









## INDUSTRIAL RANGE

### 1 MAIN FEATURES

**T** Triphasic  Diesel fuel  Grupel / 4GA53TID50  Grupel / 274GB100  / G-545

**Hz** 50Hz  1500 r.p.m. **V** 400V **cos φ** 0,8

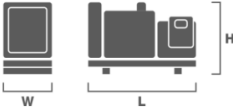
Standby power (STP)	110 kVA	88 kW
Prime Power (PRP)	100 kVA	80 kW
Power Continuous (COP)	- kVA	- kW

**Hz** 60Hz  1800 r.p.m. **V** 480V **cos φ** 0,8

Standby power (STP)	133 kVA	106 kW
Prime Power (PRP)	120 kVA	96 kW
Power Continuous (COP)	- kVA	- kW

#### OPEN SKID

Length (L)	2300 mm
Height (H)	1520 mm
Width (W)	980 mm
Weight	1176 kg
Daily tank	200 L

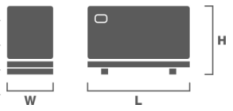


**50Hz** **60Hz**

Acoustic pressure level @1m	-	-
Acoustic pressure level @7m	-	-

#### SOUNDPROOF

Length (L)	2400 mm
Height (H)	1520 mm
Width (W)	980 mm
Weight	1671 kg
Daily tank	200 L



**50Hz** **60Hz**

Acoustic pressure level @1m	74 dB(A)	76 dB(A)
Acoustic pressure level @7m	61 dB(A)	63 dB(A)

#### AVAILABLE VOLTAGES - 50Hz

FP (cos φ)	Phase	Voltage	COP (kVA/kW)	PRP (kVA/kW)	STP (kVA/kW)	Circuit breaker (A)
0,8	Three-phase	440	- / -	95 / 76	105 / 84	125
0,8	Three-phase	415	- / -	100 / 80	110 / 88	160
0,8	Three-phase	400	- / -	100 / 80	110 / 88	160
0,8	Three-phase	380	- / -	100 / 80	110 / 88	160
0,8	Three-phase	240	- / -	100 / 80	110 / 88	250
0,8	Three-phase	230	- / -	100 / 80	110 / 88	250
0,8	Three-phase	220	- / -	95 / 76	105 / 84	250
0,8	Single phase	240	- / -	60 / 48	65 / 52	250
1	Single phase	240	- / -	48 / 48	53 / 53	200
0,8	Single phase	230	- / -	60 / 48	65 / 52	400
1	Single phase	230	- / -	48 / 48	53 / 53	250
0,8	Single phase	220	- / -	60 / 48	65 / 52	400
1	Single phase	220	- / -	48 / 48	53 / 53	250

#### AVAILABLE VOLTAGES - 60Hz

FP (cos φ)	Phase	Voltage	COP (kVA/kW)	PRP (kVA/kW)	STP (kVA/kW)	Circuit breaker (A)
0,8	Three-phase	480	- / -	120 / 96	133 / 106	160
0,8	Three-phase	460	- / -	120 / 96	133 / 106	160
0,8	Three-phase	440	- / -	120 / 96	133 / 106	160
0,8	Three-phase	416	- / -	120 / 96	133 / 106	200
0,8	Three-phase	240	- / -	120 / 96	133 / 106	400
0,8	Three-phase	230	- / -	120 / 96	133 / 106	400
0,8	Three-phase	220	- / -	120 / 96	133 / 106	400
0,8	Three-phase	208	- / -	120 / 96	133 / 106	400
0,8	Single phase	240	- / -	65 / 52	71 / 57	400
1	Single phase	240	- / -	65 / 52	71 / 71	400
0,8	Single phase	230	- / -	65 / 52	71 / 57	400
1	Single phase	230	- / -	65 / 65	71 / 71	400
0,8	Single phase	220	- / -	65 / 52	71 / 57	400
1	Single phase	220	- / -	65 / 65	71 / 71	400


## 2 ROOM INSTALLATION

EXHAUST SYSTEM	50 Hz			60 Hz		
	COP	PRP	STP	COP	PRP	STP
Exhaust gas temperature (°C)	-	-	500	-	-	500
Exhaust gas flow (kg/h)	-	-	410	-	-	430
Evacuated Heat (kW)	-	-	22,8	-	-	25,2
Maximum back pressure (kPa)	6					
Exhaust silencer attenuation (dB)	30					
Output Diameter (mm)	90					

VENTILATION SYSTEMS	50 Hz			60 Hz		
	COP	PRP	STP	COP	PRP	STP
Combustion air flow (kg/h)	-	-	395	-	-	415
Cooling airflow (m³/min)	109,8			131,4		
Maximum load losses (Pa)	125					
RADIATION	50 Hz			60 Hz		
	COP	PRP	STP	COP	PRP	STP
Engine (kW)	-	-	20	-	-	22
Alternator (kW)	7,7	7,7	8,4	8,6	8,6	9,5

## 3 ENGINE SPECIFICATIONS


GENERAL SPECIFICATIONS	50 Hz	60 Hz
Model	4GA53TID50	
Emissions	Not satisfy 97/68/EC	
Performance grade	G1	
Operating method	Four stroke	
Fuel type	Diesel fuel	
Refrigeration system	Water/antifreeze Closed Circuit	
Aspiration system	Turbocharged/intercooler	
Injection system	Direct	
No. and Cylinder arrangement	4 In-Line	
Displacement (L)	5,32	
Cylinder bore (mm)	112	
Cylinder stroke (mm)	135	
Compression Ratio	17.5:1	
Regulation	Mechanic	
Rotation speed	1500	1800
Piston Speed (m/s)	6,8	8,1
Gross power COP (kWm)	-	-
Gross power PRP (kWm)	100,1	112,41
Gross power STP (kWm)	111,0	124,68
Fan power (kWm)	1,5	2
Net Power COP (kWm)	-	-
Net Power PRP (kWm)	98,6	110,41
Net Power STP (kWm)	109,5	122,68
BMEP COP (kPa)	-	-
BMEP PRP (kPa)	1505	1409
BMEP STP (kPa)	1670	1562



CONSUMPTION		50Hz		60Hz	
Fuel consumption	LOAD	lt/h	g/kWh	lt/h	g/kWh
STP	100%	26,8	205,3	29,7	202,5
	100%	24,7	209,6	27,2	205,4
PRP	75%	19,1	215,8	21	211,6
	50%	13,5	228,5	15,1	228,5
COP	100%	-	-	-	-
	75%	-	-	-	-
	50%	-	-	-	-
Oil consumption	< 0,1% of fuel consumption				
REFERENCE CONDITIONS					
Temperature (°C)	25				
Atmospheric pressure (kPa)	100				
CAPACITY					
Coolant (L)	29				
Oil (L)	13,2				
STARTING SYSTEM					
Voltage (V)	24				
Power (kW)	5.5				
Battery (Ah)	100				

## 4 ALTERNATOR SPECIFICATIONS

GENERAL SPECIFICATIONS	
Model	274GB100
Phases No.	Triphasic
Protection	IP23
Insulation	H
Temperature Rise	H
50Hz R.F.I. telephone interference	THF<2%
60Hz R.F.I. telephone interference	TIF<50
R.F.I. Suppression	BS EN 61000-6-2 /6-4, VDE 0875G, VDE 0875N.
Coupling	Semi-Flexible
Support	Single bearing



Wave form distortion with no load	< 1,5%
Wave form distortion with balanced linear load	< 5%
Winding Leads	12
Excitation (standard / option)	Self-excited / PMG
AVR Model (standard / option)	SX460/ MX341
Voltage Regulation (standard / option)	± 1,0%/ ± 0,5%



## INDUSTRIAL RANGE

RATED POWER - 50Hz								RATED POWER - 60Hz							
FP (cos Ø)	Phase	Voltage (V)	Power		Efficiency			FP (cos Ø)	Phase	Voltage (V)	Power		Efficiency		
			PRP/STP (kVA)	PRP/STP (%)	PRP/STP (%)	Xd	X'd				X''d	PRP/STP (kVA)	PRP/STP (%)	PRP/STP (%)	Xd
0,8	Three-phase	440	95 / 105	91,4 / 91,4	2,210	0,180	0,130	0,8	Three-phase	480	120 / 132	91,0 / 91,0	2,580	0,220	0,150
0,8	Three-phase	415	100 / 110	90,7 / 90,7	2,210	0,180	0,130	0,8	Three-phase	460	120 / 132	90,4 / 90,4	2,580	0,220	0,150
0,8	Three-phase	400	100 / 110	90,4 / 90,4	2,210	0,180	0,130	0,8	Three-phase	440	120 / 132	90,0 / 90,0	2,580	0,220	0,150
0,8	Three-phase	380	100 / 110	89,8 / 89,8	2,210	0,180	0,130	0,8	Three-phase	416	120 / 132	89,6 / 89,6	2,580	0,220	0,150
0,8	Three-phase	240	100 / 110	90,7 / 90,7	2,210	0,180	0,130	0,8	Three-phase	240	120 / 132	91,0 / 91,0	2,580	0,220	0,150
0,8	Three-phase	230	100 / 110	90,4 / 90,4	2,210	0,180	0,130	0,8	Three-phase	230	120 / 132	90,4 / 90,4	2,580	0,220	0,150
0,8	Three-phase	220	95 / 105	91,4 / 91,4	2,210	0,180	0,130	0,8	Three-phase	220	120 / 132	90,0 / 90,0	2,580	0,220	0,150
0,8	Single phase	240	60 / 65	90,6 / 90,6	2,210	0,180	0,130	0,8	Three-phase	208	120 / 132	89,6 / 89,6	2,580	0,220	0,150
1	Single phase	240	60 / 66	90,6 / 90,6	2,210	0,180	0,130	0,8	Single phase	240	65 / 71	90,6 / 90,6	2,580	0,220	0,150
0,8	Single phase	230	60 / 65	90,6 / 90,6	2,210	0,180	0,130	1	Single phase	240	65 / 71	90,6 / 90,6	2,580	0,220	0,150
1	Single phase	230	60 / 66	90,6 / 90,6	2,210	0,180	0,130	0,8	Single phase	230	65 / 71	90,6 / 90,6	2,580	0,220	0,150
0,8	Single phase	220	60 / 65	90,6 / 90,6	2,210	0,180	0,130	1	Single phase	230	65 / 71	90,6 / 90,6	2,580	0,220	0,150
1	Single phase	220	60 / 66	90,6 / 90,6	2,210	0,180	0,130	0,8	Single phase	220	65 / 71	90,6 / 90,6	2,580	0,220	0,150
								1	Single phase	220	65 / 71	90,6 / 90,6	2,580	0,220	0,150

## 5

## CONTROL PANEL



GENSET	GRUPEL G-545	OPTIONAL
Voltage (Ph-Ph / Ph-N)	• / •	• / •
Current intensity	•	•
Frequency	•	•
RMS values	•	•
Generator phase sequence	•	•
Generator earth current [a]	•	•
No. of registers events	400	250
Real time clock	•	•
PIN protection	•	•
kWh, kVAr, kVAh, kVAh, cos Ø	•	•
Synchroscope (m)	o	o
Nº of available outputs [b]	4	6
Engine run hours	•	•
Indication of alarms on LCD	•	•
Total no. of LED indicators	15	12
No. of LED alarms	4	4
Sound signalling alarms	-	o
Scheduler	•	•
Fuel Level	•	•

Electrical network	GRUPEL G-545	OPTIONAL
Voltage (Ph-Ph / Ph-N)	• / •	• / •
Current intensity [a]	o	o
Frequency	•	•
kVA, kW, cos Ø (a)	o	o
Inversion control between main-group	•	•
Protections and Alarms	GRUPEL G-545	OPTIONAL
High / low battery voltage	A	o
Failure in Battery Charge Alternator	A	o
Failure to stop	A/S	A/S
Failure to start	A/S	A/S
Low fuel level	A/S	A/S
Overload	A/S	A/S
Earth leakage	A/S	A/S
Asymmetry between phases	A/S	A/S
Maintenance	A/S	A/S
High / Low generator frequency	A/S	A/S
Engine overspeed	A/S	A/S
Engine underspeed	A/S	A/S
Generator overvoltage	A/S	A/S
Generator undervoltage	A/S	A/S
ECU Alert (if applicable)	A/S	A/S
Low oil pressure	A/S	A/S
Low level of radiator water [f]	A/S	A/S
Engine high temperature	A/S	A/S
Fuel leakage/ theft	A	o

## 6 CONTROL PANEL

Engine	GRUPEL G-545	OPTIONAL
Engine Speed	•	•
Low oil pressure protection	•	•
Oil pressure reading [c]	o	o
High temperature engine protection	•	•
Engine temperature reading [c]	o	o
Engine battery voltage	•	•
Intensity of the engine battery [d]	o	o
Fuel Consumption [e]	•	•
Low level of radiator water [f]	o	o
Engine maintenance scheduled	•	•
Communication	GRUPEL G-545	OPTIONAL
USB female type B plug (Max. 6m) [g]	•	•
USB female type A plug (n)	o	o
RS232 port (Max. 15m) (n)	o	o
RS485 port (Max. 1,2Km) [h]	•	•
Ethernet port RJ45 [i]	o	o
GSM and/or GPS [j]	o	o
ModBus RTU protocol [h]	•	•
ModBus TCP protocol [i]	o	o
SNMP protocol [l]	o	o
CAN port (Max. 40m)	•	•
MSC port (Max. 240m) (m)	o	o
PLC functionality	•	•

Applications	GRUPEL G-545	OPTIONAL
Automatic or manual starting	•	•
Remote start by NO dry contact	•	•
Automatic by mains failure	•	•
Alternating with timesharing	•	•
Multi-generators synchronization and load sharing (Max. 32 generators) (m)	o	o
Generator-Main in synchronism and load sharing (1 generator and 1 main) (m)	o	o
Optional expansions	GRUPEL G-545	OPTIONAL
DSE2130 (8 inputs dig.)   IG-IOM (8 in/outputs dig. + 4 inputs anal.)   G-08 ( 8 inputs dig.)	•	•
DSE2157   I-RB8   G-06 (8 relay outputs)	•	•
DSE890   IL-NT-GPRS   G-GSM (GSM and/or GPS)	•	•
DSE891   IB-LITE   G-ETH (ethernet module)	•	•
DSE892   IB-LITE   - (ethernet module according SNMP protocol)	-	o
DSE2548   IGL-RA15   - (expansion with 8 additional LEDs)	-	o
DSE2510 / 20 (mirror controller, maximum distance 1km)	-	o
Standards		
Working temperature		-30 -> 70°C
Protection index (when assembled with sealing gasket)		IP65
Degree of humidity (during 48hr)		93% / 40°C

### Legend

•	Available
o	Optional
-	Not available
A	Warning Alarm
S	Stop alarm
[a]	Need additional CT
[b]	No. of outputs available for standard configuration. The outputs do not include relays and additional terminal connections.
[c]	If the information is not provided by the engine-ECU, you need an additional sensor

[d]	Needs additional ammeter
[e]	If information provided by the engine ECU
[f]	Required additional sensor
[g]	Requires the addition of the IL-NT-S-USB module
[h]	Requires the addition of the IL-NT-RS232-485 module
[i]	DeepSea: Requires the addition of the DSE891 module/ ComAp: Requires the addition of the IB-LITE module
[j]	DeepSea: Requires the addition of the DSE890 module/ ComAp: Requires the addition of the IL-NT-GPRS module
[l]	DeepSea: Requires the addition of the DSE892 module/ ComAp: Requires the addition of the IB-LITE module

Indicative weights and dimensions. Reference ambient conditions: 100kPa, 25°C, 30% relative humidity and fuel temperature below 40°C. Power in accordance with ISO 8528: Continuous power (PRP): Maximum available power to feed a variable electrical load for an unlimited period. The average of load factor in 24h of operation, shall not exceed 70% of the PRP. Admits 10% of overload during the maximum period of 1h every 12h of operation. The operation under overload shall not exceed 25h/year. Emergency Power (STP): Maximum available power to feed variable electrical load for a maximum period of 200h/year. The average of load factor in 24h of operation shall not exceed 70% of the STP. No overload. These specifications are subject to change without notice.

### Distribuidor