



# LISTED SPRINKLER SOLUTIONS

## B4SF40 OPERATION DATASHEET

### ENGINE GENERAL DATA

THERMODYNAMIC CYCLE	DIESEL - 4 STROKE
ENGINE ARCHITECTURE	4 CYLINDERS, IN LINE
FIRING ORDER	1 - 3 - 4 - 2
AIR INTAKE	TC
COOLING	WATER
CHARGE AIR COOLING SYSTEM	N/A
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	600 kg

### ENGINE PERFORMANCE

ENGINE SPEED [rpm]	NET POWER RATING [kW (cv) (1) (2)]	FUEL CONSUMPTION RATE [l/h]
1760 rpm	70 (95)	22
2100 rpm	85 (116)	26
2200 rpm	89 (121)	27
2350 rpm	96 (131)	28
2600 rpm	96 (131)	30
2800 rpm	95 (129)	31
2940 rpm	95 (129)	31

flywheel according

(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.

(1) Power at  
to 97/68 EC

### EXHAUST SYSTEM

ENGINE SPEED [rpm]	EXHAUST MAX TEMPERATURE [°C]	MAX ALLOWABLE BACK PRESSURE [kPa]	EXHAUST GASES FLOW [kg/h]
1760 rpm	700	7	400
2100 rpm	603	7	504
2200 rpm	603	7	580
2350 rpm	551	7	630
2600 rpm	528	7	680



2800 rpm	520	7	750
2940 rpm	500	7	810

### 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

### 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	380	55	3,5	6,5
2100 rpm	480	55	3,5	6,5
2200 rpm	556	55	3,5	6,5
2350 rpm	605	55	3,5	6,5
2600 rpm	654	55	3,5	6,5
2800 rpm	722	55	3,5	6,5
2940 rpm	783	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	75	53	59	13
2100 rpm	79	55	62	14
2200 rpm	79	55	62	16
2350 rpm	81	63	70	18
2600 rpm	85	63	70	20
2800 rpm	85	63	70	22
2940 rpm	85	63	70	22

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

*Informations, modifications and details contained in this page may be updated without any notice.*