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INDUSTRIAL RANGE — GENSET 80 kVA PERKINS / LEROY SOMER

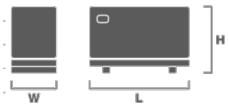
1. MAIN FEATURES

T	Three-phase
	Perkins / 1104A-44TG2
	DeepSea / 4520
	1500 r.p.m.
cos φ	0.8

	Diesel
	Leroy Somer / TAL044B
Hz	50 Hz
V	400 V
	125 A

Standby Power(ESP)	88 kVA	70 kW
Prime Power (PRP)	80 kVA	64 kW
Continuous Power(COP)	-	-

SOUNDPROOF	
Length (L)	2330 mm
Height (H)	1605 mm
Width (W)	1015 mm
Weight	1417 kg
Fuel tank daily capacity	200 L
Acoustic pressure level @ 1m	80 ± 2 dB(A)
Acoustic pressure level @ 7m	72 ± 2 dB(A)



2. ROOM INSTALLATION

EXHAUST SYSTEM	50 Hz		
	COP	PRP	ESP
Exhaust gas temperature (°C)	-	555	580
Exhaust gas flow (m³/min)	-	12.5	13.3
Evacuated heat (kW)	-	53	59
Maximum back pressure (kPa)		10	
Exhaust silencer attenuation (dB)		18-25	
Output diameter (mm)		90	

VENTILATION SYSTEMS	50 Hz		
	COP	PRP	ESP
Combustion air flow (m³/min)	-	4.8	5.14
Cooling airflow (m³/min)		89	
Maximum load losses (Pa)		125	
Alternator cooling air flow (m³/min)		17.4	

RADIATION	50 Hz		
	COP	PRP	ESP
Engine (kW)	-	13	14
Alternator (kW)	6.35	6.35	7.29

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3. ENGINE SPECIFICATIONS

GENERAL SPECIFICATIONS	50Hz
Model	1104A-44TG2
Emissions (UE/USEPA)	Not applicable / Not applicable
Performance grade	G2
Operating method	4 stroke
Fuel type	Diesel
Refrigeration system	Closed water circuit / antifreeze
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	Mechanical
Rotation speed (r.p.m.)	1500
Piston speed (m/s)	6.35
Gross power COP (kWm)	-
Gross power PRP (kWm)	73.4
Gross power ESP (kWm)	80.7
Fan Power (kWm)	- / 1 / 1
Net Power COP (kWm)	-
Net Power PRP (kWm)	71.9
Net Power ESP (kWm)	79.1
BMEP COP (kPa)	-
BMEP PRP (kPa)	1335
BMEP ESP (kPa)	1467

CONSUMPTION	50 Hz	
Fuel consumption	l/h	g/kWh
ESP	20.5	-
PRP	18.17	-
COP	-	-
75%	14	-
50%	9.7	-
Oil consumption	< 0.15% of fuel consumption	

REFERENCE CONDITIONS	
Temperature (°C)	25
Atmospheric pressure (kPa)	100

CAPACITY (°C)	
Coolant (L)	13
Oil (L)	8

STARTING SYSTEM	
Voltage (V)	12
Power (kW)	3
Battery (Ah)	100

4. ALTERNATOR SPECIFICATIONS

GENERAL SPECIFICATIONS	
Model	TAL044B
Phases No.	Three-phase
Protection	IP23
Insulation	H
Temperature rise	H
R.F.I. telephone interference	THF < 2%
R.F.I. Suppression	IEC 61000-6-2/3/4, VDE 0875G/N, EN 55011
Coupling	Flexible disks
Support	Single bearing

Wave form distortion with no load	< 2%
Wave form distortion with balanced linear load	< 5%
Winding Leads	6
Excitation (standard/optional)	SHUNT / AREP+ | PMG
AVR Model (standard/optional)	R120 / R180 | R180
Voltage Regulation (standard/optional)	± 1 % / ± 0,5 % | ± 0,5 %
Icc (standard/optional)	- / 2,7In:5s

			Power	Efficiency			
PF (cos Ø)	Phase	Voltage (V)	PRP/ESP (kVA)	PRP/ESP (%)	Xd	X'd	X"d
0.8	Three-phase	400	80 / 88	90.08 / 89.65	3.37	0.136	0.081

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5. CONTROL PANEL

GENSET	DeepSea 4520
Voltage (F-F / F-N)	● / ●
Current intensity	●
Frequency	●
RMS Values	●
Generator phase sequence	-
Generator earth current [a]	-
No. of registered events	15
Real time clock	●
PIN Protection	●
kWh, kVAr, kVAh, kVArh, cos Ø	●
Synchroscope [i]	-
No. of available outputs [b]	2
Indication of alarms on LCD	●
Hours of engine operation	●
Total no. of LED indicators	3
No. of LED alarms	-
Sound signalling alarms	●
Schedule	●
Fuel level	●

ELECTRICAL GRID	DeepSea 4520
Voltage (F-F / F-N)	● / ●
Current [a]	-
Frequency	●
kVA,kW, cos Ø [a]	-
Inversion control between main-group	●

PROTECTIONS AND ALARMS	DeepSea 4520
High / low battery voltage	A
Failure in battery charge alternator	A
Failure to stop	A/S
Failure to start	A/S
Low fuel level	A/S
Overload	A/S
Earth leakage	-
Asymmetry between phases	-
Maintenance	A/S
High / Low generator frequency	A/S
Engine overspeed	A/S
Engine underspeed	A/S
Generator overvoltage	A/S
Generator undervoltage	A/S
ECU Alert (if applicable)	A/S
Low oil pressure	A/S
Low level of radiator water [f]	A/S
Engine high temperature	A/S
Fuel leakage/ theft	-

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6. CONTROL PANEL

ENGINE	DeepSea 4520
Engine speed	●
Low oil pressure protection	●
Oil pressure reading [c]	●
High temperature engine protection	●
Engine temperature reading [c]	●
Engine battery voltage	●
Intensity of the engine battery [d]	○
Fuel Consumption [e]	●
Low level of radiator water [f]	○
Scheduled engine maintenance	●

COMMUNICATION	DeepSea 4520
USB female type B plug (max. 6m)	●
USB female type A plug	-
RS232 port (max. 15m)	-
RS485 port (max. 1,2Km)	-
Ethernet port RJ45 [g/h/i]	○
4G LTE + GPS [g]	○
ModBus RTU protocol	-
ModBus TCP protocol [g/h/i]	-
SNMP protocol [i]	○
CAN port (max. 40m)	●
MSC port (max. 240m)	-
PLC functionality	-

APPLICATIONS	DeepSea 4520
Automatic or manual start-up	●
Remote start by dry contact	●
Automatic by mains failure	●
Alternating with timesharing	-
Multi-generators synchronization and load sharing (Max. 32 generators)	-
Generator-Mains in synchronism and load sharing (1 generator and 1 mains)	-

OPTIONAL EXPANSIONS	DeepSea 4520
DSE2130 (8 dig. inputs)	-
DSE2157 (8 relay outputs)	-
DSE890 (4G LTE and GPS)	○
DSE891 (ethernet module)	○
DSE892 (ethernet module according SNMP protocol)	○
DSE2548 (expansion with 8 additional LEDs)	-
DSE7320 (mirror controller, maximum distance 1km)	-
DSE331 (convert QTC into QTA)	○
DSE335 (convert QTC into QTA)	○

STANDARDS	
Working temperature	-30 ≤°C ≤ 70
Protection degree (front panel)	IP65
Degree of humidity (during 48hr)	93%, 40°C

Legenda	
●	Available
○	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 DSE890
[h]	Requires DSE891
[i]	Requires DSE892

Dimensions and weights guidelines. Environmental reference conditions: 100kPa, 25 °C, 30% relative humidity and fuel temperature below 40 °C. Power ratings according to ISO 8528-1:2018.
Emergency power (ESP): Maximum power available to supply variable loads for a maximum period of 200h/year. The average load factor in 24h of operation must not exceed 70% of the ESP regime. It does not allow overload.
Prime power (PRP): Maximum power available to supply variable loads for an unlimited number of hours. The average load factor in 24 hours of operation must not exceed 70% of the PRP rating. Allows an overload of 10% for a maximum period of 1 hour every 12 hours of operation. Overloading may not exceed 25 hours/year.
Continuous power (COP): Maximum power available to supply constant loads for an unlimited number of hours per year, between the maintenance intervals and environmental conditions advertised by the manufacturer.
These specifications are subject to change without notice.

DISTRIBUTOR