

Name 12V4000G14RF Speed [rpm] 1500 **Application Group** 3B Nominal power [kW] 1205 Dataset Ref. 25°C/55°C Nominal power [bhp] 1616 Frequency [Hz] 50

Exhaust Regulations NOx emission optimized;

Reference conditions

No.	Description	Index	Value	Unit
6	Intake air temperature		25	°C
7	Charge-air coolant temperature		55	°C
8	Barometric pressure		1000	mbar
9	Site altitude above sea level		100	m
10	Raw-water inlet temperature		-	°C

0. Data-relevant engine design configuration

No.	Description	Index	Value	Unit
	Complies with:			
17	Regulations for stationary power plants in France		-	-
	(arrêté du 25 Juillet 1997)			
0	Engine rated speed switchable			
0	(1500/1800 rpm)			-
12	Engine with sequential turbocharging			
12	(turbochargers with cut-in/cut-out control)		-	-
13	Engine without sequential turbocharging		v	
13	(turbochargers without cut-in/cut-out control)		^	-

1. Power-related data

No.	Description	Index	Value	Unit
1	Engine rated speed	Α	1500	rpm
2	Reduction gear - Output speed	Α	-	rpm
3	Mean piston speed		10.5	m/s
4	Continuous power ISO 3046 (10% overload capability) (design power DIN 6280, ISO 8528)	А	1205	kW
5	Fuel stop power ISO 3046	Α	1325	kW
8	Mean effective pressure (MEP) (Continuous power ISO 3046)		16.8	bar
9	Mean effective pressure (MEP) (Fuel stop power ISO 3046)		18.5	bar
18	Performance map No.		-	-
38	Performance map No. (cont.)		-	-
20	Performance map, amendment index		-	-

2. General Conditions (for maximum power)

	=- • • · · · · · · · · · · · · · · · · ·				
No.	Description	Index	Value	Unit	
46	Individual power calculation (ESCM)		V		
46	required for maximum power		^	-	
1	Intake air depression (new filter)	Α	15	mbar	
2	Intake air depression, max.	L	50	mbar	
3	Exhaust back pressure	Α	30	mbar	
4	Exhaust back pressure, max.	L	85	mbar	

BL Reference value: fuel stop power
Maximum engine power that cannot be run continuously on
some applications (stabilization reserve)
DC Reference value: continuous power
Engine power that can be run continuously under standard
conditions

> Actual value must be greater than specified value <a> Actual value must be less than specified value

The module is valid for this product type
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The module is not valid for this product type
IN Value not named
The value has not yet been named or will not be named * Adequate verification not yet available (tolerance +/-10%)
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5	Fuel temperature at fuel feed connection	R	25	°C
9	Fuel temperature at fuel feed connection, max. (w/o power reduction)	L	55	°C
10	Fuel temperature at fuel feed connection, max.	L	55	°C
18	Fuel temperature at fuel feed connection, min.	L	-	°C

3. Consumption

<u> </u>	isumption			
No.	Description	Index	Value	Unit
17	Specific fuel consumption (be) - 100 % CP	Р	220	a /k/A/b
17	(+ 5 %; EN 590; 42.8 MJ/kg)	R	220	g/kWh
18	Specific fuel consumption (be) - 75 % CP		215	-/ >4/ -
10	(+ 5 %; EN 590; 42.8 MJ/kg)	R	215	g/kWh
19	Specific fuel consumption (be) - 50 % CP	р	223	- /I-VA/I-
19	(+ 5 %; EN 590; 42.8 MJ/kg)	R	223	g/kWh
20	Specific fuel consumption (be) - 25 % CP	D	240	- /I-VA/I-
20	(+ 5 %; EN 590; 42.8 MJ/kg)	R	240	g/kWh
21	Specific fuel consumption (be) - FSP	р	221	- /I-VA/I-
21	(+ 5 %; EN 590; 42.8 MJ/kg)	R	221	g/kWh
56	Specific fuel consumption (be) - 100 % FSP	D		- /I-VA/I-
50	(+ 5 %; EN 590; 42.8 MJ/kg)	R	-	g/kWh
57	Specific fuel consumption (be) - 75 % FSP	D	-	~ /I.VA/Ih
57	(+ 5 %; EN 590; 42.8 MJ/kg)	R		g/kWh
58	Specific fuel consumption (be) - 50 % FSP	R		a /ls/A/lb
56	(+ 5 %; EN 590; 42.8 MJ/kg)	K	-	g/kWh
59	Specific fuel consumption (be) - 25 % FSP	R		g/kWh
39	(+ 5 %; EN 590; 42.8 MJ/kg)	ĸ	-	g/Kvvii
73	No-load fuel consumption	R	21.0	kg/h
	Lube oil consumption after 100 h of operation			
	(B = fuel consumption per hour)			
92	Guideline value does not apply for the design	R	0.3	% of B
	of EGAT systems. Please consult the Applications			
	Center with regard to the layout of EGA systems.			
62	Lube oil consumption after 100 h of operation, max.		1.0	0/ - f D
62	(B = fuel consumption per hour)	L	1.0	% of B

4. Model-related data (basic design)

No.	Description	Index	Value	Unit
1	Naturally aspirated engine		-	-
2	Engine with exhaust turbocharger (ETC)		-	-
3	Engine with exhaust turbocharger (ETC) and intercooler		X	-
4	Exhaust piping, non-cooled		X	-
5	Exhaust piping, liquid-cooled		-	-
33	Working method: four-cycle, diesel, single-acting		Х	-
34	Combustion method: direct injection		Х	-
36	Cooling system: conditioned water		X	-
37	Direction of rotation: c.c.w. (facing driving end)		X	-

Adequate verification not yet available (tolerance +/- 10%)
Adequate verification not yet available (tolerance +/- 5%)

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Exhaust Regulations NOx emission optimized;

		12	-
Cylinder configuration: V angle		90	degrees (°)
Cylinder configuration: in-line vertical		-	-
Bore		170	mm
Stroke		210	mm
Displacement, cylinder		4.77	liter
Displacement, total		57.2	liter
Compression ratio		16.4	-
Cylinder heads: single-cylinder		X	-
Cylinder liners: wet, replaceable		X	-
Piston design: composite piston		-	-
Piston design: solid-skirt piston		X	-
Number of piston compression rings		2	-
Number of piston oil control rings		1	-
Number of inlet valves, per cylinder		2	-
Number of exhaust valves, per cylinder		2	-
Number of turbochargers		4	-
Number of L.P. turbochargers		4	-
Number of H.P. turbochargers		-	-
Number of intercoolers		1	-
Number of L.P. intercoolers		1	-
Number of H.P. intercoolers		-	-
Standard flywheel housing flange (engine main PTO)		00	SAE
Static bending moment at standard		15	Libling
flywheel housing flange, max.	L	15	kNm
Dynamic bending moment at standard		75	Linking
flywheel housing flange, max.	L	/5	kNm
Standard flywheel housing flange			645
(reduction gearbox main PTO)		-	SAE
Flywheel interface (DISC)		21	-

5. Combustion air / exhaust gas

No.	Description	Index	Value	Unit
8	Charge-air pressure before cylinder - CP	R	2.9	bar abs
27	Charge-air pressure before cylinder - FSP	R	3.1	bar abs
9	Combustion air volume flow - CP	R	1.8	m³/s
10	Combustion air volume flow - FSP	R	1.9	m³/s
11	Exhaust volume flow (at exhaust temperature) - CP	R	4.5	m³/s
12	Exhaust volume flow (at exhaust temperature) - FSP	R	4.8	m³/s
13	Exhaust temperature before turbocharger - CP	R	660	°C
14	Exhaust temperature before turbocharger - FSP	R	700	°C
15	Exhaust temperature after turbocharger - CP	R	440	°C
16	Exhaust temperature after turbocharger - FSP	R	460	°C
17	Exhaust temperature after engine - CP	R	440	°C
18	Exhaust temperature after engine - FSP	R	460	°C



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6. Heat dissipation

or riout	uissipation			
No.	Description	Index	Value	Unit
10	Heat dissipated by engine coolant - FSP	2		LAA
10	with oil heat	R	-	kW
12	Heat dissipation by engine coolant - FSP	_		kW
12	with oil heat, with charge-air heat	R	-	KVV
62	Heat dissipated by engine coolant - FSP			1344
02	(high-temperature circuit)	R	-	kW
63	Heat dissipated by engine coolant - FSP	_		1347
03	(low-temperature circuit)	R	-	kW
14	Heat dissipated by engine coolant - FSP	_		1347
14	without oil heat, with charge-air heat	R	-	kW
15	Heat dissipated by engine coolant - CP	_	500	1347
15	with oil heat, without charge-air heat	R	500	kW
1.0	Heat dissipated by engine coolant - FSP	_	570	1347
16	with oil heat, without charge-air heat	R		kW
10	Heat dissipated by engine coolant - FSP		-	kW
18	without oil heat, without charge-air heat	R		
23	Heat dissipated by oil - FSP	R	-	kW
25	Charge-air and oil heat dissipation - FSP	R	-	kW
26	Charge-air heat dissipation - CP	R	300	kW
27	Charge-air heat dissipation - FSP	R	350	kW
39	Heat dissipated by exhaust gas - FSP	R	-	kW
31	Heat dissipated by return fuel flow - CP	R	5	kW
32	Heat dissipated by return fuel flow - FSP	R	-	kW
33	Radiation and convection heat, engine - CP	R	75	kW
34	Radiation and convection heat, engine - FSP	R	75	kW
36	Radiation and convection heat, genset - FSP	R		kW
30	(engine + generator + 10m insulated exhaust pipework)	n		KVV

7. Coolant system (high-temperature circuit)

No.	Description	Index	Value	Unit
	Coolant temperature			
9	(at engine outlet to cooling equipment;	Α	-	°C
	with max. 40% antifreeze)			
17	Coolant temperature		100	°C
17	(at engine outlet to cooling equipment)	A	100	
57	Coolant temperature differential after/before engine, from	R	10	K
58	Coolant temperature differential after/before engine, to	R	12	K
23	Coolant temperature differential after/before engine	L	14	K
20	Coolant temperature after engine, limit 1	L	102	°C
21	Coolant temperature after engine, limit 2	L	104	°C
25	Coolant antifreeze content, max.	L	50	%
30	Cooling equipment: coolant flow rate	Α	56	m³/h
31	Coolant pump: pressure differential	R	2.5	bar
35	Coolant pump: inlet pressure, min.	L	0.5	bar
36	Coolant pump: inlet pressure, max.	L	2.5	bar



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	1			1
39	Engine: coolant pressure differential	R	2.0	bar
00	with thermostat	11	2.0	ou.
41	Pressure loss in off-engine cooling system, max.	L	0.7	bar
72	Pressure loss in off-engine cooling system, min.	L	0.55	bar
42	Pressure loss in off-engine cooling system, max.		0.7	
43	without thermostat	L	0.7	bar
70	Pressure loss in off-engine cooling system, min.		0.55	
70	without thermostat	L	0.55	bar
45	Flow resistance (X) coefficient		0.80	1 // 3/1.12
45	engine w/ thermostat, w/o cooling equipment	R	0.80	mbar/(m³/h)²
47	Breather valve (expansion tank)		1.0	la a c
47	opening pressure (excess pressure)	R	1.0	bar
54	Cooling equipment: height above engine, max.	L	15	m
53	Cooling equipment: operating pressure	A	2.5	bar
72	Coolant level in expansion tank, below min.			
73	alarm	L	-	-
7.4	Coolant level in expansion tank, below min.		V	
74	shutdown	L	Х	-
50	Thermostat, starts to open	R	79	°C
51	Thermostat, bypass closed	R	92	°C
52	Thermostat, fully open	R	92	°C
40	Breather valve (expansion tank)	_	0.1	
48	opening pressure (depression)	R	-0.1	bar
49	Pressure in cooling system, max.	L	5.0	bar

8. Coolant system (low-temperature circuit)

No.	Description	Index	Value	Unit
53	Coolant temperature	D	68	°C
	(at engine outlet to cooling equipment)	R	00	C
0	Coolant temperature before intercooler	Δ.	55	°C
9	(at engine inlet from cooling equipment)	A	33	C
14	Coolant temperature before intercooler, limit 1	L	75	°C
61	Coolant temperature before intercooler, shutdown	L	-	°C
15	Coolant temperature before intercooler, limit 2	L	-	°C
54	Coolant temperature differential after/before		11	V
54	intercooler, min.	L	11	K
55	Coolant temperature differential after/before	1	15	V
55	intercooler, max.	L L	13	K
13	Coolant antifreeze content, max.	L	50	%
17	Charge-air temperature after intercooler, max.	L	80	°C
76	Temperature differential between intake air and		30	V
70	charge-air coolant before intercooler	A		K
75	Temperature differential between intake air and		32	V
/5	charge-air coolant before intercooler, max.	L	32	K
56	Coolant pump: flow rate	А	30	m³/h
20	Cooling equipment: coolant flow rate	А	30	m³/h
21	Intercooler: coolant flow rate	R	30	m³/h



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	T			,
22	Coolant pump: pressure differential	R	1.4	bar
24	Coolant pump: inlet pressure, min.	L	0.5	bar
25	Coolant pump: inlet pressure, max.	L	2.5	bar
29	Pressure loss in off-engine cooling system, max.	L	0.7	bar
62	Pressure loss in off-engine cooling system, min.	L	0.55	bar
31	Pressure loss in off-engine cooling system, max.		0.7	hau
31	without thermostat	L	0.7	bar
63	Pressure loss in off-engine cooling system, min.		0.55	h
03	without thermostat	L	0.55	bar
43	Cooling equipment: height above engine, max.	L	15	m
26	Breather valve (expansion tank)		1.0	
36	opening pressure (excess pressure)	R		bar
27	Breather valve (expansion tank)		0.4	
37	opening pressure (depression)	R	-0.1	bar
42	Cooling equipment: operating pressure	А	2.5	bar
67	Coolant level in expansion tank, below min.			
67	alarm	L	-	-
60	Coolant level in expansion tank, below min.		,	
68	shutdown	L	X	-
39	Thermostat, starts to open	R	38	°C
40	Thermostat, bypass closed	R	51	°C
41	Thermostat, fully open	R	51	°C

10. Lube oil system

IV. Lu	be on system			
No.	Description	Index	Value	Unit
1	Lube oil operating temp. before engine, from	R	88	°C
2	Lube oil operating temp. before engine, to	R	98	°C
3	Lube oil operating temp. after engine, from	R	98	°C
4	Lube oil operating temp. after engine, to	R	108	°C
5	Lube oil temperature before engine, limit 1	L	99	°C
6	Lube oil temperature before engine, limit 2	L	101	°C
7	Lube oil operating pressure before engine (measuring block)	R	5.9	bar
8	Lube oil operating press. bef. engine, from	R	5.0	bar
9	Lube oil operating press. bef. engine, to	R	7.0	bar
10	Lube oil pressure before engine, alarm	L	-	bar
33	Lube oil pressure before engine, limit 1(speed-related value, consult Rolls-	L	3.5	bar
11	Lube oil pressure before engine, shutdown	L	-	bar
34	Lube oil pressure before engine, limit 2 (speed-related value, consult Rolls-	L	3.2	bar
17	Lube oil pump(s): oil flow, total	R	625	liter/min
19	Lube oil fine filter (main circuit):		1	
19	number of units		1	-
20	Lube oil fine filter (main circuit):		r.	
20	number of elements per unit		5	-
24	Lube oil fine filter (main circuit):		0.014	
21	particle retention	R	0.014	mm
	•		•	

Adequate verification not yet available (tolerance +/-10%)

The Adequate verification not yet available (tolerance +/-5%)



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32	Lube oil fine filter (main circuit): pressure differential, max.	L	1.5	bar
25	Lube oil fine filter (main circuit):		v	
35	make (standard): MANN & HUMMEL		^	-

11. Fuel system

No.	Description	Index	Value	Unit
	Fuel pressure at engine fuel feed connection, min.	muex		Offic
1	(when engine is starting)	L	-0.1	bar
_	Fuel pressure at engine fuel feed connection, max.			
2	(when engine is starting)	L	1.5	bar
57	Fuel pressure at engine fuel feed connection, min.		-0.3	la
57	(when engine is running)	L	-0.3	bar
65	Fuel pressure at engine fuel feed connection, max.	L	0.5	bar
05	(when engine is running)	L	0.5	Dar
4211	Max. fuel supply volume	А	12.1	liter/min
4211	Normal mode	A	12.1	iiter/min
4212	Max. fuel supply volume	А	22.6	liter/min
4212	Failure mode	A	22.0	iitei/iiiii
4	Fuel pressure before injection pump, from	R	6.0	bar
-	(high-pressure pump)	, in	0.0	Dai
5	Fuel pressure before injection pump, to	R	7.5	bar
,	(high-pressure pump)	N.	7.5	Dai
6	Fuel pressure before injection pump, min.	ı	5.0	bar
0	(high-pressure pump)		5.0	Dai
7	Fuel pressure before injection pump		1.5	bar
,	with engine not running, max. (high-pressure pump)	_	1.5	Dai
4213	Max. fuel return volume	A	3.8	liter/min
4213	Normal mode	^	3.0	iitei/iiiii
4214	Max. fuel return volume	A	22.3	liter/min
	Failure mode	^		interymini
10	Fuel pressure at return connection on engine, max.	L	0.5	bar
12	Fuel temperature differential before/after engine	R	30	K
38	Fuel temperature after high-pressure pump, alarm	L	100	°C
15	Fuel prefilter: number of units	А	-	-
16	Fuel prefilter: number of elements per unit	A	-	-
17	Fuel prefilter: particle retention	A	-	mm
29	Fuel prefilter: make (standard): MANN & HUMMEL		-	-
18	Fuel fine filter (main circuit): number of units	A	1	-
19	Fuel fine filter (main circuit): number of elements per unit	A	1	-
20	Fuel fine filter (main circuit): particle retention	A	0.005	mm
21	Fuel fine filter (main circuit): pressure differential, max.	L	1.0	bar
32	Fuel fine filter (main circuit):		x	-
<i>J</i> 2	make (standard): MANN & HUMMEL			

12. General operating data

BL Reference value: fuel stop power Maximum engine power that cannot be run continuously on some applications (stabilization reserve)
DL Reference value: continuous power Engine power that can be run continuously under standard conditions

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No.	Description	Index	Value	Unit
1	Cold start capability: air temperature	R	10	°c
1	(w/o starting aid, w/o preheating) - (case A)	K	10	C
2	Additional condition (to case A):	R	10	°C
2	engine coolant temperature	N	10	C
3	Additional condition (to case A): lube oil temperature	R	10	°C
4	Additional condition (to case A): lube oil viscosity	R	15W40	SAE
9	Cold start capability: air temperature	R	0	°c
	(w/o starting aid, w/ preheating) - (case C)	1	Ů	C
10	Additional condition (to case C):	R	40	°c
10	engine coolant temperature	1		C
11	Additional condition (to case C): lube oil temperature	R	-10	°C
12	Additional condition (to case C): lube oil viscosity	R	15W40	SAE
21	Coolant preheating, heater performance (standard)	R	9	kW
22	Coolant preheating, preheating temperature, min.	L	32	°C
3506	Coolant preheating, preheating temperature, max.	L	55	°C
23	Lube oil priming pump: flow rate	R	N	liter/min
24	Lube oil priming pump: pressure	R	N	bar
25	Lube oil priming pump: rated power	R	N	kW
26	Lube oil priming pump: cut-in interval	R	N	min
	pump cut-in every minutes			
27	Lube oil priming pump: cut-in duration	R	N	min
28	Breakaway torque (without driven machinery)	R	1650	Nm
	coolant temperature +5°C	.`	1000	14111
30	Breakaway torque (without driven machinery)	R	1300	Nm
30	coolant temperature +40°C		1300	IVIII
29	Cranking torque at firing speed (without driven machinery)	R	900	Nm
	coolant temperature +5°C		300	IVIII
31	Cranking torque at firing speed (without driven machinery)	R	660	Nm
J1	coolant temperature +40°C	1	000	IVIII
96	Starting is blocked if the engine coolant temperature is		0	°C
30	below		Ů	C
92	Run-up period to rated speed	R	N	s
J.	(without driven machinery)			3
	Run-up period to rated speed			
93	(with driven machinery)	R	6	S
	(* at general conditions)			
37	High idling speed, max. (static)	L	1700	rpm
38	Limit speed for overspeed alarm / emergency shutdown	L	1950	rpm
39	Limit speed for overspeed alarm	L	1950	rpm
42	Firing speed, from	R	80	rpm
43	Firing speed, to	R	120	rpm
44	Engine coolant temperature before starting full-load operation, recommended	R	60	°c
	min.			C
3515	Minimum continuous load (operation > 10h)	R	30	kW/cyl
49	Extended low or no-load operation possible		x	_
49	(consultation required)		<u></u>	

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50	Engine mass moment of inertia (without flywheel)	R	9.7	kgm²
52	Standard flywheel mass moment of inertia	R	10.25	kgm²
51	Engine mass moment of inertia (with standard flywheel)	R	19.95	kgm²
69	Speed droop (with electronic governor) adjustable, from	R	0	%
70	Speed droop (with electronic governor) adjustable, to	R	10	%
95	Number of starter ring-gear teeth on engine flywheel		182	-

13. Starting (electric)

13. Sta	rting (electric)			
No.	Description	Index	Value	Unit
2309	Manufacturer		Delco	-
4101	Туре		50MT	-
2310	Number of starter		2	-
2312	Starter electrically redundant		-	-
2313	Rated power per starter	R	9	kW
2314	Starter, rated voltage	R	24	VDC
2315	Rated short-circuit current per starter	L	1900	Α
2316	Power consumption per starter	R	580	^
2310	(at an engine speed of 100 rpm)	l _r	360	A
2317	Internal resistance of power supply + line resistance per starter	А	0.008	Ω
2318	Manufacturer		Bosch	-
4118	Туре		HEP	-
2319	Number of starter		2	-
2320	Starter electrically redundant		-	-
2321	Rated power per starter	R	11.3	kW
2322	Starter, rated voltage	R	24	VDC
2323	Rated short-circuit current per starter	L	2190	Α
2324	Power consumption per starter	R	750	Α
2324	(at an engine speed of 100 rpm)	<u></u>	730	A
2325	Internal resistance of power supply + line resistance per starter	А	0.0047	Ω
2326	Manufacturer		Prestolite	-
4119	Туре		S-152	-
2327	Number of starter		1	-
2328	Starter electrically redundant		-	-
2329	Rated power per starter	R	15	kW
2330	Starter, rated voltage	R	24	VDC
2331	Rated short-circuit current per starter	L	3000	Α
2332	Power consumption per starter	R	1400	^
2332	(at an engine speed of 100 rpm)	l n	1400	A
2333	Internal resistance of power supply + line resistance per starter	А	0.0045	Ω
2334	Manufacturer		Prestolite	-
4120	Туре		S-152	-
2335	Number of starter		2	-
2336	Starter electrically redundant		X	-
2337	Rated power per starter	R	15	kW
2338	Starter, rated voltage	R	24	VDC

BL Reference value: fuel stop power Maximum engine power that cannot be run continuously on some applications (stabilization reserve)
DL Reference value: continuous power Engine power that can be run continuously under standard conditions

> Actual value must be greater than specified value < Actual value must be less than specified value

Applicable
 The module is valid for this product type
 Non-applicable
 The module is not valid for this product type
 The module is not valid for this product type
 Nolue not named
 The value has not yet been named or will not be named

Adequate verification not yet available (tolerance +/- 10%)
Adequate verification not yet available (tolerance +/- 5%)



Name 12V4000G14RF

Application Group 3B

Dataset Ref. 25°C/55°C Speed [rpm] 1500 1205 Nominal power [kW] Nominal power [bhp] 1616 Frequency [Hz] 50

Exhaust Regulations NOx emission optimized;

2339	Rated short-circuit current per starter	L	3000	Α
2340	Power consumption per starter	_	1400	
2340	(at an engine speed of 100 rpm)	R	1400	А
2341	Internal resistance of power supply + line resistance per starter	Α	0.0045	Ω
3374	Manufacturer		Prestolite	-
4121	Туре		MS7	-
3375	Number of starter		2	-
3376	Starter electrically redundant		-	-
3377	Rated power per starter	R	9	kW
3378	Starter, rated voltage	R	24	VDC
3379	Rated short-circuit current per starter	L	1900	Α
3380	Power consumption per starter	2	530	^
3360	(at an engine speed of 100 rpm)	R	530	А
3383	Internal resistance of power supply + line resistance per starter	Α	0.005	Ω
4104	Manufacturer		Prestolite	-
4105	Туре		M128R	-
4106	Number of starter		2	-
4107	Starter electrically redundant		-	-
4108	Rated power per starter	R	9.4	kW
4109	Starter, rated voltage	R	24	VDC
4110	Rated short-circuit current per starter	L	2000	Α
4111	Power consumption per starter	R	600	А
4111	(at an engine speed of 100 rpm)	K	800	
4112	Power consumption per starter	6		
4112	(at an engine speed of 100 rpm, SAE0)	R	-	Α
4442	Power consumption per starter			
4113	(at an engine speed of 100 rpm, SAE1)	R	-	Α
4114	Internal resistance of power supply + line resistance per starter	Α	0.008	Ω
2347	Generally valid data for starter		X	-
2342	Rated starting-attempt Duration (at +20°C ambient temperature with battery	R	5	S
2242	Interval between starts	1.	20	
2343	(at rated starting-attempt duration), min.	L	20	S
2345	Maximum acceptable starting-attempt duration	L	15	S
2244	Interval between starts	_	60	
2344	(when starting-attempt duration > rated starting-attempt duration)	R	60	S
	Starting attempts within 30 minutes		-	
2346	(at +20°C ambient temperature with battery full), max.	L	6	-
	Disengagement of starter pinion at engine Speed			
3565	Note: Exceeding the guideline value of the disengagement speed will reduce	R	400	rpm
3566	Disengagement of starter pinion at engine speed, max.	L	500	rpm
	O. O			I . P

14. Starting (air in cylinder)

No.	Description	Index	Value	Unit
1	Starting air pressure before engine, min.	R	-	bar
2	Starting air pressure before engine, max.	R	-	bar
3	Starting air pressure before engine, min.	L	-	bar
4	Starting air pressure before engine, max.	L	-	bar

Adequate verification not yet available (tolerance +/- 10%)
Adequate verification not yet available (tolerance +/- 5%)



Name 12V4000G14RF

Application Group 3B

Dataset Ref. 25°C/55°C Speed [rpm] 1500 1205 Nominal power [kW] Nominal power [bhp] 1616 Frequency [Hz] 50

Exhaust Regulations NOx emission optimized;

1	Te			
20	Start attempt duration (engine preheated)	R	-	S
21	Start attempt duration (engine not preheated)	R	-	S
22	Start attempt duration	L	-	S
23	Air consumption / start attempt (engine preheated)	R	-	m³n
24	Air consumption / start attempt (engine not preheated)	R	-	m³n
25	Starting air tank for 3 start attempts	R		liter
25	(max. 40 bar) (engine preheated)	IX		iitei
26	Starting air tank for 3 start attempts	R		liter
20	(max. 30 bar) (engine preheated)	K		iiter
27	Starting air tank for 6 start attempts	2		lika
21	(max. 40 bar) (engine preheated)	R	-	liter
28	Starting air tank for 6 start attempts			liter
20	(max. 30 bar) (engine preheated)	R	-	
20	Starting air tank for 10 start attempts	_		1
29	(max. 40 bar) (engine preheated)	R	-	liter
20	Starting air tank for 10 start attempts		-	liter
30	(max. 30 bar) (engine preheated)	R		
31	Starting air tank for 3 start attempts	2		Phone
31	(max. 40 bar) (engine not preheated)	R	_	liter
32	Starting air tank for 3 start attempts	_		124
32	(max. 30 bar) (engine not preheated)	R	-	liter
22	Starting air tank for 6 start attempts	_		124
33	(max. 40 bar) (engine not preheated)	R	-	liter
2.4	Starting air tank for 6 start attempts	_		
34	(max. 30 bar) (engine not preheated)	R	-	liter
	Starting air tank for 10 start attempts			
35	(max. 40 bar) (engine not preheated)	R	-	liter
	Starting air tank for 10 start attempts			
36	(max. 30 bar) (engine not preheated)	R	-	liter
	It a see that Owner market and a see that the see that th			l .

15. Starting (pneumatic/oil pressure starter)

Tor otal ting (prioritiatio) on procedure otalitor)				
No.	Description	Index	Value	Unit
35	Pneumatic starter: make Gali		-	-
36	Pneumatic starter: make TDI		Х	-
5	Starting air pressure before starter motor, min.	R	8	bar
6	Starting air pressure before starter motor, max.	R	9	bar
7	Starting air pressure before starter motor, min.	L	8	bar
8	Starting air pressure before starter motor, max.	L	9	bar
18	Start attempt duration (engine preheated)	R	3	S
19	Start attempt duration (engine not preheated)	R	5	s
20	Start attempt duration, max.	L	-	S
23	Starting air tank for 3 start attempts	В	45	litor
23	(max. 40 bar) (engine preheated)	R	45	liter
24	Starting air tank for 3 start attempts		60	likan
24	(max. 30 bar) (engine preheated)	R	80	liter
25	Starting air tank for 6 start attempts		00	likan
25	(max. 40 bar) (engine preheated)	R	90	liter

> Actual value must be greater than specified value < Actual value must be less than specified value



Name 12V4000G14RF

Application Group 3B

Dataset Ref. 25°C/55°C Speed [rpm] 1500 1205 Nominal power [kW] Nominal power [bhp] 1616 Frequency [Hz] 50

Exhaust Regulations NOx emission optimized;

ı	Charling a laboral for Cabout attacases	<u> </u>	<u> </u>	
26	Starting air tank for 6 start attempts	R	120	liter
	(max. 30 bar) (engine preheated)			
27	Starting air tank for 10 start attempts	R	150	liter
	(max. 40 bar) (engine preheated)			
28	Starting air tank for 10 start attempts	R	200	liter
	(max. 30 bar) (engine preheated)			
29	Starting air tank for 3 start attempts	R	N	liter
	(max. 40 bar) (engine not preheated)			e.
30	Starting air tank for 3 start attempts	R	N	liter
30	(max. 30 bar) (engine not preheated)	T .	17	iitei
31	Starting air tank for 6 start attempts	R	N	liter
31	(max. 40 bar) (engine not preheated)	n	N	iitei
32	Starting air tank for 6 start attempts	R	N	liter
32	(max. 30 bar) (engine not preheated)	K	IN .	litter
33	Starting air tank for 10 start attempts	D	N	lia
33	(max. 40 bar) (engine not preheated)	R		liter
2.4	Starting air tank for 10 start attempts		N	lia
34	(max. 30 bar) (engine not preheated)	R		liter
101	Hydraulic starter: make Huegli		Х	-
102	Starting oil pressure before starter motor, min.	R	107	bar
103	Starting oil pressure before starter motor, max.	R	207	bar
104	Starting oil pressure before starter motor, min.	L	107	bar
105	Starting oil pressure before starter motor, max.	L	207	bar
107	Start attempt duration (engine not preheated)	R	N	s
108	Start attempt duration, max.	L	N	s
109	Hydraulic oil consumption / start attempt		N	111
109	(engine preheated)	R	N	liter
440	Hydraulic oil consumption / start attempt	_	N	1
110	(engine not preheated)	R		liter
111	Minimum specification of hydraulic oil viscosity	R	MilSpec 5606	-

16. Inclinations - standard oil system (ref.: waterline)

No.	Description	Index	Value	Unit
	Longitudinal inclination, continuous max.			
15	driving end down	L	5	degrees (°)
	(Option: max. operating inclinations)			
	Longitudinal inclination, temporary max.			
16	driving end down	L	-	degrees (°)
	(Option: max. operating inclinations)			
	Longitudinal inclination, continuous max.			
17	driving end up	L	5	degrees (°)
	(Option: max. operating inclinations)			
	Longitudinal inclination, temporary max.			
18	driving end up	L	-	degrees (°)
	(Option: max. operating inclinations)			



Speed [rpm] Name 12V4000G14RF 1500 **Application Group** 3B Nominal power [kW] 1205 Dataset Ref. 25°C/55°C Nominal power [bhp] 1616 Frequency [Hz] 50

Exhaust Regulations NOx emission optimized;

19	Transverse inclination, continuous max. (Option: max. operating inclinations)	L	10	degrees (°)
20	Transverse inclination, temporary max.			dograce (°)
	(Option: max. operating inclinations)	L	L -	

17. Inclinations - special oil system (ref.: waterline)

No.	Description	Index	Value	Unit
1	Longitudinal inclination, continuous max.	L	-	degrees (°)
7	Transverse inclination, continuous max.	L	-	degrees (°)

18. Capacities

10. 00	pacities			
No.	Description	Index	Value	Unit
1	Engine coolant capacity (without cooling equipment)	R	160	liter
10	Intercooler coolant capacity	R	40	liter
11	On-engine fuel capacity	R	7	liter
	Engine oil capacity, initial filling			
14	(standard oil system)	R	260	liter
	(Option: max. operating inclinations)			
	Oil change quantity, max.			
20	(standard oil system)	R	200	liter
	(Option: max. operating inclinations)			
	Oil pan capacity, dipstick mark min.			
28	(standard oil system)	L	160	liter
	(Option: max. operating inclinations)			
	Oil pan capacity, dipstick mark max.			
29	(standard oil system)	L	200	liter
	(Option: max. operating inclinations)			

19. Masses / dimensions

No.	Description	Index	Value	Unit
	Engine mass, dry			
9	(basic engine configuration acc. to	R	6200 *	kg
	scope of supply specification)			

21. Exhaust emissions

No.	Description	Index	Value	Unit
1047	Emissions data sheet:		v	-
1947	"TA-Luft" - CP		X	
311	Regulation: stationary power plants in France - CP	_		mg/m³n
	Nitric oxide (NOx) (5% O2)	R	-	
312	Regulation: stationary power plants in France - CP	2		
312	Carbon monoxide (CO) (5% O2)	K	κ -	mg/m³n

BL Reference value: fuel stop power Maximum engine power that cannot be run continuously on some applications (stabilization reserve)
DL Reference value: continuous power Engine power that can be run continuously under standard conditions

> Actual value must be greater than specified value <a> Actual value must be less than specified value

Adequate verification not yet available (tolerance +/-10%)

The Adequate verification not yet available (tolerance +/-5%)



Name 12V4000G14RF

Application Group 3B

Dataset Ref. 25°C/55°C Speed [rpm] 1500 1205 Nominal power [kW] Nominal power [bhp] 1616 Frequency [Hz] 50

Exhaust Regulations NOx emission optimized;

313	Regulation: stationary power plants in France - CP Unburned hydrocarbons (NMHC)	R	-	mg/m³n
314	Regulation: stationary power plants in France - CP	R	-	mg/m³n
316	Regulation: US EPA "Nonroad" (40 CFR 89 - Tier 1 -) Nitric oxide (NOx)	R	-	g/kWh
371	Regulation: US EPA "Nonroad" (40 CFR 89 - Tier 1 -) NOx-20% Nitric oxide (NOx)	R	-	g/kWh
365	Regulation: US EPA "Nonroad" (40 CFR 89 - Tier 1 -) NOx-40% Nitric oxide (NOx)	R	-	g/kWh
317	Regulation: US EPA "Nonroad" (40 CFR 89 - Tier 1 -) Carbon monoxide (CO)	R	-	g/kWh
318	Regulation: US EPA "Nonroad" (40 CFR 89 - Tier 1 -) Unburned hydrocarbons (HC)	R	-	g/kWh
319	Regulation: US EPA "Nonroad" (40 CFR 89 - Tier 1 -) Particulates	R	-	g/kWh
320	Regulation: US EPA "Nonroad" (40 CFR 89 - Tier 2 -) Nitric oxide (NOx) + unburned hydrocarbons (HC)	R		g/kWh
321	Regulation: US EPA "Nonroad" (40 CFR 89 - Tier 2 -) Carbon monoxide (CO)	R		g/kWh
323	Particulates	R	-	g/kWh
141	Exhaust volume flow, dry - CP (standard conditions)	R	-	m³/h

22. Acoustics

No.	Description	Index	Value	Unit
	Exhaust noise, unsilenced - CP			
101	(free-field sound-pressure level Lp, 1m distance,	R	111	dB(A)
	ISO 6798, +3dB(A) tolerance)			
201	Exhaust noise, unsilenced - CP	R	124	dB(A)
201	(sound power level LW, ISO 6798, +3dB(A) tolerance)	ĸ	124	ub(A)
	Exhaust noise, unsilenced - FSP			
102	(free-field sound-pressure level Lp, 1m distance,	R	-	dB(A)
	ISO 6798, +3dB(A) tolerance)			
202	Exhaust noise, unsilenced - FSP	В		dD(A)
	(sound power level LW, ISO 6798, +3dB(A) tolerance)	R	-	dB(A)

> Actual value must be greater than specified value < Actual value must be less than specified value



Name 12V4000G14RF **Application Group** 3B Dataset Ref. 25°C/55°C

Speed [rpm] 1500 1205 Nominal power [kW] Nominal power [bhp] 1616 Frequency [Hz] 50

Exhaust Regulations NOx emission optimized;

103	Exhaust noise, unsilenced - CP (free-field sound-pressure level Lp, 1m distance, ISO 6798) Spectrum No.	R	735131e	-
203	Exhaust noise,unsilenced - CP (sound power level LW, ISO 6798) Spectrum No.	R	N	-
104	Exhaust noise, unsilenced - FSP (free-field sound-pressure level Lp, 1m distance, ISO 6798) Spectrum No.	R	-	-
204	Exhaust noise,unsilenced - FSP (sound power level LW, ISO 6798) Spectrum No.	R		-
109	Engine surface noise with attenuated intake noise (filter) - CP (free-field sound-pressure level Lp, 1m distance, ISO 6798, +2dB(A) tolerance)	R	102	dB(A)
209	Engine surface noise with attenuated intake noise (filter) - CP (sound power level LW, ISO 6798, +2dB(A) tolerance)	R	121	dB(A)
110	Engine surface noise with attenuated intake noise (filter) - FSP (free-field sound-pressure level Lp, 1m distance, ISO 6798, +2dB(A) tolerance)	R	-	dB(A)
210	Engine surface noise with attenuated intake noise (filter) - FSP (sound power level LW, ISO 6798, +2dB(A) tolerance)	R	-	dB(A)
111	Engine surface noise with attenuated intake noise (filter) - CP (free-field sound-pressure level Lp, 1m distance, ISO 6798) Spectrum No.	R	735135e	-
211	Engine surface noise with attenuated intake noise (filter) - CP (sound power level LW, ISO 6798) Spectrum No.	R	N	-
112	Engine surface noise with attenuated intake noise (filter) - FSP (free-field sound-pressure level Lp, 1m distance, ISO 6798) Spectrum No.	R	-	-
212	Engine surface noise with attenuated intake noise (filter) - FSP (sound power level LW, ISO 6798) Spectrum No.	R	-	-
132	Engine surface noise, without intake noise - FSP (free-field sound-pressure level Lp, 1m distance, ISO 6798, +2dB(A) tolerance)	R	-	dB(A)



1500

1205

Speed [rpm] Name 12V4000G14RF **Application Group** 3B Nominal power [kW] Dataset Ref. 25°C/55°C

Nominal power [bhp] 1616 Frequency [Hz] 50

Exhaust Regulations NOx emission optimized;

	Engine surface noise, without intake noise - FSP			
232	,	R	-	dB(A)
	(sound power level LW, ISO 6798, +2dB(A) tolerance)			
124	Engine surface noise, without intake noise - FSP	R		
134	(free-field sound-pressure level Lp, 1m distance,		-	ı-
	ISO 6798) Spectrum No.			
	Engine surface noise, without intake noise - FSP			
234	(sound power level LW, ISO 6798)	R	-	-
	Spectrum No.			
	Intake noise, unsilenced - FSP			
118	(free-field sound-pressure level Lp, 1m distance,	R	-	dB(A)
	ISO 6798)			
218	Intake noise, unsilenced - FSP			۹۵(۷)
210	(sound power level LW, ISO 6798)	R		dB(A)
	Intake noise, unsilenced - FSP			
120	(free-field sound-pressure level Lp, 1m distance,			
120	ISO 6798)	R	-	-
	Spectrum No.			
	Intake noise, unsilenced - FSP			
220	(sound power level LW, ISO 6798)	R	-	-
	Spectrum No.			
	Structure borne noise at engine mounting brackets			
125	in vertical direction above resilient engine mounts - CP	R	737707e	-
	Spectrum No.			
	Structure borne noise at engine mounting brackets			
126	in vertical direction above resilient engine mounts - FSP	R	-	-
	Spectrum No.			
	Structure born noise, vertically below the resilient engine			
128	mounts - FSP	R	-	-
	Spectrum No.			