GRUPEL
energy everywhere

INDUSTRIAL RANGE

1 MAIN FEATURES

T	Triphasic		Diesel fuel		Iveco / N67 TM3A		Leroy somer / TAL044J	/ G-545

Hz	50Hz		1500 r.p.m.	V	400V	cos φ	0,8

Standby power (STP)	165 kVA	132 kW
Prime Power (PRP)	150 kVA	120 kW
Power Continuous (COP)	- kVA	- kW

Hz	60Hz		1800 r.p.m.	V	480V	cos φ	0,8

Standby power (STP)	191 kVA	153 kW
Prime Power (PRP)	173 kVA	138 kW
Power Continuous (COP)	- kVA	- kW

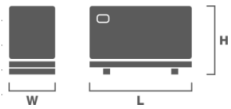
OPEN SKID

Length (L)	3100 mm
Height (H)	1790 mm
Width(W)	1165 mm
Weight	1356 kg
Daily tank	400 L

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

SOUNDPROOF

Length (L)	3100 mm
Height (H)	1790 mm
Width (W)	1165 mm
Weight	1906 kg
Daily tank	400 L



	50Hz	60Hz
Acoustic pressure level @1m	75 dB(A)	77 dB(A)
Acoustic pressure level @7m	62 dB(A)	64 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	- / -	135 / 108	149 / 119	200
1	Three-phase	440	- / -	108 / 108	119 / 119	160
0,8	Three-phase	415	- / -	150 / 120	165 / 132	250
1	Three-phase	415	- / -	120 / 120	132 / 132	200
0,8	Three-phase	400	- / -	150 / 120	165 / 132	250
1	Three-phase	400	- / -	120 / 120	132 / 132	200
0,8	Three-phase	380	- / -	150 / 120	165 / 132	250
1	Three-phase	380	- / -	120 / 120	132 / 132	200
0,8	Three-phase	240	- / -	150 / 120	165 / 132	400
1	Three-phase	240	- / -	120 / 120	132 / 132	400
0,8	Three-phase	230	- / -	150 / 120	165 / 132	400
1	Three-phase	230	- / -	120 / 120	132 / 132	400
0,8	Three-phase	220	- / -	135 / 108	149 / 119	400
1	Three-phase	220	- / -	108 / 108	119 / 119	400
0,8	Single phase	230	- / -	80 / 64	88 / 70	400
1	Single phase	230	- / -	64 / 64	70 / 70	400
0,8	Single phase	230	- / -	80 / 64	88 / 70	400
1	Single phase	230	- / -	64 / 64	70 / 70	400
0,8	Single phase	220	- / -	80 / 64	88 / 70	400
1	Single phase	220	- / -	64 / 64	70 / 70	400

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	- / -	173 / 138	191 / 153	250
1	Three-phase	480	- / -	142 / 142	157 / 157	200
0,8	Three-phase	440	- / -	172 / 138	189 / 151	250
1	Three-phase	440	- / -	138 / 138	151 / 151	200
0,8	Three-phase	416	- / -	163 / 130	179 / 143	250
1	Three-phase	416	- / -	130 / 130	143 / 143	200
0,8	Three-phase	380	- / -	148 / 118	163 / 130	250
1	Three-phase	380	- / -	118 / 118	130 / 130	200
0,8	Three-phase	240	- / -	173 / 138	191 / 153	630
1	Three-phase	240	- / -	142 / 142	157 / 157	400
0,8	Three-phase	220	- / -	172 / 138	189 / 151	630
1	Three-phase	220	- / -	138 / 138	151 / 151	400
0,8	Three-phase	208	- / -	163 / 130	179 / 143	630
1	Three-phase	208	- / -	130 / 130	143 / 143	400
0,8	Single phase	240	- / -	95 / 76	105 / 84	400
1	Single phase	240	- / -	76 / 76	84 / 84	400
0,8	Single phase	240	- / -	95 / 76	105 / 84	400
1	Single phase	240	- / -	76 / 76	84 / 84	400
0,8	Single phase	230	- / -	95 / 76	105 / 84	630
1	Single phase	230	- / -	76 / 76	84 / 84	400

2 ROOM INSTALLATION

EXHAUST SYSTEM	50 Hz			60 Hz		
	COP	PRP	STP	COP	PRP	STP
Exhaust gas temperature (°C)	-	570	-	-	541	-
Exhaust gas flow (m³/min)	-	-	739	-	-	907
Evacuated Heat (kW)	-	-	-	-	-	-
Maximum back pressure (kPa)	5					
Exhaust silencer attenuation (dB)	18-25					
Output Diameter (mm)	114					

VENTILATION SYSTEMS	50 Hz			60 Hz		
	COP	PRP	STP	COP	PRP	STP
Combustion air flow (m³/min)	-	9,8	-	-	12,05	-
Cooling airflow (m³/min)		228			288	
Maximum load losses (Pa)	196					

RADIATION	50 Hz			60 Hz		
	COP	PRP	STP	COP	PRP	STP
Engine (kW)	-	-	-	-	-	-
Alternator (kW)	9,2	9,2	10,6	10,9	10,9	12,5
Alternator (kW)	6,0	6,0	6,8	7,4	7,4	8,3

3 ENGINE SPECIFICATIONS

GENERAL SPECIFICATIONS	50 Hz	60 Hz
Model	N67 TM3A	
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	6 In-Line	
Displacement (L)	6,7	
Cylinder bore (mm)	104	
Cylinder stroke (mm)	132	
Compression Ratio	17,5:1	
Regulation	Mechanic / optional electronic	
Rotation speed	1500	1800
Piston Speed (m/s)	6,6	7,9
Gross power COP (kWm)	-	-
Gross power PRP (kWm)	142,7	156,8
Gross power STP (kWm)	157	172,5
Fan power (kWm)	5	7,5
Net Power COP (kWm)	-	-
Net Power PRP (kWm)	137,7	149,3
Net Power STP (kWm)	152	165
BMEP COP (kPa)	-	-
BMEP PRP (kPa)	1693,4	1555,9
BMEP STP (kPa)	1862,7	1711,4

CONSUMPTION		50Hz		60Hz	
Fuel consumption	LOAD	lt/h	g/kWh	lt/h	g/kWh
STP	100%	39	212,5	44,2	216
PRP	100%	36	212,7	40,1	217,5
	75%	24	213,8	32,5	220,4
	50%	15,1	215	20,7	224,7
COP	100%	-	-	-	-
	75%	-	-	-	-
	50%	-	-	-	-
Oil consumption		< 0,1% of fuel consumption			
REFERENCE CONDITIONS					
Temperature (ºC)		25			
Atmospheric pressure (kPa)		100			
CAPACITY					
Coolant (L)		25,5			
Oil (L)		17,2			
STARTING SYSTEM					
Voltage (V)		12			
Power (kW)		3			
Battery (Ah)		155			

4 ALTERNATOR SPECIFICATIONS

GENERAL SPECIFICATIONS	
Model	TAL044J
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	CEM 2014/30/UE
Coupling	Semi-Flexible

Wave form distortion with no load	< 3,5%
Wave form distortion with balanced linear load	< 5%
Winding Leads	6
Excitation (standard / option)	SHUNT / AREP
AVR Model (standard / option)	R120 / R180

Support	Single bearing
Voltage Regulation (standard / option)	± 1 % / ± 1 %
Icc (standard / option)	-/ 1/Xd

INDUSTRIAL RANGE

RATED POWER - 50Hz							
FP (cos Ø)	Phase	Voltage (V)	Power PRP/STP (kVA)	Efficiency PRP/STP (%)	Xd	X'd	X"d
0,8	Three-phase	440	135 / 149	91,8 / 91,6	2,670	0,126	0,075
1	Three-phase	440	108 / 119	94,7 / 94,7	2,670	0,126	0,075
0,8	Three-phase	415	150 / 165	92,2 / 91,8	3,320	0,157	0,094
1	Three-phase	415	120 / 132	95,0 / 94,9	3,320	0,157	0,094
0,8	Three-phase	400	150 / 165	92,4 / 92,0	3,590	0,170	0,102
1	Three-phase	400	120 / 132	95,0 / 94,9	3,590	0,170	0,102
0,8	Three-phase	380	150 / 165	92,3 / 91,9	3,980	0,188	0,113
1	Three-phase	380	120 / 132	95,0 / 94,7	3,980	0,188	0,113
0,8	Three-phase	240	150 / 165	92,2 / 91,8	3,320	0,157	0,094
1	Three-phase	240	120 / 132	95,0 / 94,9	3,320	0,157	0,094
0,8	Three-phase	230	150 / 165	92,4 / 92,0	3,590	0,170	0,102
1	Three-phase	230	120 / 132	95,0 / 94,9	3,590	0,170	0,102
0,8	Three-phase	220	135 / 149	91,8 / 91,6	2,670	0,126	0,075
1	Three-phase	220	108 / 119	94,7 / 94,7	2,670	0,126	0,075
0,8	Single phase	230	80 / 88	89,0 / 88,5	1,420	0,180	0,110
1	Single phase	230	64 / 70	92,9 / 92,8	1,420	0,180	0,110
0,8	Single phase	230	80 / 88	86,6 / 85,8	1,990	0,183	0,109
1	Single phase	230	64 / 70	91,2 / 90,9	1,990	0,183	0,109
0,8	Single phase	220	80 / 88	89,0 / 88,5	1,550	0,200	0,120
1	Single phase	220	64 / 70	92,9 / 92,8	1,550	0,200	0,120

RATED POWER - 60Hz							
FP (cos Ø)	Phase	Voltage (V)	Power PRP/STP (kVA)	Efficiency PRP/STP (%)	Xd	X'd	X"d
0,8	Three-phase	480	188 / 207	92,7 / 92,4	3,750	0,177	0,106
1	Three-phase	480	150 / 165	95,1 / 95,0	3,750	0,177	0,106
0,8	Three-phase	440	172 / 189	92,9 / 92,6	4,080	0,193	0,116
1	Three-phase	440	138 / 151	95,1 / 95,0	4,080	0,193	0,116
0,8	Three-phase	416	163 / 179	92,8 / 92,4	4,330	0,205	0,123
1	Three-phase	416	130 / 143	95,0 / 94,8	4,330	0,205	0,123
0,8	Three-phase	380	148 / 163	92,5 / 92,1	4,710	0,223	0,133
1	Three-phase	380	118 / 130	94,8 / 94,6	4,710	0,223	0,133
0,8	Three-phase	240	188 / 207	92,7 / 92,4	3,750	0,177	0,106
1	Three-phase	240	150 / 165	95,1 / 95,0	3,750	0,177	0,106
0,8	Three-phase	220	172 / 189	92,9 / 92,6	4,080	0,193	0,116
1	Three-phase	220	138 / 151	95,1 / 95,0	4,080	0,193	0,116
0,8	Three-phase	208	163 / 179	92,8 / 92,4	4,330	0,205	0,123
1	Three-phase	208	130 / 143	95,0 / 94,8	4,330	0,205	0,123
0,8	Single phase	240	95 / 105	89,7 / 89,2	2,290	0,240	0,140
1	Single phase	240	76 / 84	92,8 / 92,6	2,290	0,240	0,140
0,8	Single phase	240	95 / 105	86,1 / 85,4	2,600	0,239	0,143
1	Single phase	240	76 / 84	90,3 / 89,9	2,600	0,239	0,143
0,8	Single phase	230	95 / 105	89,7 / 89,2	2,490	0,260	0,160
1	Single phase	230	76 / 84	92,8 / 92,6	2,490	0,260	0,160

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, kVArh, 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