

UL - LISTED RATINGS BHP & KW

ENGINE MODEL:	AF6-127B
EMISSIONS:	TIER 0
DATE:	12/15/2023
DRAWING NUMBER:	AF6-127B.00
PERFORMANCE CURVE NUMBER:	C06127B
RATED POWER:	536 BHP @ 2100 RPM 400 KW @ 2100 RPM
REFERENCE NUMBER:	14DS001E
VERSION:	A



GENERAL ENGINE DATA

TYPE:	4 CYCLE; INLINE; WATER COOLED	
NUMBER OF CYLINDERS:	6	
ASPIRATION:	TURBOCHARGED + WATER COOLED	
BORE & STROKE - IN [MM]:	5.00 x 6.50 [127 x 165]	
CYLINDER LINER TYPE:	<input type="checkbox"/> WET <input checked="" type="checkbox"/> DRY	
DISPLACEMENT - IN ³ [L]:	765 [12.54]	
COMPRESSION RATIO:	16:01	
FIRING ORDER:	1 - 5 - 3 - 6 - 2 - 4	
COMBUSTION SYSTEM:	DIRECT INJECTION	
ROTATION (AS VIEWED FROM FRONT OF ENGINE):	CCW	
VALVES PER CYLINDER:	INTAKE: 2 EXHAUST: 2	
VALVE LASH (COLD ENGINE):	INTAKE - IN [MM]:	0.016 [0.40]
	EXHAUST - IN [MM]:	0.024 [0.60]
IGNITION TYPE:	COMPRESSION (DIESEL)	
CHARGE AIR COOLING TYPE:	RAW WATER	
WEIGHT (FUEL PUMP CONFIGURATION) - LBS [KG]:	3527 [1600]	
DIMENSIONS (L x W x H) - IN [MM]:	84 x 46 x 64 [2130 x 1170 x 1620]	
FLYWHEEL / FLYWHEEL HOUSING DIMENSIONS:	14.00 / SAE #1	
TORQUE @ RATED RPM - LB-FT [N-M]:	1341 [1819]	

ENGINE PERFORMANCE DATA

ESTIMATED FREE FIELD SOUND PRESSURE LEVEL AT 3 FEET [1 METER] WITH FULL-LOAD GOVERNED SPEED (INCLUDES NOISE FROM EXHAUST, COOLING SYSTEM AND DRIVEN COMPONENTS)	dBa	≤ 113
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ALL DATA IS BASED ON ENGINE OPERATING WITH FUEL SYSTEM, LUBRICATING OIL PUMP, AIR CLEANER AND ALTERNATOR. DOES NOT INCLUDE AIR COMPRESSOR, FAN & OPTIONAL EQUIPMENT. DATA IS BASED ON SAE STANDARD J1349 CONDITIONS AT 300 FEET [91.4 METERS] ALTITUDE, 29.61 INCHES [752 MILLIMETERS] HG DRY BAROMETER AND 77°F [25°C] INTAKE AIR TEMPERATURE USING #0 DIESEL FUEL FOLLOWING THE GB 252-2011 STANDARD.

ALTITUDE ABOVE WHICH OUTPUT SHOULD BE DERATED:	FEET [METER]	300 [91]
DERATE PER 1,000 FEET [305 METERS] ABOVE ALTITUDE LIMIT:	3%	
TEMPERATURE ABOVE WHICH OUTPUT SHOULD BE DERATED:	°F [°C]	77 [25]
DERATE PER 10°F [5.6°C] ABOVE TEMPERATURE LIMIT:	1%	

● ALL DATA CERTIFIED WITHIN ±5%.

EXHAUST SYSTEM

EXHAUST GAS TEMPERATURE @ MAXIMUM RATING (POWER) - °F [°C]:	≤ 1022 [550]
EXHAUST GAS FLOW @ MAXIMUM OUTPUT - CFM [M³/HR]:	975 [1656]
MAXIMUM ALLOWABLE BACK PRESSURE - PSI [KPA]:	1.09 [7.5]
MINIMUM EXHAUST PIPE DIAMETER - IN [MM]:	5 [125]

AIR INTAKE SYSTEM

AIR CLEANER TYPE:	DRY TYPE, DISPOSABLE
AIR FLOW - CFM [M³/HR]:	935 [1589]
AIR INLET RESTRICTION (DIRTY) - PSI [KPA]:	≤ 0.87 [6]

LUBRICATION SYSTEM

OIL CAPACITY (ENGINE ONLY) - QTS [L]:	38.0 [36]
MAXIMUM SUMP OIL TEMPERATURE - °F [°C]:	221 [105]
NORMAL OPERATING OIL PRESSURE RANGE - PSI [BAR]:	50.7 ~ 79.8 [3.5 ~ 5.5]
OIL PRESSURE @ IDLE - PSI [BAR]:	> 14.5 [1.0]

COOLING SYSTEM

COOLANT CAPACITY (ENGINE & HEAT EXCHANGER) - QTS [L]:	58 [55]	
THERMOSTAT RANGE:	START OPEN - °F [°C]:	169 [76]
	FULL OPEN - °F [°C]:	190 [88]
COOLANT PRESSURE MAXIMUM - PSI [BAR]:	13 [0.9]	
MAXIMUM ENGINE COOLANT TEMPERATURE - °F [°C]:	≤ 204 [96]	
ENGINE COOLANT FLOW @ FULL SPEED - GPM [M³/HR]:	110 [24.9]	
RAW WATER COOLING CAPACITY - GPM [M³/HR]:	88 [20]	
MINIMUM RAW WATER FLOW @ ENGINE SPEED (RPM)	1470	1760
RAW WATER TEMPERATURES TO 60.8°F [16°C] - GPM [M³/HR]:	43.5 [15]	43.5 [15]
RAW WATER TEMPERATURES TO 100.4°F [38°C] - GPM [M³/HR]:	79.3 [18]	83.6 [19]
RAW WATER INTAKE PIPE SIZE:	RAW WATER INLET - IN:	1.50 NPT
	RAW WATER OUTLET - IN:	2.00 NPT

HEATER SYSTEM

WATTAGE - W:	3000
VOLTAGE (AC) - V:	220

DC ELECTRICAL SYSTEM

NORMAL SYSTEM VOLTAGE - V:	24
STARTER MOTOR - HP [KW]:	11.4 [8.5]
RECOMMENDED MINIMUM BATTERY SIZE - AH:	180
COLD CRANKING AMPS @ 0°F (-18°C):	900
CHARGING ALTERNATOR OUTPUT - AMPS:	70

① ALL DATA CERTIFIED WITHIN ±5%.

FUEL SYSTEM

INJECTION PUMP:	INLINE, PLUNGER TYPE
INJECTION PUMP ADVANCE ANGLE - °:	18
MINIMUM SUPPLY LINE SIZE - IN [MM]:	0.50 [12]
MINIMUM RETURN LINE SIZE - IN [MM]:	0.50 [12]
FUEL MANAGEMENT CONTROL:	MECHANICAL
FUEL CONSUMPTION @ 2100 RPM - LB/BHP-HR [G/KW-HR]:	0.362 [220]
IDLE SPEED - RPM:	600±20
MAXIMUM ALLOWABLE FUEL HEIGHT ABOVE FUEL PUMP - FT [M]	9.8 [3]
GOVERNED SPEED RATE - %:	< 10

① ALL DATA CERTIFIED WITHIN ±5%.



ENGINE MATERIALS & CONSTRUCTION

ENGINE		AIR INTAKE	
CAMSHAFT:		AIR CLEANER:	
TYPE	OVERHEAD	TYPE	DRIP PROOF
MATERIAL	CARBON STEEL	MATERIAL	PLEATED PAPER
LOCATION	IN BLOCK	COOLING SYSTEM	
DRIVE	SPUR GEAR	COOLANT HEAT EXCHANGER:	
CONNECTING RODS:		TYPE	TUBE & SHELL
TYPE	I-BEAM, FRACTURE	MATERIAL	
MATERIAL	FORGED STEEL	ELECTRODE	ZINC
CRANKSHAFT:		HEADERS	ALUMINUM
TYPE	GROUND	SHELL	ALUMINUM
MATERIAL	DUCTILE IRON	TUBES	COPPER
MAIN BEARINGS:		COOLANT PUMP:	
TYPE	PRECISION, HALF SHELL	TYPE	CENTRIFUGAL
MATERIAL	TIM ALUMINUM ALLOY	DRIVE	V-BELT
CYLINDER BLOCK:		THERMOSTAT:	
TYPE	GANTRY	TYPE	NON-BLOCKING
MATERIAL	CAST IRON	QUANTITY	1
CYLINDER HEAD:		COOLING LOOP (GALVANIZED):	
TYPE	ONE PIECE	TEES, ELBOWS, PIPE	GALVANIZED STEEL
MATERIAL	CAST IRON	BALL VALVES	BRASS
CYLINDER LINERS:		SOLENOID VALVE	BRASS
TYPE	WET LINED	PRESSURE REGULATOR	BRASS
MATERIAL	CAST IRON ALLOY	STRAINER	BRASS
PISTONS:		COOLING LOOP (316 STAINLESS STEEL):	
TYPE	TRUNK	TEES, ELBOWS, PIPE	316 STAINLESS STEEL
MATERIAL	ALUMINUM ALLOY	BALL VALVES	316 STAINLESS STEEL
PISTON PINS:		SOLENOID VALVE	316 STAINLESS STEEL
TYPE	FULL FLOATING	PRESSURE REGULATOR	316 STAINLESS STEEL
MATERIAL	ALLOY STEEL	STRAINER	316 STAINLESS STEEL
PISTON RINGS:		FUEL SYSTEM	
FIRST	DUCTILE CAST IRON	FUEL INJECTION PUMP:	
SECOND	ALLOY CAST IRON	TYPE	FULL MECHANICAL, CENTRIFUGAL
THIRD	ALLOY CAST IRON	DRIVE	GEAR DRIVEN
VALVES:		LUBRICATION SYSTEM	
TYPE	POPPET	TYPE	GEROTOR
ARRANGEMENT	OVERHEAD	DRIVE	GEAR
VALVE # PER CYLINDER	2 INTAKE, 2 EXHAUST		
OPERATING MECHANISM	MECHANICAL ROCKER ARM		
LIFTER TYPE	LARGE HEAD		

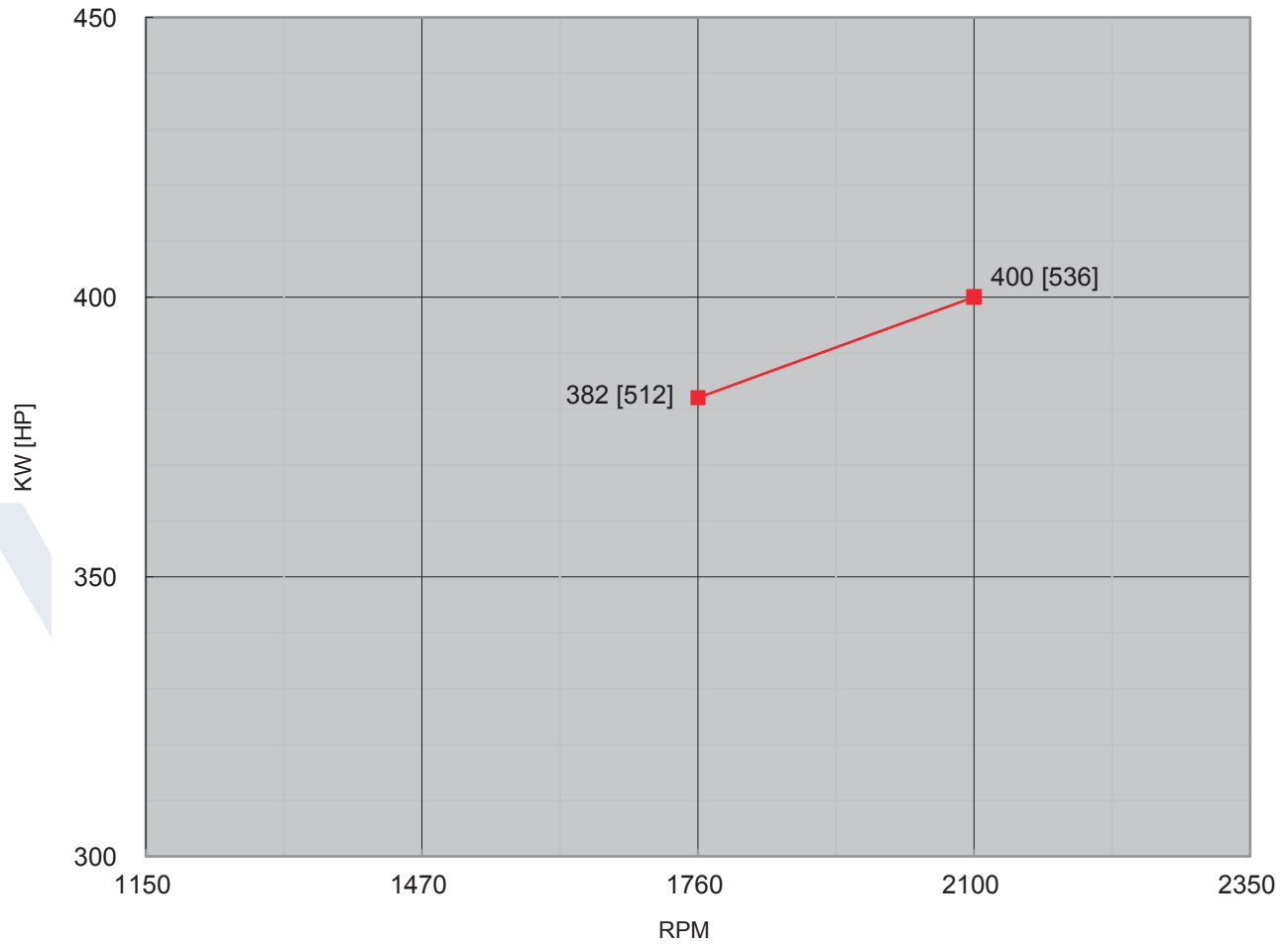
SPARE PARTS LIST

PART DESCRIPTION	PART NUMBER	REMARKS
HEAT EXCHANGER	AFC700ZZ-HE	AMERIFLO
COOLING LOOP	AFCL40SV	
STARTING SYSTEM	612600090210	WEICHAI
ALTERNATOR	1003659242	WEICHAI
FUEL INJECTOR PUMP	612700080009	LONGBENG
CONTROLLER	AF.EnI.Ab-24-ETS-R-B	
OIL PRESSURE SENSOR	AF21103-OPS	
COOLING HOSE (ELBOW)	1500071535	
COOLING HOSE (ELBOW)	1500083914	
COOLING HOSE	1500119429	1.5 METERS
FLOW SENSOR	AF00102-WTR	
STANDBY FLOW SENSOR	AF00108-WTS	
ENGINE HEATER	FHA2203000M	
	FHA1103000M	
OIL FILTERS (2)	1000428205	WEICHAI
FUEL PRE-FILTERS	1000588583	WEICHAI
FUEL FILTERS (2)	1000422384	WEICHAI
AIR FILTERS	AH8822	FLEETGUARD
BELTS	612630060974	WEICHAI
THERMOSTATS (2)	612630061126	WEICHAI
STOP SOLENOID	AF-5295568-SN	

POWER CURVE

CURVE NUMBER:	C06127B	DATE:	12/01/2023
DISPLACEMENT - IN ³ [L]:	765 [12.54]	ASPIRATION:	TURBOCHARGED + WATER COOLED
POWER STANDARD:	UL/FM	BORE & STROKE - IN [MM]:	5.00 x 6.50 [127 x 165]
NUMBER OF CYLINDERS:	6	FUEL SYSTEM:	INLINE, MECHANICAL

● ALL DATA CERTIFIED WITHIN ±5%.



TORQUE		
SPEED	LB-FT	N-M
RPM		
1150		
1470		
1760	1528	2072
2100	1341	1819

OUTPUT POWER		
SPEED	HP	KW
RPM		
1150		
1470		
1760	512	382
2100	536	400

FUEL CONSUMPTION		
SPEED	LB/BHP-HR	G/KW-HR
RPM		
1150		
1470		
1760	0.329	200
2100	0.362	220

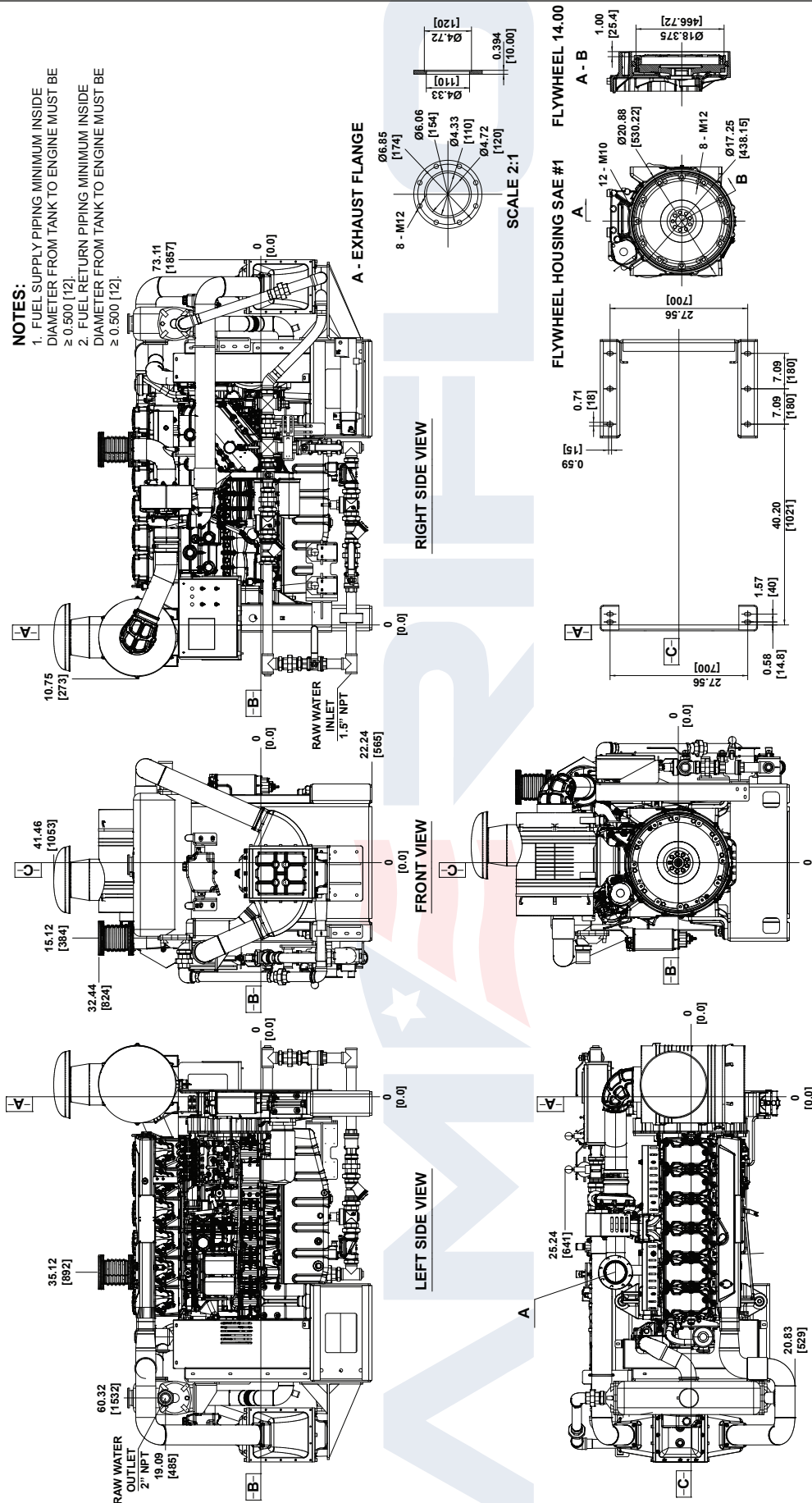
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DATUMS:

- A- — DIMENSIONAL FACE OF FLYWHEEL
- B- — ENGINE HORIZONTAL CENTER (CRANKSHAFT)
- C- — ENGINE VERTICAL CENTER (CRANKSHAFT)

NOTES:

1. FUEL SUPPLY PIPING MINIMUM INSIDE DIAMETER FROM TANK TO ENGINE MUST BE ≥ 0.500 [12].
2. FUEL RETURN PIPING MINIMUM INSIDE DIAMETER FROM TANK TO ENGINE MUST BE ≥ 0.500 [12].



MOUNTING DIMENSIONS

REV	DESCRIPTION	DWN	APVD	DATE	APPROVED: DATE:	MATERIAL:	SCALE:	PAGE:	OF:
A	CREATION	MJF		07/24/2012			NONE	1	1
REV	DESCRIPTION	DWN	APVD	DATE	APPROVED: DATE:	MATERIAL:	SCALE:	PAGE:	OF:
							NONE	1	1

NOTES:

1. ALL PLUMBING MUST BE SUPPORTED AND/OR ISOLATED SO THAT NO WEIGHT OR STRESS IS APPLIED TO ANY ENGINE COMPONENT.
2. REFER TO SPECIFIC MODELS' INSTALLATION, OPERATION & MAINTENANCE MANUAL FOR INSTALLATION GUIDELINES.

PROJECT: INSTALLATION DRAWING DIESEL FIRE PUMP DRIVER MODEL AF6-127B

DATE: 07/24/2024

CHK BY: MJF

APPROVED:

PART NO.: AF6-127B