- Product Data -



Name	20V4000G34F	Speed [rpm]	1500
Application Group	3B	Nominal power [kW]	2590
Dataset	Ref. 25°C/45°C	Nominal power [bhp]	3473
		Frequency [Hz]	50

**Exhaust Regulations** 

China III NRMM compliant (stationary);

#### **Reference conditions**

No.	Description	Index	Value	Unit
6	Intake air temperature		25	°C
7	Charge-air coolant temperature		45	°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
	Engine with sequential turbocharging			
12	(turbochargers with cut-in/cut-out control)		-	-
12	Engine without sequential turbocharging		×	
13	(turbochargers without cut-in/cut-out control)		^	-

## 1. Power-related data

No.	Description	Index	Value	Unit
1	Engine rated speed	А	1500	rpm
2	Reduction gear - Output speed	А	-	rpm
3	Mean piston speed		10.5	m/s
4	Continuous power ISO 3046 (10% overload capability)	•	2590	kW
4	(design power DIN 6280, ISO 8528)	А	2590	ĸvv
5	Fuel stop power ISO 3046	А	2849	kW
0	Mean effective pressure (MEP)		21.7	bar
0	(Continuous power ISO 3046)		21.7	Dar
0	Mean effective pressure (MEP)		23.9	bar
9	(Fuel stop power ISO 3046)		23.9	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)		×	
40	required for maximum power		^	-
1	Intake air depression (new filter)	А	15	mbar
2	Intake air depression, max.	L	50	mbar
51	Exhaust overpressure	٨	30	mbar
51	(total pressure against atmosphere)	A	30	IIIbai
52	Exhaust overpressure, max.		85	mbar
52	(total pressure against atmosphere)	L	85	IIIDal
5	Fuel temperature at fuel feed connection	R	25	°C
٥	Fuel temperature at fuel feed connection, max.		55	°C
5	(w/o power reduction)	L	22	L

 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

 X
 Applicable

 The module is valid for this product type

 Image: State of the state of the

Adequate verification not yet available (tolerance +/-10%)
<sup>an</sup> Adequate verification not yet available (tolerance +/-5%)

- Product Data -



Name	20V4000G34F	Speed [rpm] 1	1500
Application Group	3B	Nominal power [kW] 2	2590
Dataset	Ref. 25°C/45°C	Nominal power [bhp] 3	3473
		Frequency [Hz] 5	50

**Exhaust Regulations** 

China III NRMM compliant (stationary);

10	Fuel temperature at fuel feed connection, max.	L	55	°C
18	Fuel temperature at fuel feed connection, min.	L	-	°C

#### 3. Consumption

	nsumption		1	
No.	Description	Index	Value	Unit
17	Specific fuel consumption (be) - 100 % CP	R	198	g/kWh
17	(+ 5 %; EN 590; 42.8 MJ/kg)	h	158	8/ K VVII
18	Specific fuel consumption (be) - 75 % CP	R	205	g/kWh
10	(+ 5 %; EN 590; 42.8 MJ/kg)	n	205	g/KVVII
19	Specific fuel consumption (be) - 50 % CP	R	214	g/kWh
19	(+ 5 %; EN 590; 42.8 MJ/kg)	ĸ	214	g/KVVII
20	Specific fuel consumption (be) - 25 % CP	R	232	g/kWh
20	(+ 5 %; EN 590; 42.8 MJ/kg)	ĸ	252	g/KVVII
21	Specific fuel consumption (be) - FSP	D	199	~/IJA/h
21	(+ 5 %; EN 590; 42.8 MJ/kg)	R	199	g/kWh
56	Specific fuel consumption (be) - 100 % FSP	R		g/kWh
50	(+ 5 %; EN 590; 42.8 MJ/kg)	ĸ	-	g/KVVII
57	Specific fuel consumption (be) - 75 % FSP	R	_	g/kWh
57	(+ 5 %; EN 590; 42.8 MJ/kg)	n		g/KVVII
58	Specific fuel consumption (be) - 50 % FSP	R	-	g/kWh
20	(+ 5 %; EN 590; 42.8 MJ/kg)	ĸ		g/KVVII
59	Specific fuel consumption (be) - 25 % FSP	R		g/kWh
29	(+ 5 %; EN 590; 42.8 MJ/kg)	ĸ	-	g/KVVII
73	No-load fuel consumption	R	35	kg/h
	Lube oil consumption after 100 h of operation			
	(B = fuel consumption per hour)		R 0.3	
92	Guideline value does not apply for the design	R		% of B
	of EGAT systems. Please consult the Applications			
	Center with regard to the layout of EGA systems.			
<u></u>	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		Х	-
4	Exhaust piping, non-cooled		Х	-
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		Х	-
37	Direction of rotation: c.c.w. (facing driving end)		Х	-
6	Number of cylinders		20	-
7	Cylinder configuration: V angle		90	degrees (°)
8	Cylinder configuration: in-line vertical		-	-

 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

Adequate verification not yet available (tolerance +/-10%)
<sup>an</sup> Adequate verification not yet available (tolerance +/-5%)

- Product Data -



## Name Application Group Dataset

20V4000G34F 3B Ref. 25°C/45°C

Speed [rpm]	1500
Nominal power [kW]	2590
Nominal power [bhp]	3473
Frequency [Hz]	50

**Exhaust Regulations** 

China III NRMM compliant (stationary);

10	Bore		170	mm
11	Stroke		210	mm
12	Displacement, cylinder		4.77	liter
13	Displacement, total		95.4	liter
14	Compression ratio		16.4	-
40	Cylinder heads: single-cylinder		х	-
41	Cylinder liners: wet, replaceable		х	-
42	Piston design: composite piston		-	-
49	Piston design: solid-skirt piston		х	-
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		6	-
16	Number of L.P. turbochargers		6	-
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		15	kNm
50	flywheel housing flange, max.	L	15	KINITI
51	Dynamic bending moment at standard		75	li bline
51	flywheel housing flange, max.	L	75	kNm
29	Standard flywheel housing flange			CAE
29	(reduction gearbox main PTO)		-	SAE
43	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	3.2	bar abs
9	Combustion air volume flow - CP	R	2.9	m³/s
10	Combustion air volume flow - FSP	R	3.2	m³/s
11	Exhaust volume flow (at exhaust temperature) - CP	R	8.5	m³/s
12	Exhaust volume flow (at exhaust temperature) - FSP	R	9.3	m³/s
13	Exhaust temperature before turbocharger - CP	R	720	°C
14	Exhaust temperature before turbocharger - FSP	R	745	°C
15	Exhaust temperature after turbocharger - CP	R	560	°C
16	Exhaust temperature after turbocharger - FSP	R	580	°C
17	Exhaust temperature after engine - CP	R	515	°C
18	Exhaust temperature after engine - FSP	R	530	°C

## 6. Heat dissipation

No. Description Index Value Unit
----------------------------------

 BL
 Reference value: fuel stop power

 Maximum engine power that cannot be run continuously on some applications (stabilization reserve)
 DL

 DL
 Reference value: continuous power

 Engine power that can be run continuously under standard conditions
 conditions

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

Adequate verification not yet available (tolerance +/-10%)
<sup>an</sup> Adequate verification not yet available (tolerance +/-5%)

- Product Data -



## Name Application Group Dataset

20V4000G34F 3B Ref. 25°C/45°C

Speed [rpm]	1500
Nominal power [kW]	2590
Nominal power [bhp]	3473
Frequency [Hz]	50

**Exhaust Regulations** 

China III NRMM compliant (stationary);

15	Heat dissipated by engine coolant - CP	R	1020	kW		
	with oil heat, without charge-air heat					
16	Heat dissipated by engine coolant - FSP	R 1090	1090	kW		
10	with oil heat, without charge-air heat	N	1050	K V V		
18	Heat dissipated by engine coolant - FSP	R -			_	kW
10	without oil heat, without charge-air heat		-	ĸvv		
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	480	kW		
27	Charge-air heat dissipation - FSP	R	580	kW		
39	Heat dissipated by exhaust gas - FSP	R	-	kW		
31	Heat dissipated by return fuel flow - CP	R	7.5	kW		
32	Heat dissipated by return fuel flow - FSP	R	-	kW		
33	Radiation and convection heat, engine - CP	R	105	kW		
34	Radiation and convection heat, engine - FSP	R	-	kW		
36	Radiation and convection heat, genset - FSP	D		1414/		
50	(engine + generator + 10m insulated exhaust pipework)	R	-	kW		

## 7. Coolant system (high-temperature circuit)

No.	Description	Index	Value	Unit
	Coolant temperature			
9	(at engine outlet to cooling equipment;	А	-	°C
	with max. 40% antifreeze)			
17	Coolant temperature	•	100	°C
17	(at engine outlet to cooling equipment)	А	100	C
57	Coolant temperature differential after/before engine, from	R	10	К
58	Coolant temperature differential after/before engine, to	R	12	К
23	Coolant temperature differential after/before engine	L	14	К
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	80	m³/h
31	Coolant pump: pressure differential	R	2.25	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	D	1 7	her
29	with thermostat	R	1.7	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.		0.7	her
45	without thermostat	L	0.7	bar
70	Pressure loss in off-engine cooling system, min.		0.55	h e u
70	without thermostat	L	0.55	bar
47	Breather valve (expansion tank)		1.0	le e a
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

 BL
 Reference value: fuel stop power

 Maximum engine power that cannot be run continuously on some applications (stabilization reserve)
 DL

 DL
 Reference value: continuous power

 Engine power that can be run continuously under standard conditions
 conditions

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

Adequate verification not yet available (tolerance +/-10%)
<sup>an</sup> Adequate verification not yet available (tolerance +/-5%)

- Product Data -



# Name 20V4000G34F Sp Application Group 3B No Dataset Ref. 25°C/45°C No

 Speed [rpm]
 1500

 Nominal power [kW]
 2590

 Nominal power [bhp]
 3473

 Frequency [Hz]
 50

Exhaust Regulations

China III NRMM compliant (stationary);

73	Coolant level in expansion tank, below min.	L	-	-
	alarm			
74	Coolant level in expansion tank, below min.		x	
74	shutdown	L	^	-
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)	P	-0.1	bar
48	opening pressure (depression)	R	-0.1	Dar
49	Pressure in cooling system, max.	L	5.0	bar

#### 8. Coolant system (low-temperature circuit)

No.	Description	Index	Value	Unit
52	Coolant temperature		<u></u>	*6
53	(at engine outlet to cooling equipment)	R	60	°C
0	Coolant temperature before intercooler		45	°C
9	(at engine inlet from cooling equipment)	A	45	°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		12	14
54	intercooler, min.	L	13	К
	Coolant temperature differential after/before		47	
55	intercooler, max.	L	17	К
13	Coolant antifreeze content, max.	L	50	%
17	Charge-air temperature after intercooler, max.	L	80	°C
76	Temperature differential between intake air and		20	
	charge-air coolant before intercooler	A	20	к
75	Temperature differential between intake air and		22	
	charge-air coolant before intercooler, max.	L	22	к
45	Charge-air temperature after intercooler, max.			
45	for compliance with "TA-Luft" at CP	L	-	°C
56	Coolant pump: flow rate	A	32.5	m³/h
18	Coolant pump: flow rate (± 5 %)	R	32.5	m³/h
20	Cooling equipment: coolant flow rate	A	32.5	m³/h
21	Intercooler: coolant flow rate	R	32.5	m³/h
22	Coolant pump: pressure differential	R	1.7	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	bar
21	without thermostat	L	0.7	Dal
63	Pressure loss in off-engine cooling system, min.	1	0.55	har
03	without thermostat	L	0.55	bar
43	Cooling equipment: height above engine, max.	L	15	m

 BL
 Reference value: fuel stop power

 Maximum engine power that cannot be run continuously on some applications (stabilization reserve)
 DL

 DL
 Reference value: continuous power

 Engine power that can be run continuously under standard conditions
 conditions

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

 X
 Applicable

 The module is valid for this product type
 Non-applicable

 IN
 Non-applicable

 The module is not valid for this product type
 N

 N
 Value not named

 The value has not yet been named or will not be named
 N

Adequate verification not yet available (tolerance +/-10%)
<sup>an</sup> Adequate verification not yet available (tolerance +/-5%)

- Product Data -



## Name Application Group Dataset

20V4000G34F 3B Ref. 25°C/45°C

1500
2590
3473
50

**Exhaust Regulations** 

China III NRMM compliant (stationary);

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	А	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	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	5.4	bar
8	Lube oil operating press. bef. engine, from	R	4.4	bar
9	Lube oil operating press. bef. engine, to	R	7.2	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	835	liter/min
19	Lube oil fine filter (main circuit): number of units		1	-
20	Lube oil fine filter (main circuit): number of elements per unit		5	-
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 engine fuel feed connection, min. (when engine is starting)	L	-0.1	bar

 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

Adequate verification not yet available (tolerance +/-10%)
<sup>an</sup> Adequate verification not yet available (tolerance +/-5%)

- Product Data -



# Name 20V4000G34F Application Group 3B Dataset Ref. 25°C/45°C

Speed [rpm]	1500
Nominal power [kW]	2590
Nominal power [bhp]	3473
Frequency [Hz]	50

**Exhaust Regulations** 

China III NRMM compliant (stationary);

_	Fuel pressure at engine fuel feed connection, max.			
2	(when engine is starting)	L	1.5	bar
	Fuel pressure at engine fuel feed connection, min.			
57	(when engine is running)	L	-0.3	bar
<b>CF</b>	Fuel pressure at engine fuel feed connection, max.		0.5	
65	(when engine is running)	L	0.5	bar
4211	Max. fuel supply volume		20.1	lite a factor
4211	Normal mode	A	20.1	liter/min
4212	Max. fuel supply volume		22.6	lite a facia
4212	Failure mode	A	22.0	liter/min
4	Fuel pressure before injection pump, from	R	6.0	her
4	(high-pressure pump)	к	8.0	bar
5	Fuel pressure before injection pump, to	R	9.0	bar
5	(high-pressure pump)	ĸ	9.0	Dar
6	Fuel pressure before injection pump, min.	L	5.0	bar
0	(high-pressure pump)	L	5.0	Dai
7	Fuel pressure before injection pump	L	1.5	bar
'	with engine not running, max. (high-pressure pump)	L	1.5	Dai
4213	Max. fuel return volume	А	5.5	liter/min
4215	Normal mode	A	5.5	inter/initi
4214	Max. fuel return volume	А	21.8	liter/min
7217	Failure mode	A	21.0	inter/initi
10	Fuel pressure at return connection on engine, max.	L	0.5	bar
12	Fuel temperature differential before/after engine	R	30	К
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	А	0.005	mm
21	Fuel fine filter (main circuit): pressure differential, max.	L	1.0	bar
32	Fuel fine filter (main circuit):		х	-
52	make (standard): MANN & HUMMEL		~	

#### 12. General operating data

No.	Description	Index	Value	Unit
1	Cold start capability: air temperature	D	10	°C
1	(w/o starting aid, w/o preheating) - (case A)	ĸ		
2	Additional condition (to case A):	R	10	°C
	engine coolant temperature		10	
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	D	0	*
	(w/o starting aid, w/ preheating) - (case C)	ĸ	U	L

 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

Adequate verification not yet available (tolerance +/-10%)
<sup>an</sup> Adequate verification not yet available (tolerance +/-5%)

- Product Data -



## Name Application Group Dataset

20V4000G34F 3B Ref. 25°C/45°C

Speed [rpm]	1500
Nominal power [kW]	2590
Nominal power [bhp]	3473
Frequency [Hz]	50

**Exhaust Regulations** 

China III NRMM compliant (stationary);

	Additional condition (to case C):			
10	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	9.0	kW
22	Coolant preheating, nearer performance (standard)		32	°C
3506	Coolant preheating, preheating temperature, max.		55	°C
23	Lube oil priming pump: flow rate	R	N	liter/min
23	Lube oil priming pump: pressure	R	N	bar
25	Lube oil priming pump: rated power	R	N	kW
25	Lube oil priming pump: cut-in interval	n	IN .	ĸvv
26		R	N	min
27	pump cut-in every minutes		N	
27	Lube oil priming pump: cut-in duration	R		min
28	Breakaway torque (without driven machinery)	R	2600	Nm
	coolant temperature +5°C			
30	Breakaway torque (without driven machinery)	R	2200	Nm
	coolant temperature +40°C			
29	Cranking torque at firing speed (without driven machinery)	R	1400	Nm
	coolant temperature +5°C			
31	Cranking torque at firing speed (without driven machinery)	R	1100	Nm
51	coolant temperature +40°C	IX.	1100	
96	Starting is blocked if the engine coolant temperature is		0	°C
50	below		0	C
92	Run-up period to rated speed	R	N	
52	(without driven machinery)	ĸ		s
	Run-up period to rated speed			
93	(with driven machinery)	R	N	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
	Engine coolant temperature before starting full-load operation, recommended	1_	<u></u>	
44	lmin.	R	60	°C
3515	Minimum continuous load (operation > 10h)	R	30	kW/cyl
	Extended low or no-load operation possible			
49	(consultation required)		x	-
	Engine mass moment of inertia			
50	(without flywheel)	R	21.16	kgm²
52	Standard flywheel mass moment of inertia	R	10.51	kgm²
-	Engine mass moment of inertia			
51	(with standard flywheel)	R	34.67	kgm²
69	Speed droop (with electronic governor) adjustable, from	R	0	%
70	Speed droop (with electronic governor) adjustable, from	R	7	%
70 95	Number of starter ring-gear teeth on engine flywheel	N	182	70
55	ramber of starter ring-gear teeth on engine nywheel	1	102	-

 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

Adequate verification not yet available (tolerance +/-10%)
<sup>an</sup> Adequate verification not yet available (tolerance +/-5%)

- Product Data -



#### Name Application Group Dataset

20V4000G34F 3B Ref. 25°C/45°C

Speed [rpm]	1500
Nominal power [kW]	2590
Nominal power [bhp]	3473
Frequency [Hz]	50

**Exhaust Regulations** 

China III NRMM compliant (stationary);

#### 13. Starting (electric)

	ung (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	A
2210	Power consumption per starter		500	
2316	(at an engine speed of 100 rpm)	R	580	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	А
	Power consumption per starter			
2324	(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	-
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	A
	Power consumption per starter	_		
2332	(at an engine speed of 100 rpm)	R	1400	А
2333	Internal resistance of power supply + line resistance per starter	A	0.0045	Ω
2334	Manufacturer		Prestolite	-
4120	Туре		S-152	-
2335	Number of starter		2	-
2336	Starter electrically redundant		х	-
2337	Rated power per starter	R	15	kW
2338	Starter, rated voltage	R	24	VDC
2339	Rated short-circuit current per starter	L	3000	Α
	Power consumption per starter			
2340	(at an engine speed of 100 rpm)	R	1400	A
2341	Internal resistance of power supply + line resistance per starter	A	0.0045	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	1	2000	A
		15		/ \

 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

Adequate verification not yet available (tolerance +/-10%)
<sup>an</sup> Adequate verification not yet available (tolerance +/-5%)

Design value
 Value required for the design of an external system
 (plant)
 Guideline value
 Typical average value as information – only suitable
 for design purposes to a limited extent
 Linti value
 A value representing the lower limit/minimum value or
 upper limit/maximum value that may not be
 exceeded. Not suitable for design purposes

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

- Product Data -



## Name Application Group Dataset

20V4000G34F 3B Ref. 25°C/45°C

Speed [rpm]	1500
Nominal power [kW]	2590
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Frequency [Hz]	50

**Exhaust Regulations** 

China III NRMM compliant (stationary);

4111	Power consumption per starter	R	600	٨
	(at an engine speed of 100 rpm)	n	000	А
4112	Power consumption per starter	R		•
4112	(at an engine speed of 100 rpm, SAE0)	ĸ	-	А
4113	Power consumption per starter	R		•
4115	(at an engine speed of 100 rpm, SAE1)	к	-	А
4114	Internal resistance of power supply + line resistance per starter	А	0.008	Ω
2347	Generally valid data for starter		Х	-
2342	Rated starting-attempt Duration (at +20°C ambient temperature with battery	R	5	S
2343	Interval between starts		20	<u> </u>
2343	(at rated starting-attempt duration), min.	L	20	5
2345	Maximum acceptable starting-attempt duration	L	15	s
2344	Interval between starts	Р	60	
2344	(when starting-attempt duration > rated starting-attempt duration)	R	00	S
2346	Starting attempts within 30 minutes		6	
2340	(at +20°C ambient temperature with battery full), max.	L	0	-
3565	Disengagement of starter pinion at engine Speed	-	400	rpm
5505	Note: Exceeding the guideline value of the disengagement speed will reduce	R	400	
3566	Disengagement of starter pinion at engine speed, max.	L	500	rpm

## 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
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	D		liter
25	(max. 40 bar) (engine preheated)	R	-	
26	Starting air tank for 3 start attempts			liter
20	(max. 30 bar) (engine preheated)	R	-	
27	Starting air tank for 6 start attempts		3 -	liter
27	(max. 40 bar) (engine preheated)	R		
28	Starting air tank for 6 start attempts		-	liter
28	(max. 30 bar) (engine preheated)	R		
20	Starting air tank for 10 start attempts			l'han.
29	(max. 40 bar) (engine preheated)	R	-	liter
20	Starting air tank for 10 start attempts			lite a
30	(max. 30 bar) (engine preheated)	R	-	liter
24	Starting air tank for 3 start attempts			
31	(max. 40 bar) (engine not preheated)	R	-	liter
22	Starting air tank for 3 start attempts			
32	(max. 30 bar) (engine not preheated)	R	-	liter

 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

 X
 Applicable

 The module is valid for this product type
 Image: Applicable

 The module is not valid for this product type
 Image: Applicable

 The module and the module is not valid for this product type
 Image: Applicable

 Notation and the module is not valid for this product type
 Image: Applicable

 Notation and the module is not valid for this product type
 Image: Applicable

 Notation and the module is not valid for this product type
 Image: Applicable

Adequate verification not yet available (tolerance +/-10%)
<sup>an</sup> Adequate verification not yet available (tolerance +/-5%)

- Product Data -



Name	20V4000G34F	Speed [rpm]	1500
Application Group	3B	Nominal power [kW]	2590
Dataset	Ref. 25°C/45°C	Nominal power [bhp]	3473
		Frequency [Hz]	50

Exhaust Regulations

China III NRMM compliant (stationary);

	Starting air tank for 6 start attempts	R	_	liter
	(max. 40 bar) (engine not preheated)	n	-	inter
34	Starting air tank for 6 start attempts		liter	
54	(max. 30 bar) (engine not preheated)	к		inter
35	Starting air tank for 10 start attempts	R	-	liter
55	(max. 40 bar) (engine not preheated)			
36	Starting air tank for 10 start attempts	D		liter
	(max. 30 bar) (engine not preheated)	R	-	

## 15. Starting (pneumatic/oil pressure starter)

No.	Description	Index	Value	Unit
35	Pneumatic starter: make Gali	İ	-	-
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
	Air consumption/start attempt			
114	(engine preheated)	R	1.4	m <sup>3</sup> n
114	Engine without generator	к	1.4	m³n
	Control with engine controller			
	Air consumption/start attempt			
445	(engine not preheated)	R	1.6	m³n
115	Engine without generator			
	Control with engine controller			
	Air consumption with external control			2
116	for air-starter (per second	R	0.7	m³n
22	Starting air tank for 3 start attempts	_	-	liter
23	(max. 40 bar) (engine preheated)	R		
24	Starting air tank for 3 start attempts	_		
24	(max. 30 bar) (engine preheated)	R	-	liter
25	Starting air tank for 6 start attempts	_		
25	(max. 40 bar) (engine preheated)	R	-	liter
26	Starting air tank for 6 start attempts	_		
26	(max. 30 bar) (engine preheated)	R	-	liter
27	Starting air tank for 10 start attempts	_		
27	(max. 40 bar) (engine preheated)	R	-	liter
20	Starting air tank for 10 start attempts			
28	(max. 30 bar) (engine preheated)	R	-	liter
20	Starting air tank for 3 start attempts		N	l'h e a
29	(max. 40 bar) (engine not preheated)	R	N	liter
20	Starting air tank for 3 start attempts		N	l'h e a
30	(max. 30 bar) (engine not preheated)	R	Ν	liter

 BL
 Reference value: fuel stop power

 Maximum engine power that cannot be run continuously on some applications (stabilization reserve)
 DL

 DL
 Reference value: continuous power

 Engine power that can be run continuously under standard conditions
 conditions

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

Adequate verification not yet available (tolerance +/-10%)
<sup>an</sup> Adequate verification not yet available (tolerance +/-5%)

- Product Data -



Name	20V4000G34F	Speed [rpm]	1500
Application Group	3B	Nominal power [kW]	2590
Dataset	Ref. 25°C/45°C	Nominal power [bhp]	3473
		Frequency [Hz]	50

**Exhaust Regulations** 

China III NRMM compliant (stationary);

31	Starting air tank for 6 start attempts (max. 40 bar) (engine not preheated)	R	Ν	liter
32	Starting air tank for 6 start attempts	R	Ν	liter
32	(max. 30 bar) (engine not preheated)			
33	Starting air tank for 10 start attempts	0	Ν	liter
55	(max. 40 bar) (engine not preheated)	n		iitei
34	Starting air tank for 10 start attempts	Р	N	litor
54	(max. 30 bar) (engine not preheated)	К	IN .	liter

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

#### 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

No.	Description	Index	Value	Unit
1	Engine coolant capacity (without cooling equipment)	R	205 *	liter
10	Intercooler coolant capacity	R	50	liter
11	On-engine fuel capacity	R	9	liter
	Engine oil capacity, initial filling			
14	(standard oil system)	R	390 *	liter
	(Option: max. operating inclinations)			
	Oil change quantity, max.			
20	(standard oil system)	R	340 *	liter
	(Option: max. operating inclinations)			

 BL
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 Maximum engine power that cannot be run continuously on some applications (stabilization reserve)
 DL

 DL
 Reference value: continuous power

 Engine power that can be run continuously under standard conditions
 conditions

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

 X Applicable

 The module is valid for this product type

 Non-applicable

 The module is not valid for this product type

 **Will applicable Work applicable** 

 The module is not valid for this product type

 **Work applicable** 

 The walue has not yet been named or will not be named

Adequate verification not yet available (tolerance +/-10%)
<sup>an</sup> Adequate verification not yet available (tolerance +/-5%)

- Product Data -



Name	20V4000G34F	Speed [rpm]	1500
Application Group	3B	Nominal power [kW]	2590
Dataset	Ref. 25°C/45°C	Nominal power [bhp]	3473
		Frequency [Hz]	50

Exhaust Regulations

China III NRMM compliant (stationary);

28	Oil pan capacity, dipstick mark min. (standard oil system) (Option: max. operating inclinations)	L	268	liter
	Oil pan capacity, dipstick mark max. (standard oil system)	L	315	liter
	(Option: max. operating inclinations)			

## 19. Masses / dimensions

No.	Description	Index	Value	Unit
	Engine mass, dry			
9	(basic engine configuration acc. to	R	9290	kg
	scope of supply specification)			

# 21. Exhaust emissions

No.	Description	Index	Value	Unit
3333	Emissions data sheet: China NRMM Stage III		х	-

#### 22. Acoustics

No.	Description	Index	Value	Unit
	Exhaust noise, unsilenced - CP			
101	(free-field sound-pressure level Lp, 1m distance,	R	114	dB(A)
	ISO 6798, +3dB(A) tolerance)			
201	Exhaust noise, unsilenced - CP	D	107	
201	(sound power level LW, ISO 6798, +3dB(A) tolerance)		dB(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	D	-	dB(A)
202	(sound power level LW, ISO 6798, +3dB(A) tolerance)	n		ub(A)
	Exhaust noise, unsilenced - CP			
103	(free-field sound-pressure level Lp, 1m distance,	D	7358250	_
105	ISO 6798)	n	/350250	-
	Spectrum No.			
	Exhaust noise, unsilenced - CP			
203	(sound power level LW, ISO 6798)	R	Ν	-
	Spectrum No.			
	Exhaust noise, unsilenced - FSP			
104	(free-field sound-pressure level Lp, 1m distance,	R	-	-
	ISO 6798) Spectrum No.			
	Exhaust noise, unsilenced - FSP			
204	(sound power level LW, ISO 6798)	R	-	-
	Spectrum No.			

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Application Group	3B	Nominal power [kW]	2590
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**Exhaust Regulations** 

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A) Design value
Value required for the design of an external system
(plant)
 Couldeline value
 for design purposes to a limited extent
 Limit value
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upper limit/maximum value that may not be
 exceeded. Not suitable for design purposes

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Application Group	3B	Nominal power [kW]	2590
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		Frequency [Hz]	50

**Exhaust Regulations** 

China III NRMM compliant (stationary);

120	Intake noise, unsilenced - FSP (free-field sound-pressure level Lp, 1m distance,	R	-	-
	ISO 6798) Spectrum No.			
220	Intake noise, unsilenced - FSP			
	(sound power level LW, ISO 6798)	R	-	-
	Spectrum No.			
125	Structure borne noise at engine mounting brackets			
	in vertical direction above resilient engine mounts - CP	R	735847e	-
	Spectrum No.			
126	Structure borne noise at engine mounting brackets			
	in vertical direction above resilient engine mounts - FSP	R	-	-
	Spectrum No.			
128	Structure born noise, vertically below the resilient engine			
	mounts - FSP	R	-	-
	Spectrum No.			

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