSTALLATION OPTIONS

- Gauges - water temperature and oil pressure
- 100 litre internal tank
- Main battery switch
- Isometer
- Engine water heater
- Radio control

## GENERAL INFORMATION

### COMPLIANCE GENERATING SETS WITH EC DIRECTIVES AND STANDARDS

- 2006/42 / EC (Machines Directive)
- 2014/35 / EU (Low Voltage Directive)
- 2014/30 / EU (EMC Directive)
- 2000/14 / EC (Directive Acoustic Emission for machines for use outdoors)
- ISO 8528 (Reciprocating internal combustion engine driven alternating current generating sets)



ISO 9001:2015 - Cert. 0192

### WARRANTY

All devices are covered by the manufacturer's warranty.

The company reserves the right to change this specification without notice. For further information please contact the sales department.

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