

UL - LISTED RATINGS BHP & KW

ENGINE MODEL:	AF6-150
EMISSIONS:	TIER 0
DATE:	12/01/2023
DRAWING NUMBER:	AF6-150.00
PERFORMANCE CURVE NUMBER:	C06150
RATED POWER:	771 BHP @ 2100 RPM 575 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]:	5.91 x 7.28 [150 x 185]	
CYLINDER LINER TYPE:	<input checked="" type="checkbox"/> WET <input type="checkbox"/> DRY	
DISPLACEMENT - IN ³ [L]:	1196 [19.60]	
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 ³ /HR]:	2051 [3485]
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 [M ³ /HR]:	1976 [3357]
AIR INLET RESTRICTION (DIRTY) - PSI [KPA]:	≤ 0.87 [6]

LUBRICATION SYSTEM

OIL CAPACITY (ENGINE ONLY) - QTS [L]:	64.5 [61]
MAXIMUM SUMP OIL TEMPERATURE - °F [°C]:	221 [105]
NORMAL OPERATING OIL PRESSURE RANGE - PSI [BAR]:	58.0 ~ 94.3 [4.0 ~ 6.5]
OIL PRESSURE @ IDLE - PSI [BAR]:	> 29 [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 ³ /HR]:	169 [38.3]	
RAW WATER COOLING CAPACITY - GPM [M ³ /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	
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		

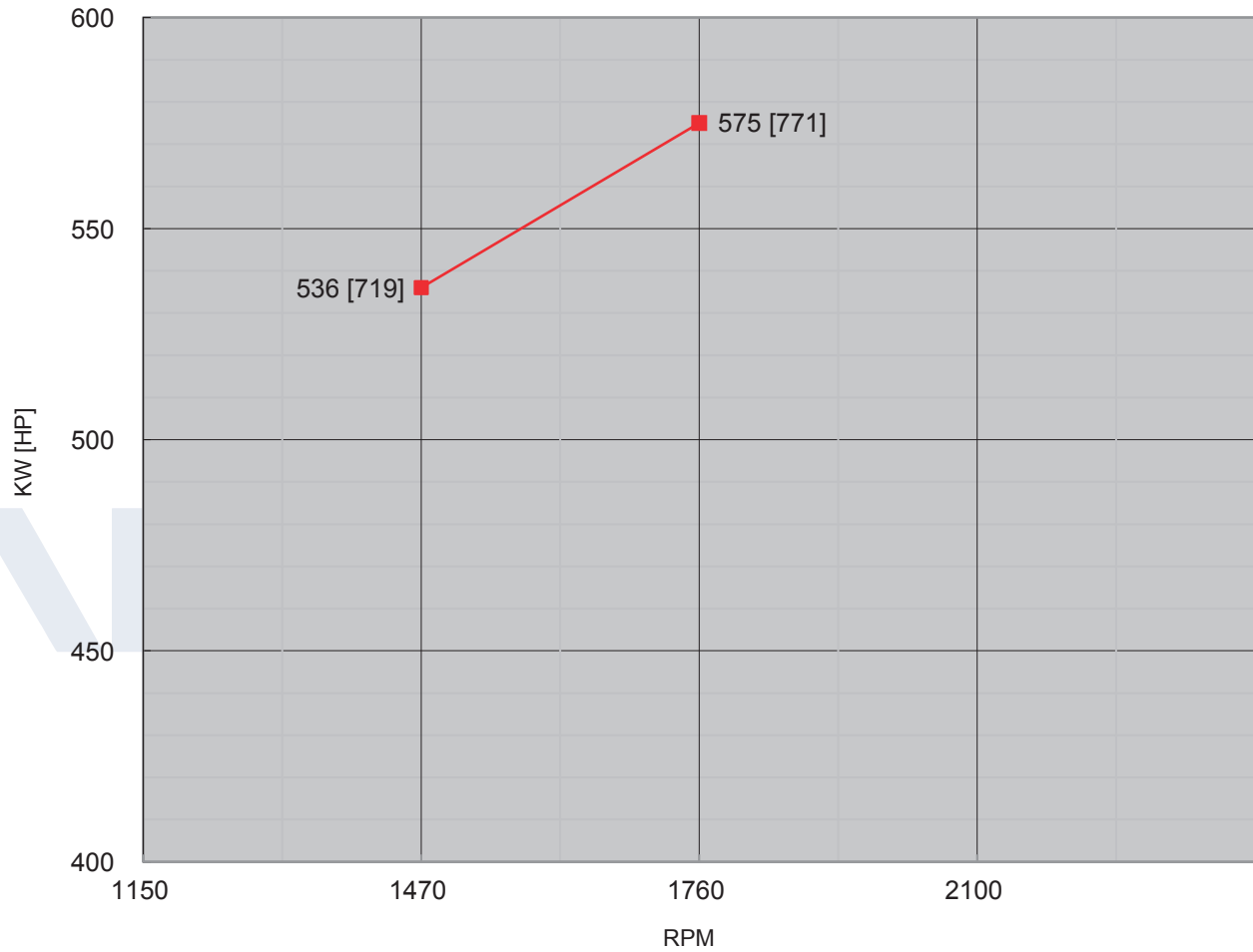
SPARE PARTS LIST

PART DESCRIPTION	PART NUMBER	REMARKS
HEAT EXCHANGER	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:	C06150	DATE:	12/01/2023
DISPLACEMENT - IN ³ [L]:	1196 [19.6]	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	2570	3485
1760	2303	3122
2100		

OUTPUT POWER		
SPEED	HP	KW
RPM		
1150		
1470	719	536
1760	721	575
2100		

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

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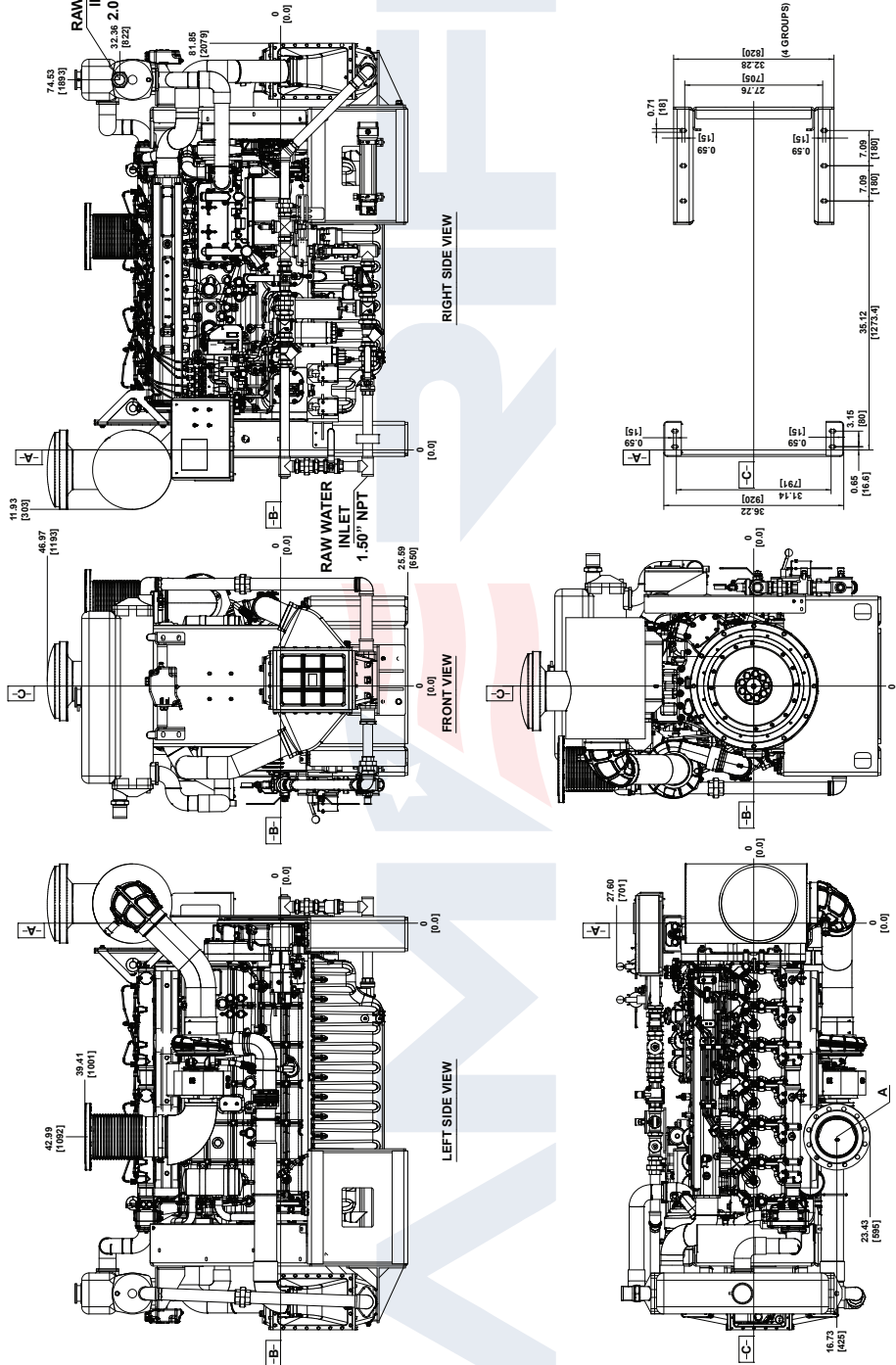
DATUMS:

- 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].

DRAWING SUBJECT TO CHANGE WITHOUT NOTICE.



MOUNTING DIMENSIONS

REV	DESCRIPTION	DWN	APVD	DATE	SCALE	PAGE	OF
A	CREATION	MJF		07/24/2012	NONE	1	1
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:	INSTALLATION DRAWING
DATE:	DIESEL FIRE PUMP DRIVER
MJF	MODEL AF6-150/150B
DATE:	
CHK BY:	PART NO. AF6-150/150B
APPROVED:	MATERIAL:
DATE:	

