

# GNT SERIES

## GNT 850 & 960



# GENPOWER<sup>®</sup>

GENERATOR

231/400V - 50Hz & 277/480V - 60Hz



### Features and Benefits

- Half Century Experience in Generator Manufacturing
- Diesel Engines with Advanced Technology and Quality
- Alternators with Advanced Technology and Quality
- Control Panel Suitable for Flexible Application
- High Quality and Reliable Technology
- Patented Compact Designed and Soundproof Canopy
- Suitable for Heavy-Duty
- Durability
- Wide Range of Affordable Spare Parts
- Low Noise Level
- Low Exhaust Emission
- Low Operating Cost
- Low Fuel Consumption
- Low Oil Consumption
- Tropical 50°C Radiator
- Fuel Filter with Water and Particle Separator
- First Class Product Support
- Global Technical Service and Maintenance Support

### Generator General Information

| Generator | Frequency | Voltage | Power Factor | Speed | Diesel Engine         |          |        | Alternator                           |             |        | Type of    | Generator Output |       |         |
|-----------|-----------|---------|--------------|-------|-----------------------|----------|--------|--------------------------------------|-------------|--------|------------|------------------|-------|---------|
| Model     | Hz        | V       | CosQ         | rpm   | Brand                 | Model    | Series | Brand                                | Model       | Series | Operation  | kVA              | kW    | A       |
| GNT 850   | 50        | 231/400 | 0,8          | 1500  | I<br>N<br>T<br>E<br>R | E1051TDI | PII    | G<br>E<br>N<br>P<br>O<br>W<br>E<br>R | G<br>N<br>P | 355L   | Stand By   | 850,0            | 680,0 | 1.228,3 |
|           |           |         |              |       |                       |          |        |                                      |             |        | Prime      | 772,7            | 618,2 | 1.116,7 |
|           |           |         |              |       |                       |          |        |                                      |             |        | Continuous | 540,9            | 432,7 | 781,7   |
| GNT 960   | 60        | 277/480 | 0,8          | 1800  | I<br>N<br>T<br>E<br>R | E1051TDI | PII    | G<br>E<br>N<br>P<br>O<br>W<br>E<br>R | G<br>N<br>P | 355MX  | Stand By   | 960,0            | 768,0 | 1.387,3 |
|           |           |         |              |       |                       |          |        |                                      |             |        | Prime      | 872,7            | 698,2 | 1.261,2 |
|           |           |         |              |       |                       |          |        |                                      |             |        | Continuous | 610,9            | 488,7 | 882,8   |

## INTER Diesel Engine Technical Parameters and Matching Parameters

### Diesel Engine Main Technical Parameters

#### General

|                     |    |                            |
|---------------------|----|----------------------------|
| Number of Cylinders |    | 12                         |
| Configuration       |    | V - Type                   |
| Aspiration          |    | Turbocharged & Intercooled |
| Combustion System   |    | Direct Injection           |
| Compression Ratio   |    | 15,5:1                     |
| Bore                | mm | 128                        |
| Stroke              | mm | 155                        |
| Displacement        | L  | 23,922                     |
| Governing Type      |    | Electronic                 |
| Governing Class     |    | G3                         |
| Rotation            |    | Counterclockwise           |
| Firing Order        |    | 1-12-5-8-3-10-6-7-2-11-4-9 |
| Emission            |    | Tier II                    |

#### Moments of Rotation Inertia

|          |                     |      |
|----------|---------------------|------|
| Engine   | kg • m <sup>2</sup> | 4,54 |
| Flywheel | kg • m <sup>2</sup> | 2,1  |

#### Performance Rating

|                         |   |      |
|-------------------------|---|------|
| Speed Droop             | % | ≤0,5 |
| Steady State Speed Band | % | ≤0,5 |

#### Test Conditions

|                                    |        |        |
|------------------------------------|--------|--------|
| Ambient Temperature                | %      | 25     |
| Atmospheric Pressure               | kPa    | 100    |
| Relative Humidity                  | RH (%) | 30     |
| Max. Operating Intake Resistance   | kPa    | <5     |
| Exhaust Backpressure Limit         | kPa    | <10    |
| Fuel Temperature (Fuel Inlet Pump) | °C     | 38 ± 2 |

#### Filters

|             |  |                                |
|-------------|--|--------------------------------|
| Air Filter  |  | Dry Type, Replaceable          |
| Fuel Filter |  | With Water Separator           |
| Oil Filter  |  | Element Type, Particulate Trap |

#### Flywheel Housing and Flex Coupling

|                    |            |    |
|--------------------|------------|----|
| Flywheel Housing   | SAE (J620) | 1  |
| Flex Coupling Disc | Inch (")   | 14 |

#### Overall Dimensions

|            |    |      |
|------------|----|------|
| Length *   | mm | 2075 |
| Width      | mm | 1456 |
| Height     | mm | 1558 |
| Dry Weight | Kg | 1820 |

\* From front end of radiator to rear end of air filter

#### Cooling System

|                                                  |                   |          |
|--------------------------------------------------|-------------------|----------|
| Radiator Type                                    | 50°C              | Tropical |
| Total Coolant Capacity                           | L                 | 96       |
| Max. Perm. Coolant Outlet Temperature            | °C                | 105      |
| Max. Perm. Flow Resis. (Cool. System And Piping) | bar               | 0,5      |
| Max. Temperature of Coolant Warning              | °C                | 95       |
| Max. Temperature of Coolant Shutdown             | °C                | 98       |
| Thermostat Operation Temperature - Initial Open  | °C                | 68       |
| Thermostat Operation Temperature - Full Open     | °C                | 71       |
| Delivery of Coolant Pump                         | m <sup>3</sup> /h | 10,50    |
| Min. Pressure Before Coolant Pump                | bar               | 0,5      |
| Radiator Face Area                               | m <sup>2</sup>    | 1,88     |
| Rows                                             | Row               | 5        |
| Matrix Density                                   | Per / Inch        | 18       |
| Material                                         |                   | Aluminum |
| Width of Matrix                                  | mm                | 1302     |
| Height of Matrix                                 | mm                | 1446     |
| Pressure Cap Setting                             | kPa               | 70       |
| Estimated Cooling Air Flow Reserve               | kPa               | 0,15     |
| Engine Pre Heater Tube (with Circulation Pump)   | W                 | 3000     |

#### Lubrication System

|                                        |     |      |
|----------------------------------------|-----|------|
| Total System                           | L   | 57   |
| Minimum Oil Level                      | L   | 55   |
| Nominal Motor Operating Temperature    | °C  | 40   |
| Lubricating Oil Pressure (Rated Speed) | bar | 5    |
| Relief Valve Opens                     | kPa | 200  |
| Oil / Fuel Consumption Ratio           | %   | ≤0,5 |
| Normal Oil Temperature                 | °C  | 110  |

#### Electrical System

|                           |    |       |
|---------------------------|----|-------|
| Voltage                   | V  | 24    |
| Starter                   | kW | 9     |
| Alternator Output Ampers  | A  | 45    |
| Alternator Output Voltage | V  | 28    |
| Batteries Capacity        | Ah | 2X135 |

#### Fan

|                  |    |         |
|------------------|----|---------|
| Diameter         | mm | 950     |
| Drive Ratio      |    | 1,15:1  |
| Number of Blades |    | 7       |
| Material         |    | Plastic |
| Type             |    | Blowing |

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GENERATOR

231/400V - 50Hz & 277/480V - 60Hz

### Diesel Engine Matching Parameters

#### 50 Hz @ 1500 r/min

|                                            |                      | Stand By | Prime  |
|--------------------------------------------|----------------------|----------|--------|
| Gross Engine Power                         | kW                   | 745,0    | 678,0  |
| Net Engine Power                           | kW                   | 715,0    | 649,0  |
| Fan Power Consumption (Belt Pulley Driven) | kW                   | 28,0     | 28,0   |
| Other Power Loss                           | kW                   | 2,0      | 1,5    |
| Mean Effective Pressure                    | MPa                  | 2,49     | 2,26   |
| Intake Air Flow                            | m <sup>3</sup> / min | 60,38    | 57,50  |
| Exhaust Temperature Limit                  | °C                   | 600      | 600    |
| Exhaust Flow                               | m <sup>3</sup> / min | 147,00   | 140,00 |
| Boost Pressure Ratio                       |                      | 3,40     | 3,20   |
| Mean Piston Speed                          | m / s                | 7,8      | 7,8    |
| Cooling Fan Air Flow                       | m <sup>3</sup> / min | 870,0    | 870,0  |
| Typical Generator Output Power             | kVA                  | 849      | 770    |

#### Heat Rejection

|                                       |    |        |        |
|---------------------------------------|----|--------|--------|
| Energy in Fuel (Heat of Combustion)   | kW | 1863,0 | 1695,0 |
| Gross Heat to Power                   | kW | 745,0  | 678,0  |
| Energy to Coolant and Lubricating Oil | kW | 317,0  | 288,0  |
| Heat Dissipation Capacity*            | kW | 130,0  | 119,0  |
| Energy to Exhaust                     | kW | 540,0  | 492,0  |
| Heat to Radiation                     | kW | 56,0   | 51,0   |

\*Intake Intercooled System

#### 60 Hz @ 1800 r/min

|                                            |                      | Stand By | Prime  |
|--------------------------------------------|----------------------|----------|--------|
| Gross Engine Power                         | kW                   | 842,0    | 765,0  |
| Net Engine Power                           | kW                   | 806,1    | 729,7  |
| Fan Power Consumption (Belt Pulley Driven) | kW                   | 33,6     | 33,6   |
| Other Power Loss                           | kW                   | 2,3      | 1,7    |
| Mean Effective Pressure                    | MPa                  | 2,35     | 2,13   |
| Intake Air Flow                            | m <sup>3</sup> / min | 68,22    | 64,90  |
| Exhaust Temperature Limit                  | °C                   | 650      | 650    |
| Exhaust Flow                               | m <sup>3</sup> / min | 166,12   | 158,03 |
| Boost Pressure Ratio                       |                      | 3,80     | 3,60   |
| Mean Piston Speed                          | m / s                | 9,3      | 9,3    |
| Cooling Fan Air Flow                       | m <sup>3</sup> / min | 983,0    | 983,0  |
| Typical Generator Output Power             | kVA                  | 960      | 870    |

#### Heat Rejection

|                                       |    |        |        |
|---------------------------------------|----|--------|--------|
| Energy in Fuel (Heat of Combustion)   | kW | 2016,0 | 1800,0 |
| Gross Heat to Power                   | kW | 842,0  | 733,0  |
| Energy to Coolant and Lubricating Oil | kW | 358,0  | 325,0  |
| Heat Dissipation Capacity*            | kW | 147,0  | 134,0  |
| Energy to Exhaust                     | kW | 610,0  | 555,0  |
| Heat to Radiation                     | kW | 59,0   | 53,0   |

\*Intake Intercooled System

## GENPOWER Alternator Technical Parameters and Specifications

### Alternator Technical Parameters

|                  |        |              |                                 |          |              |
|------------------|--------|--------------|---------------------------------|----------|--------------|
| Insulation Class |        | H            | Field Control System            |          | Self Excited |
| Winding Pitch    |        | 2/3 - (N° 6) | A.V.R. Model                    | Standard | MX341+PMG    |
| Wires            |        | 12           | Voltage Regulation              | %        | ± 1          |
| Protection       |        | IP 23        | Sustained Short-Circuit Current | 10 sec   | 300% (3 IN)  |
| Altitude         | m      | 1000         | Total Harmonic (*) TGH / THC    | %        | < 4          |
| Overspeed        | rpm    | 2250         | Wave Form :NEMA = TIF - (*)     |          | < 50         |
| Air Flow         | m³/sec | 1,035        | Wave Form :I.E.C. = THF - (*)   | %        | < 2          |
| Bearing Drive    | N/A    | -            | Bearing Non - Drive             | Bearing  | 6314-2RZ     |
| Rotor Winding    | 100%   | Copper       | Stator Winding                  | 100%     | Copper       |

(\*) Total harmonic content line to line, at no load or full rated linear and balanced load

Genpower synchron alternators are produced according to TSE 60034-1; IEC 60034-22; GB755; BS4999-5000; NEMA MG 1.22 standards

### Alternator Specifications

| 50 Hz - 231/400V - Cos Q 0,8 - 1500 rpm |          |            |         |                           |         |            |          |         |         |
|-----------------------------------------|----------|------------|---------|---------------------------|---------|------------|----------|---------|---------|
| Standard Using Alternator               |          |            |         | Optional Using Alternator |         |            |          |         |         |
| Brand/Model                             | Genpower | 355L       |         | Leroy Somer               | TAL049C |            | Stamford | HC6G    |         |
| Duty                                    |          | Continuous |         |                           |         | Stand By   |          |         |         |
| Ambient                                 | C°       | 40°C       |         |                           |         | 27°C       |          |         |         |
| Class/Temp. Rise                        | C°       | H / 125° K |         |                           |         | H / 163° K |          |         |         |
| Series Star (V)                         | V        | 380/220    | 400/231 | 415/240                   | 1 Phase | 380/220    | 400/231  | 415/240 | 1 Phase |
| Parallel Star (V)                       | V        | 190/110    | 200/115 | 208/120                   | 220     | 190/110    | 200/115  | 208/120 | 220     |
| Series Delta (V)                        | V        | 220        | 230     | 240                       | 230     | 220        | 230      | 240     | 230     |
| Output Power                            | kVA      | 773,0      | 773,0   | 802,0                     | -       | 850,0      | 850,0    | 882,0   | -       |
| Output Power                            | kW       | 618,4      | 618,4   | 641,6                     | -       | 680,0      | 680,0    | 705,6   | -       |

| 60 Hz - 277/480V - Cos Q 0,8 - 1800 rpm |          |            |         |                           |         |            |          |         |         |
|-----------------------------------------|----------|------------|---------|---------------------------|---------|------------|----------|---------|---------|
| Standard Using Alternator               |          |            |         | Optional Using Alternator |         |            |          |         |         |
| Brand/Model                             | Genpower | 355MX      |         | Leroy Somer               | TAL049B |            | Stamford | HC6G    |         |
| Duty                                    |          | Continuous |         |                           |         | Stand By   |          |         |         |
| Ambient                                 | C°       | 40°C       |         |                           |         | 27°C       |          |         |         |
| Class/Temp. Rise                        | C°       | H / 125° K |         |                           |         | H / 163° K |          |         |         |
| Series Star (V)                         | V        | 416/240    | 440/254 | 480/277                   | 1 Phase | 416/240    | 440/254  | 480/277 | 1 Phase |
| Parallel Star (V)                       | V        | 208/120    | 220/127 | 240/138                   | -       | 208/120    | 220/127  | 240/138 | -       |
| Series Delta (V)                        | V        | 240        | 254     | 277                       | 240     | 240        | 254      | 277     | 240     |
| Output Power                            | kVA      | 789,0      | 831,0   | 875,0                     | -       | 868,0      | 914,0    | 963,0   | -       |
| Output Power                            | kW       | 631,2      | 664,8   | 700,0                     | -       | 694,4      | 731,2    | 770,4   | -       |

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GENERATOR

231/400V - 50Hz & 277/480V - 60Hz

### Control Panel Specifications

Powder Painted Steel Pannel with Lockable Door  
ATS (Automatic Transfer Panel) - Optional  
Control Module

Battery Charger  
Emergency Stop Button  
Backlit, 128x64 Pixels

Control Relays  
Terminal Blocks  
Load Output Terminal

System Protection MCBs  
Circuit Breaker - Optional  
LCD Screen

### Control Module Technical Parameters

Brand GENPOWER  
Dimensions 120mm x 94mm  
Weight 260 gr.  
Ambient Humidity 90% max.  
DC Battery Supply Voltage 8 - 32 V  
Network Frequency 5 - 99,9 Hz  
Generator Voltage Measurement 3 - 300 V  
Current Transformer Secondary 5A  
Charge Alternator Voltage Measurement 8 - 32 V  
Communication Interface RS-232  
Generator Contactor Relay Output 5A & 250V  
Solenoid Transistor Outputs 1A with DC Supply  
Configurable-3 Transistor Outputs 1A with DC Supply

Model Trans-MIDIAMF.232.GP  
Protection Class IP65 From the Front  
Environmental Conditions 2000 Meters Above Sea Level  
Ambient Temperature -20 ° C to + 70 ° C  
Battery Voltage Measurement 8 - 32 V  
Mains Voltage Measurement 3 - 300 V Phase-Neutral, 5 - 99.9 Hz  
Generator Frequency 5 - 99.9 Hz  
Working Period Continuous  
Charge Alternator Excitation 210mA & 12V, 105mA & 24V Nominal 2.5W  
Analog Sender Measurement 0 - 1300ohm  
Mains Contactor Relay Output 5A & 250V  
Start Transistor Outputs 1A with DC Supply  
Configurable-4 Transistor Outputs 1A with DC Supply

### Control Module Functions

Mains Voltage Level Control  
Network Frequency Level Control  
Engine Operating Option Control  
Engine Stop Option Control  
Engine Speed (RPM) Level Control  
Battery Voltage Options Control  
Check Engine Maintenance Times  
Communication Interfaces GPRS, GSM  
Engine Speed  
Voltage

Generator Voltage Level Control  
Generator Frequency Level Control  
Generator Current Level Control  
Generator Power Level Control  
Generator Work Schedule and Timing Control  
Oil Pressure Controllers Control  
Configurable Analog Inputs and Outputs  
Keeping Error Records of Past Events  
Configurable Programmable Digital Inputs and Outputs  
Current and Frequency

3 phase Generator Protections  
- High / Low Voltage  
- High / Low Frequency  
- Current / Voltage Asymmetry  
- Overcurrent / Overload  
Overheat Control  
1 Phase or 3 Phase, Phase Selection  
Parameter Setting via Control Module  
Water Temperature  
Phase Sequence

3 phase AMF Function  
- High / Low Frequency  
- High / Low Voltage  
- High / Low Water Temperature  
- High / Low Load  
Mains, Generator ATS control  
Network, Voltage, Frequency Display  
Parameter Setting via Computer  
Hours of Operation  
Earting

Alarm Horn  
Heater Tube Thermostat Control  
Modbus and SNMP  
Working Hour  
Ground Leakage  
Analog Modem  
Ethernet, USB, RS232, RS485  
Selectable Protection Alarm / Shutdown  
Battery Voltage  
Oil Pressure

### Control Module Alerts

Emergency Stop Malfunction  
High Generator Voltage  
Low Generator Frequency  
Low Load  
Over Current  
Unbalanced Current

Low Generator Voltage  
High Generator Frequency  
Phase Sequence Error  
Overload  
Low Water Level (Optional)  
Low Oil Pressure

Low Water Temperature  
Heat Sensor Broken  
Reverse Power  
Start Error  
Stop Error  
Magnetic Pickup Error

Charge Alternator Error  
Unbalanced Load  
Maintenance Time Alarm  
Low Speed  
High Speed  
Broken Oil Sensor Cable

High Oil Temperature (Optional)  
Low Fuel Level (Optional)  
High Battery Voltage  
Low Battery Voltage  
High Water Temperature  
Electronic Canbus Errors (ECU)

### Sound Proof Canopy and Base Frame (Chassis) Specifications

Special, Registered GENPOWER Design and Color  
A1 Quality DKP / HRU /Galvanized Steel  
Sensitive Twist on Automatic Press Brake  
Delicate Cut on Automatic Punch and Laser Bench  
Sensitive Welding on Robotic Welding Bench  
Chemical Cleaning Nano Technology Before Painting

Robotic Painting with Electrostatic Powder Paint  
Drying and Stabilizing on 200°C Ovens  
1500 Hour Salt Test  
Glasswool Isolation, A1 Class Material -50/+500°C  
Special Covering Over Glass Wool  
Best Sound Level (in dBA)

Temperature Tests  
Rustproof Accessories  
Cable Exit Connectors and Glands  
Emergency Stop Button  
Fuel Level Gauge  
Fuel Drain Cap

Fuel Inlet and Return Records  
Impermeability Test for Fuel Tank  
Vacummmed Rubber Mounted  
High Quality Weatherstrips  
High Quality Shock Absorbers  
Fuel Filling Cap (with ventilation)

Lifting and Carrying Equipments  
Internal Exhaust Mufflers (Silencers)  
External Exhaust Mufflers (Silencers)  
Radiator Water Filling Cap  
Daily Fuel Tank  
External Fuel Tank

### Special Products / Non - Standardized

Synchronised Systems  
Scada Systems  
Mobile Systems  
Light Towers  
Ground Power Unit Generators

Generators - with Trailer  
Medium Voltage - MV  
IP44-IP54 Class Generators  
Welding Machines  
Natural Gas Generator

DC Generators  
High Voltage - HV  
Power Plants  
Trigeneration Systems  
Biogas Generator

High Frequency Generators  
Variable Speed Generators  
Super Silent Canopy  
Cogeneration Systems  
LPG Generator

Marine Generators  
Dual Generators  
Automatic Voltage Stabilizers  
Electrical and Diesel Forklift  
HFO Generator

### Quality Documents & Certificates

Trademark Registration Certificate  
Capacity Report (32400 Units / Year)  
Made in Turkey Certificate- For Generator/1-5000 kVA  
Made in Turkey Certificate-For Alternator/1-5000kVA  
Made in Turkey Certificate- For Engine/1-5000 kW  
Certificate of Competency for After Sales Services  
2014/30/EU Electromagnetic Compatibility Directive  
CE Certificate - 2000/14/AT - 2000/14 EC (CE 2195)

Industrial Registry Certificate  
Certificate of Manufacturing Competence  
TSE- Service Adequacy Certificate  
ISO 9001 - 2015 Certificate  
ISO 14001 - 2015 Certificate  
OHSAS 18001 - 2007 Certificate  
2006/42/EC Machinery Directive  
Coatchem- Türkak 1500 Hours Corrosion Durability Test Certificate

TSE 8528 - 4 Certificate  
TSE 8528 - 5 Certificate  
TSE 8528 - 8 Certificate  
AB-0547-T Certificate  
EAC - GOST Certificate/ Diesel Generator  
EAC - GOST Certificate/ Gasoline Generator  
CE Certificate - EN ISO 17050-1,2004

TS EN ISO 2409 Certificate  
TS EN ISO 4628-3 Certificate  
TS EN ISO 4628-4 Certificate  
TS EN ISO 4628-5 Certificate  
TS EN ISO 4628-8 Certificate  
TS EN ISO 9227 Certificate  
TS 9620 EN ISO 4628-2 Certificate  
TS EN 60034 - 1 Certificate

EN ISO 8528-13,2016 Certificate  
EN ISO 12100:2010 Certificate  
EN ISO 13857:2008 Certificate  
EN ISO 14120:2015 Certificate  
EN 349:1993+A1:2008 Certificate  
EN 60204-1,2018 Certificate  
EN 61000-6-2,2019 Certificate  
EN 61000-6-4,2007/A1:2011 Certificate

# GNT SERIES

## GNT 850 & 960



# GENPOWER

GENERATOR

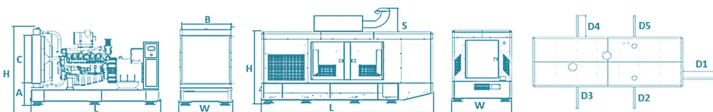
231/400V - 50Hz & 277/480V - 60Hz

### Generator Dimensions

| Values             |    | Open Type Generator | Canopy Type Generator |
|--------------------|----|---------------------|-----------------------|
| Width              | mm | 1400                | 1942                  |
| Length             | mm | 4000                | 5166                  |
| Height             | mm | 2188                | 2920                  |
| Weight (Net)       | Kg | 4250                | 5540                  |
| Fuel Tank Capacity | L  | 1193                | 530                   |

### Generator Technical Drawings

| SYMBOL | OPEN | CANOPY |
|--------|------|--------|
| L      | 4000 | 5166   |
| W      | 1400 | 1942   |
| H      | 2188 | 2920   |
| S      |      | 638    |
| A      | 500  |        |
| B      | 3302 |        |
| C      | 3440 | 3057   |
| D1     |      | 963    |
| D2     |      | 963    |
| D3     |      | 963    |
| D4     |      | 963    |
| D5     |      | 963    |



### Diesel Engine and Genset Rating Classifications

The below ratings represent the engine performance capabilities to conditions specified in TS ISO 8528/1, 8528-4, 8528-5, 8528-8, BS5000, ISO 3046/1:1986, NEMA MG-1.22.1, BS 5514/1.

#### STAND BY POWER RATING (ESP):

ESP is applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. Under no condition is an engine allowed to operate in parallel with the public utility at the Stand By Power rating. This rating should be applied where reliable utility power is available. A Stand By rated engine should be sized for a maximum of an 70% average load factor and 200 hours of operation per year. This includes less than 25 hours per year at the Stand By Power rating. Stand By ratings should never be applied except in true emergency power outages. Negotiated power outages contracted with a utility company are not considered an emergency.

#### PRIME POWER RATING (PRP):

Applicable for supplying electric power in lieu of commercially purchased power. Prime Power applications must be in the form of one of the following two categories:

##### UNLIMITED TIME RUNNING PRIME POWER (ULTP):

PRP (Prime Power) is available for an unlimited number of hours per year in a variable load application. Variable load should not exceed a 70% average of the Prime Power rating during any operating period of 250 hours. The total operating time at 100% Prime Power shall not exceed 500 hours per year. A 10% overload capability is available for a period of 1 hour within a 12-hour period of operation. Total operating time at the 10% overload power shall not exceed 25 hours per year.

##### LIMITED TIME RUNNING PRIME POWER (LTP):

LTP (Limited Time Prime Power) is available for a limited number of hours in a nonvariable load application. It is intended for use in situations where power outages are contracted, such as in utility power curtailment. Engines may be operated in parallel to the public utility up to 750 hours per year at power levels never to exceed the Prime Power rating. The customer should be aware, however, that the life of any engine will be reduced by this constant high load operation. Any operation exceeding 750 hours per year at the Prime Power rating should use the Continuous Power rating.

##### CONTINUOUS POWER RATING (COP):

COP is the power that the engine can continue to use under the prescribed speed and the specified environment condition in the normal maintenance period stipulated in the manufacturing plant. And Continuous Power is applicable for supplying utility power at a constant 100% load for an unlimited number of hours per year. No overload capability is available for this rating.

### PAY ATTENTION to the points below in picking and using the generator

\* Generators can work on Continuous Power at 70% of Prime power value if only all maintenances are done on time with original spare parts and high quality oils that manufacturer advice.

\* Generators should not operate below 50% of Prime Power value. In such a case, the engine will burn excessive oil and eventually have irreparable damage.

\* If your need is 1000 kVA or above, you should prefer Synchronous Systems with 2-3 generators with failure back up and simultaneous aging.

\* These points will provide advantage for you with purchasing and operating the generator.

### INTER Diesel Engine Power Ratings – Fuel Consumption – Oil Recommendation and Oil Grades

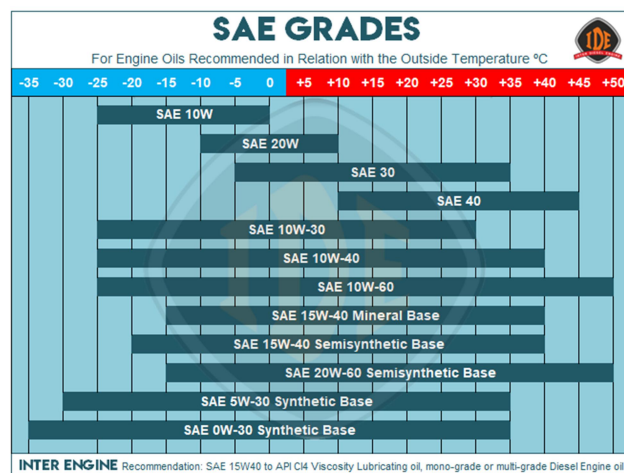
| INTER Diesel Engine Power Ratings |                    |                                |       |               |         |       |         |
|-----------------------------------|--------------------|--------------------------------|-------|---------------|---------|-------|---------|
| Engine Model                      | E105ITDI           | Engine Family                  | ID35  | Engine Series | PII     |       |         |
| Speed<br>rpm                      | Type of Operation  | Typical Generator Output (Net) |       | Engine Power  |         |       |         |
|                                   |                    |                                |       | Gross         |         | Net   |         |
|                                   |                    | kVA                            | kWe   | kWm           | Hp      | kWm   | Hp      |
| 1500                              | Stand By (Maximum) | 849.0                          | 679.0 | 745.0         | 1,000.0 | 715.0 | 959.7   |
|                                   | Prime              | 770.0                          | 616.0 | 678.0         | 910.1   | 649.0 | 871.1   |
| 1800                              | Stand By (Maximum) | 960.0                          | 768.0 | 842.0         | 1,130.2 | 809.0 | 1,085.9 |
|                                   | Prime              | 870.0                          | 696.0 | 765.0         | 1,026.8 | 733.0 | 983.9   |

Generator powers are typical and are based on an average alternator efficiency and a power factor (Cos.  $\phi$ ) of 0.8

| Fuel Consumption       |                 |                 |
|------------------------|-----------------|-----------------|
| Percent of Prime power | 50Hz - 1500 rpm | 60Hz - 1800 rpm |
|                        | l/hr            | l/hr            |
| 110%                   | 168,06          | 189,94          |
| 100%                   | 154,52          | 174,35          |
| 75%                    | 116,48          | 131,43          |
| 50%                    | 78,44           | 88,51           |

Note: At calorific value 42700 kJ/kg + 5 %, density 0.860 kg/dm<sup>3</sup>, temperature 280 K.

Fuel specification: BS 2869: Part 2 1998 Class A2 or (DIN EN 590) ASTM D975 D2 Diesel. The fuel must be clean and without water)



### Why You Should Buy GENPOWER?

### Only because it is the biggest generator factory in the World? NO!

- \* It is one of the most trustworthy and distinguished generator manufacturers in the world with its almost half century experience in the field.
- \* It has interiorized the strategy of **unconditional customer satisfaction** and has been working with this work ethic together with its whole crew.
- \* Customers and end users get their moneys' worth and more with every penny.
- \* It has become a big family with customers and users who receive durable, long-lasting and high quality products.
- \* It has been appreciated many times by customers and suppliers about the investments that have been made for quality enhancement.
- \* Both its suppliers and customers always know GENPOWER is and will always be there for them. GENPOWER on their side in bad and good days.
- \* In order not to harm brand reputation and recognition, each day, they work harder than the day before.
- \* It continues its business only with the suppliers, customers, dealers and technical services that also embrace the same mind set and work ethics.
- \* It proves its loyalty for quality and customer satisfaction with its mottoes **"Your power is the core of our business"** and **"nothing will be left unfinished"**
- \* The specifications and/or modifications you can receive with extra costs by other manufacturers are included in standard production in GENPOWER
- \* When you purchase GENPOWER products, you are not a customer or a buyer but GENPOWER perceives and accepts you as a valuable member of its continuously growing family.

### These are why you should buy from GENPOWER...

**GENPOWER**  
GENERATOR



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