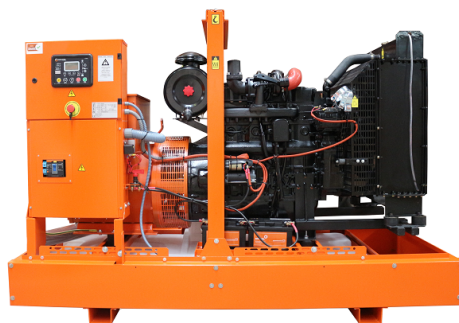




SMART RANGE

1 MAIN FEATURES

T Triphasic	Diesel fuel	Perkins / 404A-22G1	Leroy somer / TAL040F	/ 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)	22 kVA	18 kW
Prime Power (PRP)	20 kVA	16 kW
Power Continuous (COP)	- kVA	- kW

OPEN SKID

Length (L)	1620 mm
Height (H)	1120 mm
Width (W)	730 mm
Weight	510 kg
Daily tank	45 L



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

AVAILABLE VOLTAGES - 50Hz

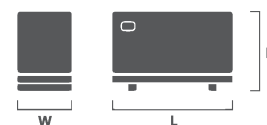
FP (cos Ø)	Phase	Voltage	COP (kVA/kW)	PRP (kVA/kW)	STP (kVA/kW)	Circuit breaker (A)
0,8	Three-phase	440	- / -	18 / 14	20 / 16	25
1	Three-phase	440	- / -	14 / 14	16 / 16	20
0,8	Three-phase	415	- / -	20 / 16	22 / 18	32
1	Three-phase	415	- / -	16 / 16	18 / 18	25
0,8	Three-phase	400	- / -	20 / 16	22 / 18	32
1	Three-phase	400	- / -	16 / 16	18 / 18	25
0,8	Three-phase	380	- / -	20 / 16	22 / 18	32
1	Three-phase	380	- / -	16 / 16	18 / 18	25
0,8	Three-phase	240	- / -	20 / 16	22 / 18	50
1	Three-phase	240	- / -	16 / 16	18 / 18	40
0,8	Three-phase	230	- / -	20 / 16	22 / 18	50
1	Three-phase	230	- / -	16 / 16	18 / 18	40
0,8	Three-phase	220	- / -	18 / 14	20 / 16	50
1	Three-phase	220	- / -	14 / 14	16 / 16	40
0,8	Single phase	230	- / -	14 / 11	16 / 12	63
1	Single phase	230	- / -	11 / 11	12 / 12	50
0,8	Single phase	230	- / -	14 / 11	15 / 12	63
1	Single phase	230	- / -	11 / 11	12 / 12	50
0,8	Single phase	220	- / -	14 / 11	16 / 12	80
1	Single phase	220	- / -	11 / 11	12 / 12	63

Hz 60Hz	1800 r.p.m.	V 480V	cos φ 0,8
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Standby power (STP)	26 kVA	21 kW
Prime Power (PRP)	24 kVA	19 kW
Power Continuous (COP)	- kVA	- kW

SOUNDPROOF

Length (L)	1620 mm
Height (H)	1120 mm
Width (W)	730 mm
Weight	685 kg
Daily tank	45 L



50Hz	60Hz
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Acoustic pressure level @1m	74 dB(A)	76 dB(A)
Acoustic pressure level @7m	61 dB(A)	63 dB(A)

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	- / -	24 / 19	26 / 21	32
1	Three-phase	480	- / -	20 / 20	22 / 22	25
0,8	Three-phase	440	- / -	23 / 18	25 / 20	32
1	Three-phase	440	- / -	18 / 18	20 / 20	25
0,8	Three-phase	416	- / -	22 / 18	24 / 19	32
1	Three-phase	416	- / -	18 / 18	19 / 19	25
0,8	Three-phase	380	- / -	20 / 16	22 / 18	32
1	Three-phase	380	- / -	16 / 16	18 / 18	25
0,8	Three-phase	240	- / -	24 / 19	26 / 21	63
1	Three-phase	240	- / -	20 / 20	22 / 22	50
0,8	Three-phase	220	- / -	23 / 18	25 / 20	63
1	Three-phase	220	- / -	18 / 18	20 / 20	50
0,8	Three-phase	208	- / -	22 / 18	24 / 19	63
1	Three-phase	208	- / -	18 / 18	19 / 19	50
0,8	Single phase	240	- / -	16 / 13	18 / 14	80
1	Single phase	240	- / -	13 / 13	14 / 14	63
0,8	Single phase	240	- / -	16 / 13	18 / 14	80
1	Single phase	240	- / -	13 / 13	14 / 14	63
0,8	Single phase	230	- / -	16 / 13	18 / 14	80
1	Single phase	230	- / -	13 / 13	14 / 14	63

2 ROOM INSTALLATION

EXHAUST SYSTEM	50 Hz			60 Hz		
	COP	PRP	STP	COP	PRP	STP
Exhaust gas temperature (°C)	-	445	505	-	-	-
Exhaust gas flow (m³/min)	-	3,64	3,94	-	-	-
Evacuated Heat (kW)	-	14	16,6	-	-	-
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)	-	1,45	1,45	-	-	-
Cooling airflow (m³/min)	40,2					
Maximum load losses (Pa)	125					
RADIATION	50 Hz			60 Hz		
	COP	PRP	STP	COP	PRP	STP
Engine (kW)	3,3	3,3	4,4	-	-	0
Alternator (kW)	2,1	2,1	2,3	2,4	2,4	2,8
Alternator (kW)	1,4	1,4	1,6	1,7	1,7	1,9

3 ENGINE SPECIFICATIONS

GENERAL SPECIFICATIONS	50 Hz	60 Hz
Model	404A-22G1	
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	4 In-Line	
Displacement (L)	2,216	
Cylinder bore (mm)	84	
Cylinder stroke (mm)	100	
Compression Ratio	23,3:1	
Regulation	Mechanic / optional electronic	
Rotation speed	1500	1800
Piston Speed (m/s)	5	6
Gross power COP (kWm)	-	-
Gross power PRP (kWm)	18,7	22
Gross power STP (kWm)	20,6	24,3
Fan power (kWm)	0,3	0,4
Net Power COP (kWm)	-	-
Net Power PRP (kWm)	18,4	21,6
Net Power STP (kWm)	20,3	23,9
BMEP COP (kPa)	-	-
BMEP PRP (kPa)	669	662
BMEP STP (kPa)	750	731



CONSUMPTION		50Hz		60Hz	
Fuel consumption	LOAD	lt/h	g/kWh	lt/h	g/kWh
STP	100%	6,1	244	-	-
PRP	100%	5,3	237	-	-
	75%	4	238	-	-
	50%	2,9	258	-	-
COP	100%	-	-	-	-
	75%	-	-	-	-
	50%	-	-	-	-
Oil consumption		< 0,1% of fuel consumption			
REFERENCE CONDITIONS					
Temperature (°C)		25			
Atmospheric pressure (kPa)		100			
CAPACITY					
Coolant (L)		7			
Oil (L)		10,6			
STARTING SYSTEM					
Voltage (V)		12			
Power (kW)		2			
Battery (Ah)		60			

4 ALTERNATOR SPECIFICATIONS

GENERAL SPECIFICATIONS	
Model	TAL040F
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	18 / 20	86,7 / 86,6	1,440	0,115	0,057	0,8	Three-phase	480	25 / 28	87,8 / 87,5	2,020	0,161	0,080
1	Three-phase	440	14 / 16	90,8 / 90,9	1,440	0,115	0,057	1	Three-phase	480	20 / 22	91,5 / 91,4	2,020	0,161	0,080
0,8	Three-phase	415	20 / 22	87,1 / 86,7	1,810	0,144	0,072	0,8	Three-phase	440	23 / 25	87,8 / 87,4	2,210	0,177	0,088
1	Three-phase	415	16 / 18	91,3 / 91,2	1,810	0,144	0,072	1	Three-phase	440	18 / 20	91,5 / 91,3	2,210	0,177	0,088
0,8	Three-phase	400	20 / 22	87,1 / 86,7	1,940	0,155	0,077	0,8	Three-phase	416	22 / 24	87,6 / 87,2	2,360	0,189	0,094
1	Three-phase	400	16 / 18	91,3 / 91,2	1,940	0,155	0,077	1	Three-phase	416	18 / 19	91,3 / 91,2	2,360	0,189	0,094
0,8	Three-phase	380	20 / 22	87,0 / 86,5	2,150	0,171	0,085	0,8	Three-phase	380	20 / 22	87,2 / 86,7	2,580	0,206	0,103
1	Three-phase	380	16 / 18	91,2 / 91,0	2,150	0,171	0,085	1	Three-phase	380	16 / 18	91,1 / 90,8	2,580	0,206	0,103
0,8	Three-phase	240	20 / 22	87,1 / 86,7	1,810	0,144	0,072	0,8	Three-phase	240	25 / 28	87,8 / 87,5	2,020	0,161	0,080
1	Three-phase	240	16 / 18	91,3 / 91,2	1,810	0,144	0,072	1	Three-phase	240	20 / 22	91,5 / 91,4	2,020	0,161	0,080
0,8	Three-phase	230	20 / 22	87,1 / 86,7	1,940	0,155	0,077	0,8	Three-phase	220	23 / 25	87,8 / 87,4	2,210	0,177	0,088
1	Three-phase	230	16 / 18	91,3 / 91,2	1,940	0,155	0,077	1	Three-phase	220	18 / 20	91,5 / 91,3	2,210	0,177	0,088
0,8	Three-phase	220	18 / 20	86,7 / 86,6	1,440	0,115	0,057	0,8	Three-phase	208	22 / 24	87,6 / 87,2	2,360	0,189	0,094
1	Three-phase	220	14 / 16	90,8 / 90,9	1,440	0,115	0,057	1	Three-phase	208	18 / 19	91,3 / 91,2	2,360	0,189	0,094
0,8	Single phase	230	14 / 16	74,2 / 72,8	1,480	0,270	0,130	0,8	Single phase	240	16 / 18	76,2 / 74,9	1,770	0,280	0,140
1	Single phase	230	11 / 12	82,7 / 81,9	1,480	0,270	0,130	1	Single phase	240	13 / 14	82,8 / 82,1	1,770	0,280	0,140
0,8	Single phase	230	14 / 15	77,1 / 76,0	1,490	0,219	0,109	0,8	Single phase	240	16 / 18	76,1 / 75,0	1,870	0,275	0,137
1	Single phase	230	11 / 12	84,3 / 83,7	1,490	0,219	0,109	1	Single phase	240	13 / 14	82,9 / 82,2	1,870	0,275	0,137
0,8	Single phase	220	14 / 16	74,2 / 72,8	1,610	0,290	0,150	0,8	Single phase	230	16 / 18	76,2 / 74,9	1,930	0,300	0,150
1	Single phase	220	11 / 12	82,7 / 81,9	1,610	0,290	0,150	1	Single phase	230	13 / 14	82,8 / 82,1	1,930	0,300	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, kVAh, kVAh, 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	Applications	GRUPEL G-545	OPTIONAL
Engine Speed	•	•	Automatic or manual starting	•	•
Low oil pressure protection	•	•	Remote start by NO dry contact	•	•
Oil pressure reading [c]	0	0	Automatic by mains failure	•	•
High temperature engine protection	•	•	Alternating with timesharing	•	•
Engine temperature reading [c]	0	0	Multi-generators synchronization and load sharing (Max. 32 generators) (m)	0	0
Engine battery voltage	•	•	Generator-Main in synchronism and load sharing (1 generator and 1 main) (m)	0	0
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]	•	•	Optional expansions	GRUPEL G-545	OPTIONAL
USB female type A plug (n)	0	0	DSE2130 (8 inputs dig.) IG-IOM (8 in/outputs dig. + 4 inputs anal.) G-08 (8 inputs dig.)	•	•
RS232 port (Max. 15m) (n)	0	0	DSE2157 I-RB8 G-06 (8 relay outputs)	•	•
RS485 port (Max. 1,2Km) [h]	•	•	DSE890 IL-NT-GPRS G-GSM (GSM and/or GPS)	•	•
Ethernet port RJ45 [i]	0	0	DSE891 IB-LITE G-ETH (ethernet module)	•	•
GSM and/or GPS [j]	0	0	DSE892 IB-LITE - (ethernet module according SNMP protocol)	-	0
ModBus RTU protocol [h]	•	•	DSE2548 IGL-RA15 - (expansion with 8 additional LEDs)	-	0
ModBus TCP protocol [i]	0	0	DSE2510 / 20 (mirror controller, maximum distance 1km)	-	0
SNMP protocol [l]	0	0			
CAN port (Max. 40m)	•	•			
MSC port (Max. 240m) (m)	0	0			
PLC functionality	•	•			

Legend			
•	Available	[d]	Needs additional ammeter
0	Optional	[e]	If information provided by the engine ECU
-	Not available	[f]	Required additional sensor
A	Warning Alarm	[g]	Requires the addition of the IL-NT-S-USB module
S	Stop alarm	[h]	Requires the addition of the IL-NT-RS232-485 module
[a]	Need additional CT	[i]	DeepSea: Requires the addition of the DSE891 module/ ComAp: Requires the addition of the IB-LITE module
[b]	No. of outputs available for standard configuration. The outputs do not include relays and additional terminal connections.	[j]	DeepSea: Requires the addition of the DSE890 module/ ComAp: Requires the addition of the IL-NT-GPRS module
[c]	If the information is not provided by the engine-ECU, you need an additional sensor	[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