UL LISTED FM APPROVED

A96 BODB4TF41E REV.5

LISTED SPRINKLER SOLUTIONS

B4TF41 OPERATION DATASHEET

ENGINE GENERAL DATA

THERMODYNAMIC CYCLE	DIESEL - 4 STROKE
ENGINE ARCHITECTURE	4 CYLINDERS, IN LINE
FIRING ORDER	1 - 3 - 4 - 2
AIR INTAKE	TCA
COOLING	WATER
CHARGE AIR COOLING SYSTEM	CHARGE AIR/RAW WATER HEAT EXCHANGER
COMPRESSION RATIO	17,5:1
INJECTION SYSTEM	MECHANICAL ROTARY PUMP
COMBUSTION	DIRECT INJECTION
ENGINE DISPLACEMENT	4.5 l
VALVES PER CYLINDER	2
INTAKE	1
EXHAUST	1
ROTATION (VIEWED FROM ENGINE FLYWHEEL)	CCW
ENGINE CRANKCASE VENTILATION SYSTEM	RECIRCULATED
ENGINE WEIGHT	630 kg

ENGINE PERFORMANCE

ENGINE SPEED [rpm]	NET POWER RATING [kW (cv) (1) (2)]	FUEL CONSUMPTION RATE [l/h]
1760 rpm	98 (133)	28
2100 rpm	119 (162)	32
2200 rpm	126 (171)	34
2350 rpm	128 (174)	34
2600 rpm	132 (180)	38
2800 rpm	134 (182)	40
2940 rpm	137 (186)	41

(1) Power at flywheel according to 97/68 EC (without fan), after 50 hours running, 3% tolerance, fuel Diesel EN 590
(2) Power derating conditions: a deduction of 3 percent from engine horsepower rating at standard SAE conditions shall be made for diesel engines for each 1000 ft. (305 m) altitude above 300 ft. (91.4 m) , a deduction of 1 percent from engine horsepower rating as corrected to standard SAE conditions shall be made for diesel engines for every 10°F (5.6°C) above 77°F (25°C) ambient temperature.

EXHAUST SYSTEM

ENGINE SPEED [rpm]	EXHAUST MAX TEMPERATURE [°C]	MAX ALLOWABLE BACK PRESSURE [kPa]	EXHAUST GASES FLOW [kg/h]
1760 rpm	633	5	730
2100 rpm	559	5	750
2200 rpm	547	5	770
2350 rpm	526	5	750
2600 rpm	566	5	815
2800 rpm	570	5	860
2940 rpm	581	5	880

LUBRICATION SYSTEM

LUBRICATION OIL MINIMUM PRESSURE @ IDLE SPEED	0,7 bar
LUBRICATION OIL MAXIMUM PRESSURE @ RATED SPEED	3,5 bar
LUBRICATION OIL MAXIMUM TEMPERATURE	120°C
LUBRICATION CIRCUIT FULL CAPACITY	12,8 l

BIMOTOR POWER SOLUTIONS

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ELECTRIC SYSTEM

VOLTAGE	12V	24V	(Optional config)
ALTERNATOR	90A	90A	(Optional config)
STARTER MOTOR	3 kW	3 kW	(Optional config)
BATTERIES PER BANK	1	2	(Optional config)
BATTERY CABLES MAX RESISTANCE	0,0013 ohm		
BATTERY CABLES MIN ALLOWED SIZE (3)			
1 M TO 3 M	AWG 0		
3 M TO 4 M	AWG 00		
4 M TO 5 M	AWG 000		
BATTERY CCA @ -18° C (4)	1000 A		
RESERVE CAPACITY (4)	430 min - 180 Ah		

(3) Length combination of positive and negative cables.
(4) Parameters evaluated according to SAE Standard J537.

AIR INDUCTION SYSTEM

ENGINE SPEED [rpm]	COMBUSTION AIR FLOW [kg/h]	MAX INLET TEMPERATURE [°C]	MAX ALLOWED RESTRICTION (CLEAN FILTER) [kPa]	MAX ALLOWED RESTRICTION (DIRTY FILTER) [kPa]
1760 rpm	708	55	3,5	6,5
2100 rpm	722	55	3,5	6,5
2200 rpm	741	55	3,5	6,5
2350 rpm	723	55	3,5	6,5
2600 rpm	785	55	3,5	6,5
2800 rpm	828	55	3,5	6,5
2940 rpm	850	55	3,5	6,5

COOLING SYSTEM

ENGINE SPEED [rpm]	REJECTED HEAT [kW]	REQUIRED RAW WATER FLOW @ 15°C [l/min]	REQUIRED RAW WATER FLOW @ 38°C [l/min]	ENGINE RADIATED HEAT [kW]
1760 rpm	59	55	60	18
2100 rpm	70	55	60	19
2200 rpm	74	55	60	21
2350 rpm	78	55	60	23
2600 rpm	82	55	60	25
2800 rpm	85	55	60	27
2940 rpm	90	55	60	27

THERMOSTAT	START OPENING	83°C
	FULL OPENING	95°C
PRIMARY COOLANT TEMPERATURE RANGE		83-95°C
PRIMARY COOLANT MAXIMUM TEMPERATURE		99°C
PRIMARY COOLANT LOW TEMPERATURE ALARM		35°C
PRIMARY COOLANT CAPACITY		11 l
PRIMARY COOLANT PRESSURE (CAP)		0,7 bar
SECONDARY CIRCUIT MAXIMUM PRESSURE		3,8 bar
RAW WATER TEMPERATURE ALARM		40°C

LIQUID HEATERS

COOLANT HEATER	1500W – 230V
LUBRICATION OIL HEATER	350W – 230V

FUEL SYSTEM

FUEL PUMP MAX INTAKE RESTRICTION	0 bar
MAX ALLOWABLE FUEL HEAD ABOVE FUEL PUMP	1 m
MINIMUM FUEL LINE INTERNAL DIAMETER	10 mm