

**UL - LISTED RATINGS BHP & KW**

<b>ENGINE MODEL:</b>	AF6-150B
<b>EMISSIONS:</b>	TIER 0
<b>DATE:</b>	12/23/2023
<b>DRAWING NUMBER:</b>	AF6-150B.00
<b>PERFORMANCE CURVE NUMBER:</b>	C06150B
<b>RATED POWER:</b>	858 BHP @ 1760 RPM 640 KW @ 1760 RPM
<b>REFERENCE NUMBER:</b>	14DS001E
<b>VERSION:</b>	A


**GENERAL ENGINE DATA**

TYPE:	4 CYCLE; INLINE; WATER COOLED	
NUMBER OF CYLINDERS:	6	
ASPIRATION:	TURBOCHARGED + WATER COOLED	
BORE & STROKE - IN [MM]:	5.91 x 7.28 [150 x 185]	
CYLINDER LINER TYPE:	<input type="checkbox"/> WET <input checked="" type="checkbox"/> DRY	
DISPLACEMENT - IN <sup>3</sup> [L]:	1196 [19.6]	
COMPRESSION RATIO:	15:01	
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]:	0.012 [0.30]
	EXHAUST - IN [MM]:	0.012 [0.30]
IGNITION TYPE:	COMPRESSION (DIESEL)	
CHARGE AIR COOLING TYPE:	RAW WATER	
WEIGHT (FUEL PUMP CONFIGURATION) - LBS [KG]:	5842 [2650]	
DIMENSIONS (L x W x H) - IN [MM]:	94 x 51 x 73 [2385 x 1300 x 1845]	
FLYWHEEL / FLYWHEEL HOUSING DIMENSIONS:	14.00 / SAE #1	
TORQUE @ RATED RPM - LB-FT [N-M]:	2561 [3473]	

**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	≤ 120
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 [M <sup>3</sup> /HR]:	1895 [3220]
MAXIMUM ALLOWABLE BACK PRESSURE - PSI [KPA]:	1.09 [7.5]
MINIMUM EXHAUST PIPE DIAMETER - IN [MM]:	8 [200]

**AIR INTAKE SYSTEM**

AIR CLEANER TYPE:	DRY TYPE, DISPOSABLE
AIR FLOW - CFM [M <sup>3</sup> /HR]:	1826 [3102]
AIR INLET RESTRICTION (DIRTY) - PSI [KPA]:	≤ 0.87 [6]

**LUBRICATION SYSTEM**

OIL CAPACITY (ENGINE ONLY) - QTS [L]:	64.4 [61]
MAXIMUM SUMP OIL TEMPERATURE - °F [°C]:	221 [105]
NORMAL OPERATING OIL PRESSURE RANGE - PSI [BAR]:	58.0 ~ 94.2 [4.0 ~ 6.5]
OIL PRESSURE @ IDLE - PSI [BAR]:	> 29.0 [2.0]

**COOLING SYSTEM**

COOLANT CAPACITY (ENGINE & HEAT EXCHANGER) - QTS [L]:	106 [100]	
THERMOSTAT RANGE:	START OPEN - °F [°C]:	176 [80]
	FULL OPEN - °F [°C]:	198 [92]
COOLANT PRESSURE MAXIMUM - PSI [BAR]:	13 [0.9]	
MAXIMUM ENGINE COOLANT TEMPERATURE - °F [°C]:	≤ 204 [96]	
ENGINE COOLANT FLOW @ FULL SPEED - GPM [M <sup>3</sup> /HR]:	169 [38.3]	
RAW WATER COOLING CAPACITY - GPM [M <sup>3</sup> /HR]:	88 [20]	
RAW WATER INTAKE PIPE SIZE:	RAW WATER INLET - IN:	1.50 NPT
	RAW WATER OUTLET - IN:	2.00 NPT

**HEATER SYSTEM**

WATTAGE - W:	4500
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:	200
COLD CRANKING AMPS @ 0°F (-18°C):	1000
CHARGING ALTERNATOR OUTPUT - AMPS:	55

● ALL DATA CERTIFIED WITHIN ±5%.

**FUEL SYSTEM**

INJECTION PUMP:	INLINE, PLUNGER TYPE
INJECTION PUMP ADVANCE ANGLE - °:	20
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]:	0.337 [205]
IDLE SPEED - RPM:	700±50
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	
<b>CAMSHAFT:</b>		<b>AIR CLEANER:</b>	
TYPE	OVERHEAD	TYPE	DRIP PROOF
MATERIAL	CARBON STEEL	MATERIAL	PLEATED PAPER
LOCATION	IN BLOCK	<b>COOLING SYSTEM</b>	
DRIVE	SPUR GEAR	<b>COOLANT HEAT EXCHANGER:</b>	
<b>CONNECTING RODS:</b>		TYPE	TUBE & SHELL
TYPE	I-BEAM, FRACTURE	MATERIAL	
MATERIAL	FORGED STEEL	ELECTRODE	ZINC
<b>CRANKSHAFT:</b>		HEADERS	ALUMINUM
TYPE	GROUND	SHELL	ALUMINUM
MATERIAL	DUCTILE IRON	TUBES	COPPER
<b>MAIN BEARINGS:</b>		<b>COOLANT PUMP:</b>	
TYPE	PRECISION, HALF SHELL	TYPE	CENTRIFUGAL
MATERIAL	TIM ALUMINUM ALLOY	DRIVE	V-BELT
<b>CYLINDER BLOCK:</b>		<b>THERMOSTAT:</b>	
TYPE	GANTRY	TYPE	NON-BLOCKING
MATERIAL	CAST IRON	QUANTITY	1
<b>CYLINDER HEAD:</b>		<b>COOLING LOOP (GALVANIZED):</b>	
TYPE	ONE PIECE	TEES, ELBOWS, PIPE	GALVANIZED STEEL
MATERIAL	CAST IRON	BALL VALVES	BRASS
<b>CYLINDER LINERS:</b>		SOLENOID VALVE	BRASS
TYPE	WET LINED	PRESSURE REGULATOR	BRASS
MATERIAL	CAST IRON ALLOY	STRAINER	BRASS
<b>PISTONS:</b>		<b>COOLING LOOP (316 STAINLESS STEEL):</b>	
TYPE	TRUNK	TEES, ELBOWS, PIPE	316 STAINLESS STEEL
MATERIAL	ALUMINUM ALLOY	BALL VALVES	316 STAINLESS STEEL
<b>PISTON PINS:</b>		SOLENOID VALVE	316 STAINLESS STEEL
TYPE	FULL FLOATING	PRESSURE REGULATOR	316 STAINLESS STEEL
MATERIAL	ALLOY STEEL	STRAINER	316 STAINLESS STEEL
<b>PISTON RINGS:</b>		<b>FUEL SYSTEM</b>	
FIRST	DUCTILE CAST IRON	<b>FUEL INJECTION PUMP:</b>	
SECOND	ALLOY CAST IRON	TYPE	FULL MECHANICAL, CENTRIFUGAL
THIRD	ALLOY CAST IRON	DRIVE	GEAR DRIVEN
<b>VALVES:</b>		<b>LUBRICATION SYSTEM</b>	
TYPE	POPPET	TYPE	GEROTOR
ARRANGEMENT	OVERHEAD	DRIVE	GEAR
VALVE # PER CYLINDER	2 INTAKE, 2 EXHAUST		
OPERATING MECHANISM	MECHANICAL ROCKER ARM		
LIFTER TYPE	LARGE HEAD		

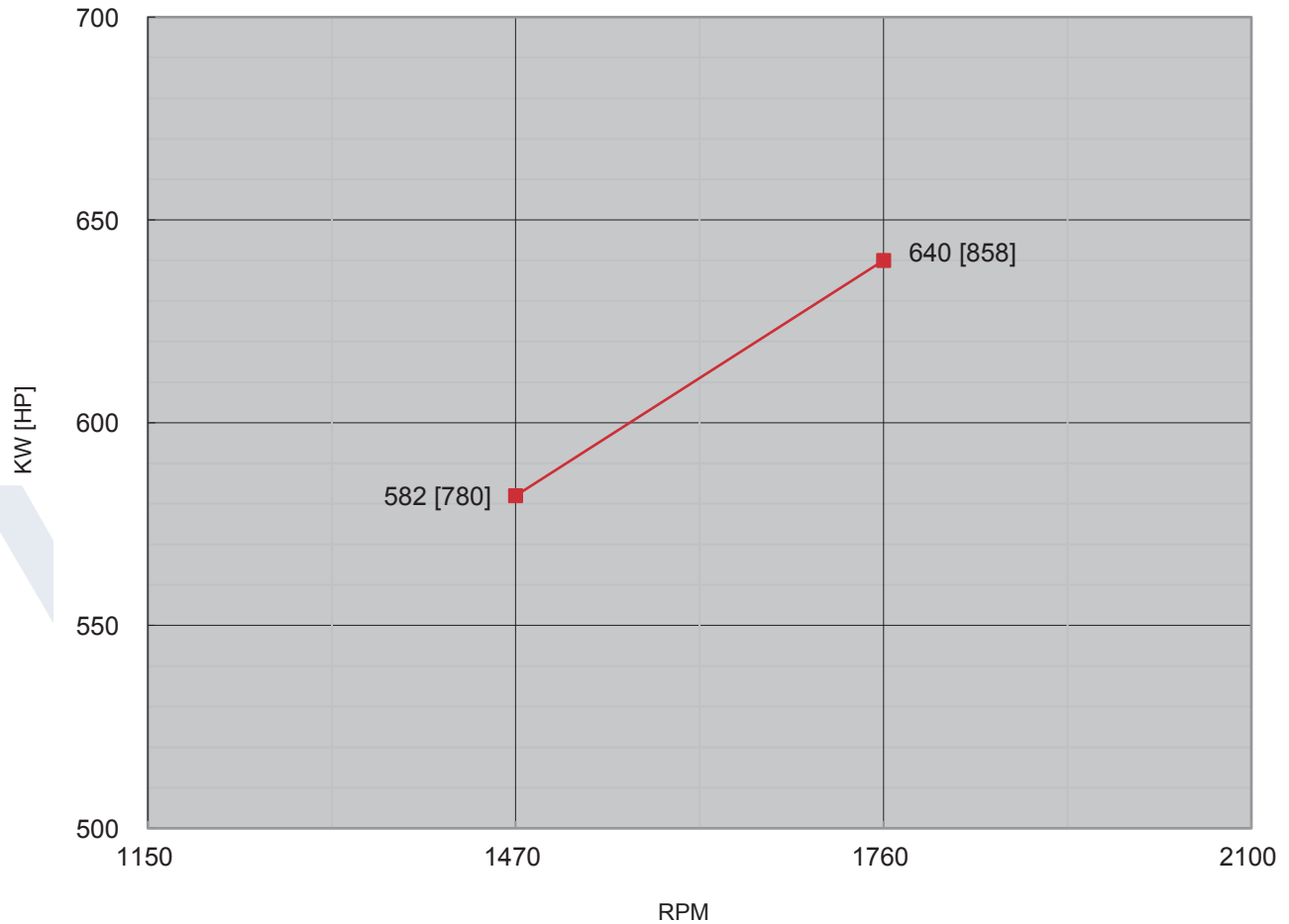
**SPARE PARTS LIST**

PART DESCRIPTION	PART NUMBER	REMARKS
HEAT EXCHANGER	AFC900ZZ-HE	AMERIFLO
COOLING LOOP	AFCL40SV	
STARTING SYSTEM	1004365597	WEICHAI
ALTERNATOR	612600090762	WEICHAI
FUEL INJECTOR PUMP	1003107523	NANYUE
CONTROLLER	AF.EnI.Ab-24-ETS-R-B	
OIL PRESSURE SENSOR	KE21103	
COOLING HOSE (ELBOW)	1500083914	
COOLING HOSE	1500119429	1.8 METERS
FLOW SENSOR	KE00122	
STANDBY FLOW SENSOR	KE00122	
ENGINE HEATER	FHA2204500M	
	FHA1103000M	
OIL FILTERS (3)	1000428205	WEICHAI
FUEL PRE-FILTER	1000424916	
FUEL PRE-FILTER	1004347977	WEICHAI
FUEL FILTERS	1000422382	WEICHAI
AIR FILTERS	4913882	FLEETGUARD
BELTS	1000692974	WEICHAI
THERMOSTATS (2)	612600062413	WEICHAI
STOP SOLENOID	DF23005	

**POWER CURVE**

CURVE NUMBER:	C06150B	DATE:	12/23/2023
DISPLACEMENT - IN <sup>3</sup> [L]:	1196 [19.60]	ASPIRATION:	TURBOCHARGED + WATER COOLED
POWER STANDARD:	UL/FM	BORE & STROKE - IN [MM]:	5.91 x 7.28 [150 x 185]
NUMBER OF CYLINDERS:	6	FUEL SYSTEM:	INLINE, MECHANICAL

● ALL DATA CERTIFIED WITHIN ±5%.



TORQUE		
SPEED	LB-FT	N-M
RPM		
1150		
1470	2787	3780
1760	2561	3473
2100		

OUTPUT POWER		
SPEED	HP	KW
RPM		
1150		
1470	780	582
1760	858	640
2100		

FUEL CONSUMPTION		
SPEED	LB/BHP-HR	G/KW-HR
RPM		
1150		
1470	0.321	195
1760	0.337	205
2100		

● 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 J1394 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.

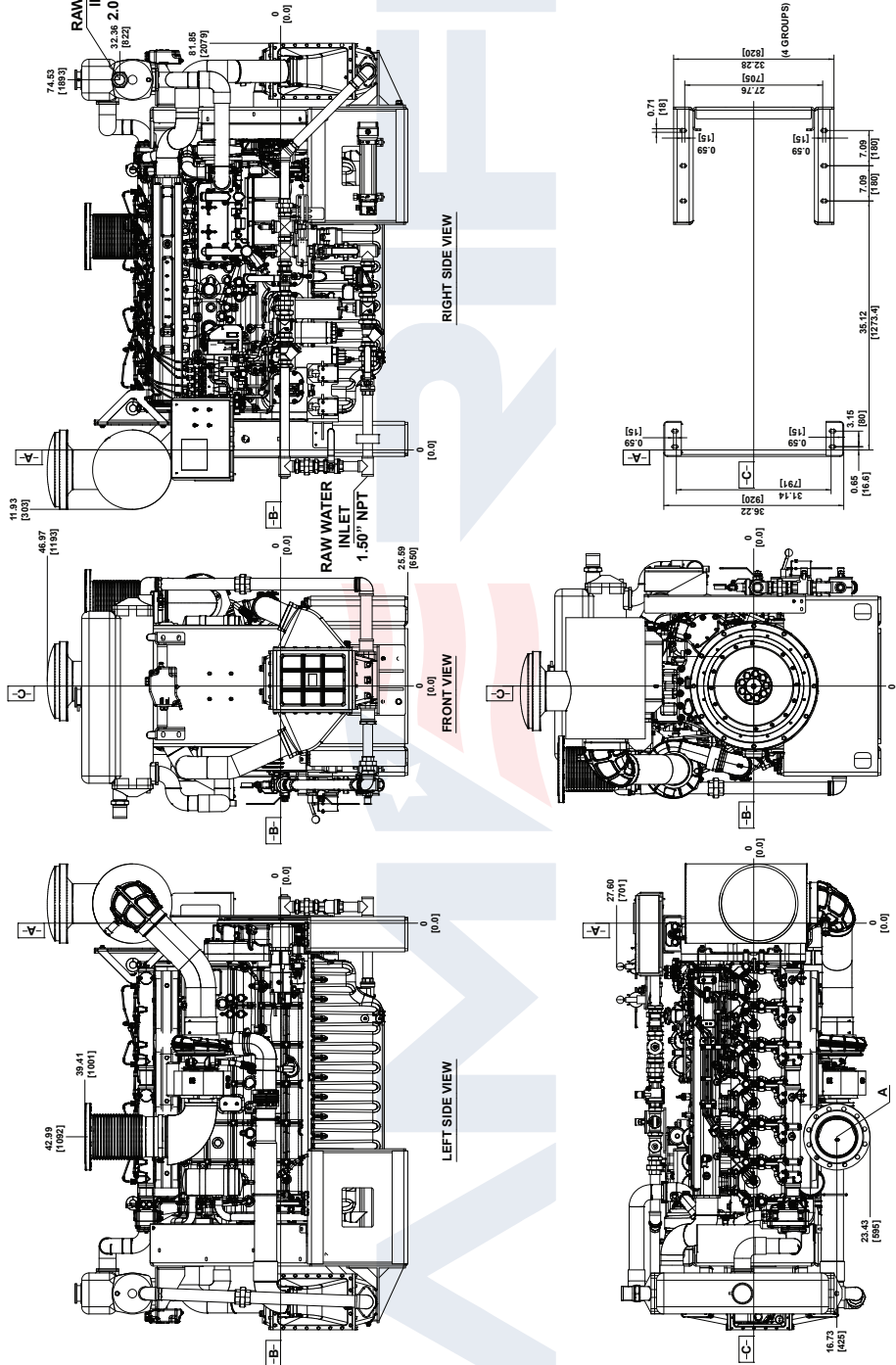
**DATUMS:**

- 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  $\geq 0.500$  [12].
2. FUEL RETURN PIPING MINIMUM INSIDE DIAMETER FROM TANK TO ENGINE MUST BE  $\geq 0.500$  [12].

**DRAWING SUBJECT TO CHANGE WITHOUT NOTICE.**



**MOUNTING DIMENSIONS**

REV	DESCRIPTION	DWN	APVD	DATE
A	CREATION	MJF		07/24/2012
REV				

REV	DESCRIPTION	DWN	APVD	DATE
A	CREATION	MJF		07/24/2012
REV				

**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.

UNITS	PROJECT:
[IN/MM]	

NAME:	DATE:	DATE:
INSTALLATION DRAWING	07/24/2024	
DIESEL FIRE PUMP DRIVER		
MODEL AF6-150/150B		

PROJECT:	SCALE:	PAGE:	OF:
	NONE	1	1

PART NO.:	MATERIAL:
AF6-150/150B	