Technical Sales Document
- Product Data -

			Speed [rpm]	1500
Name	16V4000G84F		Nominal power [kW]	2185
Application Group	3D		Nominal power [bhp]	2930
Dataset	Ref. 25°C/55°C		Frequency [Hz]	50
Exhaust Regulations	Fuel-consumption 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
8	Engine rated speed switchable (1500/1800 rpm)		-	-
12	Engine with sequential turbocharging (turbochargers with cut-in/cut-out control)		-	-
13	Engine without sequential turbocharging (turbochargers without cut-in/cut-out control)		X	-

1. Power-related data

No.	Description	Index	Value	Unit
1	Engine rated speed	A	1500	rpm
2	Reduction gear - Output speed	A	-	rpm
3	Mean piston speed		10.5	m/s
5	Fuel stop power ISO 3046	A	2185	kW
9	Mean effective pressure (MEP) (Fuel stop power ISO 3046)		22.9	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) required for maximum power		X	-
1	Intake air depression (new filter)	A	15	mbar
2	Intake air depression, max.	L	50	mbar
3	Exhaust back pressure	A	30	mbar
4	Exhaust back pressure, max.	L	85	mbar
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

No.	Description	Index	Value	Unit
17	Specific fuel consumption (be) - 100 % CP (+ 5 %; EN 590; 42.8 MJ/kg)	R	-	g/kWh

Technical Sales Document
- Product Data -

Name	16V4000G84F		**Speed [rpm]**	1500
Application Group	3D		**Nominal power [kW]**	2185
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Exhaust Regulations Fuel-consumption optimized;

18	Specific fuel consumption (be) - 75 % CP (+ 5 %; EN 590; 42.8 MJ/kg)	R	-	g/kWh
19	Specific fuel consumption (be) - 50 % CP (+ 5 %; EN 590; 42.8 MJ/kg)	R	-	g/kWh
20	Specific fuel consumption (be) - 25 % CP (+ 5 %; EN 590; 42.8 MJ/kg)	R	-	g/kWh
21	Specific fuel consumption (be) - FSP (+ 5 %; EN 590; 42.8 MJ/kg)	R	-	g/kWh
56	Specific fuel consumption (be) - 100 % FSP (+ 5 %; EN 590; 42.8 MJ/kg)	R	195	g/kWh
57	Specific fuel consumption (be) - 75 % FSP (+ 5 %; EN 590; 42.8 MJ/kg)	R	193	g/kWh
58	Specific fuel consumption (be) - 50 % FSP (+ 5 %; EN 590; 42.8 MJ/kg)	R	198	g/kWh
59	Specific fuel consumption (be) - 25 % FSP (+ 5 %; EN 590; 42.8 MJ/kg)	R	223	g/kWh
73	No-load fuel consumption	R	30.0	kg/h
92	Lube oil consumption after 100 h of operation (B = fuel consumption per hour) Guideline value does not apply for the design of EGAT systems. Please consult the Applications Center with regard to the layout of EGA systems.	R	0.3	% of B
62	Lube oil consumption after 100 h of operation, max. (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		X	-
34	Combustion method: direct injection		X	-
36	Cooling system: conditioned water		X	-
37	Direction of rotation: c.c.w. (facing driving end)		X	-
6	Number of cylinders		16	-
7	Cylinder configuration: V angle		90	degrees (°)
8	Cylinder configuration: in-line vertical		-	-
10	Bore		170	mm
11	Stroke		210	mm
12	Displacement, cylinder		4.77	liter
13	Displacement, total		76.3	liter
14	Compression ratio		16.4	-
40	Cylinder heads: single-cylinder		X	-
41	Cylinder liners: wet, replaceable		X	-
42	Piston design: composite piston		-	-
49	Piston design: solid-skirt piston		X	-
21	Number of piston compression rings		2	-
22	Number of piston oil control rings		1	-
24	Number of inlet valves, per cylinder		2	-
25	Number of exhaust valves, per cylinder		2	-
15	Number of turbochargers		4	-

Technical Sales Document
- Product Data -

Name	16V4000G84F			Speed [rpm]	1500
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Exhaust Regulations   Fuel-consumption optimized;

16	Number of L.P. turbochargers		4	-
17	Number of H.P. turbochargers		-	-
18	Number of intercoolers		1	-
19	Number of L.P. intercoolers		1	-
20	Number of H.P. intercoolers		-	-
28	Standard flywheel housing flange (engine main PTO)		00	SAE
50	Static bending moment at standard flywheel housing flange, max.	L	15	kNm
51	Dynamic bending moment at standard flywheel housing flange, max.	L	75	kNm
43	Flywheel interface (DISC)		21	-

5. Combustion air / exhaust gas

No.	Description	Index	Value	Unit
8	Charge-air pressure before cylinder - CP	R	-	bar abs
27	Charge-air pressure before cylinder - FSP	R	3.1	bar abs
9	Combustion air volume flow - CP	R	-	m³/s
10	Combustion air volume flow - FSP	R	2.6	m³/s
11	Exhaust volume flow (at exhaust temperature) - CP	R	-	m³/s
12	Exhaust volume flow (at exhaust temperature) - FSP	R	6.6	m³/s
13	Exhaust temperature before turbocharger - CP	R	-	°C
14	Exhaust temperature before turbocharger - FSP	R	685	°C
15	Exhaust temperature after turbocharger - CP	R	-	°C
16	Exhaust temperature after turbocharger - FSP	R	490	°C
17	Exhaust temperature after engine - CP	R	-	°C
18	Exhaust temperature after engine - FSP	R	490	°C

6. Heat dissipation

No.	Description	Index	Value	Unit
9	Heat dissipated by engine coolant - CP with oil heat	R	-	kW
11	Heat dissipation by engine coolant - CP with oil heat, with charge-air heat	A	-	kW
60	Heat dissipated by engine coolant - CP (high-temperature circuit)	R	-	kW
61	Heat dissipated by engine coolant - CP (low-temperature circuit)	R	-	kW
13	Heat dissipated by engine coolant - CP without oil heat, with charge-air heat	R	-	kW
15	Heat dissipated by engine coolant - CP with oil heat, without charge-air heat	R	-	kW
16	Heat dissipated by engine coolant - FSP with oil heat, without charge-air heat	R	800	kW
17	Heat dissipated by engine coolant - CP without oil heat, without charge-air heat	R	-	kW
22	Heat dissipated by oil - CP	R	-	kW
24	Charge-air and oil heat dissipation - CP	R	-	kW
26	Charge-air heat dissipation - CP	R	-	kW
27	Charge-air heat dissipation - FSP	R	410	kW
38	Heat dissipated by exhaust gas - CP	R	-	kW
31	Heat dissipated by return fuel flow - CP	R	-	kW
32	Heat dissipated by return fuel flow - FSP	R	6	kW

Technical Sales Document
- Product Data -

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Exhaust Regulations Fuel-consumption optimized;

33	Radiation and convection heat, engine - CP	R	-	kW
34	Radiation and convection heat, engine - FSP	R	90	kW
35	Radiation and convection heat, genset - CP (engine + generator + 10m insulated exhaust pipework)	R	-	kW

7. Coolant system (high-temperature circuit)

No.	Description	Index	Value	Unit
17	Coolant temperature (at engine outlet to cooling equipment)	A	100	°C
57	Coolant temperature differential after/before engine, from	R	8	K
58	Coolant temperature differential after/before engine, to	R	10	K
23	Coolant temperature differential after/before engine	L	12	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	A	68.5	m³/h
31	Coolant pump: pressure differential	R	2.3	bar
35	Coolant pump: inlet pressure, min.	L	0.5	bar
36	Coolant pump: inlet pressure, max.	L	2.5	bar
39	Engine: coolant pressure differential with thermostat	R	1.9	bar
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
43	Pressure loss in off-engine cooling system, max. without thermostat	L	0.7	bar
70	Pressure loss in off-engine cooling system, min. without thermostat	L	0.55	bar
45	Flow resistance (X) coefficient engine w/ thermostat, w/o cooling equipment	R	0.49	mbar/(m³/h)²
47	Breather valve (expansion tank) 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
73	Coolant level in expansion tank, below min. alarm	L	-	-
74	Coolant level in expansion tank, below min. shutdown	L	X	-
50	Thermostat, starts to open	R	79	°C
51	Thermostat, bypass closed	R	92	°C
52	Thermostat, fully open	R	92	°C
48	Breather valve (expansion tank) 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 (at engine outlet to cooling equipment)	R	68	°C
9	Coolant temperature before intercooler (at engine inlet from cooling equipment)	A	55	°C
14	Coolant temperature before intercooler, limit 1	L	75	°C
61	Coolant temperature before intercooler, shutdown	L	-	°C

Technical Sales Document
- Product Data -

Name	16V4000G84F		Speed [rpm]	1500
Application Group	3D		Nominal power [kW]	2185
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Exhaust Regulations Fuel-consumption optimized;

15	Coolant temperature before intercooler, limit 2	L	-	°C
54	Coolant temperature differential after/before intercooler, min.	L	11	K
55	Coolant temperature differential after/before intercooler, max.	L	15	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 charge-air coolant before intercooler	A	30	K
75	Temperature differential between intake air and charge-air coolant before intercooler, max.	L	32	K
45	Charge-air temperature after intercooler, max. for compliance with "TA-Luft" at CP	L	-	°C
56	Coolant pump: flow rate	A	30	m³/h
20	Cooling equipment: coolant flow rate	A	30	m³/h
21	Intercooler: coolant flow rate	R	30	m³/h
22	Coolant pump: pressure differential	R	2.1	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. without thermostat	L	0.7	bar
63	Pressure loss in off-engine cooling system, min. without thermostat	L	0.55	bar
43	Cooling equipment: height above engine, max.	L	15	m
36	Breather valve (expansion tank) opening pressure (excess pressure)	R	1.0	bar
37	Breather valve (expansion tank) opening pressure (depression)	R	-0.1	bar
42	Cooling equipment: operating pressure	A	2.5	bar
67	Coolant level in expansion tank, below min. alarm	L	-	-
68	Coolant level in expansion tank, below min. 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

No.	Description	Index	Value	Unit
1	Lube oil operating temp. before engine, from	R	89	°C
2	Lube oil operating temp. before engine, to	R	95	°C
3	Lube oil operating temp. after engine, from	R	100	°C
4	Lube oil operating temp. after engine, to	R	110	°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	4.7	bar
8	Lube oil operating press. bef. engine, from	R	4.2	bar
9	Lube oil operating press. bef. engine, to	R	5.5	bar
10	Lube oil pressure before engine, alarm	L	-	bar
33	Lube oil pressure before engine, limit 1(speed-related value, consult MTU)	L	3.5	bar

Technical Sales Document
- Product Data -

Name	16V4000G84F			Speed [rpm]	1500
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Exhaust Regulations   Fuel-consumption optimized;

11	Lube oil pressure before engine, shutdown	L	-	bar
34	Lube oil pressure before engine, limit 2 (speed-related value, consult MTU)	L	3.2	bar
17	Lube oil pump(s): oil flow, total	R	840	liter/min
19	Lube oil fine filter (main circuit): number of units		5	-
20	Lube oil fine filter (main circuit): number of elements per unit		1	-
21	Lube oil fine filter (main circuit): particle retention	R	0.014	mm
32	Lube oil fine filter (main circuit): pressure differential, max.	L	1.5	bar
35	Lube oil fine filter (main circuit): make (standard): MANN & HUMMEL		X	-

11. Fuel system

No.	Description	Index	Value	Unit
1	Fuel pressure at fuel feed connection, min. (when engine is starting)	L	-0.1	bar
57	Fuel pressure at fuel feed connection, min. (when engine is running)	L	-0.3	bar
2	Fuel pressure at fuel feed connection, max. (when engine is starting)	L	1.5	bar
65	Fuel pressure at fuel feed connection, max. (permanent)	L	0.5	bar
37	Fuel supply flow, max.	A	20	liter/min
4	Fuel pressure before injection pump, from (high-pressure pump)	R	5.0	bar
5	Fuel pressure before injection pump, to (high-pressure pump)	R	8.1	bar
6	Fuel pressure before injection pump, min. (high-pressure pump)	L	5.0	bar
7	Fuel pressure before injection pump with engine not running, max. (high-pressure pump)	L	1.5	bar
8	Fuel return flow, max.	A	6	liter/min
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	A	-	-
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): make (standard): MANN & HUMMEL		X	-

12. General operating data

No.	Description	Index	Value	Unit

Technical Sales Document
- Product Data -

Name	16V4000G84F		**Speed [rpm]**	1500
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Dataset	Ref. 25°C/55°C		**Nominal power [bhp]**	2930
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Exhaust Regulations   Fuel-consumption optimized;

No.	Description		Value	Unit
1	Cold start capability: air temperature (w/o starting aid, w/o preheating) - (case A)	R	10	°C
2	Additional condition (to case A): engine coolant temperature	R	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 (w/o starting aid, w/ preheating) - (case C)	R	0	°C
10	Additional condition (to case C): engine coolant temperature	R	40	°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 pump cut-in every ... minutes	R	N	min
27	Lube oil priming pump: cut-in duration	R	N	min
28	Breakaway torque (without driven machinery) coolant temperature +5°C	R	2200	Nm
30	Breakaway torque (without driven machinery) coolant temperature +40°C	R	1750	Nm
29	Cranking torque at firing speed (without driven machinery) coolant temperature +5°C	R	1200	Nm
31	Cranking torque at firing speed (without driven machinery) coolant temperature +40°C	R	880	Nm
96	Starting is blocked if the engine coolant temperature is below		0	°C
92	Run-up period to rated speed (without driven machinery)	R	N	s
93	Run-up period to rated speed (with driven machinery) (* at general conditions)	R	6	s
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 min.	R	60	°C
3515	Minimum continuous load (operation > 10h)	R	30	kW/cyl
49	Extended low or no-load operation possible (consultation required)		X	-
50	Engine mass moment of inertia (without flywheel)	R	12.7	kgm²
52	Standard flywheel mass moment of inertia	R	10.4	kgm²
51	Engine mass moment of inertia (with standard flywheel)	R	23.1	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	-

Technical Sales Document
- Product Data -

Name	16V4000G84F	**Speed [rpm]**	1500
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Exhaust Regulations	Fuel-consumption optimized;		

13. Starting (electric)

No.	Description	Index	Value	Unit
2309	Manufacturer		Delco	-
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	A
2316	Power consumption per starter (at an engine speed of 100 rpm)	R	580	A
2317	Internal resistance of power supply + line resistance per starter	A	0.008	Ω
2318	Manufacturer		Bosch	-
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	A
2324	Power consumption per starter (at an engine speed of 100 rpm)	R	750	A
2325	Internal resistance of power supply + line resistance per starter	A	0.0047	Ω
2326	Manufacturer		Prestolite	-
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	A
2332	Power consumption per starter (at an engine speed of 100 rpm)	R	1400	A
2333	Internal resistance of power supply + line resistance per starter	A	0.0045	Ω
2334	Manufacturer		Prestolite	-
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
2339	Rated short-circuit current per starter	L	3000	A
2340	Power consumption per starter (at an engine speed of 100 rpm)	R	1400	A
2341	Internal resistance of power supply + line resistance per starter	A	0.0045	Ω
3374	Manufacturer		Prestolite	-
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	A
3380	Power consumption per starter (at an engine speed of 100 rpm)	R	530	A
3383	Internal resistance of power supply + line resistance per starter	A	0.005	Ω
2347	Generally valid data for starter		X	-
2342	Rated starting-attempt Duration (at +20°C ambient temperature with battery	R	5	s
2343	Interval between starts (at rated starting-attempt duration), min.	L	20	s
2345	Maximum acceptable starting-attempt duration	L	15	s

Technical Sales Document
- Product Data -

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Exhaust Regulations   Fuel-consumption optimized;

2344	Interval between starts (when starting-attempt duration > rated starting-attempt duration)	R	60	s
2346	Starting attempts within 30 minutes (at +20°C ambient temperature with battery full), max.	L	6	-
3565	Disengagement of starter pinion at engine Speed 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

15. Starting (pneumatic/oil pressure starter)

No.	Description	Index	Value	Unit
35	Pneumatic starter: make Gali		-	-
36	Pneumatic starter: make TDI		X	-
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
114	Air consumption/start attempt (engine preheated) Engine without generator Control with engine controller	R	1.1	m³n
115	Air consumption/start attempt (engine not preheated) Engine without generator Control with engine controller	R	1.2	m³n
116	Air consumption with external control for air-starter (per second	R	0.6	m³n
23	Starting air tank for 3 start attempts (max. 40 bar) (engine preheated)	R	-	liter
24	Starting air tank for 3 start attempts (max. 30 bar) (engine preheated)	R	-	liter
25	Starting air tank for 6 start attempts (max. 40 bar) (engine preheated)	R	-	liter
26	Starting air tank for 6 start attempts (max. 30 bar) (engine preheated)	R	-	liter
27	Starting air tank for 10 start attempts (max. 40 bar) (engine preheated)	R	-	liter
28	Starting air tank for 10 start attempts (max. 30 bar) (engine preheated)	R	-	liter
29	Starting air tank for 3 start attempts (max. 40 bar) (engine not preheated)	R	N	liter
30	Starting air tank for 3 start attempts (max. 30 bar) (engine not preheated)	R	N	liter
31	Starting air tank for 6 start attempts (max. 40 bar) (engine not preheated)	R	N	liter
32	Starting air tank for 6 start attempts (max. 30 bar) (engine not preheated)	R	N	liter
33	Starting air tank for 10 start attempts (max. 40 bar) (engine not preheated)	R	N	liter

Technical Sales Document
- Product Data -

Name	16V4000G84F
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Exhaust Regulations   Fuel-consumption optimized;

No.	Description	Index	Value	Unit
34	Starting air tank for 10 start attempts (max. 30 bar) (engine not preheated)	R	N	liter
101	Hydraulic starter: make Huegli		X	-
102	Starting oil pressure before starter motor, min.	R	120	bar
103	Starting oil pressure before starter motor, max.	R	207	bar
104	Starting oil pressure before starter motor, min.	L	120	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 (engine preheated)	R	N	liter
110	Hydraulic oil consumption / start attempt (engine not preheated)	R	N	liter
111	Minimum specification of hydraulic oil viscosity	R	MilSpec 5606	-

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

No.	Description	Index	Value	Unit
15	Longitudinal inclination, continuous max. driving end down (Option: max. operating inclinations)	L	5	degrees (°)
16	Longitudinal inclination, temporary max. driving end down (Option: max. operating inclinations)	L	-	degrees (°)
17	Longitudinal inclination, continuous max. driving end up (Option: max. operating inclinations)	L	5	degrees (°)
18	Longitudinal inclination, temporary max. driving end up (Option: max. operating inclinations)	L	-	degrees (°)
19	Transverse inclination, continuous max. (Option: max. operating inclinations)	L	10	degrees (°)
20	Transverse inclination, temporary max. (Option: max. operating inclinations)	L	-	degrees (°)

18. Capacities

No.	Description	Index	Value	Unit
1	Engine coolant capacity (without cooling equipment)	R	175	liter
10	Intercooler coolant capacity	R	50	liter
11	On-engine fuel capacity	R	8	liter
14	Engine oil capacity, initial filling (standard oil system) (Option: max. operating inclinations)	R	300	liter
20	Oil change quantity, max. (standard oil system) (Option: max. operating inclinations)	R	240	liter
28	Oil pan capacity, dipstick mark min. (standard oil system) (Option: max. operating inclinations)	L	210	liter
29	Oil pan capacity, dipstick mark max. (standard oil system) (Option: max. operating inclinations)	L	240	liter

Technical Sales Document
- Product Data -

Name	16V4000G84F		**Speed [rpm]**	1500
Application Group	3D		**Nominal power [kW]**	2185
Dataset	Ref. 25°C/55°C		**Nominal power [bhp]**	2930
			Frequency [Hz]	50
Exhaust Regulations	Fuel-consumption optimized;			

19. Masses / dimensions

No.	Description	Index	Value	Unit
9	Engine mass, dry (basic engine configuration acc. to scope of supply specification)	R	7700	kg

21. Exhaust emissions

No.	Description	Index	Value	Unit
1972	Emissions data sheet: Fuel-consumption optimized		EDS 4000 1229	-

22. Acoustics

No.	Description	Index	Value	Unit
101	Exhaust noise, unsilenced - CP (free-field sound-pressure level Lp, 1m distance, ISO 6798, +3dB(A) tolerance)	R	-	dB(A)
201	Exhaust noise, unsilenced - CP (sound power level LW, ISO 6798, +3dB(A) tolerance)	R	-	dB(A)
102	Exhaust noise, unsilenced - FSP (free-field sound-pressure level Lp, 1m distance, ISO 6798, +3dB(A) tolerance)	R	115	dB(A)
202	Exhaust noise, unsilenced - FSP (sound power level LW, ISO 6798, +3dB(A) tolerance)	R	128	dB(A)
103	Exhaust noise, unsilenced - CP (free-field sound-pressure level Lp, 1m distance, ISO 6798) Spectrum No.	R	-	-
203	Exhaust noise,unsilenced - CP (sound power level LW, ISO 6798) Spectrum No.	R	-	-
104	Exhaust noise, unsilenced - FSP (free-field sound-pressure level Lp, 1m distance, ISO 6798) Spectrum No.	R	733628e	-
204	Exhaust noise,unsilenced - FSP (sound power level LW, ISO 6798) Spectrum No.	R	N	-
109	Engine surface noise with attenuated intake noise (filter) - CP (free-field sound-pressure level Lp, 1m distance, ISO 6798, +2dB(A) tolerance)	R	-	dB(A)
209	Engine surface noise with attenuated intake noise (filter) - CP (sound power level LW, ISO 6798, +2dB(A) tolerance)	R	-	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	106	dB(A)

Technical Sales Document
- Product Data -

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Dataset	Ref. 25°C/55°C		**Nominal power [bhp]**	2930
			Frequency [Hz]	50

Exhaust Regulations   Fuel-consumption optimized;

210	Engine surface noise with attenuated intake noise (filter) - FSP (sound power level LW, ISO 6798, +2dB(A) tolerance)	R	125	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	-	-
211	Engine surface noise with attenuated intake noise (filter) - CP (sound power level LW, ISO 6798) Spectrum No.	R	-	-
112	Engine surface noise with attenuated intake noise (filter) - FSP (free-field sound-pressure level Lp, 1m distance, ISO 6798) Spectrum No.	R	733615e	-
212	Engine surface noise with attenuated intake noise (filter) - FSP (sound power level LW, ISO 6798) Spectrum No.	R	N	-
131	Engine surface noise, without intake noise - CP (free-field sound-pressure level Lp, 1m distance, ISO 6798, +2dB(A) tolerance)	R	-	dB(A)
231	Engine surface noise, without intake noise - CP (sound power level LW, ISO 6798, +2dB(A) tolerance)	R	-	dB(A)
133	Engine surface noise, without intake noise - CP (free-field sound-pressure level Lp, 1m distance, ISO 6798) Spectrum No.	R	-	-
233	Engine surface noise, without intake noise - CP (sound power level LW, ISO 6798) Spectrum No.	R	-	-
117	Intake noise, unsilenced - CP (free-field sound-pressure level Lp, 1m distance, ISO 6798)	R	-	dB(A)
217	Intake noise, unsilenced - CP (sound power level LW, ISO 6798)	R	-	dB(A)
119	Intake noise, unsilenced - FSP (free-field sound-pressure level Lp, 1m distance, ISO 6798) Spectrum No.	R	-	-
219	Intake noise, unsilenced - CP (sound power level LW, ISO 6798) Spectrum No.		-	-
125	Structure borne noise at engine mounting brackets in vertical direction above resilient engine mounts - CP Spectrum No.	R	-	-
126	Structure borne noise at engine mounting brackets in vertical direction above resilient engine mounts - FSP Spectrum No.	R	733641e	-
127	Structure born noise, vertically below the resilient engine mounts - CP Spectrum No.	R	-	-