Extended Data Sheet



S8000 G-DRIVE ENGINE		Industrial Market	Rev. 4.0_Dec 2017
Number of cylinders	: 3	Bore: 104mm	
Displacement:	2.91	Stroke: 115mm	
Aspiration:	natural		

General		@1500rpm	@1800rpm
Engine model		S8000 AM1 ; 8031	
Basic engine type)5.372
Number of cylinders			3
Firing order (1 st from fan)		1-3	3-2
Cylinder arrangement		in	ine
Valves per cylinder			2
Cycle		diesel 4	ł stroke
Injection system		direct, mech i	njection pump
Induction system		natural a	aspirated
Bore	mm	10)4
Stroke	mm	1	15
Displacement	I	2	.9
Mean piston speed	m/s	5.75	6.9
Compression ratio		17	' :1
Flywheel rotation		anti clockwise vie	wed from flywheel
Flywheel housing		SA	E3
Flywheel	in	11	1/2
Moment of inertia			
Without flywheel	kgm ²	0.1	02
With flywheel	kgm²	0.	84
BMEP gross			
Prime power	bar (kPa)	7.92	7.31
Stand-by power	bar (kPa)	8.72	8.05
Energy to coolant	kcal/kWh	556	510
Energy to air	kcal/kWh	143	143
Bare engine			
Dry weight	kg	32	20
Dimensions LxWxh	mm	945 x 625 x 872	
Centre of gravity from FOB (X,Y,Z)	mm	n	/a
Assembled engine (G_Drive)			
Dry weight	kg	3	70
Dimensions LxWxh	mm	962 x 62	21 x 979
Centre of gravity	vity n/a		/a



Performances		@1500rpm	@1800rpm
Continuous power (gross)	kWm	23	25
Prime power (gross)	kWm	28.7	32
Stand-by power (gross)	kWm	31.6	35
Fan consumption	kWm	0.6	1
Continuous power (net)	kWm	22	24
Prime power (net)	kWm	28.1	31
Stand-by power (net)	kWm	31	34
** Typical generator output	r ^{end}	0.95	0.95
Prime power	kVA (kWe)	30	34
Stand by	kVA (kWe)	33	37.4
Performance conditions			
Temperature	°C	-10°C /	′ +45°C
Altitude a.s.l.	m	10	00
Derating			
Temperature > 40°C		2% / 5%	C > 30°C
Altitude > 1000 < 3000m		5 % / 400) m. s.l.m.
Altitude > 3000m		7% / 500 m	

** Generator powers are typical and are based on an average alternator efficiency and a power factor (cos. Θ) of 0.8. kWe=kWm x gen. eff. kVA=kWe / 0.8

Cooling system		@1500rpm	@1800rpm
Туре		liqi	uid
Recommended coolant		see dedica	ated table
Coolant capacity			
Engine only	I	Į.	5
Radiator & hoses	I	<u>c</u>	Ð
Coolant engine flow	l/min	62.3	75.4
Cap pressure	kPa (bar)	100	(1)
Warning setting first threshold	°C	10)3
Maximum additional restriction	kPa	10	15
Air to boil (stand-by)	°C	65	65
Fan		Pusher (Wingfan)
Diameter	mm	45	50
Number of blades		8	3
Drive ratio		1.0	4:1
Speed	rpm	1560	1872
Air flow	m³/s	0.55 at 2.7	0.85 at 3.3
Power consumption	kWm	0.6	0.95



EXTENDED DATA SHEET

Lubrication system @1500rpm @1800rpm Oil sum capacity I 2.7 Min. 1 5.5 Oil system capacity including filter 1 8.8 Oil pressure at rated speed kPa 220 (10°C) 260 (11 0°C) Max. oil temperature °C 125 Engine angulanty Longitudinal deg 10 Transversal deg 10 Servicing intervals n depending on lube oil 00 Gil specifications Sec dedicated table Oil prescurption % fuel 0.2 max 0.2 max 1500rpm 91800rpm Arc consumption at 100% load m/h (kg/h) 125 (14%) 150(176) Ar intake restriction, clien filter kPa (mbar) 2.5 (55) Ar intake restriction, clien filter kPa (mbar) 2.5 (50) Ar intake restriction, dift filter kPa (mbar) 5 (50) Ar intake restriction, clien filter kPa (mbar) 7 (70) Enging angulanty 6 (500rpm 91800rpm Feld consumption 7 (70) Enging angulanty 6 (500 (218 (2.6))				
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Charge A 35	-			
	Charge	Α	3	5



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Cold starting		01500	01000
Cold starting		@1500rpm	@1800rpm
Without air preheating	°C	-5	5
With air preheating	°C	-1	2
Emission gases and particles		@1500rpm	@1800rpm
NOx oxides of nitrogen	g/kWh	-	-
HC hydrocarbons	g/kWh	-	-
NOx +HC	g/kWh	-	-
CO carbon monoxide	g/kWh	-	-
PT particles	g/kWh	-	-
Sound level		@1500rpm	@1800rpm
Overall sound pressure (engine only)	dBA	88	90
Overall sound pressure (with accessories only)	dBA	n/	a
Step load		@1500rpm	@1800rpm
G2		100	100
G3		70	80

* Power at flywheel according dir. 97/68 EC (w/o fan). After 50 hours of run-in, tolerance ±3%. Fuel EN 590. Test according ISO 3046/1. Turbo air inlet temperature 25°C. Atmospheric pressure 100kPa. Humidity 30%. According also to DIN 6271, BS 5514, SAE J1349. All data is based on the engine operating with fuel system, water pump, lubricating oil pump with inlet and exhaust restriction at or below datasheet limits. Accessory loads assumed at 20Nm across from idle to rated rpm. Fan duty cycle must be lower than 20%.

Rating Guidelines

Prime power is the maximum power available with varying loads for an unlimited of hours. The average power output during a 24 hours period of operation must not exceed 80% of the declared prime power between the prescribed maintenance intervals at standard environmental conditions. A 10% overload is available for 1h every 12 hours of operation.

Stand-by power is the maximum power available for a period of 500h/y with a mean load of 90% of the declared stand-by power. No overload is permissible for this use.



Acronyms	Description	Acronyms	Description
-	Not Needed	IDI	Indirect Injection
2stTC	Two Stage Turbo (sequential)	iEGR	Internal EGR
Ag	Agricultural	ISC	Interstage Cooling
ASC	Ammonia Slip Catalyst (same as CUC)	LD	Light Duty
ATS	After Treatment System	LDCV	Light Duty Commercial Vehicles
BSFC	Brake Specific Fuel Consumption	LH	Left Hand Side
CAC	Charge Air Cooler	LWR	Laser Welded Rail
CCDPF	Close Coupled DPF	MD	Medium Duty
CCV	Crankcase Ventilation	n/a	Not Available
CE	Construction Equipment	NA	Natural Aspirated
CI	Cast Iron	NS	Non Structural
CRS	Common Rail System	OHV	Over Head Valves
CRSN	Common Rail System NKW (Commercial vehicles)	OPT	Option
CUC	Clean Up Catalyst for ammonia (same as ASC)	PCP	Peak Cylinder Pressure
DAVNT	Dual Axis Variable Nozzle Turbine	РТО	Power Take Off
DCS	Drawing Coordinate System	RFOB	Rear Face of Block
DI	Direct Injection	RH	Right Hand Side
DOC	Diesel Oxidation Catalyst	S	Structural
DOHC	Double Over Head Camshaft	SAPS	Sulphated Ash, Phosphorus, Sulphur
DPF	Diesel Particulate Filter	SCR	Selective Catalytic Reduction catalyst
ECEGR	External Cooled EGR	SOHC	Single Over Head Camshaft
ECU	Engine Control Unit	STD	Standard
EEGR	External EGR	TC	Turbocharged
EGR	Exhaust Gas Recirculation	TCA	Turbocharged, Charge Air Cooled
epWG	Electro pneumatic WG	THM	Thermal Management
eVGT	Electrical VGT	UFDPF	Under Floor DPF
eWG	Electrical WG	UQS	Urea Quality Sensor
FFOB	Front Face of Block	VE	Bosch Distributor Mechanical Pump
FGT	Fixed Geometry Turbocharger (no WG)	VFT	Variable Flow Turbine
FIE	Fuel Injection System	VGT	Variable Geometry Turbocharger
HD	Heavy Duty	WG	Waste Gate Turbocharger
HLA	Hydraulic Lash Adjusters	XPI	Extra high Pressure Injection (Scania, Cummin

Unit of misure according to international system of unit. Engine accessories and Options available on Option List. All data is subject to change without notice.

UPDATING

Revision	Description	Date
4.0	Updated document	Dec 2017



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