









INDUSTRIAL RANGE

1 MAIN FEATURES


T Triphasic  Diesel fuel  Perkins / 1104A-44TG2  Grupel / 274GB100  / G-545

Hz 50Hz	 1500 r.p.m.	V 400V	cos φ 0,8
Standby power (STP)	89 kVA	72 kW	
Prime Power (PRP)	81 kVA	65 kW	
Power Continuous (COP)	- kVA	- kW	

Hz 60Hz	 1800 r.p.m.	V 480V	cos φ 0,8
Standby power (STP)	103 kVA	82 kW	
Prime Power (PRP)	93 kVA	75 kW	
Power Continuous (COP)	- kVA	- kW	

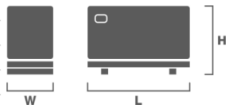
OPEN SKID

Length (L)	2300 mm
Height (H)	1500 mm
Width (W)	980 mm
Weight	1066 kg
Daily tank	180 L



SOUNDPROOF

Length (L)	2300 mm
Height (H)	1520 mm
Width (W)	980 mm
Weight	1561 kg
Daily tank	200 L



	50Hz	60Hz
Acoustic pressure level @ 1m	-	-
Acoustic pressure level @ 7m	-	-

	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 Ø)	Phase	Voltage	COP (kVA/kW)	PRP (kVA/kW)	STP (kVA/kW)	Circuit breaker (A)
0,8	Three-phase	440	- / -	82 / 66	90 / 72	125
0,8	Three-phase	415	- / -	82 / 65	90 / 72	125
0,8	Three-phase	400	- / -	81 / 65	89 / 72	125
0,8	Three-phase	380	- / -	81 / 65	89 / 71	125
0,8	Three-phase	240	- / -	82 / 65	90 / 72	200
0,8	Three-phase	230	- / -	81 / 65	89 / 72	250
0,8	Three-phase	220	- / -	82 / 66	90 / 72	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 Ø)	Phase	Voltage	COP (kVA/kW)	PRP (kVA/kW)	STP (kVA/kW)	Circuit breaker (A)
0,8	Three-phase	480	- / -	93 / 75	103 / 82	125
0,8	Three-phase	460	- / -	93 / 74	102 / 82	125
0,8	Three-phase	440	- / -	92 / 74	101 / 81	125
0,8	Three-phase	416	- / -	92 / 73	101 / 81	160
0,8	Three-phase	240	- / -	93 / 75	103 / 82	250
0,8	Three-phase	230	- / -	93 / 74	102 / 82	250
0,8	Three-phase	220	- / -	92 / 74	101 / 81	250
0,8	Three-phase	208	- / -	92 / 73	101 / 81	400
0,8	Single phase	240	- / -	65 / 52	71 / 57	400
1	Single phase	240	- / -	65 / 65	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)	-	555	580	-	535	560
Exhaust gas flow (m³/min)	-	12,5	13,3	-	15	15,85
Evacuated Heat (kW)	-	53	59	-	68	71
Maximum back pressure (kPa)	10					
Exhaust silencer attenuation (dB)	30					
Output Diameter (mm)	90					

VENTILATION SYSTEMS	50 Hz			60 Hz		
	COP	PRP	STP	COP	PRP	STP
Combustion air flow (m³/min)	-	4,8	5,14	-	6,2	6,5
Cooling airflow (m³/min)	89			111		
Maximum load losses (Pa)	125					
RADIATION	50 Hz			60 Hz		
	COP	PRP	STP	COP	PRP	STP
Engine (kW)	13	13	14	14	14	15
Alternator (kW)	7,7	7,7	8,4	8,6	8,6	9,5

3 ENGINE SPECIFICATIONS


GENERAL SPECIFICATIONS	50 Hz	60 Hz
Model	1104A-44TG2	
Emissions	Not satisfy 97/68/EC	
Performance grade	G2	
Operating method	Four stroke	
Fuel type	Diesel fuel	
Refrigeration system	Water/antifreeze Closed Circuit	
Aspiration system	Turbocharged	
Injection system	Direct	
No. and Cylinder arrangement	4 In-Line	
Displacement (L)	4,4	
Cylinder bore (mm)	105	
Cylinder stroke (mm)	127	
Compression Ratio	17,25:1	
Regulation	Mechanic / optional electronic	
Rotation speed	1500	1800
Piston Speed (m/s)	6,4	7,62
Gross power COP (kWm)	-	-
Gross power PRP (kWm)	73,4	84,5
Gross power STP (kWm)	80,7	93
Fan power (kWm)	1,6	2,8
Net Power COP (kWm)	-	-
Net Power PRP (kWm)	71,9	82
Net Power STP (kWm)	79,1	90,2
BMEP COP (kPa)	-	-
BMEP PRP (kPa)	1335	1280
BMEP STP (kPa)	1467	1409



CONSUMPTION		50Hz		60Hz	
Fuel consumption	LOAD	lt/h	g/kWh	lt/h	g/kWh
STP	100%	20,5	-	24,4	-
	75%	18,2	-	22,3	-
	50%	14	-	16,9	-
PRP	100%	9,7	-	11,9	-
	75%	-	-	-	-
	50%	-	-	-	-
COP	100%	-	-	-	-
	75%	-	-	-	-
	50%	-	-	-	-
Oil consumption	< 0,15% of fuel consumption				
REFERENCE CONDITIONS					
Temperature (°C)	25				
Atmospheric pressure (kPa)	100				
CAPACITY					
Coolant (L)	13				
Oil (L)	8				
STARTING SYSTEM					
Voltage (V)	12				
Power (kW)	3				
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

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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