| موتور دیزل : LOVOL-china | ژنراتور : Mecc Alte |
|---|---|

| Standby | | Prime | | |
|---|---|---|---|---|
| KVA | KW | KVA | KW | |
| **37** | 29 | 33 | 27 | دیزل ژنراتور |

| موتور دیزل | | |
|---|---|---|
| Manufacturer | *LOVOL-china* | تولید کننده |
| Type | 1003G | تیپ |
| Number of cylinders | 3 | تعداد سیلندر ها |
| Cylinder arrangement | Vertical, in-line | آرایش سیلندر ها |
| Displacement , Liters | 2.99 liters | جا به جایی |
| Bore × Stroke , mm | 100mm×127mm | قطر سیلندر × کورس پیستون |
| Compression Ratio | 16.5:1 | نسبت تراکم |
| Combustion System | Direct Injection | سیستم احتراق |
| Aspiration | - | سیستم تنفس |
| Rotation | Clockwise viewed from fan | چرخش |
| cycle | 4-storke | سیکل |

| ژنراتور | | |
|---|---|---|
| Manufacturer | Mecc Alte | تولید کننده |
| Type | ECO32-2S/4 | تیپ |
| Frequency, Hz | 50 | فرکانس |
| Voltage, V | 380 | ولتاژ |
| Excitation | 2.1 | سیستم تحریک |
| Stator windings | 12 ends | سیم پیچ استاتور |
| Regulation | ±1 % with any power factor and speed variations between -5% +30% | تنظیم ولتاژ |
| Rotor | With damping Cage | روتور |
| Over speed, Rpm | 2250 | حداکثر سرعت مجاز |
| Short circuit current | >300 | جریان اتصال کوتاه |
| Insulation class | H | کلاس عایق |
| Protection class | IP21 | کلاس حفاظتی |
| Cooling air volume,$m^3$ / sec | 11.8 | دبی هوای خنک کننده |
| Standby power at rated voltage ,KVA | 35 | توان standby در ولتاژ نامی |

# GENERATOR TYPE ECO 32-2S/4

Document : **DS006A/1**
issue 008 date 24/07/2012

| **Electrical Characteristics** | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency | | Hz | 50 | | | | 60 | | | |
| Voltage (series star) | | V | 380 | 400 | 415 | 440 | 415 | 440 | 460 | 480 |
| Rated power class H | | kVA | 35 | 35 | 35 | 28 | 41 | 42 | 42 | 42 |
| | | kW | 28 | 28 | 28 | 22,4 | 32,8 | 34 | 33,6 | 33,6 |
| Rated power class F | | kVA | 33 | 33 | 33 | 26 | 39 | 40 | 40 | 40 |
| | | kW | 26,4 | 26,4 | 26,4 | 20,8 | 31,2 | 32 | 32 | 32 |
| Regulation with | | DSR | ±1 % with any power factor and speed variations between -5% +30% | | | | | | | |
| Insulation class | | | H | | | | | | | |
| Execution | | | Brushless | | | | | | | |
| Stator winding | | | 12 ends | | | | | | | |
| Rotor | | | with damping cage | | | | | | | |
| Efficiencies class H | 4/4 | % | 88,1 | 88,2 | 87,9 | 87,7 | 89,1 | 89,6 | 89,7 | 89,8 |
| (see graph. for details) | 3/4 | % | 88,3 | 88,6 | 88,5 | 88,2 | 89,6 | 90 | 90 | 90,2 |
| | 2/4 | % | 86,7 | 86,8 | 86,8 | 86,8 | 88,5 | 88,8 | 88,9 | 89 |
| | 1/4 | % | 81,7 | 81,5 | 81,3 | 81,2 | 85,1 | 85,3 | 85,4 | 85,5 |
| | | | | | | | | | | |
| Reactances (f. l.cl. F) | Xd | % | 277,0 | 250 | 232,3 | 165,3 | 326,5 | 297,5 | 272,2 | 250 |
| | Xd' | % | 16,62 | 15 | 13,94 | 9,92 | 19,59 | 17,85 | 16,33 | 15 |
| | Xd" | % | 11,75 | 10,6 | 9,85 | 7,01 | 13,84 | 12,61 | 11,54 | 10,6 |
| | Xq | % | 100,8 | 91 | 84,5 | 60,2 | 118,8 | 108,3 | 99,1 | 91 |
| | Xq' | % | 100,8 | 91 | 84,5 | 60,2 | 118,8 | 108,3 | 99,1 | 91 |
| | Xq" | % | 34,3 | 31 | 28,8 | 20,5 | 40,5 | 36,9 | 33,8 | 31 |
| | $X_2$ | % | 24,38 | 22 | 20,44 | 14,55 | 28,73 | 26,18 | 23,95 | 22 |
| | $X_0$ | % | 3,10 | 2,8 | 2,60 | 1,85 | 3,66 | 3,33 | 3,05 | 2,8 |
| Short Circuit Ratio | Kcc | | 0,60 | 0,70 | 0,86 | 1,38 | 0,40 | 0,50 | 0,60 | 0,70 |
| Time Constants | Td' | sec. | 0,058 | | | | | | | |
| | Td" | sec. | 0,012 | | | | | | | |
| | Tdo' | sec. | 1,35 | | | | | | | |
| | Tα | sec. | 0,025 | | | | | | | |
| Short Circuit Current Capacity | | % | >300 | | | | >350 | | | |
| Excitation at no load | | Amp. | 0,47 | 0,64 | 0,73 | 1,1 | 0,3 | 0,4 | 0,46 | 0,6 |
| Excitation at full load | | Amp. | 2,1 | 2,2 | 2 | 2,5 | 1,9 | 1,7 | 1,6 | 1,7 |
| Overload (long-term) | | % | 1 hour in a 6 hours period 110% rated load | | | | | | | |
| Overload per 20 sec. | | % | 300 | | | | | | | |
| Stator Winding Resistance (20°C) | | Ω | 0,097 | | | | | | | |
| Rotor Winding Resistance (20°C) | | Ω | 2,01 | | | | | | | |
| Exciter Resistance (20 °C) | | Ω | Rotor : 0,417 | | | | Stator : 10,6 | | | |
| Heat dissipation at f.l.cl.H | | W | 3782 | 3746 | 3854 | 3142 | 4013 | 3900 | 3858 | 3816 |
| Telephone Interference | | | THF < 2% | | | | TIF > 45 | | | |
| Radio interference | | | EN61000-6-3, EN61000-6-1. For others standards apply to factory | | | | | | | |
| Waveform Distors.(THD) at f. load | | LL/LN % | 4 / 3,9 | | | | | | | |
| Waveform Distors.(THD) at no load | | LL/LN % | 3,5 / 3,4 | | | | | | | |
| **Mechanical characteristics** | | | | | | | | | | |
| Protection | | | IP 21 (other protection on request) | | | | | | | |
| DE bearing | | | 6312-2RS | | | | | | | |
| NDE bearing | | | 6309-2RS | | | | | | | |
| Weight of wound stator assembly | | kg | 56 | | | | | | | |
| Weight of wound rotor assembly | | kg | 39,5 | | | | | | | |
| Weight of complete generator | | kg | 199 | | | | | | | |
| Maximun overspeed | | rpm | 2250 | | | | | | | |
| Unbalanced magnetic pull at f.l.cl.F | | kN/mm | 4,5 | | | | | | | |
| Cooling air requirement | | m³/min | 11,8 | | | | 14,5 | | | |
| Inertia Constant (H) | | sec. | 0,113 | | | | 0,136 | | | |
| Noise level at 1m/7m | | dB(A) | 75 / 60 | | | | 79 / 64 | | | |

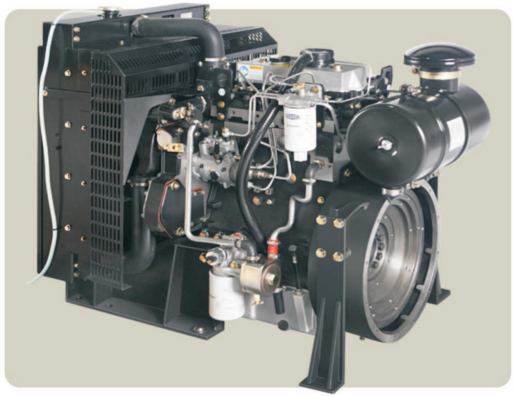
LOVOL

# INHERITING FROM THE WORLD'S LEADING TECHNOLOGY

## 1003G

**POWER PACK**
**ROTARY PUMP**

**28 kWm 1500 rev/min**
**30 kWm 1800 rev/min**
**GENSET POWER**



**High Power Density**
Power output and torque per liter are superior to normal level with optimized structure strengthening.

**Low Fuel Consumption**
The excellent combustion system can reduce fuel consumption, emission and noise, meanwhile increase engine power output.

**Easy Maintenance**
All routine service items are situated on the right hand side of engine allowing easy maintenance and minimum machine downtime.

**Durability & Reliability**
Start normally at -10℃ without preheated device, start smoothly at -25℃ through flame glow plug cold start aid.
Maximum cooling efficiency is provided by a gear driven water pump and independent fan drive.
Leak free operation is ensured by Viton crankshaft seals and sophisticated controlled swell joints, giving protection in the toughest conditions.

| Engine Speed (rev/min) | Type of Operation | Typical Generator Output (Net) | | Engine Power | | | |
|---|---|---|---|---|---|---|---|
| | | | | Gross | | Net | |
| | | kVA | kW | kWm | bh | kWm | bh |
| 1500 | prime power | 27.5 | 22 | 30 | 40.2 | 28 | 37.6 |
| | standby power | 32.5 | 26 | 32.8 | 44 | 30.8 | 41.3 |
| 1800 | prime power | 33.8 | 27 | 33 | 44 | 30 | 40.2 |
| | standby power | 37.5 | 30 | 36 | 48.3 | 33 | 44.3 |

**Rating Base: ISO 8528, GB/T2820**
**Lubricating oil: API CF**

LOVOL

# INHERITING FROM THE WORLD'S LEADING TECHNOLOGY

**Standard Specification**
**Air inlet**
Mounted air filter

**Fuel system**
Rotary fuel injection pump
Spin-on full flow fuel filter and pre-filter

**Lubrication system**
Flat bottomed aluminum sump
Spin-on full flow oil filter
Oil cooler

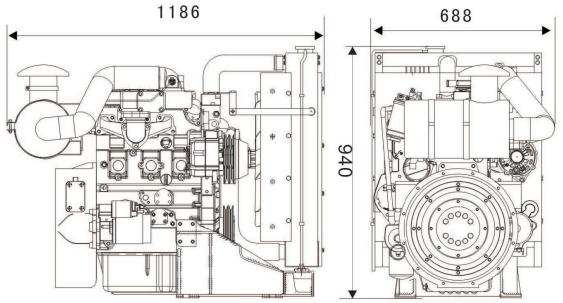
**Cooling system**
Thermostat controlled cooling system with gear driven water pump
Radiator
20"belt-driven pusher fan and guards

**Electrical system**
12 volt starter motor and alternator
Oil pressure and water temperature switch & sensor
12 volt shut down solenoid

**Flywheel and housing**
High inertia flywheel, size : 10/11 1/2
SAE3 flywheel housing

**Mountings**
Front engine mounting bracket

**Optional Equipment**
24 volt alternator
24 volt starter motor




## General Data

| | |
|---|---|
| Cylinder number | 3 |
| Cylinder arrangement | Vertical, in-line |
| Bore×stroke | 100 mm×127 mm |
| Displacement | 2.99 liters |
| Induction | Naturally aspirated |
| Cycle | 4-stroke |
| Combustion system | Direct injection |
| Compression ratio | 16.5:1 |
| Direction of Rotation | Clockwise viewed from fan |
| Lub. System Capacity | 8.1 liters |
| Coolant capacity (inc. radiator) | 15.9 liters |
| Length | 1186 mm |
| Width | 688 mm |
| Height | 940 mm |
| net weight | 410 kg |

Final weight and dimensions will depend on final specification.

TIANJIN LOVOL ENGINES CO., LTD.
77 Gaoxin Avenue,Beichen Hi-tech Industrial park,Beichen district,Tianjin.
Tel:+86(0)22 26899125/26996802
Fax:+86(0)22 86993260
Email:lovolengines@lovolengines.com
www.lovolengines.com



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