



# K19-CP

## Marine Generator Sets

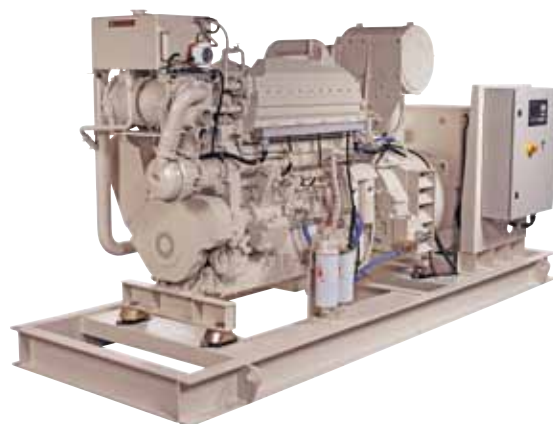
### Specifications

<b>Engine Model</b>	Cummins KTA19-D(M1)
<b>Alternator</b>	Newage HCM534E
<b>AVR Type</b>	MX341
<b>Operating Fuel</b>	#2 Diesel, MGO
<b>Agency Approvals</b>	ABS, BV, DNV, GL, LR
<b>Emissions</b>	IMO Tier I

### Dimensions

<b>Length</b>	3500 mm	137 in
<b>Width</b>	1540 mm	60 in
<b>Height</b>	2100 mm	82 in
<b>Weight</b>	4100 kg	9039 lb

Dimensions and weight may vary based on selected engine configuration



### Ratings

Model	Power* @ RPM	kV-A @ 0.8 pf	Frequency	Voltage	Fuel Consumption	
					Rated Speed L/hr (gal/hr)	ISO** L/hr (gal/hr)
K19-CP	335 kWe @ 1500	419	50 Hz	380, 400, 415, 440	91.1 (24.1)	47.1 (12.4)
K19-CP	380 kWe @ 1500	475	50 Hz	380	102.6 (27.1)	52.5 (13.9)
K19-CP	390 kWe @ 1500	488	50 Hz	400, 415, 440	102.6 (27.1)	52.5 (13.9)
K19-CP	400 kWe @ 1800	500	60 Hz	416, 440, 460, 480	106.4 (28.1)	58.8 (15.5)
K19-CP	450 kWe @ 1800	563	60 Hz	416	120.8 (31.9)	64.7 (17.1)
K19-CP	460 kWe @ 1800	575	60 Hz	440, 460, 480	120.8 (31.9)	64.7 (17.1)

\* kWe reflects the approximate amount of power available when used in a keel cooled genset configuration

\*\* Average fuel consumption based on ISO 8178 E3 Standard Test Cycle (variable speed models) and ISO 8178 D2 Standard Test Cycle (fixed speed models)

The Right Technology. **Matters.**

# K19-CP

## C Power Design Features

- World-class Cummins diesel engines matched to industry-leading Cummins alternators. Designed, integrated and assembled for optimal efficiency and performance
- Engineered for the tough demands of the marine environment with superior durability and high uptime requirements
- Simplified vessel integration with less complex mechanical connections
- Available with multi-station alarm and monitoring panels via a local digital network to match application requirements
- Integrated alarm system can be configured to communicate with ship's central data systems
- Flexible configurations available to customize the generating set to the vessel's operation requirements
- Comprehensive warranty applies to entire generating set and is valid globally

## Engine Features

- Rugged in-line, six cylinder turbocharged diesel engine with mechanical fuel system provides excellent fuel economy and low maintenance requirements. Optional electronic speed governor
- Available in heat exchanger or keel cooled configurations
- Conforms to SOLAS surface temperature requirements and classifiable for Unmanned

Machinery Space (UMS) applications as defined by IACS society rules

- IMO emissions certified by Lloyd's Register; Classification Society type approvals available
- Classed level units fitted with superior aluminum extruded wiring harness, duplex filtration and type-approved hardware

## Alternator Features

- 12 wire, 3-phase alternator provides a broad range of re-connectable outputs
- Designed specifically for marine applications with an IP23 rating
- Single bearing close coupled permanent magnet generator provides constant excitation under all conditions
- Standard 2/3 pitch windings avoid excessive neutral currents
- Classifiable for Unmanned Machinery Space (UMS) applications as defined by IACS society rules
- Dynamically balanced rotors with sealed-for-life ball bearings
- Integrated anti-condensation heaters and two sets of RTDs



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**Cummins Inc.**  
Marine Engine General Data Sheet

Engine Model: **KT/KTA19-M/M3/M4**

Data Sheet: **DS-4964**  
Date: **20-Sep-10**

**GENERAL ENGINE DATA**

**Metric [U.S. Customary]**

Type .....	4 cycle, Inline	
Cylinders.....		6
Bore .....	mm [in]	159 [6.25]
Stroke .....	mm [in]	159 [6.25]
Displacement .....	liter [in <sup>3</sup> ]	19 [1,150]

**ENGINE MOUNTING & ACCESSORY DRIVES**

Max. Allowable Bending Moment at Rear Face of Block .....	N·m [ft·lb]	1356 [1000]
Max. Allowable Axial Thrust Load on Crankshaft .....	N [lb]	3336 [750]
Min. Axial Clearance at Front Face of Crankshaft for Thermal Expansion .....	mm [in]	2.02 [0.080]
Crankshaft Radial Load Limit.....	MAB 0.01.09-12/02/2005	
Max. Allowable Radial Load on Front of Crankshaft		
At All Angles .....	N [lb]	2780 [625]
Max. Allowable Radial Load on Rear of Crankshaft		
At All Angles .....	N [lb]	2664 [599]
Maximum Operating Angles (see MAB No. 0.16.00-01/18/2007 for definitions and options to gain greater capability)		
Continuous Pitch Angle		
Engine Front Up From Horizontal .....	Deg.	10°
Engine Front Down From Horizontal .....	Deg.	3°
Continuous Roll Angle		
"Right" from vertical viewed from flywheel end of engine.....	Deg.	35°
"Left" from vertical viewed from flywheel end of engine.....	Deg.	30°
Intermittent Pitch Angle (intermittent operation less than 1 minute)		
Engine Front Up From Horizontal .....	Deg.	30°
Engine Front Down From Horizontal .....	Deg.	30°
Intermittent Roll Angle (intermittent operation less than 1 minute)		
"Right" from vertical viewed from flywheel end of engine.....	Deg.	45°
"Left" from vertical viewed from flywheel end of engine.....	Deg.	45°

**FUEL SYSTEM**

Maximum Allowable Restriction to Fuel Pump		
Clean Filter .....	kPa [in Hg]	14 [4.0]
Dirty Filter .....	kPa [in Hg]	27 [8.0]
Maximum Allowable Return Line Pressure .....	kPa [in Hg]	22 [6.5]
Maximum Static Pressure at Fuel Pump .....	kPa [in Hg]	20 [6.0]
Maximum Height of Fuel In Tank Above Fuel Pump .....	m [ft]	2.47 [8.1]

**EXHAUST SYSTEM**

Maximum Allowable Back Pressure .....	kPa [in Hg]	10 [3]
Maximum Bending Moment at Turbine Outlet Mounting Flange .....	N·m [ft·lb]	22 [16]
Maximum Incremental Direct Load at Turbine Outlet Mounting Flange .....	kg [lb]	9 [20]

**AIR INDUCTION SYSTEM**

Max. Allowable Intake Restriction - Turbocharged		
Clean Filter .....	kPa [in H <sub>2</sub> O]	4 [15]
Dirty Filter .....	kPa [in H <sub>2</sub> O]	6 [25]
Maximum Air Cleaner Inlet Temperature Rise Over Ambient .....	°C [°F]	17 [30]

TBD= To Be Determined

N/A = Not Applicable

N.A. = Not Available

**CUMMINS ENGINE COMPANY, INC**  
**COLUMBUS, INDIANA**

All Data is Subject to Change Without Notice - Consult the following Cummins intranet site for most recent data:

<http://marine.cummins.com>



**Cummins Inc.**  
Marine Engine General Data Sheet

Engine Model: **KT/KTA19-M/M3/M4**

Data Sheet: **DS-4964**  
Date: **20-Sep-10**

**LUBRICATION SYSTEM**

Oil Consumption Rate (Volume Percent of Fuel Consumption Rate) .....	%	0.07
Oil Pressure at Normal Operating Temperature		
Idle Speed - Minimum in Main Oil Gallery .....	kPa [psi]	138 [20]
Rated Speed - Measured in Main Oil Gallery (Low) .....	kPa [psi]	345 [50]
Rated Speed - Measured in Main Oil Gallery (High) .....	kPa [psi]	483 [70]
Max. Allowable Oil Temperature (Sump) .....	°C [°F]	121 [250]
Oil Pan Capacity (Shallow) OP		
Low .....	liter [gal]	32.2 [8.5]
High .....	liter [gal]	37.9 [10.0]
Total System Capacity (Max. Sump + Filter(s)) .....	liter [gal]	47.3 [12.5]
Oil Pan Capacity (Deep) OP		
Low .....	liter [gal]	64.4 [17.0]
High .....	liter [gal]	71.9 [19.0]
Total System Capacity (Max. Sump + Filter(s)) .....	liter [gal]	81.4 [21.5]
By-Pass Oil Filter Capacity .....	liter [gal]	2.8 [0.75]

**COOLING SYSTEM**

Coolant Capacity		
Engine Only .....	liter [gal]	30.3 [8.0]
Engine Including Heat Exchanger and Integral Expansion Tank .....	liter [gal]	45.4 [12.0]
Min. Coolant Makeup Capacity .....	liter [gal]	6.1 [1.6]
Max. Pressure Drop Across Any External Cooling System Circuit .....	kPa [psi]	34.5 [5.0]
Max. Allowable Block Coolant System Pressure .....	kPa [psi]	0.0 [0.0]
Max. Coolant Temperature at Engine Outlet .....	°C [°F]	96 [205.0]
Min. Block Coolant Temperature (Warm Engine) .....	°C [°F]	71 [160.0]
Min. Allowable Coolant Expansion Space .....	% of System Capacity	5%

**Sea Water Pump Specifications..... Refer to MAB 0.08.17-07/16/2001**

**ELECTRICAL AND STARTER SYSTEM**

Electrical		<b><u>12V</u></b>	<b><u>24V</u></b>
Min. Recommended Battery Capacity			
Cold Cranking Amperes Rating (CCA) .....		0	900
Marine Cranking Amperes Rating (MCA) .....		0	1125
Reserve Capacity (Discharging 25 Amps @ 80°F) .....	minutes	320	320
Min. Allowable System Voltage (@ Battery While Running) .....	Volts	12.0	21.0
Min. Allowable System Voltage (@ Battery While Cranking) .....	Volts	0	18
Max. Allowable System Voltage (@ Battery While Running) .....	Volts	15.5	31.0
Max. Allowable Voltage Drop of Starting Circuit (While Cranking) .....	Volts	0.0	2.6
Min. Engine Cranking Speed .....	rpm	150	150
Air Starter			
Regulated Pressure for Air Starter System .....	kPa [psi]	1034	150

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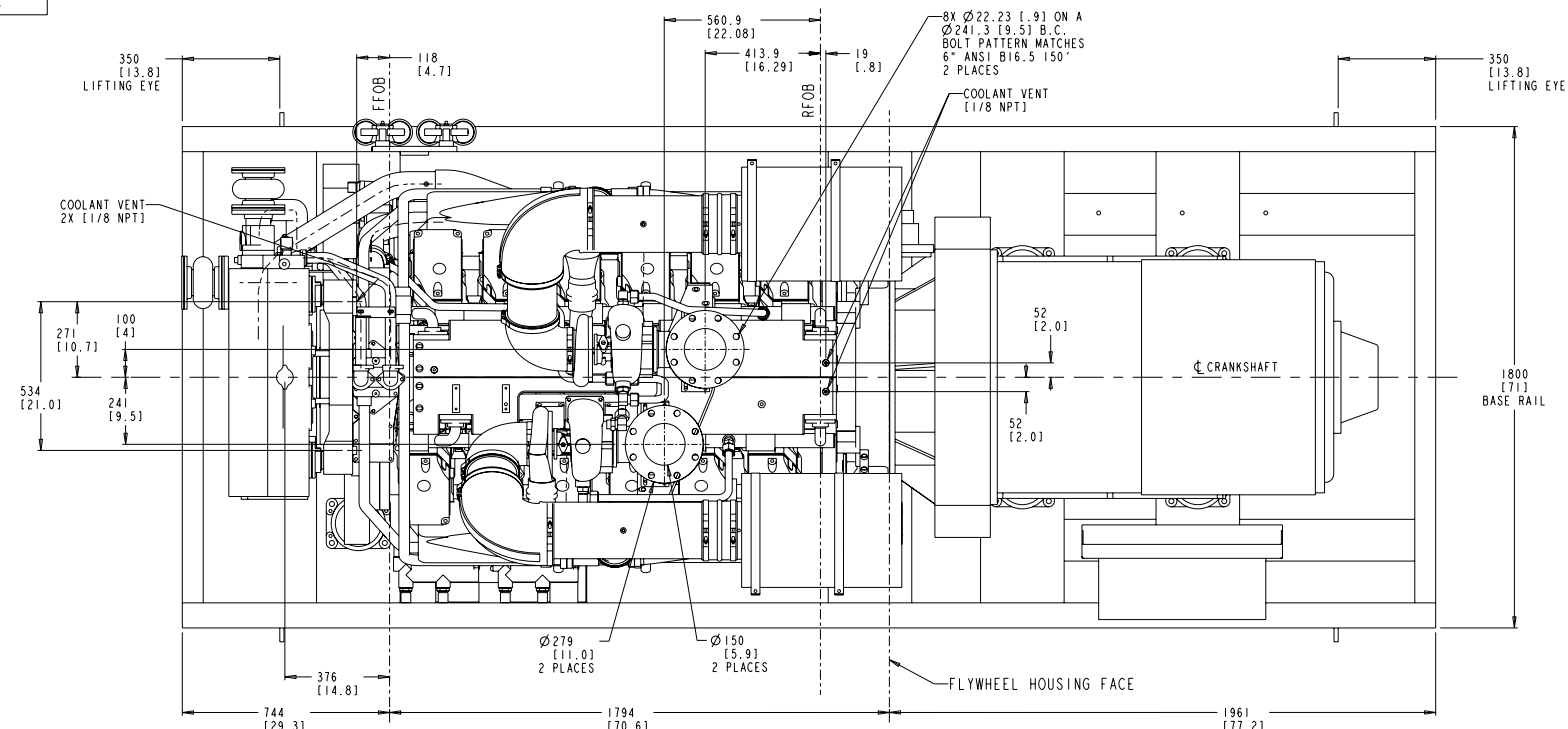
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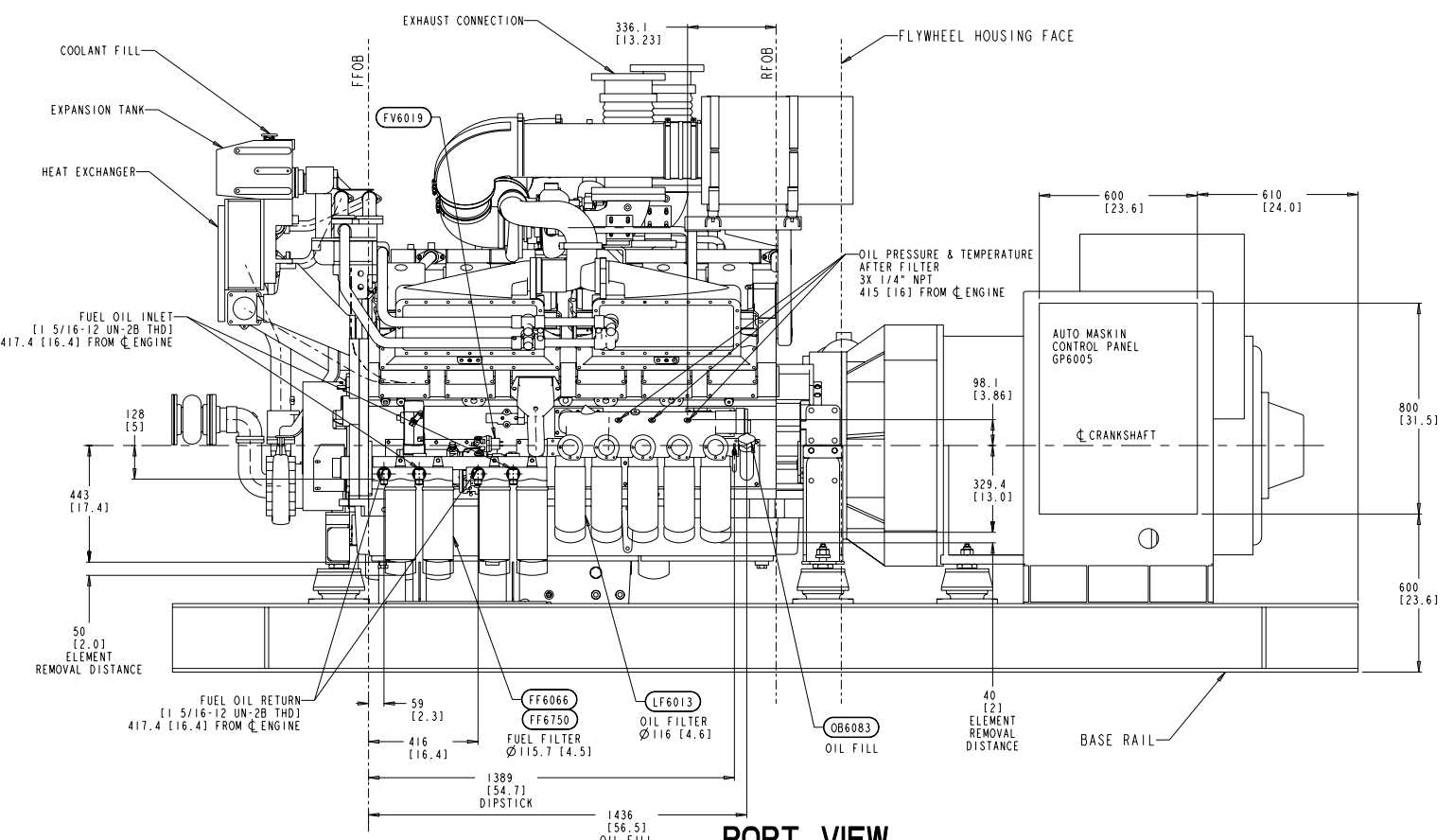
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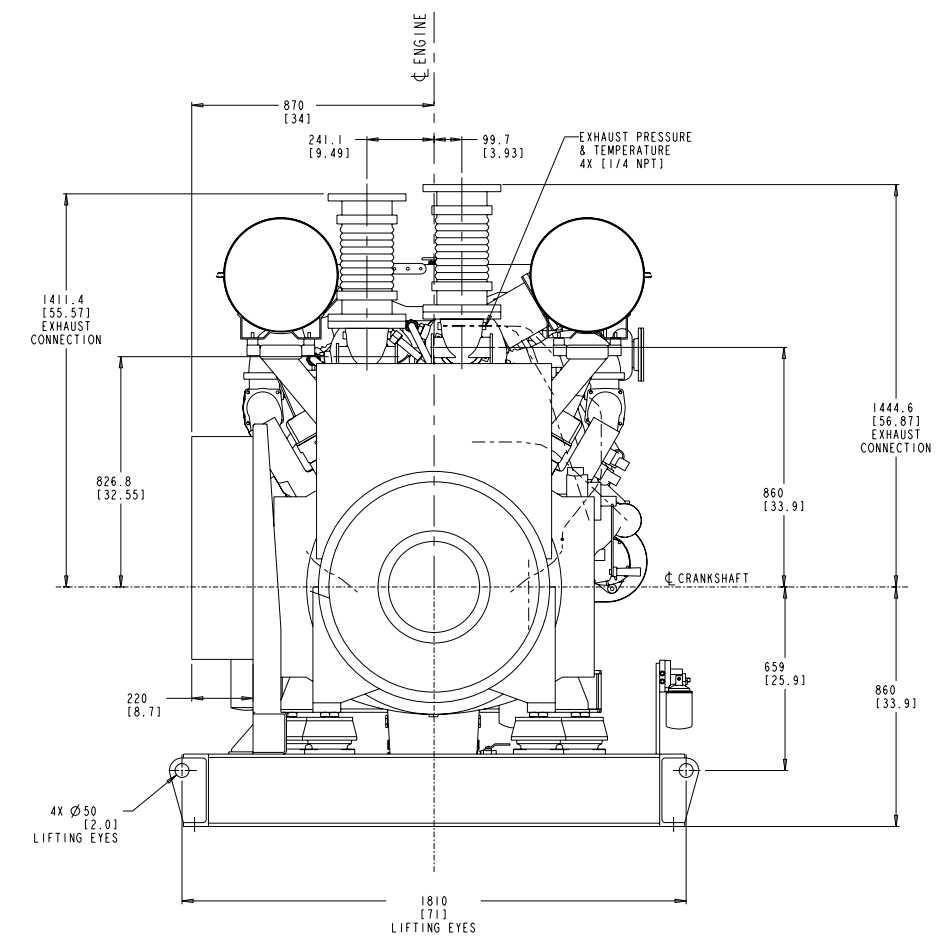
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TOP VIEW

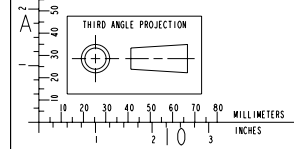


PORT VIEW



REAR VIEW

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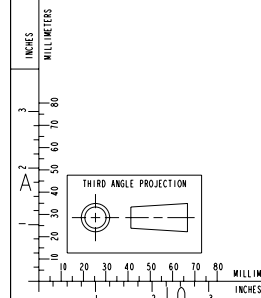
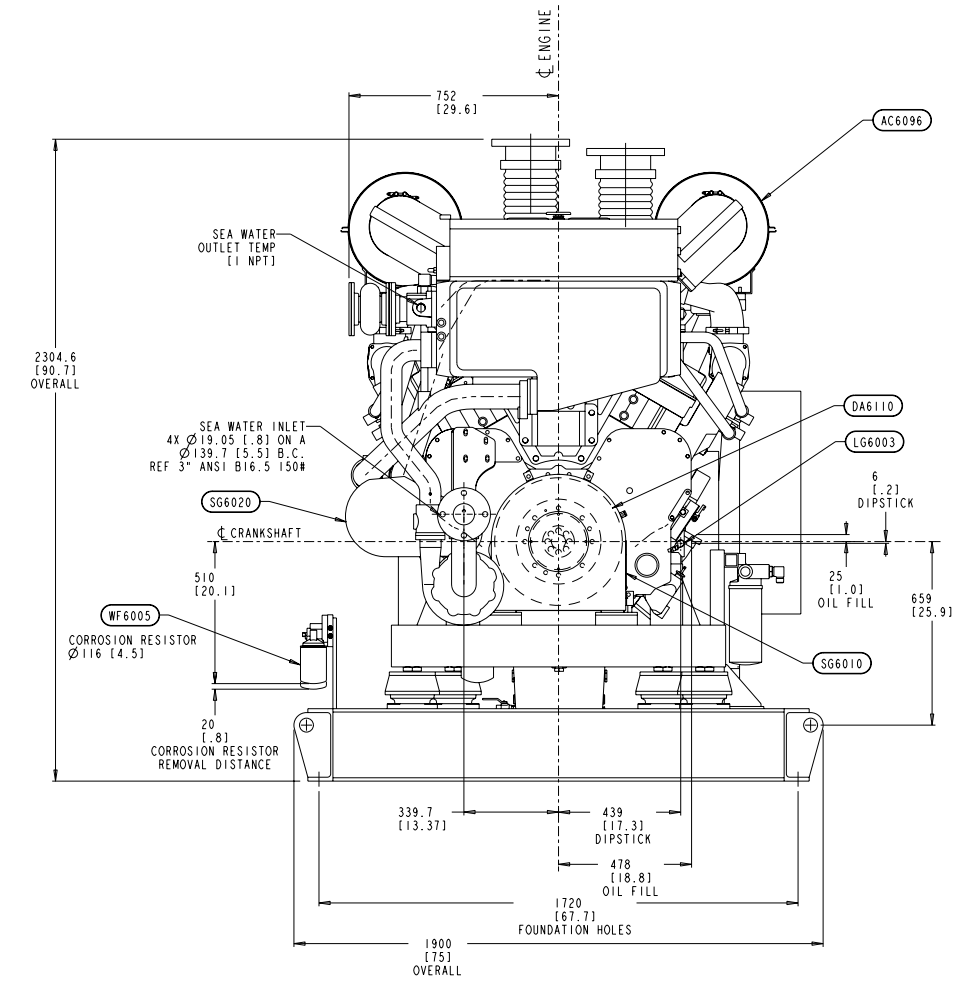
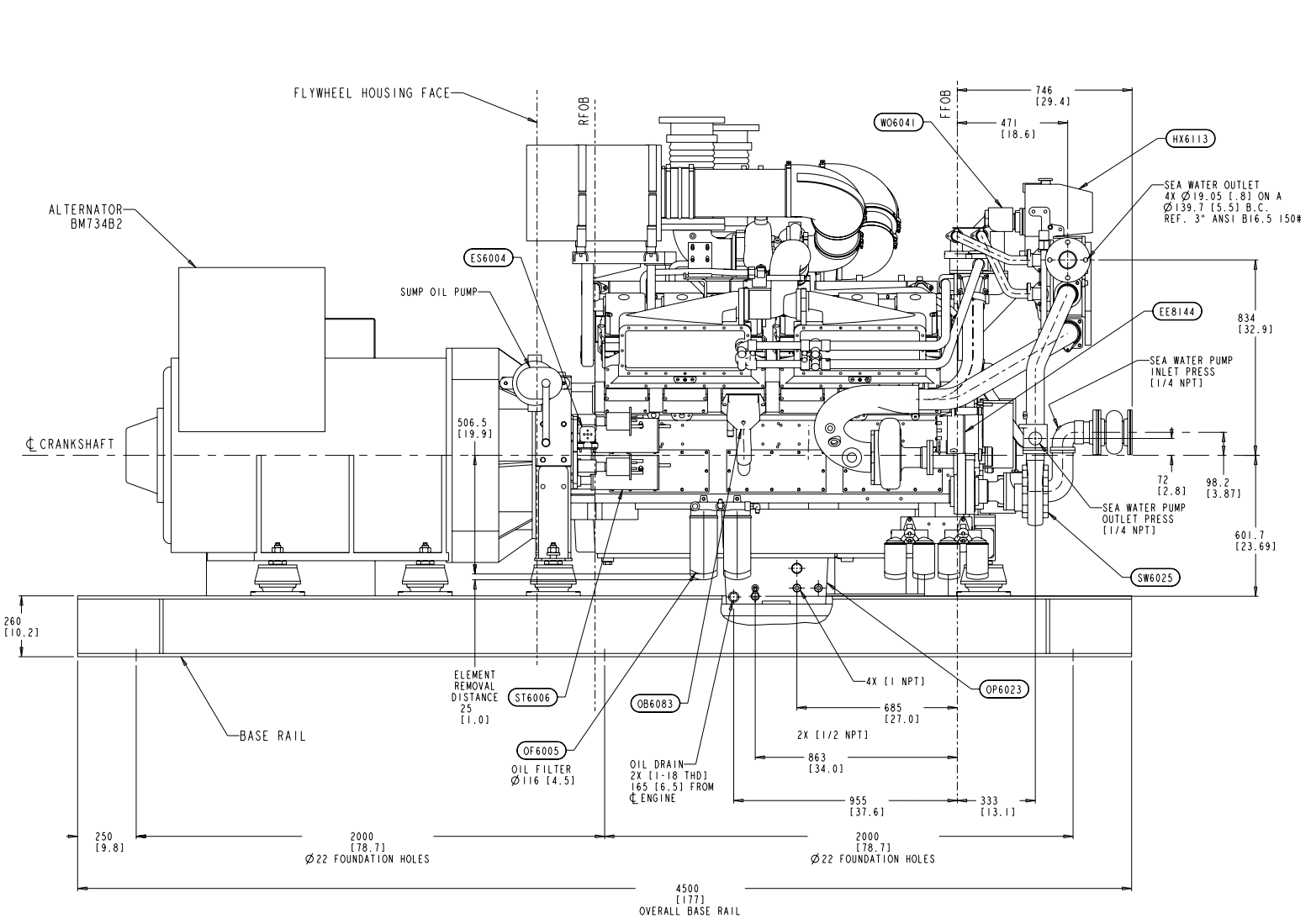


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APPD:	APPD:	<b>J</b>	<b>3170714</b>
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