



# GENERATING SET GE 35 YSX

The images are for reference



## FEATURES

- Stage 3A compliant engine
- 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
- Control panels with digital control units: Manual / Manual with sockets / Automatic
- SINGLE PHASE version available only with automatic panel without sockets
- Complies with regulation 2016/1628/EU FOR STATIONARY USE ONLY



water cooled



diesel



single-phase power



three-phase power



electric

POWER RATINGS		
	SINGLE-PHASE	THREE-PHASE
* Stand-By three-phase power	/	38 kVA (30.4 kW) / 400V / 54.8 A
* PRP three-phase power	/	35 kVA (28 kW) / 400V / 50.5 A
* Stand-By single-phase power	31 kVA (kW) / 230V - 115V / 134.8 A - 269.6A	/
* PRP single-phase power	28 kVA (kW) / 230V - 115V / 121.7 A - 243.5A	12.5 kVA / 230 V / 54.3 A
* COP 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, NATURAL ASPIRATED	
Model	YANMAR 4TNV98
* Stand-By net power	4/ 3.3 l
* PRP net power	98 / 110 (mm)
* COP net power	18.5 : 1
Cylinders / Displacement	34.1 kW (46.4 hp)
Bore / Stroke	30.7 kW (41.7 hp)
Compression ratio	/
BMEP (Brake Mean Effective Pressure : LTP - PRP)	/
Speed governor type	Mechanical
<b>FUEL CONSUMPTION</b>	
110 % (Stand-by power)	9 lit./h
100 % to PRP	8.1 lit./h
75 % to PRP	6.1 lit./h
50 % to PRP	4.2 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	5.5 lit. (min) - 10.5 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.	630 °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	2.2 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		
	SINGLE-PHASE	THREE-PHASE
Continuous power	28 kVA	35 kVA
Power	31 kVA	39 kVA
Three phase voltage	220-240V / 110-120V	380-415 Vac
Frequency	50 Hz	50 Hz
Cos φ	0.8	0.8
Model A.V.R.	HVR-30	HVR-30 (3ph. sensing)
Voltage regulation acc.	± 1.0 %	± 1.0 %
Sustained short circuit current	3 In	3 In
Transient dip (100% load)	10 %	10 %
Recovery time	≤ 3 sec.	≤ 3 sec.
Efficiency at 100% load	89.3 % (230V - Cos φ 0.8)	88.6 % (400V - Cos φ 0.8)
Insulation	Classe H	Classe H
Connection - Terminals	ZIG ZAG - N°12	Stella - N°12
Electromagnetic compatibility (R.F.I. suppr.)	EN 55011	EN 55011
Waveform distortion - THD	< 3 %	< 3 %
Telephone interference - THF	< 2 %	< 2 %

REACTANCES (20 kVA - 400V)		
Direct axis synchronous - Xd	240 %	240 %
Direct axis transient - X'd	18 %	18 %
Subdirect axis transient - X''d	7 %	7 %
Quadrature axis synchronous - Xq	133 %	133 %
Quadr. axis subtransient - X''q	/	/
Negative sequence - X2	/	/
Zero sequence - X0	/	/
TIME CONSTANTS		
Transient - T'd	0.01 sec	0.01 sec
Subtransient - T''d	0.006 sec	0.006 sec
Open circuit - T'do	0.147 sec	0.147 sec
Armature - Ta	/	/
Short-circuit ratio Kcc	0.58	0.58
IP protection degree	IP 23	IP 23
Cooling air flow	0.13 m³/sec.	0.13 m³/sec.
Coupling   Bearing	Diretto SAE 3 -11.5 ½ - N°1	Diretto SAE 3 -11.5 ½ - N°1

## GENERAL SPECIFICATIONS

Fuel tank capacity	100 l
Running time (75% to PRP)	16.5 h
Starter battery	12 Vdc -100Ah
IP protection degree	IP 44

* Measured acoustic power LwA (pressure LpA)	91 dB(A) (66 dB(A) @ 7m)
* Guaranteed acoustic power LwA (pressure LpA)	91 dB(A) (66 dB(A) @ 7m)
Performance class (ISO 8528)	G2

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

## CONTROL PANEL

- Controller IntelliNano Plus
- Controller supply switch
- Siren
- Battery charge warning light fault
- Emergency stop button
- TCM 35 remote control plug
- Thermal-magnetic circuit breaker
- Ground Fault Interruptor
- Power terminal-board
- Earth terminal (PE)

INTELINANO PLUS CONTROLLER CHARACTERISTICS	
Operating mode	• MAN.- AUTO
Display	• Graphic back-light LCD display 128x64 pixels
LEDs	• Engine operation • AUTO operating mode • Alarm
Buttons	• START button • STOP button • AUTO button • N° 2 buttons for controller programming
Generator Measures	• Voltage : L1-L2 • Current : I1 • Powers : kVA • Frequency
Engine Measures	• Water temperature (optional) • Oil pressure (optional) • Fuel level • Rpm meter • Battery voltage • Maintenance • Hours meter

Generator Protections	<ul style="list-style-type: none"> <li>• Short circuit</li> <li>• Over-Udervoltage</li> <li>• Over-Uderfrequency</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 warning</li> <li>• Low oil pressure warning</li> <li>• Low fuel level warning</li> <li>• Over-Uder battery voltage</li> <li>• Battery charge alternator failure</li> <li>• Start failure</li> <li>• Stop failure</li> <li>• Emergency stop</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>

## MANUAL CONTROL PANEL WITH SOCKETS

- Controller AMF 25
- Controller supply switch
- Siren
- Emergency stop button
- TCM 35 remote control plug
- Thermal-magnetic circuit breaker
- Ground Fault Interruptor
- Earth terminal (PE)

### AMF25 CONTROLLER CHARACTERISTICS

Operating mode	<ul style="list-style-type: none"> <li>• OFF - MAN. - AUTO - TEST</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>• Gen-set voltage OK</li> <li>• Gen-set failure</li> <li>• GCB ON (only for Automatic transfer unit)</li> <li>• Mains voltage OK (only for Automatic transfer unit)</li> <li>• Mains failure (only for Automatic transfer unit)</li> <li>• MCB ON (only for Automatic transfer unit)</li> </ul>
Buttons	<ul style="list-style-type: none"> <li>• START button</li> <li>• STOP button</li> <li>• FAULT RESET button</li> <li>• RESET HORN button</li> <li>• MODE selection button</li> <li>• Pulsante chiusura/apertura GCB button</li> <li>• Pulsante chiusura/apertura MCB button</li> <li>• N° 4 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>• Current : I1 - I2 - I3</li> <li>• Powers : kVA - kW - kVAR (totali e per fase)</li> <li>• Energy : kVAh - kWh - kVARh</li> <li>• Cos φ (medium and per phase)</li> <li>• Frequency</li> </ul>
Engine Measures	<ul style="list-style-type: none"> <li>• Water temperature</li> <li>• Oil pressure</li> <li>• Fuel level</li> <li>• Rpm meter</li> <li>• Battery voltage</li> <li>• Maintenance</li> <li>• Hours meter</li> <li>• Starts number</li> </ul>
Generator Protections	<ul style="list-style-type: none"> <li>• Overload</li> <li>• Overcurrent</li> <li>• Short circuit</li> <li>• Over-Undervoltage</li> <li>• Over-Underfrequency</li> <li>• Voltage asymmetry</li> <li>• Unbalanced current</li> <li>• Phase sequence</li> </ul>
Engine Protections	<ul style="list-style-type: none"> <li>• Overspeed</li> <li>• High water temperature warning</li> <li>• Low oil pressure warning</li> <li>• Low fuel level warning</li> <li>• Over-Under battery voltage</li> <li>• Battery charge alternator failure</li> <li>• Start failure</li> <li>• Stop failure</li> <li>• Emergency stop</li> <li>• Low water level shutdown (option)</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>• Voltage asymmetry</li> <li>• Phase sequence</li> <li>• Dual mutual stand-by application</li> </ul>
Features	<ul style="list-style-type: none"> <li>• Event log and alarms</li> <li>• 2 tests run scheduler (Automatic test or scheduled starts)</li> <li>• Engine idle management (Idle)</li> <li>• Remote Start and Stop</li> <li>• Pre-heating</li> <li>• 2 selectable languages (other languages available)</li> <li>• Setpoints adjustable via controller buttons or PC</li> <li>• Direct connection to engines with ECU via Can bus J1939</li> <li>• Configurable inputs and outputs (only via PC)</li> <li>• IP65 protection</li> <li>• Operation temperature: -20°C / +70°C</li> </ul>
Communication	<ul style="list-style-type: none"> <li>• RTU Modbus (optional board with RS232 &amp; RS485 outputs is needed)</li> <li>• TCP/IP Modbus (optional Ethernet board with RJ45 output is needed)</li> <li>• SNMP Modbus (optional Ethernet board with RJ45 output is needed)</li> <li>• Internet (optional Ethernet board optional is needed)</li> <li>• GSM/GPRS (integrated Modem board optional is needed) for Gen-set remote control via SMS or internet</li> </ul>

### OUTPUT SOCKETS

#### SOCKETS

Every 16A and 32A socket is protected by its own circuit breaker and GFI 30mA.

- 1x 400V 63A 3P+N+T CEE - IP67
- 1x 400V 32A 3P+N+T CEE - IP67
- 1x 400V 16A 3P+N+T CEE - IP67
- 1x 230V 16A 2P+T CEE - IP67
- 1x 230V 16A 2P+T SCHUKO

## AUTOMATIC CONTROL PANEL WITH SOCKETS

- Controller AMF 25
- Controller supply switch
- Battery charge warning light fault
- Emergency stop button
- TCM 35 remote control plug
- Connection terminal-board PAC (ATS)
- Battery charger
- Thermal-magnetic circuit breaker
- Ground Fault Interruptor
- Earth terminal (PE)

### AMF25 CONTROLLER CHARACTERISTICS

Operating mode	<ul style="list-style-type: none"> <li>• OFF - MAN. - AUTO - TEST</li> </ul>
Display	<ul style="list-style-type: none"> <li>• Graphic back-light LCD display 128x64 pixels</li> </ul>
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Buttons	<ul style="list-style-type: none"> <li>• START button</li> <li>• STOP button</li> <li>• FAULT RESET button</li> <li>• RESET HORN button</li> <li>• MODE selection button</li> <li>• Pulsante chiusura/apertura GCB button</li> <li>• Pulsante chiusura/apertura MCB button</li> <li>• N° 4 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>• Current : I1 - I2 - I3</li> <li>• Powers : kVA - kW - kVAR (totali e per fase)</li> <li>• Energy : kVAh - kWh - kVARh</li> <li>• Cos (medium and per phase)</li> <li>• Frequency</li> </ul>
Engine Measures	<ul style="list-style-type: none"> <li>• Water temperature</li> <li>• Oil pressure</li> <li>• Fuel level</li> <li>• Rpm meter</li> <li>• Battery voltage</li> <li>• Maintenance</li> <li>• Hours meter</li> <li>• Starts number</li> </ul>
Generator Protections	<ul style="list-style-type: none"> <li>• Overload</li> <li>• Overcurrent</li> <li>• Short circuit</li> <li>• Over-Under-voltage</li> <li>• Over-Under-frequency</li> <li>• Voltage asymmetry</li> <li>• Unbalanced current</li> <li>• Phase sequence</li> </ul>
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Communication	<ul style="list-style-type: none"> <li>• RTU Modbus (optional board with RS232 &amp; RS485 outputs is needed)</li> <li>• TCP/IP Modbus (optional Ethernet board with RJ45 output is needed)</li> <li>• SNMP Modbus (optional Ethernet board with RJ45 output is needed)</li> <li>• Internet (optional Ethernet board optional is needed)</li> <li>• GSM/GPRS (integrated Modem board optional is needed) for Gen-set remote control via SMS or internet</li> </ul>

# WEIGHT - DIMENSIONS AND ACCESSORIES

GE 35 YSX



### DRY WEIGHT MACHINE:

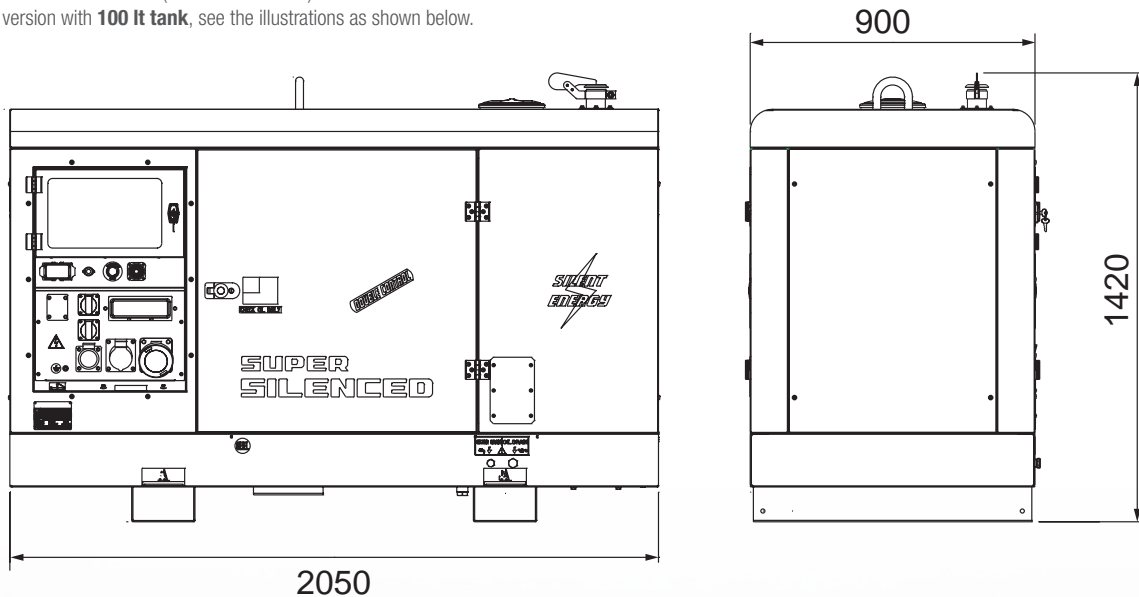
- 990 Kg (tank version 100 lt) (singlephase)
- 960 Kg (tank version 100 lt) (threephase)
- 1150 Kg (tank version 350 lt)

Generating set pictured may include optional accessories.



### DIMENSIONS DRAW

- 2050 x 900 x 1730 mm (tank version 350 lt)
- For version with **100 lt tank**, see the illustrations as shown below.



### ACCESSORI A RICHIESTA

- Automatic transfer switch unit PAC 42 (60A)
- Automatic transfer switch unit PAC 70 (100A) (singlephase)
- Remote control TCM35
- Site tow CTL20
- Road trailer CTV1/0
- Road trailer CTV1/S
- Earthing kit
- Transportation sleigh



### VERSIONS ON REQUEST

- Manual digital control panel with sockets
- Automatic control panel



### FACTORY INSTALLATION OPTIONS

- Engine heater
- Gauges - water temperature and oil pressure
- Spark arrestor
- 3-way valve fuel system with quick connection for external fuel tank supply
- 350 litre internal tank
- Main battery switch
- Electronic leakage relay
- \*Plug-in module with dual port RS232 and RS485
- \*GSM modem with antenna
- \*Internet-Ethernet plug-in module including Web server
- \*Remote module for 15 alarms or states
- Isometer (threephase)

\* Only with AMF25

## 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)
- 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.

Non-contractual document. Specification subject to change without notice.

© MOSA - Viale Europa, 59 - 20047 Cusago (Milano) - Italy - phone +39-0290352.1 - fax + 39-0290390466 E-mail: export@mosa.it Web site: www.mosa.it

