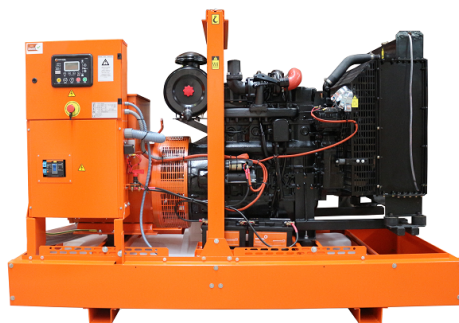




SMART RANGE

1 MAIN FEATURES

T Triphasic	 Diesel fuel	 Perkins / 403A-15G2	 Leroy somer / TAL040D	 / G-545
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Hz 50Hz	 1500 r.p.m.	V 400V	cos φ 0,8
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Standby power (STP)	16 kVA	13 kW
Prime Power (PRP)	15 kVA	12 kW
Power Continuous (COP)	- kVA	- kW

Hz 60Hz	 1800 r.p.m.	V 480V	cos φ 0,8
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Standby power (STP)	19 kVA	15 kW
Prime Power (PRP)	17 kVA	14 kW
Power Continuous (COP)	- kVA	- kW

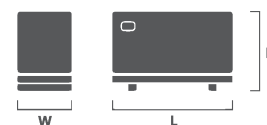
OPEN SKID

Length (L)	1620 mm
Height (H)	1120 mm
Width (W)	730 mm
Weight	445 kg
Daily tank	45 L



SOUNDPROOF

Length (L)	1620 mm
Height (H)	1120 mm
Width (W)	730 mm
Weight	620 kg
Daily tank	45 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 φ)	Phase	Voltage	COP (kVA/kW)	PRP (kVA/kW)	STP (kVA/kW)	Circuit breaker (A)
0,8	Three-phase	440	- / -	13 / 10	14 / 11	20
1	Three-phase	440	- / -	10 / 10	11 / 11	16
0,8	Three-phase	415	- / -	15 / 12	16 / 13	25
1	Three-phase	415	- / -	12 / 12	13 / 13	20
0,8	Three-phase	400	- / -	15 / 12	16 / 13	25
1	Three-phase	400	- / -	12 / 12	13 / 13	20
0,8	Three-phase	380	- / -	15 / 12	16 / 13	25
1	Three-phase	380	- / -	12 / 12	13 / 13	20
0,8	Three-phase	240	- / -	15 / 12	16 / 13	40
1	Three-phase	240	- / -	12 / 12	13 / 13	32
0,8	Three-phase	230	- / -	15 / 12	16 / 13	40
1	Three-phase	230	- / -	12 / 12	13 / 13	32
0,8	Three-phase	220	- / -	13 / 10	14 / 11	40
1	Three-phase	220	- / -	10 / 10	11 / 11	32
0,8	Single phase	230	- / -	11 / 8	12 / 9	50
1	Single phase	230	- / -	8 / 8	9 / 9	40
0,8	Single phase	230	- / -	11 / 8	12 / 9	50
1	Single phase	230	- / -	8 / 8	9 / 9	40
0,8	Single phase	220	- / -	11 / 8	12 / 9	50
1	Single phase	220	- / -	8 / 8	9 / 9	40

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	- / -	17 / 14	19 / 15	25
1	Three-phase	480	- / -	15 / 15	16 / 16	20
0,8	Three-phase	440	- / -	17 / 14	19 / 15	25
1	Three-phase	440	- / -	14 / 14	15 / 15	20
0,8	Three-phase	416	- / -	17 / 13	18 / 15	25
1	Three-phase	416	- / -	13 / 13	15 / 15	20
0,8	Three-phase	380	- / -	15 / 12	17 / 13	25
1	Three-phase	380	- / -	12 / 12	13 / 13	20
0,8	Three-phase	240	- / -	17 / 14	19 / 15	50
1	Three-phase	240	- / -	15 / 15	16 / 16	40
0,8	Three-phase	220	- / -	17 / 14	19 / 15	50
1	Three-phase	220	- / -	14 / 14	15 / 15	40
0,8	Three-phase	208	- / -	17 / 13	18 / 15	50
1	Three-phase	208	- / -	13 / 13	15 / 15	40
0,8	Single phase	240	- / -	13 / 10	15 / 12	63
1	Single phase	240	- / -	10 / 10	12 / 12	50
0,8	Single phase	240	- / -	13 / 10	14 / 11	63
1	Single phase	240	- / -	10 / 10	11 / 11	50
0,8	Single phase	230	- / -	13 / 10	15 / 12	63
1	Single phase	230	- / -	10 / 10	12 / 12	50

2 ROOM INSTALLATION

EXHAUST SYSTEM	50 Hz			60 Hz		
	COP	PRP	STP	COP	PRP	STP
Exhaust gas temperature (°C)	-	470	580	-	480	590
Exhaust gas flow (m³/min)	-	2,2	-	-	2,6	-
Evacuated Heat (kW)	-	10,7	11,6	-	15,6	17,2
Maximum back pressure (kPa)	10,2					
Exhaust silencer attenuation (dB)	18-25					
Output Diameter (mm)	65					

VENTILATION SYSTEMS	50 Hz			60 Hz		
	COP	PRP	STP	COP	PRP	STP
Combustion air flow (m³/min)	-	1	-	-	1,2	-
Cooling airflow (m³/min)	41,4			48,6		
Maximum load losses (Pa)	83					
RADIATION	50 Hz			60 Hz		
	COP	PRP	STP	COP	PRP	STP
Engine (kW)	3,5	3,5	4	4,1	4,1	4,7
Alternator (kW)	1,8	1,8	2,0	2,1	2,1	2,4
Alternator (kW)	1,2	1,2	1,3	1,5	1,5	1,6

3 ENGINE SPECIFICATIONS

GENERAL SPECIFICATIONS	50 Hz	60 Hz
	Model	403A-15G2
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	Natural	
Injection system	InDirect	
No. and Cylinder arrangement	3 In-Line	
Displacement (L)	1,496	
Cylinder bore (mm)	84	
Cylinder stroke (mm)	90	
Compression Ratio	22,5:1	
Regulation	Mechanic / optional electronic	
Rotation speed	1500	1800
Piston Speed (m/s)	4,5	5,4
Gross power COP (kWm)	-	-
Gross power PRP (kWm)	14	16,33
Gross power STP (kWm)	15,4	17,96
Fan power (kWm)	0,2	0,23
Net Power COP (kWm)	-	-
Net Power PRP (kWm)	13,8	16,1
Net Power STP (kWm)	15,2	17,77
BMEP COP (kPa)	-	-
BMEP PRP (kPa)	746	728
BMEP STP (kPa)	820	800



CONSUMPTION		50Hz		60Hz	
Fuel consumption	LOAD	lt/h	g/kWh	lt/h	g/kWh
STP	100%	5,0	277	5,1	282
PRP	100%	4,3	260	4,3	261
	75%	3,1	251	3,1	250
	50%	2,2	271	2,2	272
COP	100%	-	-	-	-
	75%	-	-	-	-
	50%	-	-	-	-
Oil consumption		< 0,1% of fuel consumption			
REFERENCE CONDITIONS					
Temperature (°C)		25			
Atmospheric pressure (kPa)		100			
CAPACITY					
Coolant (L)		6			
Oil (L)		4,5			
STARTING SYSTEM					
Voltage (V)		12			
Power (kW)		2			
Battery (Ah)		60			

4 ALTERNATOR SPECIFICATIONS

GENERAL SPECIFICATIONS	
Model	TAL040D
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



SMART RANGE

RATED POWER - 50Hz								RATED POWER - 60Hz							
FP (cos Ø)	Phase	Voltage (V)	Power PRP/STP (kVA)	Efficiency PRP/STP (%)	Xd	X'd	X''d	FP (cos Ø)	Phase	Voltage (V)	Power PRP/STP (kVA)	Efficiency PRP/STP (%)	Xd	X'd	X''d
0,8	Three-phase	440	13 / 14	85,0 / 84,8	1,370	0,121	0,060	0,8	Three-phase	480	19 / 21	86,1 / 85,7	2,020	0,178	0,089
1	Three-phase	440	10 / 11	89,7 / 89,9	1,370	0,121	0,060	1	Three-phase	480	15 / 17	90,4 / 90,3	2,020	0,178	0,089
0,8	Three-phase	415	15 / 17	85,2 / 84,8	1,760	0,156	0,078	0,8	Three-phase	440	18 / 19	86,0 / 85,6	2,210	0,195	0,097
1	Three-phase	415	12 / 13	90,2 / 90,0	1,760	0,156	0,078	1	Three-phase	440	14 / 15	90,3 / 90,1	2,210	0,195	0,097
0,8	Three-phase	400	15 / 17	85,2 / 84,8	1,910	0,169	0,084	0,8	Three-phase	416	17 / 18	85,8 / 85,4	2,330	0,206	0,103
1	Three-phase	400	12 / 13	90,2 / 90,0	1,910	0,169	0,084	1	Three-phase	416	13 / 15	90,2 / 90,0	2,330	0,206	0,103
0,8	Three-phase	380	15 / 17	85,1 / 84,5	2,120	0,187	0,093	0,8	Three-phase	380	15 / 17	85,4 / 84,9	2,540	0,224	0,112
1	Three-phase	380	12 / 13	90,1 / 89,8	2,120	0,187	0,093	1	Three-phase	380	12 / 13	89,9 / 89,6	2,540	0,224	0,112
0,8	Three-phase	240	15 / 17	85,2 / 84,8	1,760	0,156	0,078	0,8	Three-phase	240	19 / 21	86,1 / 85,7	2,020	0,178	0,089
1	Three-phase	240	12 / 13	90,2 / 90,0	1,760	0,156	0,078	1	Three-phase	240	15 / 17	90,4 / 90,3	2,020	0,178	0,089
0,8	Three-phase	230	15 / 17	85,2 / 84,8	1,910	0,169	0,084	0,8	Three-phase	220	18 / 19	86,0 / 85,6	2,210	0,195	0,097
1	Three-phase	230	12 / 13	90,2 / 90,0	1,910	0,169	0,084	1	Three-phase	220	14 / 15	90,3 / 90,1	2,210	0,195	0,097
0,8	Three-phase	220	13 / 14	85,0 / 84,8	1,370	0,121	0,060	0,8	Three-phase	208	17 / 18	85,8 / 85,4	2,330	0,206	0,103
1	Three-phase	220	10 / 11	89,7 / 89,9	1,370	0,121	0,060	1	Three-phase	208	13 / 15	90,2 / 90,0	2,330	0,206	0,103
0,8	Single phase	230	11 / 12	75,0 / 73,9	1,290	0,240	0,120	0,8	Single phase	240	13 / 15	73,4 / 72,0	1,900	0,330	0,160
1	Single phase	230	8 / 9	83,0 / 82,4	1,290	0,240	0,120	1	Single phase	240	10 / 12	81,1 / 80,2	1,900	0,330	0,160
0,8	Single phase	230	11 / 12	75,0 / 73,8	1,460	0,238	0,119	0,8	Single phase	240	13 / 14	73,4 / 72,1	2,000	0,325	0,162
1	Single phase	230	8 / 9	83,1 / 82,5	1,460	0,238	0,119	1	Single phase	240	10 / 11	81,2 / 80,3	2,000	0,325	0,162
0,8	Single phase	220	11 / 12	75,0 / 73,9	1,410	0,260	0,130	0,8	Single phase	230	13 / 15	73,4 / 72,0	2,070	0,350	0,180
1	Single phase	220	8 / 9	83,0 / 82,4	1,410	0,260	0,130	1	Single phase	230	10 / 12	81,1 / 80,2	2,070	0,350	0,180

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)	0	0
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	-	0
Scheduler	•	•
Fuel Level	•	•

Electrical network	GRUPEL G-545	OPTIONAL
Voltage (Ph-Ph / Ph-N)	• / •	• / •
Current intensity [a]	0	0
Frequency	•	•
kVA, kW, cos Ø (a)	0	0
Inversion control between main-group	•	•
Protections and Alarms	GRUPEL G-545	OPTIONAL
High / low battery voltage	A	0
Failure in Battery Charge Alternator	A	0
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	0

6 CONTROL PANEL

Engine	GRUPEL G-545	OPTIONAL
Engine Speed	•	•
Low oil pressure protection	•	•
Oil pressure reading [c]	0	0
High temperature engine protection	•	•
Engine temperature reading [c]	0	0
Engine battery voltage	•	•
Intensity of the engine battery [d]	0	0
Fuel Consumption [e]	•	•
Low level of radiator water [f]	0	0
Engine maintenance scheduled	•	•
Communication	GRUPEL G-545	OPTIONAL
USB female type B plug (Max. 6m) [g]	•	•
USB female type A plug (n)	0	0
RS232 port (Max. 15m) (n)	0	0
RS485 port (Max. 1,2Km) [h]	•	•
Ethernet port RJ45 [i]	0	0
GSM and/or GPS [j]	0	0
ModBus RTU protocol [h]	•	•
ModBus TCP protocol [i]	0	0
SNMP protocol [l]	0	0
CAN port (Max. 40m)	•	•
MSC port (Max. 240m) (m)	0	0
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)	0	0
Generator-Main in synchronism and load sharing (1 generator and 1 main) (m)	0	0
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)	-	0
DSE2548 IGL-RA15 - (expansion with 8 additional LEDs)	-	0
DSE2510 / 20 (mirror controller, maximum distance 1km)	-	0
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