

GENERATING SET GE 20 YSX

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
- Bunded base suitable to contain any liquids leakage from engine avoiding environmental pollution
- External caps for oil and water drain
- Large doors for better and easy maintenance (air, oil, fuel filters replacement)
- Central lifting eye
- Forklift pockets
- Ready for connection to automatic transfer unit EAS
- Meets EC directives for noise and safety



POWER RATINGS

	THREE-PHASE	SINGLE-PHASE
* Stand-By three-phase power	20 kVA (16 kW) 400V / 28.9 A	20 kVA (16 kW) / 230V - 115V / 86.9 A - 173.9A
* PRP three-phase power	18 kVA (14.4 kW) 400V / 26 A	18 kVA (14.4 kW) / 230V - 115V / 78.3 A - 156.5A
* PRP single-phase power	7 kVA / 230V / 30.4A	
* COP single-phase power	/	
Frequency	50 Hz	
Cos φ	0.8	

* Output powers according to ISO 8528-1

ENGINE 1500 RPM

4 STROKE, DIRECT INJECTION, NATURAL ASPIRATED

Model	YANMAR 4TNV88
* Stand-By net power	18 kW (24.5 hp)
* PRP net power	16.4 kW (22.3 hp)
* COP net power	/
Cylinders / Displacement	4/ 2.19 lit.
Bore / Stroke	88 / 90 (mm)
Compression ratio	20 : 1
BMEP (Brake Mean Effective Pressure : LTP - PRP)	/
Speed governor type	Mechanical
FUEL CONSUMPTION	
110 % (Stand-by power)	5 lit./h
100 % to PRP	4.5 lit./h
75 % to PRP	3.4 lit./h
50 % to PRP	2.6 lit./h
COOLING SYSTEM	
Total system cap. - only engine	2.7 lit.
Fan air flow	50 m³/min
LUBRICATION SYSTEM	
Total oil system capacity	/
Oil capacity in sump	3.4 lit. (min) - 7.4 lit. (max)
Oil consumption at full load	/

* Output powers according to ISO 3046-1

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.

EXHAUST SYSTEM	
Maximum exhaust gas flow	/
Max. exhaust gas temp.	520 °C
Maximum back pressure	9.8 kPa (0.1 bar)
External diameter exhaust pipe	/
ELECTRICAL SYSTEM	
Starter motor power	1.4 kW
Battery charging alternator cap.	40 A
Cold start	- 15 °C
With cold start aid	/
AIR FILTER	
Combustion air flow	1.48 m³/min
HEAT REJECTED AT FULL LOAD	
To exhaust system	/
To water and oil	/
Radiated to room	/
To charge cooler	/

ALTERNATOR

SYNCHRONOUS, THREE-PHASE, SELF-EXCITED, SELF-REGULATED, BRUSHLESS		
	THREE-PHASE	SINGLE-PHASE
Continuous power	20 kVA	20 kVA
Stand-by power	23 kVA	22 kVA
Three phase voltage	380-415 Vac	220-240V / 110-120V
Frequency	50 Hz	50 Hz
Cos φ	0.8	0.8
Model A.V.R.	HVR-30 (3ph. sensing)	HVR-11
Voltage regulation acc.	± 1.0 %	± 1.0 %
Sustained short circuit current	2.5 In	2.5 In
Transient dip (100% load)	10 %	10 %
Recovery time	≤ 3 sec.	≤ 3 sec.
Efficiency at 100% load	86.1 % (400V - Cos φ 0.8)	87.1 % (230V - Cos φ 0.8)
Insulation	Class H	Class H
Connection - Terminals	Star - N°12	ZIG ZAG - N°12
Electromagnetic compatibility (R.F.I. suppr.)	EN 55011	EN 55011
Waveform distortion - THD	< 3 %	< 3 %
Telephone interference - THF	/	/

REACTANCES (20 kVA - 400V)		
REACTANCES (20 kVA - 230V ~1)		
Direct axis synchronous - X _d	242 %	243 %
Direct axis transient - X' _d	19 %	19 %
Subdirect axis transient - X'' _d	9 %	8 %
Quadrature axis synchronous - X _q	133 %	135 %
Quadr. axis subtransient - X'' _q	/	/
Negative sequence - X ₂	/	/
Zero sequence - X ₀	/	/
TIME CONSTANTS		
Transient - T' _d	0.007 sec	0.01 sec
Subtransient - T'' _d	0.005 sec	0.005 sec
Open circuit - T' _{do}	0.103 sec	0.125 sec
Armature - T _a	/	/
Short-circuit ratio K _{cc}	0.57	0.58
Cooling air flow	0.1 m³/sec.	0.1 m³/sec.
Coupling I Bearing	Direct SAE 4 - 7 ½ - N°1	Direct SAE 4 - 7 ½ - N°1

GENERAL SPECIFICATIONS

Fuel tank capacity	100 lt.
Running time (75% to PRP)	29.5 h
Starter battery	12 Vdc - 74Ah
IP protection degree	IP 44

* Measured acoustic power L _{WA} (pressure L _{pA})	88 dB(A) (63 dB(A) @ 7 m)
* Guaranteed acoustic power L _{WA} (pressure L _{pA})	89 dB(A) (64 dB(A) @ 7m)
Performance class (ISO 8528)	G2

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

CONTROL PANEL

- Controller EP6
- Fuel level gauge
- Siren
- Emergency stop button
- Local-Remote Start switch
- EAS plug
- TCM 35 remote control plug
- Voltmeter switch 0 - RS - ST - TR
- Four pole earth leakage with integral over-current circuit breaker - 30mA
- Output sockets: 1x 400V 32A 3P+N+T CEE
1x 400V 16A 3P+N+T CEE
2x 230V 16A 2P+T SCHUKO
- Circuit breakers for 400V 16A 30 mA sockets
- Circuit breakers for 230V 16A sockets
- Earth terminal (PE)

EP6 CONTROLLER CHARACTERISTICS	
Operating mode	OFF - MAN. - AUTO
Display	4-digits display
LEDs	Engine is running AUTO mode
Buttons/controls	Starter key AUTO button N° 5 buttons for controller programming
Measures	Generator voltage Generator current Frequency Engine speed Battery voltage Charger battery voltage Hoursmeter
Alarms	Low oil pressure High temperature Belt break Low level fuel Emergency stop button Starting failure Over-under generator voltage Over-under frequency Over-under speed High-low battery voltage Overload generator Internal memory failure
Functions	Remote starting (only to AUTO) Cold start aid Automatic periodic test (only to AUTO) Generator contactor control

WEIGHT - DIMENSIONS AND ACCESSORIES

GE 20 YSX



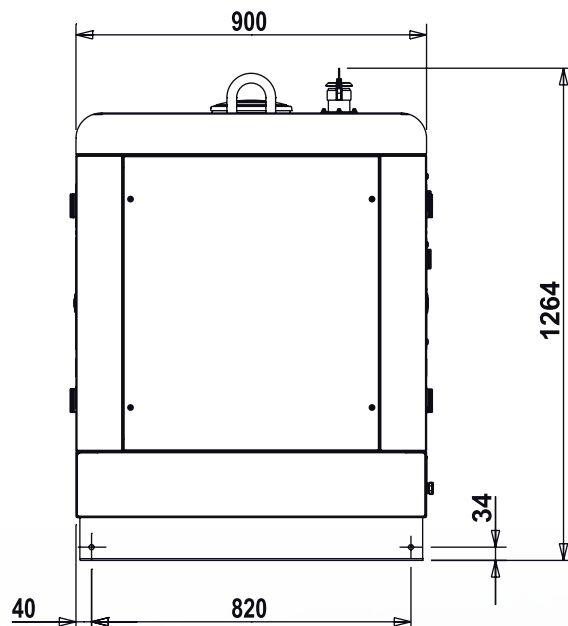
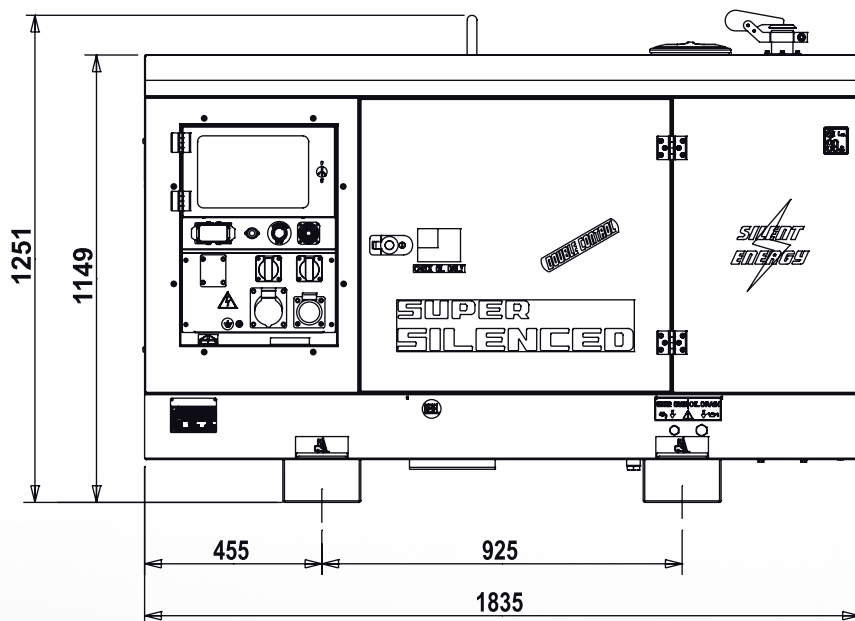
DRY WEIGHT MACHINE:

- 750 kg
- 790 kg (~1)
- 890 Kg (tank version 350 lt)



DIMENSIONS DRAW

- 1835 x 900 x 1575 mm (tank version 350 lt)
- For version with **100 lt tank**, see the illustrations as shown below.



Generating set pictured may include optional accessories.



OPTIONS ON REQUEST

- Galvanized skid base frame
- Remote control TCM35
- Automatic transfer EAS 28-809 (40A)
- Automatic transfer EAS 42-809 (60A) (~1)
- Earthing kit
- Site tow CTL20
- Road trailer CTV1/O
- Road trailer CTV1/S



VERSIONS ON REQUEST

• /



FACTORY INSTALLATION OPTIONS

- Engine water heater WH
- Isometer (~3)
- Gauges - water temperature and oil pressure
- Spark arrestor
- Radio control
- 350 litre internal tank
- Main battery switch
- 3-way valve fuel system with quick connection for external fuel tank supply
- * Plug-in module with double RS232 and RS485 port
- * GSM modem with antenna
- * Internet / Ethernet plug-in module with Web Server

* Only with EAS

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 9001:2008 - 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.

