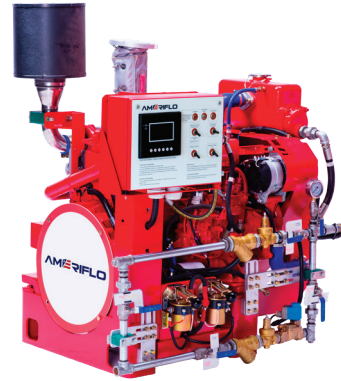


FM APPROVED RATINGS BHP & KW

ENGINE MODEL:	AF4-102C
EMISSIONS:	TIER 0
DATE:	10/01/2022
DRAWING NUMBER:	AF4-102C.00
PERFORMANCE CURVE NUMBER:	C04102C
RATED POWER:	75 BHP @ 2950 RPM 56 KW @ 2950 RPM
REFERENCE NUMBER:	14DS001E
VERSION:	A



GENERAL ENGINE DATA

TYPE:	4 CYCLE; INLINE; WATER COOLED	
NUMBER OF CYLINDERS:	4	
ASPIRATION:	NATURAL	
BORE & STROKE - IN [MM]:	4.02 x 4.65 [102 x 118]	
CYLINDER LINER TYPE:	<input type="checkbox"/> WET <input checked="" type="checkbox"/> DRY	
DISPLACEMENT - IN ³ [L]:	236 [3.86]	
COMPRESSION RATIO:	17:01	
FIRING ORDER:	1 - 3 - 4 - 2	
COMBUSTION SYSTEM:	DIRECT INJECTION	
ROTATION (AS VIEWED FROM FRONT OF ENGINE):	CCW	
VALVES PER CYLINDER:	INTAKE: 1 EXHAUST: 1	
VALVE LASH (COLD ENGINE):	INTAKE - IN [MM]:	0.016 [0.40]
	EXHAUST - IN [MM]:	0.016 [0.40]
IGNITION TYPE:	COMPRESSION (DIESEL)	
CHARGE AIR COOLING TYPE:	N/A	
WEIGHT (FUEL PUMP CONFIGURATION) - LBS [KG]:	1107 [502]	
DIMENSIONS (L x W x H) - IN [MM]:	48 x 33 x 50 [1230 x 840 x 1275]	
FLYWHEEL / FLYWHEEL HOUSING DIMENSIONS:	11.50 / SAE #3	
TORQUE @ RATED RPM - LB-FT [N-M]:	137 [185]	

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	≤ 108
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]:	≤ 1112 [600]
EXHAUST GAS FLOW @ MAXIMUM OUTPUT - LBS/HR [KG/HR]:	4310 [1955]
MAXIMUM ALLOWABLE BACK PRESSURE - PSI [KPA]:	0.80 [5.5]
MINIMUM EXHAUST PIPE DIAMETER - IN [MM]:	3 [80]

AIR INTAKE SYSTEM

AIR CLEANER TYPE:	DRY TYPE, DISPOSABLE
AIR FLOW - CFM [M ³ /HR]:	353 [600]
AIR INLET RESTRICTION (DIRTY) - PSI [KPA]:	≤ 0.51 [3.5]

LUBRICATION SYSTEM

OIL CAPACITY (ENGINE ONLY) - QTS [L]:	12.6 [12]
MAXIMUM SUMP OIL TEMPERATURE - °F [°C]:	248 [120]
NORMAL OPERATING OIL PRESSURE RANGE - PSI [BAR]:	> 43.5 [3.0 ~ 6.0]
OIL PRESSURE @ IDLE - PSI [BAR]:	> 14.7 [1.0]

COOLING SYSTEM

COOLANT CAPACITY (ENGINE & HEAT EXCHANGER) - QTS [L]:	26.4 [25]	
THERMOSTAT RANGE:	START OPEN - °F [°C]:	169 [76]
	FULL OPEN - °F [°C]:	187 [86]
COOLANT PRESSURE MAXIMUM - PSI [BAR]:	13 [0.9]	
MAXIMUM ENGINE COOLANT TEMPERATURE - °F [°C]:	≤ 208 [98]	
ENGINE COOLANT FLOW @ FULL SPEED - GPM [M ³ /HR]:	42.3 [9.6]	
MINIMUM / MAXIMUM RAW WATER PRESSURE - PSI [BAR]:	36.3 [2.5]	
MINIMUM RAW WATER FLOW @ ENGINE SPEED (RPM)	2950	
RAW WATER TEMPERATURES TO 60.8°F [16°C] - GPM [M ³ /HR]:	18.4 [4.2]	
RAW WATER TEMPERATURES TO 100.4°F [38°C] - GPM [M ³ /HR]:	24.2 [5.5]	
RAW WATER INTAKE PIPE SIZE:	RAW WATER INLET - IN:	0.75 NPT
	RAW WATER OUTLET - IN:	1.00 NPT

HEATER SYSTEM

WATTAGE - W:	2000
VOLTAGE (AC) - V:	220

DC ELECTRICAL SYSTEM

NORMAL SYSTEM VOLTAGE - V:	24
STARTER MOTOR - HP [KW]:	6.0 [4.5]
RECOMMENDED MINIMUM BATTERY SIZE - AH:	150
COLD CRANKING AMPS @ 0°F (-18°C):	900
RESERVE CAPACITY - AMPS:	290
CHARGING ALTERNATOR OUTPUT - AMPS:	35

● ALL DATA CERTIFIED WITHIN ±5%.

FUEL SYSTEM

INJECTION PUMP:	INLINE, PLUNGER TYPE
INJECTION PUMP ADVANCE ANGLE - °:	14 ~ 15
MINIMUM SUPPLY LINE SIZE - IN [MM]:	0.394 [10]
MINIMUM RETURN LINE SIZE - IN [MM]:	0.394 [10]
FUEL MANAGEMENT CONTROL:	MECHANICAL
FUEL CONSUMPTION @ 2950 RPM - LB/BHP-HR [G/KW-HR]:	0.395 [240]
IDLE SPEED - RPM:	790
MAXIMUM GOVERNED SPEED - RPM:	3245
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	MIDDLE	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, NON-FRACTURE	MATERIAL	
MATERIAL	CARBON 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	TIN 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 PER CYLINDER	TEES, ELBOWS, PIPE	GALVANIZED STEEL
MATERIAL	CAST IRON	BALL VALVES	BRASS
CYLINDER LINERS:		SOLENOID VALVE	BRASS
TYPE	WET LINED	PRESSURE REGULATOR	BRASS
MATERIAL	CARBON STEEL	STRAINER	BRASS
PISTONS:		COOLING LOOP (316 STAINLESS STEEL):	
TYPE	TRUNK	TEES, ELBOWS, PIPE	316 STAINLESS STEEL
MATERIAL	CAST ALUMINUM	BALL VALVES	316 STAINLESS STEEL
PISTON PINS:		SOLENOID VALVE	316 STAINLESS STEEL
TYPE	FULL FLOATING	PRESSURE REGULATOR	316 STAINLESS STEEL
MATERIAL	CARBON STEEL	STRAINER	316 STAINLESS STEEL
PISTON RINGS:		FUEL SYSTEM	
FIRST	CAST IRON	FUEL INJECTION PUMP:	
SECOND	CHROME COPPER ALLOY	TYPE	FULL MECHANICAL, CENTRIFUGAL
THIRD	CARBON STEEL	DRIVE	GEAR DRIVEN
VALVES:		LUBRICATION SYSTEM	
TYPE	POPPET	TYPE	GEROTOR
ARRANGEMENT	OVERHEAD	DRIVE	GEAR
VALVE # PER CYLINDER	1 INTAKE, 1 EXHAUST		
OPERATING MECHANISM	MECHANICAL ROCKER ARM		
LIFTER TYPE	LARGE HEAD		

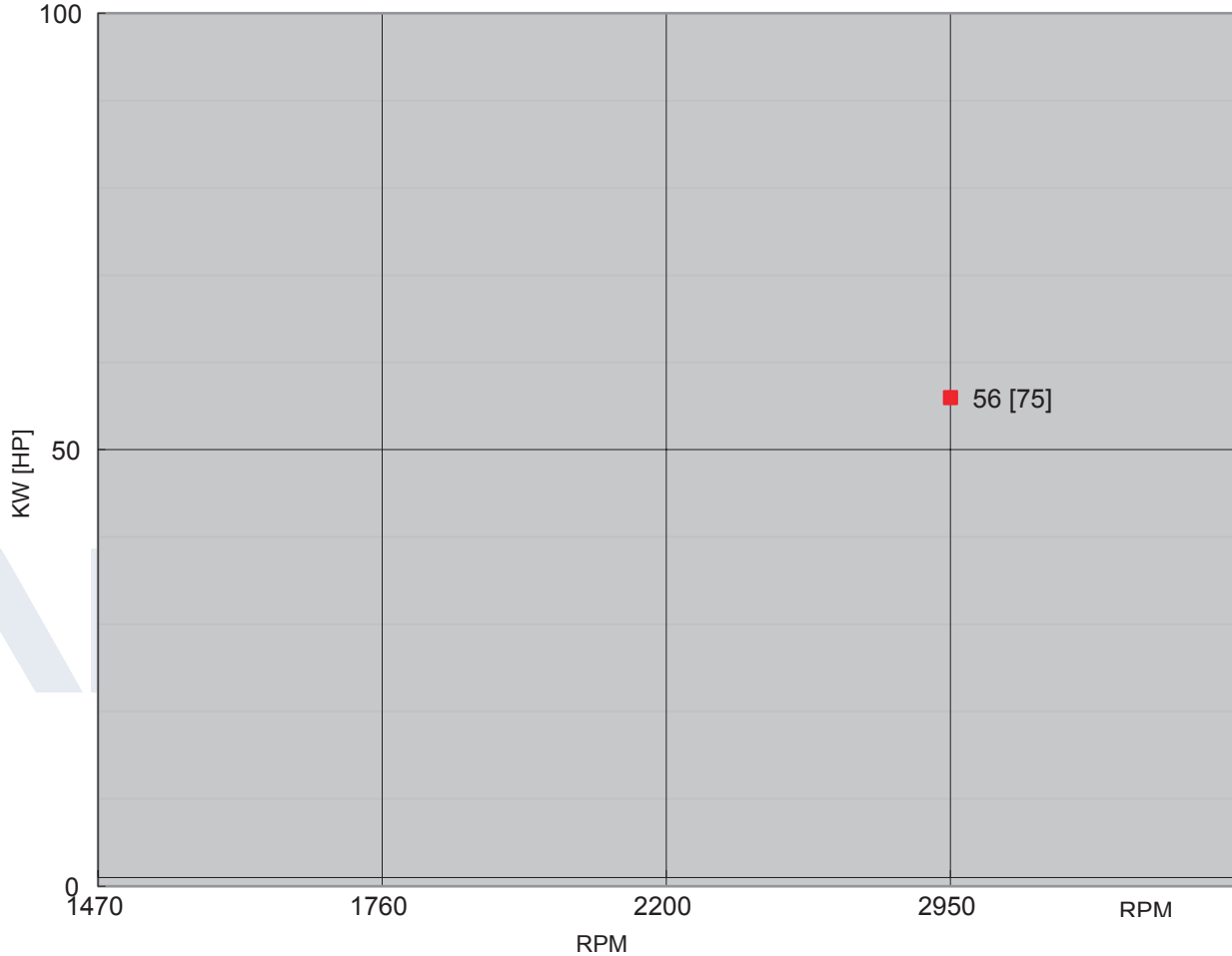
SPARE PARTS LIST

PART DESCRIPTION	PART NUMBER	REMARKS
AFTERCOOLER	N/A	N/A
HEAT EXCHANGER	AH300	MAX. WORKING PRESSURE 72.5 PSI [5 BAR]
ALTERNATOR	JFWZ27-143	28 V / 25 A
STARTING SYSTEM	QDJ2601K-P/3	24 V / 4.5 KW
TURBOCHARGER	N/A	N/A
FUEL PUMP WITH SPEED CONTROLLER	BH4Q80R8	N/A
FUEL INJECTORS	1112020-B01-0000K	0.29 MM
CONTROLLER	AF.ENG.AB-ETS-R-B	N/A
BATTERY	908DFT	12 V / 200 AH
EMERGENCY STARTERS	535-0098	24 VDC 800 A
OIL PRESSURE SENSOR	KE21103	11.6 ± 4.35 PSI [80 ± 30 KPA]
HIGH TEMPERATURE COOLANT SENSOR	KE00105	203 ± 37 °F [95 ± 3°C]
LOW COOLANT TEMPERATURE SENSOR	KE00105	104 ± 37 °F [40 ± 3°C]
HIGH TEMPERATURE RAW WATER SENSOR	204.040.15GO.1.IP65	104 ± 37 °F [40 ± 3°C]
FLOW SENSOR	MIK-P300	N/A
OVERSPEED SHUTDOWN DEVICE	YC-ENL-A0	N/A
SPEED SENSOR	KE10040	N/A
ENGINE HEATER	SH220200045	220 V / 3 KW MAX. TEMP 149°F [65°C]
	SH110200045	110 V / 3 KW MAX. TEMP 149°F [65°C]
OIL FILTERS	1012015AB01-0000	1 PIECE
FUEL FILTERS	1117010-B01-0000K	1 PIECE
AIR FILTERS	ECC105003	1 PIECE
BELTS	1308032-B01-0000	1 PIECE
THERMOSTATS	1306010-B01-0000Q	1 PIECE
EXHAUST BLANKET	AF490C0602-E1	DN50
FUEL SUPPLY & RETURN LINES	AF4-110D-09.03 AF4-90-09.03	N/A

POWER CURVE

CURVE NUMBER:	C04102C	DATE:	10/01/2022
DISPLACEMENT - IN ³ [L]:	236 [3.86]	ASPIRATION:	NATURAL
POWER STANDARD:	UL	BORE & STROKE - IN [MM]:	4.02 x 4.65 [102 x 118]
NUMBER OF CYLINDERS:	4	FUEL SYSTEM:	INLINE, MECHANICAL

● ALL DATA CERTIFIED WITHIN ±5%.

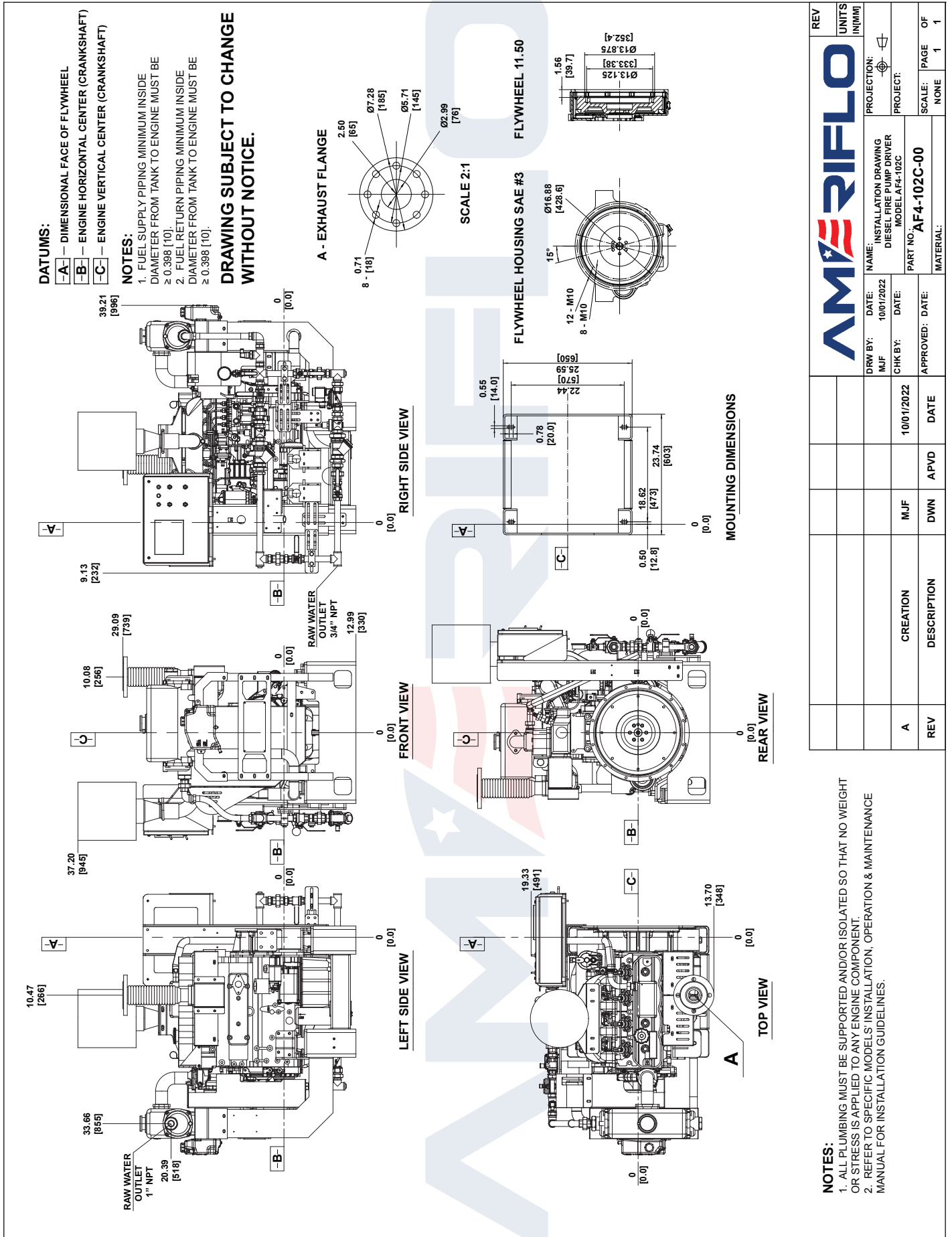


TORQUE		
SPEED	LB-FT	N-M
RPM		
1470		
1760		
2200		
2950	137	185

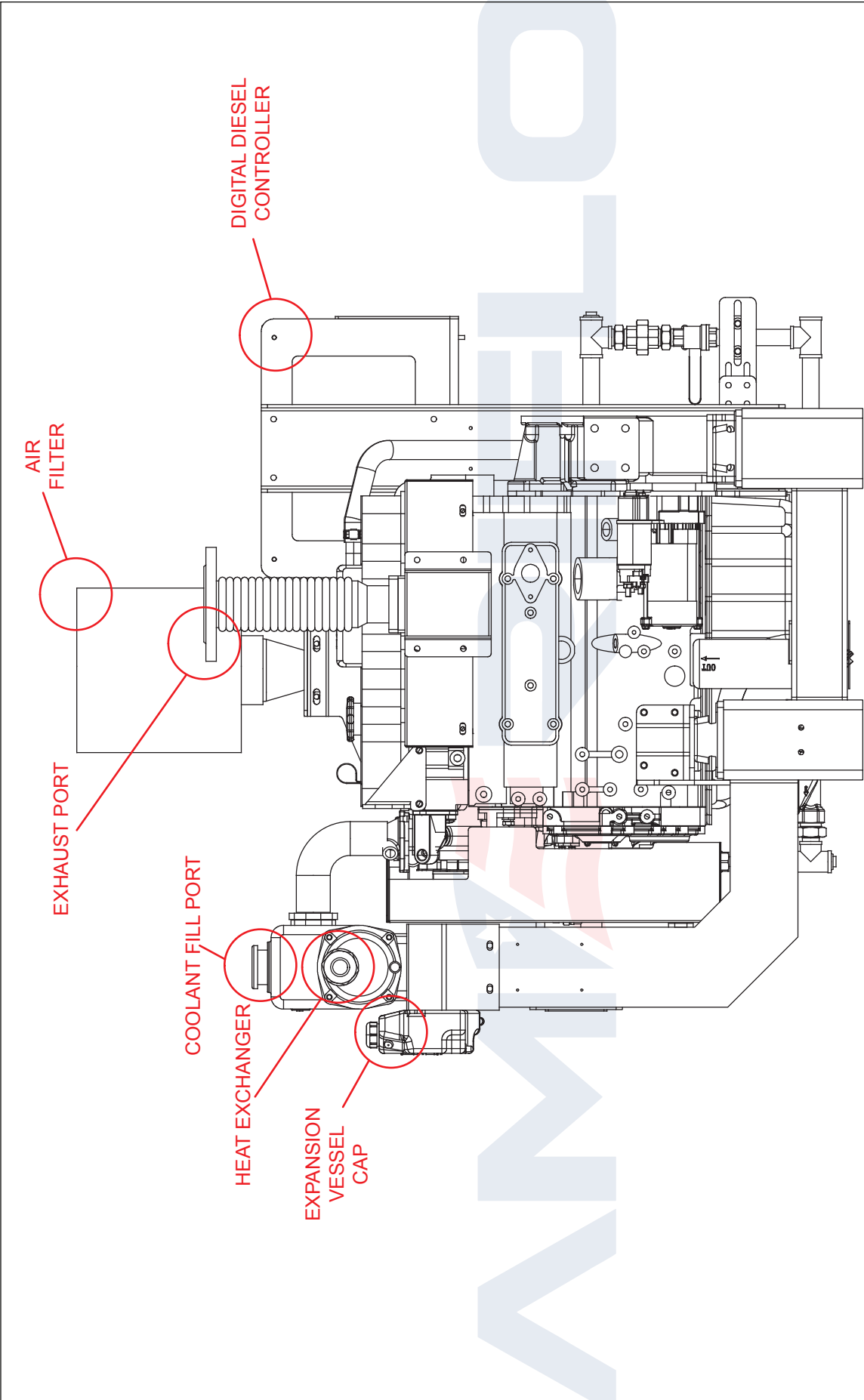
OUTPUT POWER		
SPEED	HP	KW
RPM		
1470		
1760		
2200		
2950	75	56

FUEL CONSUMPTION		
SPEED	LB/BHP-HR	G/KW-HR
RPM		
1470		
1760		
2200		
2950	0.395	240

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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.

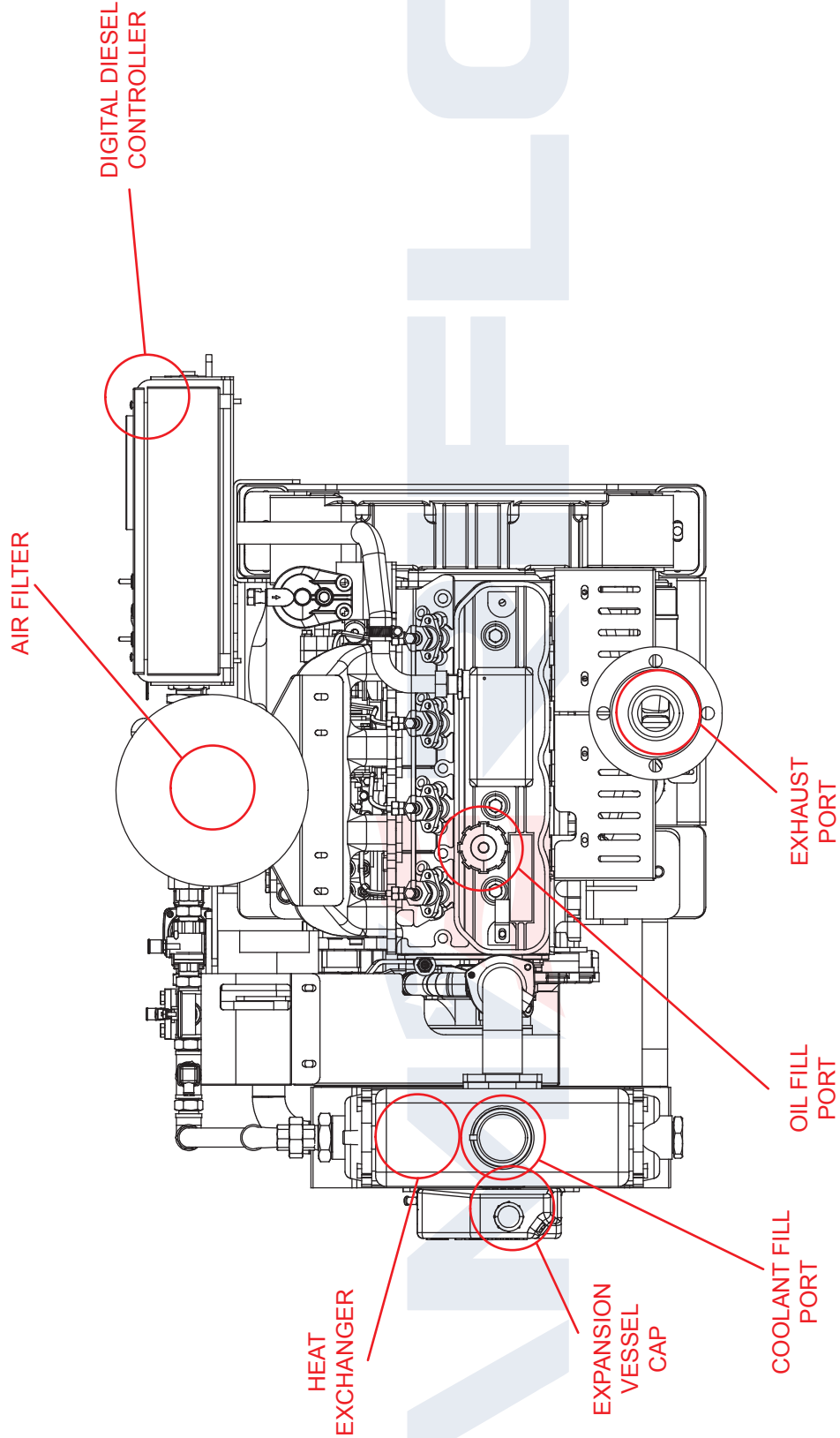


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REV	UNITS IN/[MM]
A	
REV	

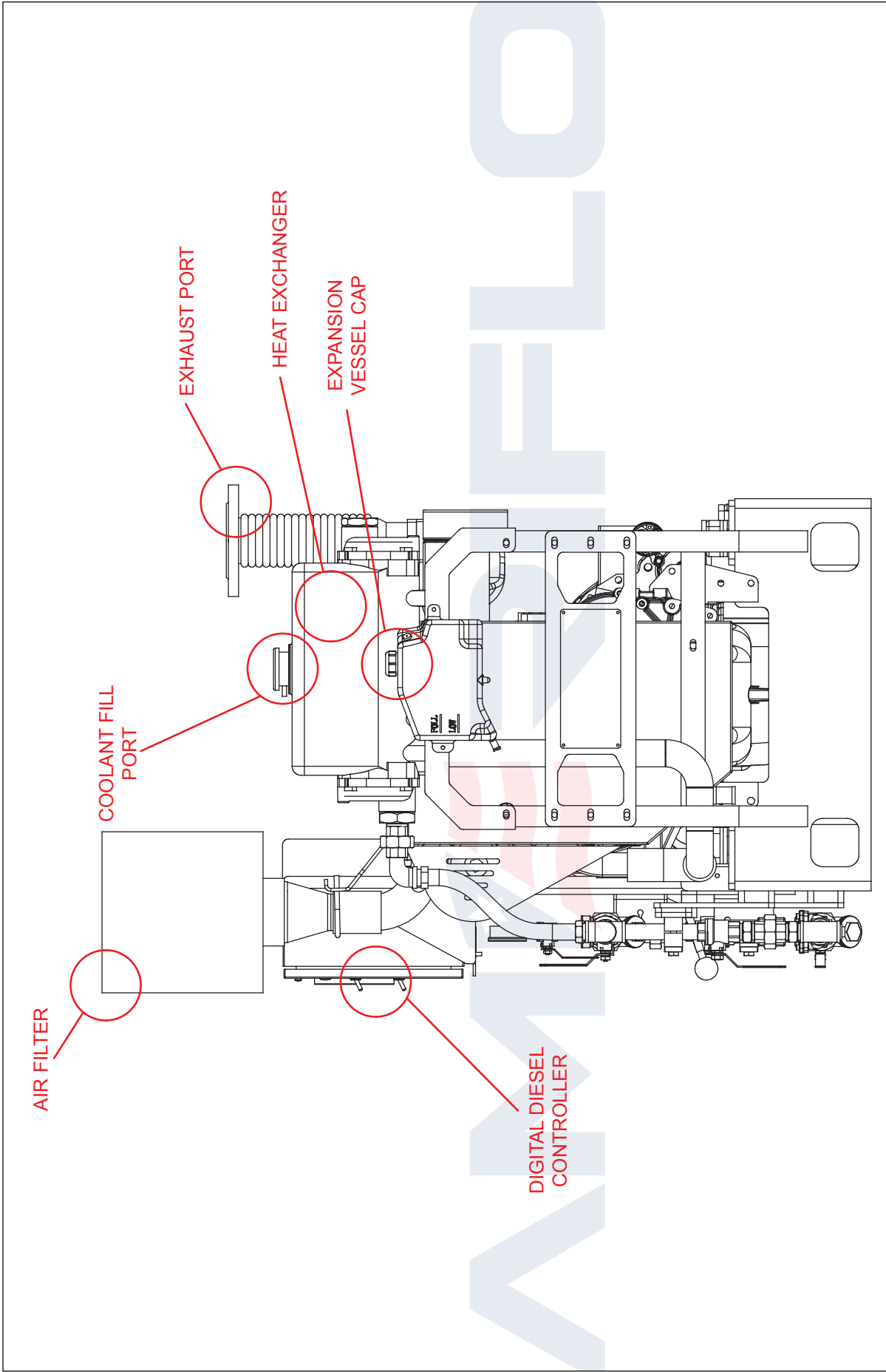
NAME:	INSTALLATION DRAWING
DATE:	10/01/2022
DRW BY:	MJF
CHK BY:	
APPROVED:	
DATE:	
PROJECT:	DIESEL FIRE PUMP DRIVER MODEL AF4-102C
PART NO.:	AF4-102C-LEFT
MATERIAL:	
PROJECTION:	1st Angle
SCALE:	NONE
PAGE	1
OF	1



REV	AMERIFLO		UNITS	PROJECTION:	SCALE:	PAGE	OF
			IN (MM)	1st	NONE	1	1
	DATE:	NAME:	INSTALLATION DRAWING	DATE:	APPROVED:		
	10/01/2022	MJF	DIESEL FIRE PUMP DRIVER	10/01/2022	MJF		
	CHK BY:	DATE:	MODEL AF4-102C	DATE:	DWN	APVD	
A			PART NO: AF4-102C-TOP	10/01/2022			
REV							

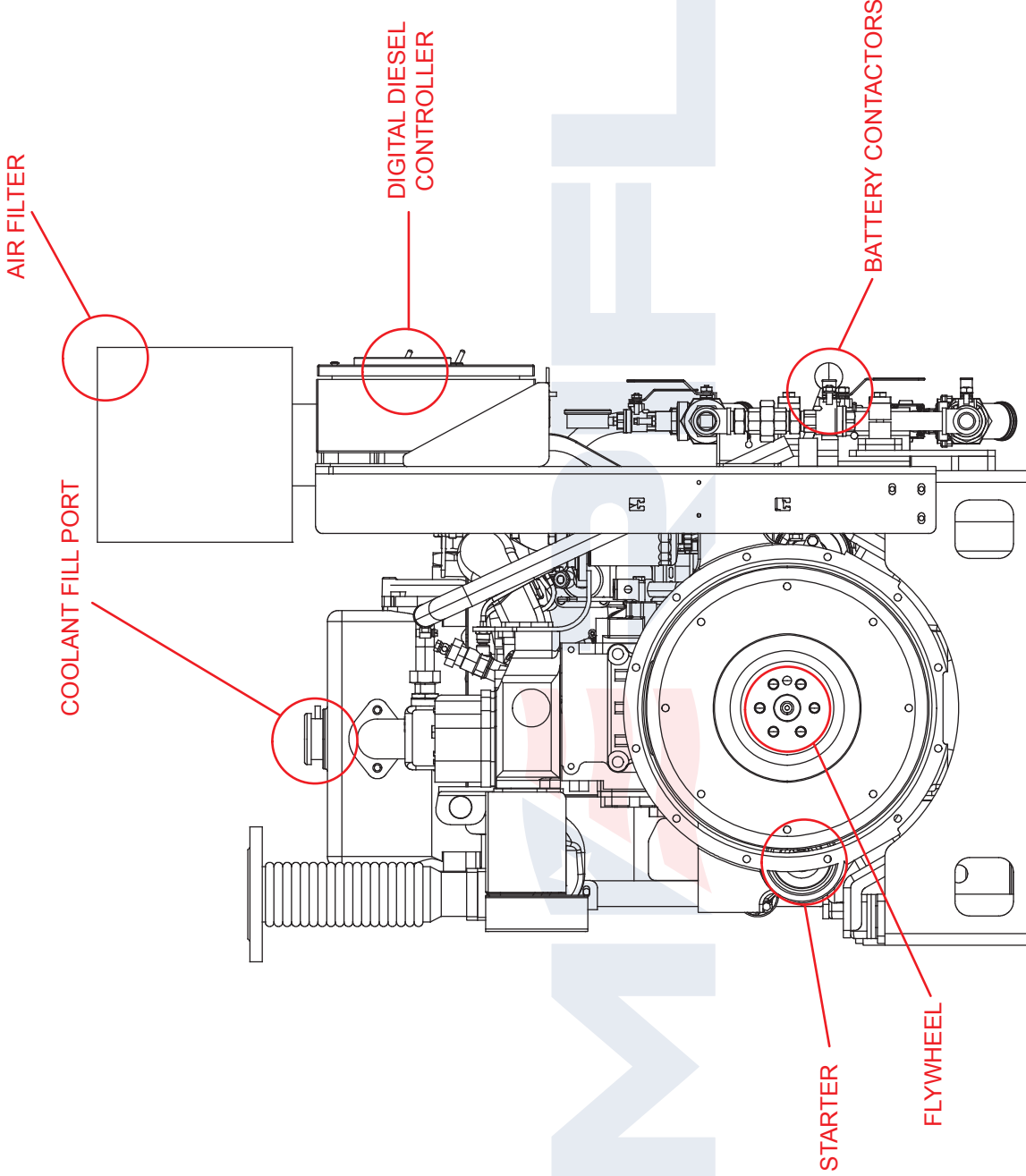
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REV	UNITS	PROJECT	SCALE	PAGE	OF
	IN/MM		NONE	1	1
		NAME: AMERIFLO			
		DATE: 10/01/2022			
		CHK BY: MJF			
		DATE: 10/01/2022			
		APPROVED: DATE:			
		PROJECT: DIESEL FIRE PUMP DRIVER MODEL AF4-102C			
		PART NO: AF4-102C-FRONT			
		MATERIAL:			
		DESCRIPTION	DWN	APVD	DATE
A		CREATION	MJF		10/01/2022
REV					

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REV	UNITS	DATE	APPROVED	DATE	DATE	DATE
A		MJF	MJF	10/01/2022		
REV		DESCRIPTION	DWN	APVD	DATE	

AMERIFLO		NAME: INSTALLATION DRAWING		PROJECTION:	SCALE: NONE	PAGE 1	OF 1
		DIESEL FIRE PUMP DRIVER		PROJECT:			
		MODEL AF4-102C					
		DATE: 10/01/2022	DATE:	PART NO: AF4-102C-REAR		MATERIAL:	
		CHK BY: MJF	APPROVED:				