

CUMMINS

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155B

M A R I N E
1 1 2 K W
1 5 5 H P

ENGINE SPECIFICATIONS

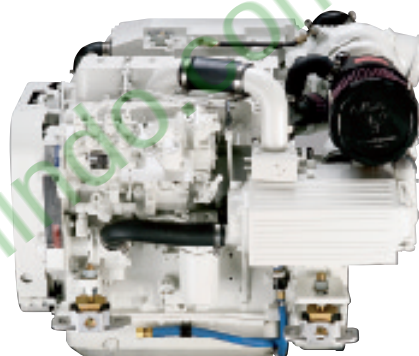
Configuration	In-line 4-cylinder, 4-stroke diesel
Bore & Stroke	102 mm x 120 mm (4.02 in x 4.72 in)
Displacement	3.9 L (239 in³)
Rotation	Counterclockwise facing flywheel
Weight	390 kg (860 lb)

POWER RATINGS

	High Output	
Crankshaft Power ¹	112 kW	155 hp
Crankshaft Power ²	112 kW	150 bhp
Rated Speed	2800 rpm	2800 rpm

¹ Technical data according to ISO 3046 fuel stop power. Fuel 25°C (77°F)

² Technical data according to ISO 8665 fuel stop power. Fuel 40°C (104°F)



Engine pictured may not be exact specification.

FUEL CONSUMPTION (PROP CURVE)

Rating	High Output						
RPM	2800	2500	2200	2000	1800	1500	1200
L/hr	28.8	21.2	15.1	11.7	8.7	5.7	3.4
g/hr	7.6	5.6	4.0	3.1	2.3	1.5	0.9

Fuel consumption is based on fuel of 35 ° API gravity at 16 °C (60 °F) having an LHV of 42, 780 KJ/KG (18,390 BTU/lb) when used at 29 °C (85 °F) and weighing 838.9 g/liter (7.001 lb/US gal). Cummins has always been a pioneer in product improvement. Thus specifications may change without notice.

ENGINE DIMENSIONS

Length		Width		Height	
mm	in	mm	in	mm	in
779.9	30.7	703.7	27.7	771.2	30.36

Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa (29.612 in Hg) and 25°C (77°F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

High Output

This power rating is intended for use in variable load applications where full power is limited to one hour out of every eight hours of operation. This rating is for pleasure/non-revenue generating applications that operate less than 300 hours per year.

Marine Engine Performance Data

Curve No. M-90197
DS-4959
CPL: 0741
DATE: 12May99

General Engine Data*

Engine Model.....	155B
Rating Type	High Output
Rated Engine Power..... kW [HP, Metric]	112 [155]
Rated Engine Speed	RPM 2800
High Idle Speed Range	RPM 2968 - 3080
Idle Speed Range.....	RPM 700 - 900
Engine Torque	Nm [ft/lb] 381[281]
Brake Mean Effective Pressure	kPa [PSI] 1222 [177]
Compression Ratio	16.5:1
Piston Speed	m/sec [ft/min] 11.2 [2205]
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-3-4-2

Fuel System*

Fuel Consumption	litre/hr [GPH] 28.8 [7.6]
Approximate Fuel Flow to Pump	litre/hr [GPH] 37 [10]
Fuel Transfer Pump Pressure Range.....	kPa [PSI] 3.5-69 [0.5-10]

Weight (Dry)

Engine Only	kg [lb] 390 [860]
With Heat Exchanger Cooling System	kg [lb] +33 [72]

Air System*

Intake Manifold Pressure.....	mm Hg [in Hg] 711 [28]
Intake Air Flow	litre/sec [CFM] 130 [270]
Heat Rejection to Ambient.....	kW [BTU/min] 14 [800]
Minimum Ambient Temperature for Cold Start (No Aids)	°C [°F] 0 [32]

Exhaust System*

Exhaust Gas Flow (after turbine)	litre/sec [CFM] 320 [700]
Exhaust Gas Temperature (after turbine)	°C [°F] 482 [900]

Cooling System*

Heat Rejection to Coolant.....	kW [BTU/min] 95 [5400]
Engine Water Flow	litre/min [GPM] 189 [50]
Raw Water Flow	litre/min [GPM] 87 [23]
Pressure Cap Rating w/Heat Exchanger	kPa [PSI] 103 [15]

INSTALLATION DIAGRAMS:

Engine Only	3884676
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*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

RUN HARD. DREAM BIG.™



220B

M A R I N E
1 5 7 K W
2 2 0 H P

ENGINE SPECIFICATIONS

Configuration	In-line 6-cylinder, 4-stroke diesel
Bore & Stroke	102 mm x 120 mm (4.02 in x 4.72 in)
Displacement	5.9 L (359 in ³)
Rotation	Counterclockwise facing flywheel
Weight	466 kg (1,025 lb)

POWER RATINGS

	High Output	
Crankshaft Power ¹	157 kW	220 hp
Crankshaft Power ²	157 kW	210 bhp
Rated Speed	2600 rpm	2600 rpm

¹ Technical data according to ISO 3046 fuel stop power. Fuel 25°C (77°F)

² Technical data according to ISO 8665 fuel stop power. Fuel 40°C (104°F)

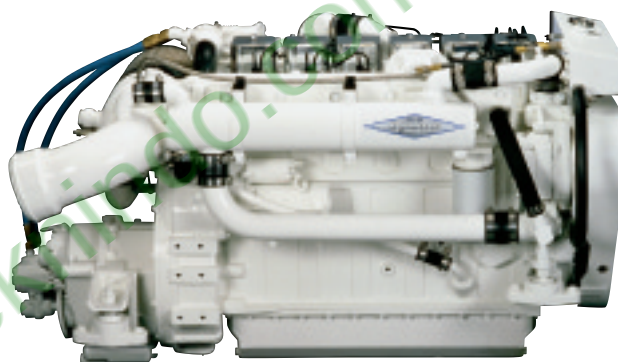
FUEL CONSUMPTION (PROP CURVE)

Rating	High Output						
RPM	2600	2400	2200	2000	1800	1600	1200
L/hr	44.9	35.7	28.2	22.2	17.4	13.2	8.0
g/hr	11.9	9.4	7.4	5.9	4.6	3.5	2.1

Fuel consumption is based on fuel of 35 ° API gravity at 16 °C (60 °F) having an LHV of 42, 780 KJ/KG (18,390 BTU/lb) when used at 29 °C (85 °F) and weighing 838.9 g/liter (7.001 lb/US gal). Cummins has always been a pioneer in product improvement. Thus specifications may change without notice.

ENGINE DIMENSIONS

Length		Width		Height	
mm	in	mm	in	mm	in
1073.65	42.27	710.9	27.99	812.2	31.98



Engine pictured may not be exact specification.

Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa (29.612 in Hg) and 25°C (77°F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

High Output

This power rating is intended for use in variable load applications where full power is limited to one hour out of every eight hours of operation. This rating is for pleasure/non-revenue generating applications that operate less than 300 hours per year.



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Marine Engine Performance Data

Curve No. M-90760
DS-4960
CPL: 2891
DATE: 07Dec00

General Engine Data

Engine Model.....	220B
Rating Type.....	High Output
Rated Engine Power..... kW [HP, Metric]	157 [220]
Rated Engine Speed..... RPM	2600
Rated HP Production Tolerance..... %	±5
Rated Engine Torque..... N•m [ft/lb]	575 [424]
Peak Engine Torque @ 1700 RPM..... N•m [ft/lb]	719 [530]
Brake Mean Effective Pressure..... kPa [PSI]	1287 [187]
Minimum Idle Speed Setting..... RPM	700
Normal Idle Speed Variation..... RPM	±50
High Idle Speed Range - Minimum..... RPM	2808
High Idle Speed Range - Maximum..... RPM	2912
Maximum Torque Capacity from Front of Crank ² N•m [ft/lb]	N.A.
Compression Ratio.....	16.5:1
Piston Speed..... m/sec [ft/min.]	10.4 [2045]
Firing Order.....	1-5-3-6-2-4
Weight (Dry) Engine Only - Average..... kg [lb]	N/A
Weight (Dry) Engine With Heat Exchanger System - Average..... kg [lb]	508 [1120]

Fuel System¹

Approximate Fuel Flow to Pump..... litre/hr [GPH]	53 [14]
Maximum Allowable Fuel Supply to Pump Temperature..... °C [°F]	60 [140]
Approximate Fuel Flow Return to Tank..... litre/hr [GPH]	8 [2]
Approximate Fuel Return to Tank Temperature..... °C [°F]	N.A.
Maximum Heat Rejection to Drain Fuel⁵..... kW [BTU/min]	N.A.
Fuel Transfer Pump Pressure..... kPa [PSI]	34 [5]

Air System¹

Intake Manifold Pressure..... mm Hg [in. Hg]	1321 [52]
Intake Air Flow..... litre/sec [CFM]	236 [500]
Heat Rejection to Ambient..... kW [BTU/min.]	21 [1200]

Exhaust System¹

Exhaust Gas Flow..... litre/sec [CFM]	543 [1150]
Exhaust Gas Temperature (Turbine Out)..... °C [°F]	438 [820]
Exhaust Gas Temperature (Manifold)..... °C [°F]	155 [310]

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)..... g/kw-hr [g/bhp-hr]	8.23 [6.14]
HC (Hydrocarbons)..... g/kw-hr [g/bhp-hr]	0.78 [0.58]
CO (Carbon Monoxide)..... g/kw-hr [g/bhp-hr]	1.84 [1.37]
PM (Particulate Matter)..... g/kw-hr [g/bhp-hr]	N.A.

Cooling System¹

Coolant Flow to Engine Heat Exchanger/Keel Cooler..... litre/min. [GPM]	174 [46]
Standard Thermostat Operating Range (Min.)..... °C [°F]	83 [181]
Standard Thermostat Operating Range (Max.)..... °C [°F]	95 [203]
Heat Rejection to Engine Coolant ³ kW [BTU/min.]	139 [7,900]
Sea Water Flow (With Heat Exchanger Option) ⁴ litre/min. [GPM]	83 [22]
Pressure Cap Rating (With Heat Exchanger Option)..... kPa [PSI]	103 [15]

INSTALLATION DRAWINGS

With Twin Disc MG 502-1 Marine Gear.....	3884426-A
With Twin Disc MG 5011-A Marine Gear.....	3884826
With ZF IRM-220A Marine Gear.....	3884425-A

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

⁵May not be at rated load and speed. Maximum heat rejection may occur at other than rated conditions.

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

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RUN HARD. DREAM BIG.™



270B

M A R I N E
1 9 4 K W
2 7 0 H P

ENGINE SPECIFICATIONS

Configuration	In-line 6-cylinder, 4-stroke diesel
Bore & Stroke	102 mm x 120 mm (4.02 in x 4.72 in)
Displacement	5.9 L (359 in³)
Rotation	Counterclockwise facing flywheel
Weight	581 kg (1,280 lb) SW 517 kg (1,140 lb) JW

POWER RATINGS

High Output*		
Crankshaft Power ¹	194 kW	270 hp
Crankshaft Power ²	194 kW	260 bhp
Rated Speed	2600 rpm	2600 rpm

¹ Technical data according to ISO 3046 fuel stop power. Fuel 25°C (77°F)

² Technical data according to ISO 8665 fuel stop power. Fuel 40°C (104°F)

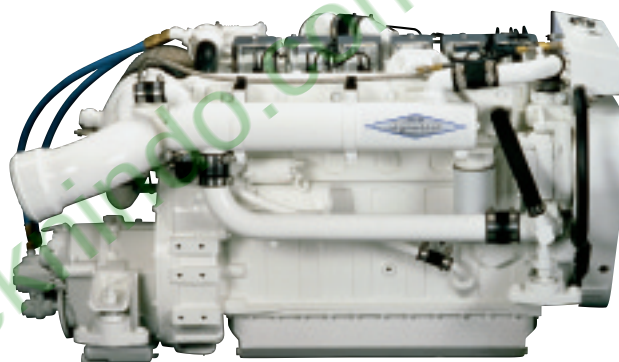
FUEL CONSUMPTION (PROP CURVE)

Rating	High Output							
RPM	2600	2400	2200	2000	1800	1600	1400	1200
L/hr	56.8	42.4	32.3	24.7	18.5	14.5	11.0	7.8
g/hr	15.0	11.2	8.5	6.5	4.9	3.8	2.9	2.1

Fuel consumption is based on fuel of 35 ° API gravity at 16 °C (60 °F) having an LHV of 42, 780 KJ/KG (18,390 BTU/lb) when used at 29 °C (85 °F) and weighing 838.9 g/liter (7.001 lb/US gal). Cummins has always been a pioneer in product improvement. Thus specifications may change without notice.

ENGINE DIMENSIONS

	Length		Width		Height	
	mm	in	mm	in	mm	in
SW	1041	41	816	32.15	771.2	30.4
JW	1028.1	40.48	825.9	32.52	837.2	32.96



Engine pictured may not be exact specification.

Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa (29.612 in Hg) and 25°C (77°F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

High Output

This power rating is intended for use in variable load applications where full power is limited to one hour out of every eight hours of operation. This rating is for pleasure/non-revenue generating applications that operate less than 300 hours per year.



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Marine Engine Performance DataCurve No. M-90806
DS-4960
CPL: 2956
DATE: 30Nov00**General Engine Data**

Engine Model	270B
Rating Type	High Output
Rated Engine Power kW [HP, Metric]	194 [270]
Rated Engine Speed RPM	2600
Rated HP Production Tolerance	±5
Rated Engine Torque N•m [ft/lb]	739 [545]
Peak Engine Torque @ 1800 N•m [ft/lb]	925 [682]
Brake Mean Effective Pressure kPa [PSI]	1558 [226]
Minimum Idle Speed Setting RPM	600
Normal Idle Speed Variation RPM	50
High Idle Speed Range - Minimum RPM	2900
High Idle Speed Range - Maximum RPM	3000
Maximum Torque Capacity from Front of Crank ² N•m [ft/lb]	N.A.
Compression Ratio	15.3:1
Piston Speed m/sec [ft/min.]	10.4 [2047]
Firing Order	1-5-3-6-2-4
Weight (Dry) Engine Only - Average kg [lb]	N/A
Weight (Dry) Engine With Heat Exchanger System - Average kg [lb]	517 [1140]

Fuel System¹

Approximate Fuel Flow to Pump litre/hr [GPH]	238 [63]
Max. Allowable Fuel Inlet to Pump Temperature °C [°F]	60 [140]
Approximate Fuel Flow Return to Tank l/hr [gal/hr]	182 [48]
Approximate Fuel Return to Tank Temperature °C [°F]	41 [106]
Maximum Heat Rejection to Drain Fuel ⁵ kW [BTU/min]	2 [118]
Fuel Transfer Pump Pressure kPa [PSI]	152 [22]

Air System¹

Intake Manifold Pressure mm Hg [in. Hg]	1575 [62]
Intake Air Flow litre/sec [CFM]	276 [585]
Heat Rejection to Ambient kW [BTU/min.]	20 [1163]

Exhaust System¹

Exhaust Gas Flow litre/sec [CFM]	642 [1360]
Exhaust Gas Temperature (Turbine Out) °C [°F]	455 [850]
Exhaust Gas Temperature (Manifold) °C [°F]	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen) g/kw-hr [g/bhp-hr]	7.99 [5.96]
HC (Hydrocarbons) g/kw-hr [g/bhp-hr]	N.A.
CO (Carbon Monoxide) g/kw-hr [g/bhp-hr]	N.A.
PM (Particulate Matter) g/kw-hr [g/bhp-hr]	N.A.

Cooling System¹

Coolant Flow to Engine Heat Exchanger/Keel Cooler litre/min. [GPM]	151 [40]
Standard Thermostat Operating Range (Min.) °C [°F]	83 [181]
Standard Thermostat Operating Range (Max.) °C [°F]	95 [203]
Heat Rejection to Engine Coolant ³ kW [BTU/min.]	170 [9,700]
Sea Water Flow (With Heat Exchanger Option) ⁴ litre/min. [GPM]	193 [51]
Pressure Cap Rating (With Heat Exchanger Option) kPa [PSI]	103 [15]

INSTALLATION DRAWING

..... 3884673

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions²Consult Installation Direction Booklet for Limitations³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.⁵May not be at rated load and speed. Maximum heat rejection may occur at other than rated conditions.CUMMINS ENGINE COMPANY, INC.
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RUN HARD. DREAM BIG.™



330B

M A R I N E
2 3 5 K W
3 3 0 H P

ENGINE SPECIFICATIONS

Configuration	In-line 6-cylinder, 4-stroke diesel
Bore & Stroke	102 mm x 120 mm (4.02 in x 4.72 in)
Displacement	5.9 L (359 in³)
Rotation	Counterclockwise facing flywheel
Weight	581 kg (1,280 lb) SW 517 kg (1,140 lb) JW

POWER RATINGS

High Output*		
Crankshaft Power ¹	235 kW	330 hp
Crankshaft Power ²	235 kW	315 bhp
Rated Speed	2800 rpm	2800 rpm

1 Technical data according to ISO 3046 fuel stop power. Fuel 25°C (77°F)

2 Technical data according to ISO 8665 fuel stop power. Fuel 40°C (104°F)

* IMO emissions compliant. Certification available from the US Environmental Protection Agency and Lloyd's Register of Shipping.

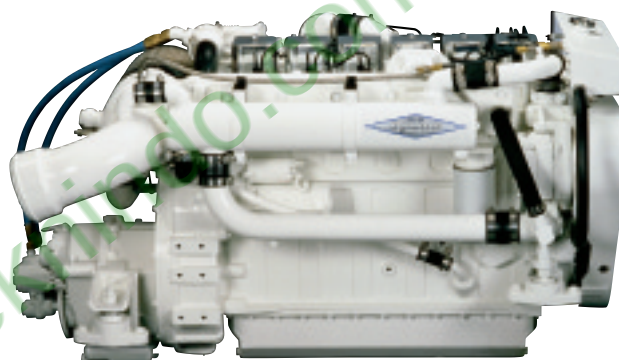
FUEL CONSUMPTION (PROP CURVE)

Rating	High Output							
RPM	2800	2600	2400	2200	2000	1800	1600	1400
L/hr	63.7	50.5	40.1	31.6	25.4	19.7	14.9	10.7
g/hr	16.8	13.4	10.6	8.4	6.7	5.2	3.9	2.8

Fuel consumption is based on fuel of 35 ° API gravity at 16 °C (60 °F) having an LHV of 42, 780 KJ/KG (18,390 BTU/lb) when used at 29 °C (85 °F) and weighing 838.9 g/liter (7.001 lb/US gal). Cummins has always been a pioneer in product improvement. Thus specifications may change without notice.

ENGINE DIMENSIONS

	Length		Width		Height	
	mm	in	mm	in	mm	in
SW	1041	41	816	32.15	771.2	30.4
JW	1028.1	40.48	825.9	32.52	837.2	32.96



Engine Pictured may not be exact specification.

Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa (29.612 in Hg) and 25°C (77°F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

High Output

This power rating is intended for use in variable load applications where full power is limited to one hour out of every eight hours of operation. This rating is for pleasure/non-revenue generating applications that operate less than 300 hours per year.



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Marine Engine Performance Data

Curve No. M-90208
DS-4960
CPL: 1975
DATE: 30Nov00

General Engine Data

Engine Model	330B (SW)
Rating Type	High Output
Rated Engine Power	235 [330]
Rated Engine Speed	2800
Rated HP Production Tolerance	±5
Rated Engine Torque	839 [619]
Peak Engine Torque @ 2000 RPM	926 [683]
Brake Mean Effective Pressure	1793 [260]
Minimum Idle Speed Setting	600
Normal Idle Speed Variation	±50
High Idle Speed Range - Minimum	3100
High Idle Speed Range - Maximum	3200
Maximum Torque Capacity from Front of Crank ²	N.A.
Compression Ratio	15.3:1
Piston Speed	11.2 [2203]
Firing Order	1-5-3-6-2-4
Weight (Dry) Engine Only - Average	N/A
Weight (Dry) Engine With Heat Exchanger System - Average	581 [1280]

Fuel System¹

Approximate Fuel Flow to Pump	258 [68]
Maximum Allowable Fuel Supply to Pump Temperature	60 [140]
Approximate Fuel Flow Return to Tank	N.A.
Approximate Fuel Return to Tank Temperature	N.A.
Maximum Heat Rejection to Drain Fuel⁵	N.A.
Fuel Transfer Pump Pressure Range	124-172 [18-25]

Air System¹

Intake Manifold Pressure	1422 [56]
Intake Air Flow	310 [657]
Heat Rejection to Ambient	N.A.

Exhaust System¹

Exhaust Gas Flow	723 [1531]
Exhaust Gas Temperature (Turbine Out)	485 [905]
Exhaust Gas Temperature (Manifold)	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	7.97 [5.94]
HC (Hydrocarbons)	0.30 [0.22]
CO (Carbon Monoxide)	1.73 [1.29]
PM (Particulate Matter)	0.21 [0.16]

Cooling System¹

Coolant Flow to Engine Heat Exchanger/Keel Cooler	189 [50]
Standard Thermostat Operating Range (Min.)	83 [181]
Standard Thermostat Operating Range (Max.)	95 [203]
Heat Rejection to Engine Coolant ³	149 [8,500]
Sea Water Flow (With Heat Exchanger Option) ⁴	208 [55]
Pressure Cap Rating (With Heat Exchanger Option)	103 [15]

INSTALLATION DRAWING

Engine Only	3626425
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TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

⁵May not be at rated load and speed. Maximum heat rejection may occur at other than rated conditions.

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COLUMBUS, INDIANA

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<http://marketingtechdata.cummins.com/curves/database/htmlfiles/curvemainpage.htm>

RUN HARD. DREAM BIG.™



370B

M A R I N E
2 6 5 K W
3 7 0 H P

ENGINE SPECIFICATIONS

Configuration	In-line 6-cylinder, 4-stroke diesel
Bore & Stroke	102 mm x 120 mm (4.02 in x 4.72 in)
Displacement	5.9 L (359 in ³)
Rotation	Counterclockwise facing flywheel
Weight	581 kg (1,280 lb) SW 517 kg (1,140 lb) JW

POWER RATINGS

High Output*		
Crankshaft Power ¹	265 kW	370 hp
Crankshaft Power ²	265 kW	355 bhp
Rated Speed	3000 rpm	3000 rpm

¹ Technical data according to ISO 3046 fuel stop power. Fuel 25°C (77°F)

² Technical data according to ISO 8665 fuel stop power. Fuel 40°C (104°F)

* IMO emissions compliant. Certification available from the US Environmental Protection Agency and Lloyd's Register of Shipping.

FUEL CONSUMPTION (PROP CURVE)

Rating	High Output							
RPM	3000	2800	2600	2400	2200	2000	1800	1600
L/hr	75.8	59.6	45.8	37.9	29.6	24.5	18.7	13.6
g/hr	20	15.8	12.1	10	7.8	6.5	4.9	3.6

Fuel consumption is based on fuel of 35 ° API gravity at 16 °C (60 °F) having an LHV of 42, 780 KJ/KG (18,390 BTU/lb) when used at 29 °C (85 °F) and weighing 838.9 g/liter (7.001 lb/US gal). Cummins has always been a pioneer in product improvement. Thus specifications may change without notice.

ENGINE DIMENSIONS

	Length		Width		Height	
	mm	in	mm	in	mm	in
SW	1041	41	816	32.15	771.2	30.4
JW	1028.1	40.48	825.9	32.52	837.2	32.96



Engine Pictured may not be exact specification.

Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa (29.612 in Hg) and 25°C (77°F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

High Output

This power rating is intended for use in variable load applications where full power is limited to one hour out of every eight hours of operation. This rating is for pleasure/non-revenue generating applications that operate less than 300 hours per year.



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Marine Engine Performance DataCurve No. M-90034
DS-4960
CPL: 2208
DATE: 07Dec00**General Engine Data**

Engine Model	370B (SW)
Rating Type	High Output
Rated Engine Power	265 [370]
Rated Engine Speed	3000
Rated HP Production Tolerance	±5
Rated Engine Torque	878 [648]
Peak Engine Torque @ 2200 RPM	982 [724]
Brake Mean Effective Pressure	1876 [272]
Minimum Idle Speed Setting	600
Normal Idle Speed Variation	±50
High Idle Speed Range - Minimum	3300
High Idle Speed Range - Maximum	3400
Maximum Torque Capacity from Front of Crank ²	N.A.
Compression Ratio	15.3:1
Piston Speed	12.0 [2360]
Firing Order	1-5-3-6-2-4
Weight (Dry) Engine Only - Average	N/A
Weight (Dry) Engine With Heat Exchanger System - Average	581 [1280]

Fuel System¹

Approximate Fuel Flow to Pump	277 [73]
Maximum Allowable Fuel Supply to Pump Temperature	60 [140]
Approximate Fuel Flow Return to Tank	N.A.
Approximate Fuel Return to Tank Temperature	N.A.
Maximum Heat Rejection to Drain Fuel⁵	N.A.
Fuel Transfer Pump Pressure Range	124-172 [18-25]

Air System¹

Intake Manifold Pressure	1448 [57]
Intake Air Flow	339 [718]
Heat Rejection to Ambient	35 [2012]

Exhaust System¹

Exhaust Gas Flow	906 [1919]
Exhaust Gas Temperature (Turbine Out)	481 [898]
Exhaust Gas Temperature (Manifold)	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	8.85 [6.60]
HC (Hydrocarbons)	0.42 [0.31]
CO (Carbon Monoxide)	1.45 [1.08]
PM (Particulate Matter)	0.23 [0.17]

Cooling System¹

Coolant Flow to Engine Heat Exchanger/Keel Cooler	236 [62]
Standard Thermostat Operating Range (Min.)	83 [181]
Standard Thermostat Operating Range (Max.)	95 [203]
Heat Rejection to Engine Coolant ³	184 [10,500]
Sea Water Flow (With Heat Exchanger Option) ⁴	220 [58]
Pressure Cap Rating (With Heat Exchanger Option)	103 [15]

INSTALLATION DRAWING

Engine Only	3626425
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TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions²Consult Installation Direction Booklet for Limitations³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.⁵May not be at rated load and speed. Maximum heat rejection may occur at other than rated conditions.CUMMINS ENGINE COMPANY, INC.
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RUN HARD. DREAM BIG.™



450C

M A R I N E
3 2 1 K W
4 5 0 H P

ENGINE SPECIFICATIONS

Configuration	In-line 6-cylinder, 4-stroke diesel
Bore & Stroke	114 mm x 135 mm (4.49 in x 5.32 in)
Displacement	8.3 L (504.5 in³)
Rotation	Counterclockwise facing flywheel
Weight	856 kg (1,885 lb) SW 712 kg (1,570 lb) JW



POWER RATINGS

High Output*		
Crankshaft Power ¹	321 kW	450 hp
Crankshaft Power ²	321 kW	430 bhp
Rated Speed	2600 rpm	2600 rpm

¹ Technical data according to ISO 3046 fuel stop power. Fuel 25°C (77°F)

² Technical data according to ISO 8665 fuel stop power. Fuel 40°C (104°F)

* IMO emissions compliant. Certification available from the US Environmental Protection Agency and Lloyd's Register of Shipping.

FUEL CONSUMPTION (PROP CURVE)

Rating	High Output*							
RPM	2600	2500	2300	2100	1700	1500	1100	700
L/hr	88	88	65.8	50.8	30.2	22.7	10.9	4.3
g/hr	23.2	23.2	17.4	13.4	8.0	6.0	2.9	1.1

Fuel consumption is based on fuel of 35 ° API gravity at 16 °C (60 °F) having an LHV of 42, 780 KJ/KG (18,390 BTU/lb) when used at 29 °C (85 °F) and weighing 838.9 g/liter (7.001 lb/US gal). Cummins has always been a pioneer in product improvement. Thus specifications may change without notice.

ENGINE DIMENSIONS

Length		Width		Height	
mm	in	mm	in	mm	in
1177.3	41.02	848.9	33.42	953.6	37.54

Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa (29.612 in Hg) and 25°C (77°F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

High Output

This power rating is intended for use in variable load applications where full power is limited to one hour out of every eight hours of operation. This rating is for pleasure/non-revenue generating applications that operate less than 300 hours per year.



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Marine Engine Performance Data

Curve No. M-90215
DS-4961
CPL: 8089
DATE: 02Apr01

General Engine Data

Engine Model	450C (SW)
Rating Type	High Output
Rated Engine Power kW [HP, Metric]	321 [450]
Rated Engine Speed RPM	2600
Rated HP Production Tolerance	±5
Rated Engine Torque..... N•m [ft/lb]	1232 [909]
Peak Engine Torque @ 1800 RPM..... N•m [ft/lb]	1379 [1017]
Brake Mean Effective Pressure..... kPa [PSI]	1873 [272]
Minimum Idle Speed Setting RPM	600
Normal Idle Speed Variation RPM	±50
High Idle Speed Range - Minimum RPM	2920
High Idle Speed Range - Maximum RPM	3020
Maximum Torque Capacity from Front of Crank ² N•m [ft/lb]	N.A.
Compression Ratio.....	15.35:1
Piston Speed..... m/sec [ft/min.]	11.7 [2305]
Firing Order	1-5-3-6-2-4
Weight (Dry) Engine Only - Average kg [lb]	N/A
Weight (Dry) Engine With Heat Exchanger System - Average kg [lb]	855 [1885]

Fuel System¹

Approximate Fuel Flow to Pump litre/hr [GPH]	259 [68]
Maximum Allowable Fuel Supply to Pump Temperature °C [°F]	60 [140]
Approximate Fuel Flow Return to Tank.....litre/hr [GPH]	171 [45]
Approximate Fuel Return to Tank Temperature..... °C [°F]	N.A.
Maximum Heat Rejection to Drain Fuel⁵ kW [BTU/min]	N.A.
Fuel Transfer Pump Pressure Range kPa [PSI]	124 - 172 [18-25]

Air System¹

Intake Manifold Pressure mm Hg [in. Hg]	1524 [60]
Intake Air Flow litre/sec [CFM]	434 [920]
Heat Rejection to Ambient kW [BTU/min.]	42 [2415]

Exhaust System¹

Exhaust Gas Flowlitre/sec [CFM]	991 [2100]
Exhaust Gas Temperature (Turbine Out) °C [°F]	444 [830]
Exhaust Gas Temperature (Manifold)..... °C [°F]	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)g/kw-hr [g/bhp-hr]	7.54 [5.62]
HC (Hydrocarbons).....g/kw-hr [g/bhp-hr]	0.30 [0.22]
CO (Carbon Monoxide).....g/kw-hr [g/bhp-hr]	0.50 [0.37]
PM (Particulate Matter)g/kw-hr [g/bhp-hr]	0.17 [0.13]

Cooling System¹

Coolant Flow to Engine Heat Exchanger/Keel Coolerlitre/min. [GPM]	322 [85]
Standard Thermostat Operating Range (Min.) °C [°F]	71 [160]
Standard Thermostat Operating Range (Max.)..... °C [°F]	83 [182]
Heat Rejection to Engine Coolant ³ kW [BTU/min.]	277 [15,750]
Sea Water Flow (With Heat Exchanger Option) ⁴litre/min. [GPM]	238 [63]
Pressure Cap Rating (With Heat Exchanger Option)..... kPa [PSI]	103 [15]

INSTALLATION DRAWING

Engine Only	3170262
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TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

⁵May not be at rated load and speed. Maximum heat rejection may occur at other than rated conditions.

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RUN HARD. DREAM BIG.™



4B-250

M A R I N E
1 7 9 K W
2 5 0 H P

ENGINE SPECIFICATIONS

Configuration	In-line 4-cylinder, 4-stroke diesel
Bore & Stroke	102 mm x 120 mm (4.02 in x 4.72 in)
Displacement	3.9 L (239 in ³)
Rotation	Counterclockwise facing flywheel
Weight	454 kg (1,001 lb)

POWER RATINGS

High Output*		
Crankshaft Power ¹	179 kW	250 hp
Crankshaft Power ²	179 kW	240 bhp
Rated Speed	3000 rpm	3000 rpm

¹ Technical data according to ISO 3046 fuel stop power. Fuel 25°C (77°F)

² Technical data according to ISO 8665 fuel stop power. Fuel 40°C (104°F)

* IMO emissions compliant. Certification available from the US Environmental Protection Agency and Lloyd's Register of Shipping.

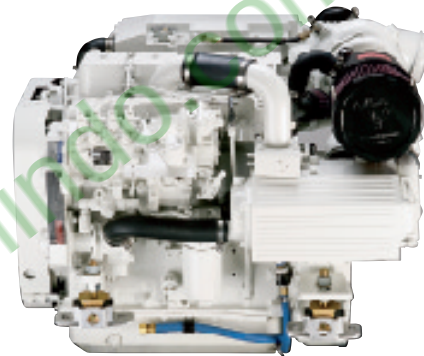
FUEL CONSUMPTION (PROP CURVE)

High Output							
RPM	3000	2800	2600	2200	2000	1800	1600
L/hr	50.5	39.8	31.9	20.2	15.7	12.0	9.2
g/hr	13.4	10.5	8.4	5.3	4.1	3.2	2.4

Fuel consumption is based on fuel of 35 ° API gravity at 16 °C (60 °F) having an LHV of 42, 780 KJ/KG (18,390 BTU/lb) when used at 29 °C (85 °F) and weighing 838.9 g/liter (7.001 lb/US gal). Cummins has always been a pioneer in product improvement. Thus specifications may change without notice.

ENGINE DIMENSIONS

Length		Width		Height	
mm	in	mm	in	mm	in
773.6	30.46	829.0	32.64	773.4	30.45



Engine Pictured may not be exact specification.

Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa (29.612 in Hg) and 25°C (77°F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

High Output

This power rating is intended for use in variable load applications where full power is limited to one hour out of every eight hours of operation. This rating is for pleasure/non-revenue generating applications that operate less than 300 hours per year.



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Marine Engine Performance Data

Curve No. M-90231
DS-4959
CPL: 2197
DATE: 30Nov00

General Engine Data

Engine Model.....	4B-250B
Rating Type	High Output
Rated Engine Power	179 [250] kW [HP, Metric]
Rated Engine Speed.....	3000 RPM
Rated HP Production Tolerance.....	±5 %
Rated Engine Torque	593 [438] N•m [ft/lb]
Peak Engine Torque @ 2200 RPM.....	666 [491] N•m [ft/lb]
Brake Mean Effective Pressure	1904 [276] kPa [PSI]
Minimum Idle Speed Setting.....	650 RPM
Normal Idle Speed Variation	±25 RPM
High Idle Speed Range - Minimum.....	3300 RPM
High Idle Speed Range - Maximum.....	3400 RPM
Maximum Torque Capacity from Front of Crank ²	N.A. N•m [ft/lb]
Compression Ratio	15.3:1
Piston Speed	12.0 [2360] m/sec [ft/min.]
Firing Order.....	1-3-4-2
Weight (Dry) Engine Only - Average	N/A kg [lb]
Weight (Dry) Engine With Heat Exchanger System - Average.....	454 [1001] kg [lb]

Fuel System¹

Approximate Fuel Flow to Pump	269 [71] litre/hr [GPH]
Maximum Allowable Fuel Supply to Pump Temperature.....	60 [140] °C [°F]
Approximate Fuel Return to Tank Temperature	N.A. °C [°F]
Maximum Heat Rejection to Drain Fuel⁵	N.A. kW [BTU/min]
Fuel Transfer Pump Pressure.....	152 [22] kPa [PSI]

Air System¹

Intake Manifold Pressure.....	1473 [58] mm Hg [in. Hg]
Intake Air Flow.....	227 [480] litre/sec [CFM]
Heat Rejection to Ambient.....	39 [2200] kW [BTU/min.]

Exhaust System¹

Exhaust Gas Temperature (Turbine Out).....	627 [1160] °C [°F]
Exhaust Gas Temperature (Manifold)	492 [917] °C [°F]

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen).....	8.27 [6.17] g/kw-hr [g/bhp-hr]
HC (Hydrocarbons).....	0.07 [0.05] g/kw-hr [g/bhp-hr]
CO (Carbon Monoxide).....	0.94 [0.70] g/kw-hr [g/bhp-hr]
PM (Particulate Matter).....	0.19 [0.14] g/kw-hr [g/bhp-hr]

Cooling System¹

Coolant Flow to Engine Heat Exchanger/Keel Cooler	161 [43] litre/min. [GPM]
Standard Thermostat Operating Range (Min.)	83 [181] °C [°F]
Standard Thermostat Operating Range (Max.)	95 [203] °C [°F]
Heat Rejection to Engine Coolant ³	112 [6,400] kW [BTU/min.]
Sea Water Flow (With Heat Exchanger Option) ⁴	132 [35] litre/min. [GPM]
Pressure Cap Rating (With Heat Exchanger Option)	103 [15] kPa [PSI]

INSTALLATION DRAWING

Engine with Twin Disc MG5011A Gear.....	3170293
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TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

⁵May not be at rated load and speed. Maximum heat rejection may occur at other than rated conditions.

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RUN HARD. DREAM BIG.™



4B/4BT

M A R I N E

57 - 112 KW

76 - 150 HP

ENGINE SPECIFICATIONS

Configuration	In-line 4 Cylinder, 4-Stroke Diesel
Bore & Stroke	102 mm x 120 mm (4.02 in x 4.72 in)
Displacement	3.9 L (239 in ³)
Rotation	Counterclockwise facing flywheel

POWER RATINGS

Power Rating	Medium Continuous		Intermittent	
Aspiration	Naturally Aspirated	Turbocharged	Naturally Aspirated	Turbocharged
Rated RPM	2500	2500	2800	2800
kW (BHP)	57 (76)	97 (130)	60 (80)	112 (150)
Max Torque N·m (ft·lb)	185 (136)	280 (207)	185 (136)	300 (221)
RPM	1200	2200	1200	2200

FEATURES AND BENEFITS

Engine Design

Compact size for ease of installation with easy access for routine maintenance. Four stroke cycle combustion for quiet and fuel efficient operation.

Cooling System

Heat exchanger or keel cooled configurations available for application flexibility.

Fuel System

CAV rotary fuel pump.

Lubrication System

9.5 L (2.5 g) marine grade, cast aluminum oil pan. Spin-on Fleetguard lube oil filters.

Electrical System

12-volt and 24-volt systems available. Marine grade wiring harness and instrument panels.

Manufacturing

ISO certified plants.

U.S. Navy Certified

Tested and certified for the U.S. Navy's 1,000-hour abuse cycle test.

AVAILABLE ACCESSORIES

Air Cleaner: Light or heavy duty.

Auxiliary Pump

Hydraulic Pump Drive: SAE A or B flange.

Walker Air Sep: Closed crankcase ventilation system.

Accessory Drive Pulley: Belt or gear driven.

Marine Classification Society Approvals: Check with your local Cummins professional for an updated listing.

Marine Engine Performance Data

Curve No. M-9235

DS-4959

CPL: 0741

DATE: 12May99

General Engine Data*

Engine Model.....	4BT3.9-M
Rating Type	Medium Continuous
Rated Engine Power..... kW [HP]	97 [130]
Rated Engine Speed	2500
High Idle Speed Range	2650-2750
Idle Speed Range.....	700-900
Engine Torque.....Nm [ft/lb]	370 [273]
Brake Mean Effective Pressure	1186 [172]
Compression Ratio.....	16.5:1
Piston Speed	10.0 [1969]
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-3-4-2

Fuel System*

Fuel Consumption	litre/hr [GPH]	24.8 [6.5]
Approximate Fuel Flow to Pump	litre/hr [GPH]	34 [9]
Fuel Transfer Pump Pressure Range.....	kPa [PSI]	3.5-69 [5-10]

Weight (Dry)

Engine Only.....	kg [lb]	390 [860]
With Heat Exchanger Cooling System	kg [lb]	+33 [72]

Air System*

Intake Manifold Pressure.....	mm Hg [in Hg]	533 [21]
Intake Air Flow.....	litre/sec [CFM]	100 [220]
Heat Rejection to Ambient.....	kW [BTU/min]	12 [700]
Minimum Ambient Temperature for Cold Start (No Aids)	°C [°F]	0 [32]

Exhaust System*

Exhaust Gas Flow (after turbine)	litre/sec [CFM]	260 [550]
Exhaust Gas Temperature (after turbine)	°C [°F]	482 [900]

Cooling System*

Heat Rejection to Coolant.....	kW [BTU/min]	82 [4600]
Engine Water Flow	litre/min [GPM]	167 [44]
Raw Water Flow	litre/min [GPM]	75 [20]
Pressure Cap Rating w/Heat Exchanger	kPa [PSI]	103 [15]

INSTALLATION DIAGRAMS:

With Borg Warner 71C Marine Gear	3884427-A
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*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

4B/4BT

MARINE

57 - 112 KW

76 - 150 HP

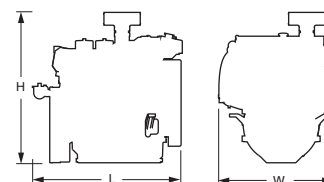


ENGINE DIMENSIONS

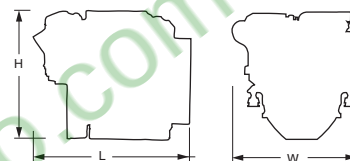
		Length		Width		Height		Weight	
		mm	in	mm	in	mm	in	kg	lb
Keel Cooled	NA	790	31	711	28	894	35	381	840
	T	779.9	30.70	703.7	27.7	771.2	30.36	390	860
Heat Exchanger	NA	790	31	711	28	894	35	414	912
	T	779.9	30.70	703.7	27.7	771.2	30.36	423	932

NA - Naturally Aspirated

T - Turbocharged



Naturally Aspirated



Turbocharged

PERFORMANCE DATA

Rating	Medium Continuous (NA)				Medium Continuous (T)			
rpm	2500	2300	2100	1900	2500	2300	2100	1900
kW	57	44	34	25	97	75	57	43
g/kW-hr	228	231	225	228	214	220	228	236
L/hr	15.5	12.1	9.1	6.8	24.8	19.7	15.5	12.1

bhp	76	59	45	34	130	101	77	57
lb/hp-hr	.378	.380	.373	.371	.350	.360	.373	.393
gal/hr	4.1	3.2	2.4	1.8	6.5	5.2	4.1	3.2

Rating	Intermittent (NA)				Intermittent (T)			
rpm	2800	2600	2400	2200	2800	2600	2400	2200
kW	60	48	37	29	112	90	70	54
g/kW-hr	239	225	222	220	216	219	218	224
L/hr	17.1	12.9	9.8	7.6	28.8	23.5	18.2	14.4
bhp	80	64	50	39	150	120	94	73
lb/hp-hr	.394	.372	.364	.359	.355	.362	.357	.364
gal/hr	4.5	3.4	2.6	2.0	7.6	6.2	4.8	3.8

Above data represents performance along a 3.0 fixed pitch propeller curve. Fuel consumption has a tolerance of +5% and is based on fuel of 35° API gravity at 16 °C (60 °F) having an LHV of 42,780 KJ/KG (18,390 BTU/lb) when used at 29 °C (85 °F) and weighing 838.9 g/liter (7.001 lb/US gal). Observed horsepower is certified within ± 3% of rated horsepower. Cummins has always been a pioneer in product improvement. Thus specifications may change without notice. Consult your local Cummins professional for further information.

Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa(29.612 in Hg) and 25 °C (77 °F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

Medium Continuous Duty

Intended for continuous use in variable load applications where full power is limited to six hours out of every twelve hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is for applications that operate less than 3,000 hours per year.

Intermittent Duty

Intended for intermittent use in variable load applications where full power is limited to two hours out of every eight hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is intended for applications that operate less than 1,500 hours per year.



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Marine Engine Performance Data

Curve No. M-90196
DS-4959
CPL: 0741
DATE: 12May99

General Engine Data*

Engine Model.....	4BT3.9-M
Rating Type	Intermittent
Rated Engine Power..... kW [HP]	112 [150]
Rated Engine Speed	2800
High Idle Speed Range	2968-3080
Idle Speed Range.....	700-900
Engine Torque.....Nm [ft/lb]	381 [281]
Brake Mean Effective Pressure	1222 [177]
Compression Ratio.....	16.5:1
Piston Speed	11.2 [2205]
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-3-4-2

Fuel System*

Fuel Consumption	litre/hr [GPH]	28.8 [7.6]
Approximate Fuel Flow to Pump	litre/hr [GPH]	37 [10]
Fuel Transfer Pump Pressure Range.....	kPa [PSI]	3.5-69 [-5-10]

Weight (Dry)

Engine Only	kg [lb]	390 [860]
With Heat Exchanger Cooling System	kg [lb]	+33 [72]

Air System*

Intake Manifold Pressure.....	mm Hg [in Hg]	711 [28]
Intake Air Flow.....	litre/sec [CFM]	130 [270]
Heat Rejection to Ambient.....	kW [BTU/min]	14 [800]
Minimum Ambient Temperature for Cold Start (No Aids)	°C[°F]	0 [32]

Exhaust System*

Exhaust Gas Flow (after turbine)	litre/sec [CFM]	320 [700]
Exhaust Gas Temperature (after turbine)	°C [°F]	482 [900]

Cooling System*

Heat Rejection to Coolant.....	kW [BTU/min]	95 [5400]
Engine Water Flow	litre/min [GPM]	189 [50]
Raw Water Flow	litre/min [GPM]	87 [23]
Pressure Cap Rating w/Heat Exchanger	kPa [PSI]	103 [15]

INSTALLATION DIAGRAMS:

With Borg Warner 71C Marine Gear	3884427-A
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*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

CUMMINS ENGINE COMPANY, INC.
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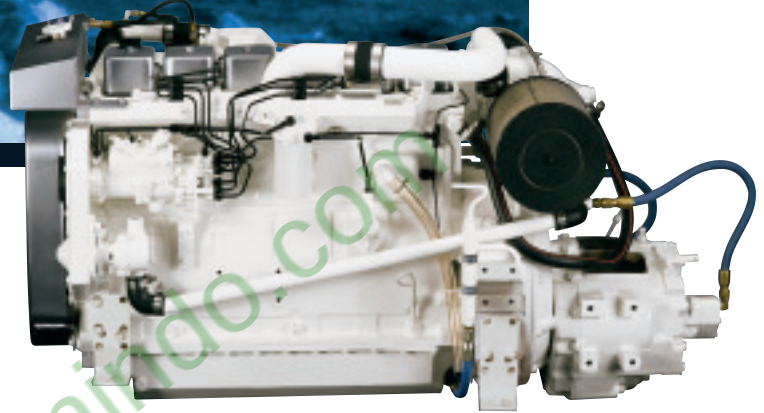
6B/6BT

MARINE

86 - 157 KW
115 - 210 HP

ENGINE SPECIFICATIONS

Configuration	In-line 6 Cylinder, 4-Stroke Diesel
Bore & Stroke	102 mm x 120 mm (4.02 in x 4.75 in)
Displacement	5.9 L (359 in ³)
Rotation	Counterclockwise facing flywheel



POWER RATINGS

Power Rating	Medium Continuous		Intermittent	
Aspiration	Naturally Aspirated	Turbocharged*	Naturally Aspirated	Turbocharged*
Rated RPM	2500	2500	2800	2600
kW (BHP)	86 (115)	134 (180)	90 (120)	157 (210)
Max Torque N·m (ft·lb)	270 (199)	630 (465)	271 (200)	719 (530)
RPM	1200	1700	1200	1700

*Ratings are IMO emissions compliant.

FEATURES AND BENEFITS

Engine Design

Compact size for ease of installation with easy access for routine maintenance. Four stroke cycle combustion for quiet and fuel efficient operation.

Cooling System

Heat exchanger or keel cooled configurations available for application flexibility.

Fuel System

CAV rotary fuel pump.

Lubrication System

14 L (3.6 g) marine grade, cast aluminum oil pan. Spin-on Fleetguard lube oil filters.

Electrical System

12-volt and 24-volt systems available. Marine grade wiring harness and instrument panels.

Manufacturing

ISO certified plants.

U.S. Navy Certified

Tested and certified for the U.S. Navy's 1,000 hour abuse cycle test.

IMO Emissions Certified

Certificates of Compliance for ratings over 130 kW (174 hp) are available from the U.S. EPA and Lloyd's Register of Shipping.

AVAILABLE ACCESSORIES

Air Cleaner: Light or heavy duty.

Auxiliary Pump

Hydraulic Pump Drive: SAE A or B flange.

Walker Air Sep: Closed crankcase ventilation system

Accessory Drive Pulley: Belt or gear driven

Marine Classification Society Approvals: Check with your local Cummins professional for an updated listing.

Marine Engine Performance Data

Curve No. M-9029
DS-4960
CPL: 0714
DATE: 12May99

General Engine Data*

Engine Model.....	6B5.9-M
Rating Type	Medium Continuous
Rated Engine Power..... kW [HP]	86 [115]
Rated Engine Speed	2500
High Idle Speed Range	2650-2750
Idle Speed Range.....	700-900
Engine Torque..... Nm [ft/lb]	327 [241]
Brake Mean Effective Pressure	700 [101]
Compression Ratio.....	17.3:1
Piston Speed	10.0 [1969]
Average Noise Level	97.5
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	litre/hr [GPH]	23.7 [6.3]
Approximate Fuel Flow to Pump	litre/hr [GPH]	32 [8]
Fuel Transfer Pump Pressure Range.....	kPa [PSI]	3.5-69 [5-10]

Weight (Dry)

Engine Only	kg [lb]	452 [995]
With Heat Exchanger Cooling System	kg [lb]	+43 [95]

Air System*

Intake Air Flow	litre/sec [CFM]	100 [210]
Heat Rejection to Ambient.....	kW [BTU/min]	12 [700]
Minimum Ambient Temperature for Cold Start (No Aids)	°C [°F]	0 [32]

Exhaust System*

Exhaust Gas Flow (after turbine)	litre/sec [CFM]	290 [600]
Exhaust Gas Temperature (after turbine)	°C [°F]	621 [1150]

Cooling System*

Heat Rejection to Engine Coolant***	kW [BTU/min]	79 [4500]
Engine Water Flow	litre/min [GPM]	167 [44]
Raw Water Flow	litre/min [GPM]	75 [20]
Pressure Cap Rating w/Heat Exchanger	kPa [PSI]	103 [15]

INSTALLATION DIAGRAMS:

With Borg Warner 72C Marine Gear (heat exch cool).....	3884427-B
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*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

***Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do not include fouling factors. Cooler sizing should be based on the above heat values factored by an amount for service fouling typical of the cooler design applied.

****Consult option notes for flow specifications of optional Cummins seawater pumps.

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

6B/6BT

MARINE

86 - 157 KW

115 - 210 HP

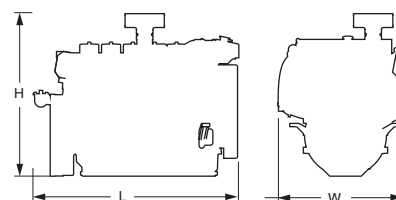


ENGINE DIMENSIONS

		Length		Width		Height		Weight	
		mm	in	mm	in	mm	in	kg	lb
Keel Cooled	NA	1138	44.8	704	27.7	894	35.2	452	995
	T	1073.65	42.27	710.9	27.99	812.2	31.98	466	1025
Heat Exchanger	NA	1138	44.8	704	27.7	894	35.2	495	1090
	T	1073.65	42.27	710.9	27.99	812.2	31.98	509	1120

NA - Naturally Aspirated

T - Turbocharged



Naturally Aspirated



Turbocharged

PERFORMANCE DATA

Rating	Medium Continuous (NA)				Medium Continuous (T)*			
rpm	2500	2300	2100	1900	2500	2300	2100	1900
kW	86	67	51	37	134	104	80	59
g/kW-hr	231	237	237	258	237	241	251	257
L/hr	23.7	18.9	14.4	11.4	37.8	29.9	23.9	18.1

bhp	115	90	68	50	180	140	107	79
lb/hp-hr	.384	.389	.391	.420	.389	.395	.412	.425
gal/hr	6.3	5.0	3.8	3.0	10.0	7.9	6.3	4.8

Rating	Intermittent (NA)				Intermittent (T)*			
rpm	2800	2600	2400	2200	2600	2400	2200	2000
kW	90	72	57	43	157	123	95	72
g/kW-hr	233	230	218	258	240	243	249	259
L/hr	25.0	19.7	14.8	13.2	44.9	35.7	28.2	22.2
bhp	120	96	76	58	210	165	127	96
lb/hp-hr	.385	.379	.359	.422	.397	.399	.408	.430
gal/hr	6.6	5.2	3.9	3.5	11.9	9.4	7.4	5.9

*Ratings are IMO emissions compliant

Above data represents performance along a 3.0 fixed pitch propeller curve. Fuel consumption has a tolerance of +5% and is based on fuel of 35° API gravity at 16 °C (60 °F) having an LHV of 42,780 KJ/KG (18,390 BTU/lb) when used at 29 °C (85 °F) and weighing 838.9 g/liter (7.001 lb/US gal). Observed horsepower is certified within ± 3% of rated horsepower. Cummins has always been a pioneer in product improvement. Thus specifications may change without notice. Consult your local Cummins professional for further information.

Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa(29.612 in Hg) and 25 °C (77 °F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

Medium Continuous Duty

Intended for continuous use in variable load applications where full power is limited to six hours out of every twelve hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is for applications that operate less than 3,000 hours per year.

Intermittent Duty

Intended for intermittent use in variable load applications where full power is limited to two hours out of every eight hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is intended for applications that operate less than 1,500 hours per year.



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Marine Engine Performance Data

Curve No. M-9152-D
DS-4960
CPL: 0791
DATE: 12May99

General Engine Data*

Engine Model.....	6B5.9-M
Rating Type	Intermittent
Rated Engine Power..... kW [HP]	90 [120]
Rated Engine Speed	2800
High Idle Speed Range	2968-3080
Idle Speed Range.....	700-900
Engine Torque	305 [225]
Brake Mean Effective Pressure	652 [95]
Compression Ratio	17.3:1
Piston Speed	11.2 [2205]
Average Noise Level	100.5
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	25.0 [6.6]
Approximate Fuel Flow to Pump	32 [8]
Fuel Transfer Pump Pressure Range.....	3.5-69 [.5-10]

Weight (Dry)

Engine Only	452 [995]
With Heat Exchanger Cooling System	+43 [95]

Air System*

Intake Air Flow	120 [250]
Heat Rejection to Ambient.....	13 [700]
Minimum Ambient Temperature for Cold Start (No Aids)	0 [32]

Exhaust System*

Exhaust Gas Flow (after turbine)	370 [800]
Exhaust Gas Temperature (after turbine)	677 [1250]

Cooling System*

Heat Rejection to Coolant.....	83 [4700]
Engine Water Flow	189 [50]
Raw Water Flow	87 [23]
Pressure Cap Rating w/Heat Exchanger	103 [15]

INSTALLATION DIAGRAMS:

With Warner 72C Marine Gear	3884427-B
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*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

Marine Engine Performance Data

Curve No. M-9036
DS-4960
CPL: 1289
DATE: 12May99

General Engine Data*

Engine Model.....	6BT5.9-M
Rating Type	Medium Continuous
Rated Engine Power..... kW [HP]	113 [152]
Rated Engine Speed	2500
High Idle Speed Range	2650-2750
Idle Speed Range.....	700-900
Engine Torque	433 [319]
Brake Mean Effective Pressure	925 [134]
Compression Ratio	16.5:1
Piston Speed	10.0 [1969]
Average Noise Level	97.5
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	litre/hr [GPH]	30.7 [8.1]
Approximate Fuel Flow to Pump	litre/hr [GPH]	38.6 [10.2]
Fuel Transfer Pump Pressure Range.....	kPa [PSI]	3.5-69 [.5-10]

Weight (Dry)

Engine Only	kg [lb]	466 [1025]
With Heat Exchanger Cooling System	kg [lb]	+43 [95]

Air System*

Intake Manifold Pressure.....	mm Hg [in Hg]	794 [31.0]
Intake Air Flow	litre/sec [CFM]	180 [380]
Heat Rejection to Ambient.....	kW [BTU/min]	15 [900]
Minimum Ambient Temperature for Cold Start (No Aids)	°C [°F]	0 [32]

Exhaust System*

Exhaust Gas Flow (after turbine)	litre/sec [CFM]	380 [800]
Exhaust Gas Temperature (after turbine)	°C [°F]	371 [700]

Cooling System*

Heat Rejection to Coolant.....	kW [BTU/min]	101 [5800]
Engine Water Flow	litre/min [GPM]	166 [44]
Raw Water Flow	litre/min [GPM]	75 [20]
Pressure Cap Rating w/Heat Exchanger.....	kPa [PSI]	103.41 [15]

INSTALLATION DIAGRAMS:

With Twin Disc MG 502-1 Marine Gear	3884426-A
With Twin Disc MG 5011-A Marine Gear	3884826
With ZF IRM-220A Marine Gear	3884425-A

*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

Marine Engine Performance Data

Curve No. M-90762

DS-4960

CPL: 2891

DATE: 07Nov00

General Engine Data

Engine Model.....	6BT5.9-M
Rating Type.....	Medium Continuous
Rated Engine Power kW [HP]	134 [180]
Rated Engine Speed..... RPM	2500
Rated HP Production Tolerance..... %	±5
Rated Engine Torque..... N•m [ft/lb]	513 [378]
Peak Engine Torque @ 1700 RPM..... N•m [ft/lb]	630 [465]
Brake Mean Effective Pressure kPa [PSI]	1095 [159]
Minimum Idle Speed Setting..... RPM	700
Normal Idle Speed Variation..... RPM	±50
High Idle Speed Range - Minimum..... RPM	2648
High Idle Speed Range - Maximum..... RPM	2752
Maximum Torque Capacity from Front of Crank ² N•m [ft/lb]	N.A.
Compression Ratio.....	16.5:1
Piston Speed..... m/sec [ft/min.]	10.0 [1967]
Firing Order.....	1-5-3-6-2-4
Weight (Dry) Engine Only - Average..... kg [lb]	465 [1025]
Weight (Dry) Engine With Heat Exchanger System - Average..... kg [lb]	508 [1120]

Fuel System¹

Approximate Fuel Flow to Pump litre/hr [GPH]	45 [12]
Maximum Allowable Fuel Supply to Pump Temperature..... °C [°F]	60 [140]
Approximate Fuel Flow Return to Tank..... litre/hr [GPH]	11 [3]
Approximate Fuel Return to Tank Temperature..... °C [°F]	N.A.
Maximum Heat Rejection to Drain Fuel ⁵ kW [BTU/min]	N.A.
Fuel Transfer Pump Pressure..... kPa [PSI]	34 [5]

Air System¹

Intake Manifold Pressure..... mm Hg [in. Hg]	1092 [43]
Intake Air Flow..... litre/sec [CFM]	212 [450]
Heat Rejection to Ambient..... kW [BTU/min.]	18 [1000]

Exhaust System¹

Exhaust Gas Flow..... litre/sec [CFM]	472 [1000]
Exhaust Gas Temperature (Turbine Out)..... °C [°F]	405 [760]
Exhaust Gas Temperature (Manifold)..... °C [°F]	127 [260]

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)..... g/kw-hr [g/bhp-hr]	6.71 [5.00]
HC (Hydrocarbons)..... g/kw-hr [g/bhp-hr]	0.89 [0.66]
CO (Carbon Monoxide)..... g/kw-hr [g/bhp-hr]	1.80 [1.34]
PM (Particulate Matter)..... g/kw-hr [g/bhp-hr]	0.35 [0.26]

Cooling System¹

Coolant Flow to Engine Heat Exchanger/Keel Cooler..... litre/min. [GPM]	167 [44]
Standard Thermostat Operating Range (Min.)..... °C [°F]	83 [181]
Standard Thermostat Operating Range (Max.)..... °C [°F]	95 [203]
Heat Rejection to Engine Coolant ³ kW [BTU/min.]	121 [6,900]
Sea Water Flow (With Heat Exchanger Option) ⁴ litre/min. [GPM]	76 [20]
Pressure Cap Rating (With Heat Exchanger Option)..... kPa [PSI]	103 [15]

INSTALLATION DRAWINGS

With Twin Disc MG 502-1 Marine Gear.....	3884426-A
With Twin Disc MG 5011-A Marine Gear.....	3884826
With ZF IRM-220A Marine Gear.....	3884425-A

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions²Consult Installation Direction Booklet for Limitations³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.⁵May not be at rated load and speed. Maximum heat rejection may occur at other than rated conditions.CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANAAll Data is Subject to Change Without Notice - consult the following Cummins intranet site for most recent data:
<http://marketingtechdata.cummins.com/curves/database/htmlfiles/curvemainpage.htm>

Marine Engine Performance Data

Curve No. M-90761
DS-4960
CPL: 2891
DATE: 01Nov00

General Engine Data

Engine Model.....	6BT5.9-M
Rating Type.....	Intermittent
Rated Engine Power..... kW [HP]	157 [210]
Rated Engine Speed..... RPM	2600
Rated HP Production Tolerance..... %	±5
Rated Engine Torque..... N•m [ft/lb]	603 [444]
Peak Engine Torque @ 1700 RPM..... N•m [ft/lb]	719 [530]
Brake Mean Effective Pressure..... kPa [PSI]	1229 [178]
Minimum Idle Speed Setting..... RPM	700
Normal Idle Speed Variation..... RPM	±50
High Idle Speed Range - Minimum..... RPM	2808
High Idle Speed Range - Maximum..... RPM	2912
Maximum Torque Capacity from Front of Crank ² N•m [ft/lb]	N.A.
Compression Ratio.....	16.5:1
Piston Speed..... m/sec [ft/min.]	10.4 [2045]
Firing Order.....	1-5-3-6-2-4
Weight (Dry) Engine Only - Average..... kg [lb]	465 [1025]
Weight (Dry) Engine With Heat Exchanger System - Average..... kg [lb]	508 [1120]

Fuel System¹

Approximate Fuel Flow to Pump..... litre/hr [GPH]	53 [14]
Maximum Allowable Fuel Supply to Pump Temperature..... °C [°F]	60 [140]
Approximate Fuel Flow Return to Tank..... litre/hr [GPH]	8 [2]
Approximate Fuel Return to Tank Temperature..... °C [°F]	N.A.
Maximum Heat Rejection to Drain Fuel⁵..... kW [BTU/min]	N.A.
Fuel Transfer Pump Pressure..... kPa [PSI]	34 [5]

Air System¹

Intake Manifold Pressure..... mm Hg [in. Hg]	1321 [52]
Intake Air Flow..... litre/sec [CFM]	236 [500]
Heat Rejection to Ambient..... kW [BTU/min.]	21 [1200]

Exhaust System¹

Exhaust Gas Flow..... litre/sec [CFM]	543 [1150]
Exhaust Gas Temperature (Turbine Out)..... °C [°F]	438 [820]
Exhaust Gas Temperature (Manifold)..... °C [°F]	155 [310]

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)..... g/kw-hr [g/bhp-hr]	8.23 [6.14]
HC (Hydrocarbons)..... g/kw-hr [g/bhp-hr]	0.78 [0.58]
CO (Carbon Monoxide)..... g/kw-hr [g/bhp-hr]	1.84 [1.37]
PM (Particulate Matter)..... g/kw-hr [g/bhp-hr]	N.A.

Cooling System¹

Coolant Flow to Engine Heat Exchanger/Keel Cooler..... litre/min. [GPM]	174 [46]
Standard Thermostat Operating Range (Min.)..... °C [°F]	83 [181]
Standard Thermostat Operating Range (Max.)..... °C [°F]	95 [203]
Heat Rejection to Engine Coolant ³ kW [BTU/min.]	139 [7,900]
Sea Water Flow (With Heat Exchanger Option) ⁴ litre/min. [GPM]	83 [22]
Pressure Cap Rating (With Heat Exchanger Option)..... kPa [PSI]	103 [15]

INSTALLATION DRAWINGS

With Twin Disc MG 502-1 Marine Gear.....	3884426-A
With Twin Disc MG 5011-A Marine Gear.....	3884826
With ZF IRM-220A Marine Gear.....	3884425-A

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

⁵May not be at rated load and speed. Maximum heat rejection may occur at other than rated conditions.

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COLUMBUS, INDIANA

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<http://marketingtechdata.cummins.com/curves/database/htmlfiles/curvemainpage.htm>

RUN HARD. DREAM BIG.™



6BTA MARINE

1 6 8 - 2 3 5 K W
2 2 5 - 3 1 5 H P

ENGINE SPECIFICATIONS

Configuration	In-line 6 Cylinder, 4-Stroke Diesel
Bore & Stroke	102 mm x 120 mm (4.02 in x 4.72 in)
Displacement	5.9 L (359 in ³)
Rotation	Counterclockwise facing flywheel



POWER RATINGS

Power Rating	Medium Continuous		Intermittent	
	(JWAC)**	(SWAC)*	(JWAC)*	(SWAC)*
Rated RPM	2500	2600	2600	2800
kW (BHP)	168 (225)	209 (280)	194 (260)	235 (315)
Max Torque N·m (ft·lb)	827 (610)	841 (620)	925 (682)	926 (683)
RPM	1500	2200	1800	2000

JWAC - Jacketwater Aftercooled

SWAC - Seawater Aftercooled

*Ratings are IMO emissions compliant

**IMO emissions certification is pending.

FEATURES AND BENEFITS

Engine Design

Compact size for ease of installation with easy access for routine maintenance. Four stroke cycle combustion for quiet and fuel efficient operation.

Cooling System

Low profile heat exchanger configuration. Spin-on Fleetguard water treatment filter.

Fuel System

Bosch inline fuel pump with high injection pressure for improved performance.

Lubrication System

Standard capacity 14 L (3.6 g) or high capacity 31 L (8.1 g) marine grade, cast aluminum oil pan. Spin-on Fleetguard lube oil filters. Handed filter and dipstick locations for ease of maintenance.

Electrical System

12-volt and 24-volt systems available. Marine grade wiring harness and instrument panels.

Manufacturing

ISO certified plants.

U.S. Navy Certified

Tested and certified for the U.S. Navy's 1,000 hour abuse cycle test.

IMO Emissions Certified

Certificates of Compliance are available from the U.S. EPA and Lloyd's Register of Shipping.

AVAILABLE ACCESSORIES

Air Cleaner: Light or heavy duty.

Auxiliary Pump

Hydraulic Pump Drive: SAE A or B flange.

Walker Air Sep: Closed crankcase ventilation system

Accessory Drive Pulley: Belt or gear driven

Marine Classification Society Approvals: Check with your local Cummins professional for an updated listing.

6BTA

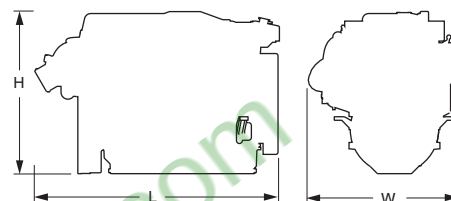
MARINE

168 - 235 KW
225 - 315 HP



ENGINE DIMENSIONS

		Length		Width		Height		Weight	
		mm	in	mm	in	mm	in	kg	lb
Keel Cooled	JWAC	1028.1	40.48	825.9	32.52	837.2	32.96	469	1035
	SWAC	1041	41	816	32.15	771.2	30.4	538	1185
Heat Exchanger	JWAC	1028.1	40.48	825.9	32.52	837.2	32.96	517	1140
	SWAC	1041	41	816	32.15	771.2	30.4	581	1280



PERFORMANCE DATA

Rating	Medium Continuous (JWAC)				Medium Continuous (SWAC)*			
rpm	2500	2300	2100	1900	2600	2400	2200	2000
kW	168	134	105	80	209	168	133	103
g/kW-hr	234	230	230	237	217	227	222	228
L/hr	46.9	35.9	27.1	20.9	54.1	44.3	35.1	28.1
bhp	225	180	141	107	280	226	178	138
lb/hp-hr	.386	.380	.379	.389	.358	.362	.366	.375
gal/hr	12.4	9.5	7.2	5.5	14.3	11.7	9.3	7.4

Rating	Intermittent (JWAC)				Intermittent (SWAC)*			
rpm	2600	2400	2200	2000	2800	2600	2400	2200
kW	194	156	124	96	235	188	144	113
g/kW-hr	246	234	232	235	227	225	234	235
L/hr	56.8	42.4	32.3	24.7	63.7	50.5	40.1	31.6
bhp	260	209	166	128	315	252	193	152
lb/hp-hr	.404	.384	.379	.386	.373	.372	.385	.387
gal/hr	15.0	11.2	8.5	6.5	16.8	13.4	10.6	8.4

*Ratings are IMO emissions compliant.

Above data represents performance along a 2.7 fixed pitch propeller curve. Fuel consumption has a tolerance of +5% and is based on fuel of 35° API gravity at 16 °C (60 °F) having an LHV of 42,780 KJ/KG (18,390 BTU/lb) when used at 29 °C (85 °F) and weighing 838.9 g/liter (7.001 lb/US gal). Observed horsepower is certified within ± 5% of rated horsepower. Cummins has always been a pioneer in product improvement. Thus specifications may change without notice. Consult your local Cummins professional for further information.

Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa(29.612 in Hg) and 25 °C (77 °F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

Medium Continuous Duty

Intended for continuous use in variable load applications where full power is limited to six hours out of every twelve hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is for applications that operate less than 3,000 hours per year.

Intermittent Duty

Intended for intermittent use in variable load applications where full power is limited to two hours out of every eight hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is intended for applications that operate less than 1,500 hours per year.



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Marine Engine Performance Data

Curve No. M-90209
DS-4960
CPL: 1975
DATE: 12May99

General Engine Data*

Engine Model.....	6BTA5.9-M (SW)
Rating Type	Intermittent
Rated Engine Power..... kW [HP]	235 [315]
Rated Engine Speed	RPM 2800
High Idle Speed Range	RPM 3100 - 3200
Idle Speed Range.....	RPM 550 - 650
Engine Torque	Nm [ft/lb] 801 [591]
Brake Mean Effective Pressure	kPa [PSI] 1712 [248]
Compression Ratio.....	15.3:1
Piston Speed	m/sec [ft/min] 11.2 [2205]
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	litre/hr [GPH] 62.8 [16.6]
Approximate Fuel Flow to Pump	litre/hr [GPH] 258.2 [68.2]
Fuel Transfer Pump Pressure Range.....	kPa [PSI] 124-172 [18-25]

Weight (Dry)

Engine with Heat Exchanger Cooling System.....	kg [lb] 581 [1280]
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Air System*

Intake Manifold Pressure.....	mm Hg [in Hg] 1415 [56]
Intake Air Flow.....	litre/sec [CFM] 310 [657]
Heat Rejection to Ambient.....	kW [BTU/min] N.A.
Minimum Ambient Temperature for Cold Start (No Aids)	°C [°F] 10 [50]

Exhaust System*

Exhaust Gas Flow (after turbine)	litre/sec [CFM] N.A.
Exhaust Gas Temperature (after turbine)	°C [°F] 480 [896]

Cooling System*

Heat Rejection to Coolant - Heat Exchanger	kW [BTU/min] N.A.
Heat Rejection to Coolant - Sea Water Aftercooled	TBD
Engine Water Flow	litre/min [GPM] 189 [50]
Sea Water Flow	litre/min [GPM] 208 [55]
Pressure Cap Rating w/Heat Exchanger.....	kPa [PSI] 103 [15]

INSTALLATION DIAGRAMS:

Engine Only	3626425
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*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

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://ibu.cummins.com/ibu/ibuweb/TechHome.nsf/pages/TechPubsHome>

Marine Engine Performance DataCurve No. M-90815
DS-4960
CPL: 2956
DATE: 03Apr01**General Engine Data**

Engine Model.....	6BTA5.9-M (JW)
Rating Type.....	Medium Continuous
Rated Engine Power	168 [225]
Rated Engine Speed	2500
Rated HP Production Tolerance	±5
Rated Engine Torque.....	641 [473]
Peak Engine Torque @ 1500	827 [610]
Brake Mean Effective Pressure.....	1369 [199]
Minimum Idle Speed Setting	600
Normal Idle Speed Variation	±50
High Idle Speed Range - Minimum	2825
High Idle Speed Range - Maximum	2875
Maximum Torque Capacity from Front of Crank ²	N.A.
Compression Ratio.....	15.3:1
Piston Speed.....	9 [1675]
Firing Order	1-5-3-6-2-4
Weight (Dry) Engine Only - Average	469 [1035]
Weight (Dry) Engine With Heat Exchanger System - Average	517 [1140]

Fuel System¹

Fuel Consumption @ rated speed.....	l/hr [gal/hr]	47 [12]
Approximate Fuel Flow to Pump	litre/hr [GPH]	231 [61]
Max. Allowable Fuel Inlet to Pump Temperature	°C [°F]	60 [140]
Approximate Fuel Flow Return to Tank.....	l/hr [gal/hr]	185 [49]
Approximate Fuel Return to Tank Temperature With Fuel Cooler	°C [°F]	41 [105]
Maximum Heat Rejection to Drain Fuel ⁵	kW [BTU/min]	2 [100]
Fuel Transfer Pump Pressure	kPa [PSI]	193 [28]

Air System¹

Intake Manifold Pressure	mm Hg [in. Hg]	1371 [54]
Intake Air Flow	litre/sec [CFM]	260 [550]
Heat Rejection to Ambient	kW [BTU/min.]	18 [1050]

Exhaust System¹

Exhaust Gas Flow	litre/sec [CFM]	595 [1261]
Exhaust Gas Temperature (Turbine Out).....	°C [°F]	510 [950]
Exhaust Gas Temperature (Manifold).....	°C [°F]	627 [1160]

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen).....	g/kw-hr [g/bhp-hr]	8.94 [6.67]
HC (Hydrocarbons)	g/kw-hr [g/bhp-hr]	N.A.
CO (Carbon Monoxide)	g/kw-hr [g/bhp-hr]	N.A.
PM (Particulate Matter)	g/kw-hr [g/bhp-hr]	N.A.

Cooling System¹

Coolant Flow to Engine Heat Exchanger/Keel Cooler	litre/min. [GPM]	144 [38]
Standard Thermostat Operating Range (Min.).....	°C [°F]	83 [181]
Standard Thermostat Operating Range (Max.).....	°C [°F]	95 [203]
Heat Rejection to Engine Coolant ³	kW [BTU/min.]	171 [9750]
Sea Water Flow (With Heat Exchanger Option) ⁴	litre/min. [GPM]	185 [49]
Pressure Cap Rating (With Heat Exchanger Option).....	kPa [PSI]	103 [15]

INSTALLATION DRAWING

3884673

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions²Consult Installation Direction Booklet for Limitations³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.⁵May not be at rated load and speed. Maximum heat rejection may occur at other than rated conditions.CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANAAll Data is Subject to Change Without Notice - consult the following Cummins intranet site for most recent data:
<http://marketingtechdata.cummins.com/curves/database/htmlfiles/curvemainpage.htm>

Marine Engine Performance DataCurve No. M-90807
DS-4960
CPL: 2956
DATE: 30Nov00**General Engine Data**

Engine Model	6BTA5.9-M (JW)
Rating Type	Intermittent
Rated Engine Power	194 [260]
Rated Engine Speed	2600
Rated HP Production Tolerance	±5
Rated Engine Torque	712 [525]
Peak Engine Torque @ 1800	925 [682]
Brake Mean Effective Pressure	1521 [221]
Minimum Idle Speed Setting	600
Normal Idle Speed Variation	50
High Idle Speed Range - Minimum	2900
High Idle Speed Range - Maximum	3000
Maximum Torque Capacity from Front of Crank ²	N.A.
Compression Ratio	15.3:1
Piston Speed	10.4 [2047]
Firing Order	1-5-3-6-2-4
Weight (Dry) Engine Only - Average	469 [1035]
Weight (Dry) Engine With Heat Exchanger System - Average	517 [1140]

Fuel System¹

Approximate Fuel Flow to Pump	238 [63]
Max. Allowable Fuel Inlet to Pump Temperature	60 [140]
Approximate Fuel Flow Return to Tank	182 [48]
Approximate Fuel Return to Tank Temperature With Fuel Cooler	41 [106]
Maximum Heat Rejection to Drain Fuel ⁵	2 [118]
Fuel Transfer Pump Pressure	152 [22]

Air System¹

Intake Manifold Pressure	1575 [62]
Intake Air Flow	276 [585]
Heat Rejection to Ambient	20 [1163]

Exhaust System¹

Exhaust Gas Flow	642 [1360]
Exhaust Gas Temperature (Turbine Out)	455 [850]
Exhaust Gas Temperature (Manifold)	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	7.99 [5.96]
HC (Hydrocarbons)	N.A.
CO (Carbon Monoxide)	N.A.
PM (Particulate Matter)	N.A.

Cooling System¹

Coolant Flow to Engine Heat Exchanger/Keel Cooler	151 [40]
Standard Thermostat Operating Range (Min.)	83 [181]
Standard Thermostat Operating Range (Max.)	95 [203]
Heat Rejection to Engine Coolant ³	170 [9,700]
Sea Water Flow (With Heat Exchanger Option) ⁴	193 [51]
Pressure Cap Rating (With Heat Exchanger Option)	103 [15]

INSTALLATION DRAWING

.....	3884673
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TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions²Consult Installation Direction Booklet for Limitations³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.⁵May not be at rated load and speed. Maximum heat rejection may occur at other than rated conditions.CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANAAll Data is Subject to Change Without Notice - consult the following Cummins intranet site for most recent data:
<http://marketingtechdata.cummins.com/curves/database/htmlfiles/curvemainpage.htm>

Marine Engine Performance Data

Curve No. M-90210
DS-4960
CPL: 1975
DATE: 30Nov00

General Engine Data

Engine Model	6BTA5.9-M (SW)
Rating Type	Medium Continuous
Rated Engine Power	209 [280]
Rated Engine Speed	2600
Rated HP Production Tolerance	±5
Rated Engine Torque	767 [566]
Peak Engine Torque @ 2200 RPM	841 [620]
Brake Mean Effective Pressure	1638 [238]
Minimum Idle Speed Setting	600
Normal Idle Speed Variation	±50
High Idle Speed Range - Minimum	2925
High Idle Speed Range - Maximum	3025
Maximum Torque Capacity from Front of Crank ²	N.A.
Compression Ratio	15.3:1
Piston Speed	10.4 [2045]
Firing Order	1-5-3-6-2-4
Weight (Dry) Engine Only - Average	538 [1185]
Weight (Dry) Engine With Heat Exchanger System - Average	581 [1280]

Fuel System¹

Approximate Fuel Flow to Pump	108 [29]
Maximum Allowable Fuel Supply to Pump Temperature	60 [140]
Approximate Fuel Flow Return to Tank	54 [14]
Approximate Fuel Return to Tank Temperature With Fuel Cooler	N.A.
Maximum Heat Rejection to Drain Fuel⁵	N.A.
Fuel Transfer Pump Pressure Range	124 - 172 [18-25]

Air System¹

Intake Manifold Pressure	1118 [44]
Intake Air Flow	248 [525]
Heat Rejection to Ambient	31 [1750]

Exhaust System¹

Exhaust Gas Flow	649 [1375]
Exhaust Gas Temperature (Turbine Out)	441 [825]
Exhaust Gas Temperature (Manifold)	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	9.08 [6.77]
HC (Hydrocarbons)	0.28 [0.21]
CO (Carbon Monoxide)	2.09 [1.56]
PM (Particulate Matter)	0.21 [0.16]

Cooling System¹

Coolant Flow to Engine Heat Exchanger/Keel Cooler	273 [72]
Standard Thermostat Operating Range (Min.)	83 [181]
Standard Thermostat Operating Range (Max.)	95 [203]
Heat Rejection to Engine Coolant ³	119 [6,800]
Sea Water Flow (With Heat Exchanger Option)⁴	227 [60]
Pressure Cap Rating (With Heat Exchanger Option)	103 [15]

INSTALLATION DRAWING

Engine Only	3626425
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TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

⁵May not be at rated load and speed. Maximum heat rejection may occur at other than rated conditions.

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Marine 6BTA5.9-M2

Chart your course
with confidence.

Specifications

Four Stroke Cycle, Turbocharged, Aftercooled,
Direct Injection, In-Line, 6 Cylinder Diesel Engine.

Medium Continuous Rating		
Crankshaft Power	250 bhp	(186 kW)
Rated Speed	2600 rpm	(2600 rpm)
Fuel Consumption at Rated Speed	12.7 U.S.g/hr.	(48.1 L/hr.)
Bore and Stroke	4.02x4.72 in.	(102x120mm)
Piston Displacement	359 cu.in.	(5.9 L)
Compression Ratio	15.5:1	(15.5:1)
Dry Weight, heat exchanger cooling and MG506-1 marine gear	1,390 lb.	(631 kg)
Dry Weight, heat exchanger cooling and IRM220A marine gear	1,292 lb.	(587 kg)

Design Features

Cast Iron Skirted Block: With main bearing supports between each cylinder, for maximum strength and rigidity, low weight, and optimum crankshaft support.

Compact Size: For ease of installation and easy access for routine maintenance.

Direct Fuel Injection System: With high swirl intake ports for thorough mixing of air and fuel to provide low fuel consumption.

Fewer Parts: For less inventory and faster maintenance and repair. Parts simplicity also enables engines to be serviced and repaired with ordinary hand tools.

Forged Steel Crankshaft: With integral counterweights, allowing high power output from a compact size.

Forged Steel, I-beam Cross Section Connecting Rods: With angle split cap-to-rod interface and capscrew attachment for maximum structural strength and ease of service.

Side Mounted Gear Driven Camshaft: For low engine height and minimum maintenance.

Single Belt Alternator and Water Pump Drive: With self-tensioning idler for minimum belt maintenance.

Single Piece Cross Flow Cylinder Head: For short length and maximum structural stiffness of the block/head assembly, for fewer head gasket problems.

Two Valves Per Cylinder: With single valve springs for fewer parts.

Water Cooled Exhaust Manifold and Water Cooled

Turbocharger: Configured for rear-out exhaust for lower profile.

	Marine Medium Continuous Rating
Crankshaft Power	250 BHP @ 2600 RPM (186 kW) @ 2600 RPM
Propeller Shaft Power	243 SHP @ 2600 RPM (181 kW) @ 2600 RPM
Fuel Consumption U.S. Ga./Hr. (Litre/Hr.)	12.6 (48.1) @ 2600 RPM 10.0 (37.9) @ 2400 RPM 7.8 (29.5) @ 2200 RPM 6.0 (22.7) @ 2000 RPM 4.6 (17.4) @ 1800 RPM 3.4 (12.9) @ 1600 RPM 2.4 (9.1) @ 1400 RPM 1.7 (6.4) @ 1200 RPM

RATING CONDITIONS: Ratings are based upon ISO 3046 (SAE J1228) conditions of 29.612 in. hg. (100 kPa), 81 °F. (27 °C.), and 60% relative humidity.

Propeller Shaft Power represents the net power available after typical reverse/reduction gear losses and is 97 percent of rated power.

Fuel consumption is based upon No. 2 diesel fuel with a fuel weight of 7.1 lbs. (3.2 kg.) per U.S. gal., and the power requirements of a typical fixed pitch propeller. Rating propeller curve calculated at a 2.7 exponent.

Marine Medium Continuous Rating: This power rating is intended for use in variable load applications where full power is limited to six hours out of every twelve hours of operation. Reduced power operations must be at or below 200 RPM of the maximum rated RPM. This rating is an ISO 3046 Fuel Stop Power Rating, and is for applications that operate less than 3000 hours per year.

Available Equipment

Air Intake System: Mounted light duty air cleaner.

Cooling System: Mounted heat exchanger, raw water pump and marine gear oil cooler. Expansion tank for use with keel cooling.

Electrical System: 12 or 24 volt starter, alternator, and fuel shut-off valve. Alternator belt guard. Instrument panel not mounted. Fully wired engine.

Exhaust System: Dry or water cooled 90° exhaust elbow

Flywheel Housing and Flywheel: SAE No. 3 housing. Flywheel for 11.5 in., or 10 in., over center clutch.

Fuel System: Fuel water separator not mounted.

Lubrication System: Shallow sump oil pan. Front or rear dipstick access.

Marine Agency Certification: Available from RINA.

Marine Gears: MPM & Twin Disc. Various ratios.

Mounting System: 4 point mount on 22.5 in., (570 mm) center. Various gear brackets. Vibration isolators.

Service Spares Kit: In water resistant container for shipboard storage.

Cummins has always been a pioneer in product improvement. Thus specifications may change without notice. Illustrations may include optional equipment.



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RUN HARD. DREAM BIG.™



C SERIES MARINE

190 - 321 KW
255 - 430 HP

ENGINE SPECIFICATIONS

Configuration	In-line 6-cylinder, 4-cycle diesel
Bore & Stroke	114 mm x 135 mm (4.49 in x 5.32 in)
Displacement	8.3 L (504.5 in³)
Rotation	Counterclockwise facing flywheel
Aspiration	Turbocharged, Aftercooled

POWER RATINGS

Rating	Continuous Duty* (JWAC)	Intermittent Duty* (SWAC)	
Engine ID	6CTA8.3-M	6CTA8.3-M	6CTA8.3-M
Rated RPM	1800	2500	2600
kW (Hp)	190 (255)	261 (350)	321 (430)
Max Torque N-m (ft-lb)	1193 880	1125 (830)	1395 (1029)
RPM	1200	1900	1800

*Ratings are IMO emissions compliant.

JWAC - Jacketwater Aftercooled

SWAC - Seawater Aftercooled

FEATURES AND BENEFITS

Engine Design

Compact size for ease of installation with easy access for routine maintenance. Four stroke cycle combustion for quiet and fuel efficient operation. Alloy cast iron cylinder block with removable wet liners for longer life and serviceability. One piece cross flow cylinder head for small package size and maximum stiffness, with replaceable valve guides and seat inserts.

Cooling System

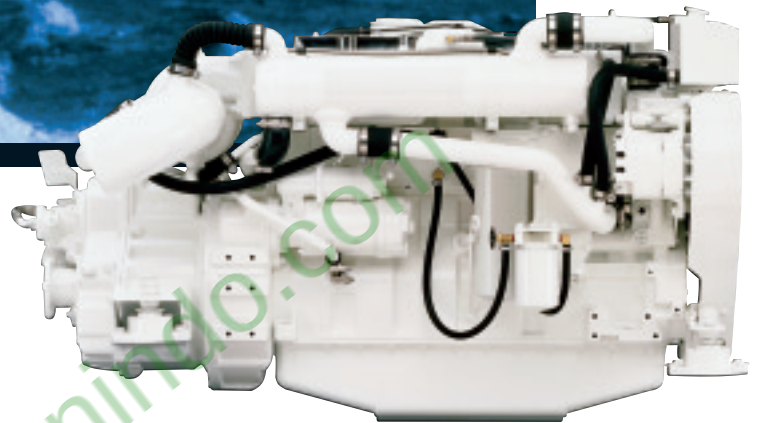
Low profile heat exchanger configuration. Keel cooled configuration also available on continuous duty rating. Spin-on Fleetguard water treatment filter.

Fuel System

Bosch inline fuel pump with high injection pressure for improved performance.

Lubrication System

17 L (4.5 g) marine grade, cast aluminum oil pan. Spin-on Fleetguard lube oil filters. Handed filter and dipstick locations for ease of maintenance.



Electrical System

12-volt and 24-volt systems available. Marine grade wiring harness and instrument panels.

Manufacturing

ISO certified plants.

U.S. Navy Certified

Tested and certified for the U.S. Navy's 1,000 hour abuse cycle test.

IMO Emissions Certified

Certificates of Compliance are available from the U.S. EPA and Lloyd's Register of Shipping.

AVAILABLE ACCESSORIES

Air Cleaner: Light or heavy duty.

Auxiliary Pump

Hydraulic Pump Drive: SAE A or B Flange.

Flywheel Housing: SAE #2 or #3

Walker Air Sep: Closed crankcase ventilation system

Accessory Drive Pulley: Belt or gear driven

Marine Classification Society Approvals: Check with your local Cummins professional for an updated listing.

C SERIES

MARINE

190-321 KW

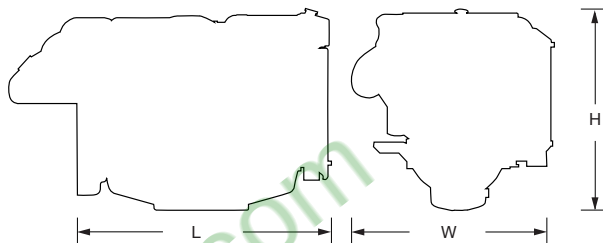
255-430 HP



ENGINE DIMENSIONS

	Length		Width		Height		Weight	
	mm	in	mm	in	mm	in	kg	lb
JWAC*	1177.3	41.02	848.9	33.42	953.6	37.54	712	1570
SWAC	1161.5	45.7	908.8	35.78	921.5	36.28	856	1885

*Keel Cooled



PERFORMANCE DATA

Rating	Continuous Duty 255 bhp*				Intermittent Duty 350 bhp*				Intermittent Duty 430 bhp*			
rpm	1800	1600	1400	1200	2500	2100	1700	1300	2600	2200	1800	1400
kW	190	138	97	64	261	163	92	44	321	204	119	60
g/kW-hr	224	209	208	210	224	214	222	244	239	212	218	228
L/hr	50.9	34.4	23.7	15.9	69.7	41.6	24.4	12.8	91.6	51.5	30.9	16.3
bhp	255	186	129	85	350	218	123	59	430	274	159	81
lb/hp-hr	.368	.343	.342	.346	.368	.353	.370	.403	.394	.347	.361	.372
gal/hr	13.4	9.1	6.3	4.2	18.4	11	6.5	3.4	24.2	13.6	8.2	4.3

*Ratings are IMO emissions compliant

Above data represents performance along a 2.7 fixed pitch propeller curve. Fuel consumption has a tolerance of +5% and is based on fuel of 35° API gravity at 16 °C (60 °F) having an LHV of 42, 780 KJ/KG (18,390 BTU/lb) when used at 29 °C (85 °F) and weighing 838.9 g/liter (7.001 lb/US gal). Observed horsepower is certified within ± 5% of rated horsepower. Cummins has always been a pioneer in product improvement. Thus specifications may change without notice. Consult your local Cummins professional for further information.

Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa (29.612 in Hg) and 25°C (77°F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

Continuous Duty

Intended for continuous use in applications requiring uninterrupted service at full power. This rating is an ISO 3046 standard power rating.

Intermittent Duty

Intended for intermittent use in variable load applications where full power is limited to two hours out of every eight hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is intended for applications that operate less than 1,500 hours per year.



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Marine 6CTA8.3-M1

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Specifications

Four Stroke Cycle, Turbocharged, Aftercooled,
Direct Injection, In-line, 6 Cylinder Diesel Engine.

Marine Medium Continuous Rating

Crankshaft Power	300 bhp	(223 kW)
Rated Speed	2500 rpm	(2500 rpm)
Fuel Consumption at Rated Speed	15.4 U.S.g/hr. (58.3 L/hr).	

Marine Continuous Rating

Crankshaft Power	250 bhp	(186 kW)
Rated Speed	2100 rpm	(2100 rpm)
Fuel Consumption at Rated Speed	12.8 U.S.g/hr. (48.5 L/hr.)	

Bore and Stroke	4.49x5.32 in. (114x135 mm)	
Piston Displacement	504.5 cu.in.	(8.3 L)
Compression Ratio	15.5:1	(15.5:1)

Dry Weight, heat exchanger cooling and MG507A marine gear	1,924 lb.	(873 kg)
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Dry Weight, heat exchanger cooling and MG509 marine gear	2,140 lb.	(972 kg)
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Design Features

Aftercooler: Large capacity aftercooler results in cooler, denser air for more efficient combustion and reduced internal stress for longer life.

Bearing: Replaceable precision type aluminum steel backed. Seven main bearings 3.86 in. (98 mm) diameter. Connecting rod bearings 2.99 in. (76 mm) diameter.

Camshaft: Forged steel for increased wear resistance and long life. Seven replaceable type precision bushings 2.36 in. (60 mm) diameter.

Connecting Rods: Drop forged I-beam section, 8.50 in. (216 mm) center-to-center length. Rod is tapered on piston pin end to reduce unit pressures.

Crankshaft: Eight counterweight fully balanced high tensile strength steel forging with induction hardened fillets and journals.

Cylinder Block: Alloy cast iron with removable wet liners.

Cylinder Head: One piece cross flow cylinder head for short length and maximum structural stiffness of block/head assembly. Contains replaceable valve guides and seat inserts.

Cylinder Liners: Mid-stop replaceable wet liners feature a new liner clamping method which seals at the middle of the liner with a press fit at the top. This design eliminates the need for packing rings and crevice seals.

Two Valves Per Cylinder: With single valve springs, for fewer parts.

Water Cooled Exhaust Manifold and Water Cooled Turbocharger: Configured for rear-out exhaust for lower profile.

6CTA8.3-M1

	Marine Medium Continuous	Marine Continuous
Crankshaft Power	300 BHP @ 2500 RPM (223 kW @ 2500 RPM)	250 BHP @ 2100 RPM (186 kW) @ 2100 RPM
Propeller Shaft Power	291 SHP @ 2500 RPM (216 kW) @ 2500 RPM	243 SHP @ 2100 RPM (181 kW) @ 2100 RPM
Fuel Consumption U.S. Gal./Hr. (Litre/Hr.)	15.4 (58.3) @ 2500 RPM 13.8 (52.2) @ 2400 RPM 10.9 (41.2) @ 2200 RPM 6.6 (24.9) @ 1800 RPM 4.2 (15.8) @ 1500 RPM 2.6 (9.8) @ 1200 RPM 1.2 (4.5) @ 800 RPM	12.8 (48.5) @ 2100 RPM 9.5 (36.0) @ 1900 RPM 7.0 (26.5) @ 1700 RPM 5.0 (18.9) @ 1500 RPM 2.8 (10.6) @ 1200 RPM 1.2 (4.5) @ 800 RPM

RATING CONDITIONS: Ratings are based upon ISO 3046 (SAE J1228) conditions of 29.612 in. hg. (100 kPa), 81 °F. (27 °C.), and 60% relative humidity.

Propeller Shaft Power represents the net power available after typical reverse/reduction gear losses and is 97 percent of rated power.

Fuel consumption is based upon No. 2 diesel fuel with a fuel weight of 7.1 lbs. (3.2 kg.) per U.S. gal., and the power requirements of a typical fixed pitch propeller. (Marine continuous rating propeller curve calculated at a 3.0 exponent, other rating propeller curves calculated at a 2.7 exponent.

Power rated in accordance with NMMA Procedure.

MARINE MEDIUM CONTINUOUS RATING: This power rating is intended for continuous use in variable load applications where full power is limited to six hours out of every twelve hours of operation. Reduced power operations must be at or below 200 RPM of the maximum rated RPM. This rating is an ISO 3046 Fuel Stop Power Rating, and is for applications that operate less than 3000 hours per year.

MARINE CONTINUOUS RATING: This power rating is intended for continuous use in application requiring uninterrupted service at full power. This rating is the ISO 3046 standard Power Rating and the SAE J1228 Continuous Crankshaft Power Rating.

Available Equipment

Accessory Drive System: 1 and 2-groove front crankshaft pulley.

Air Intake System: Mounted light duty air cleaner.
Remote mounted heavy duty air cleaner.

Cooling System: Mounted heat exchanger, raw water pump, expansion tank and marine gear oil cooler.
Remote expansion tank for keel cooled.

Electrical System: 12 or 24 volt starter, alternator, and fuel shut-off valve. Alternator belt guard.

Instrument panel not mounted. Fully wired engine

Exhaust System: Dry or water cooled 90 degrees exhaust elbow

Flywheel Housing and Flywheel: SAE No. 3 housing. Flywheel for 11.5 in., or 10 in., over center clutch.

Fuel System: Fuel water separator not mounted.

Lubrication System: Shallow sump cast aluminum oil pan. Port or starboard dipstick location.

Marine Agency Certification: Available from ABS, BV, DNV, GL, LR, RINA.

Marine Gears: Twin Disc. Various ratios.

Mounting System: 4 point mount on 26 in., (660 mm) or 28 in. (711 mm) center. Various gear brackets. Vibration isolators.

Cummins has always been a pioneer in product improvement. Thus specifications may change without notice. Illustrations may include optional equipment.



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Marine Engine Performance Data

Curve No. M-9754
DS-4961
CPL: 1221
DATE: 12May99

General Engine Data*

Engine Model.....	6CTA8.3-M (JW)
Rating Type	Continuous
Rated Engine Power..... kW [HP]	186 [250]
Rated Engine Speed	2100
High Idle Speed Range	2254 - 2467
Idle Speed Range	750 - 900
Engine Torque	847 [625]
Brake Mean Effective Pressure	1286 [187]
Compression Ratio	15.5:1
Piston Speed	9.5 [1862]
Average Noise Level	98.4
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	litre/hr [GPH]	48.5 [12.8]
Approximate Fuel Flow to Pump	litre/hr [GPH]	107 [28.2]
Fuel Transfer Pump Pressure Range.....	kPa [PSI]	124 - 172 [18 - 25]

Weight (Dry)

Engine Only	kg [lb]	692 [1525]
With Heat Exchanger Cooling System	kg [lb]	+55 [120]

Air System*

Intake Manifold Pressure.....	mm Hg [in. Hg]	711 [28]
Intake Air Flow	litre/sec [CFM]	210 [460]
Heat Rejection to Ambient	kW [BTU/min.]	25 [1400]
Minimum Ambient Temperature for Cold Start (No Aids)	°C [°F]	0 [32]

Exhaust System*

Exhaust Gas Flow (after turbine)	litre/sec [CFM]	530 [1100]
Exhaust Gas Temperature (after turbine)	°C [°F]	471 [880]

Cooling System*

Heat Rejection to Coolant.....	kW [BTU/min.]	161 [9200]
Engine Water Flow	litre/min. [GPM]	249 [66]
Raw Water Flow	litre/min. [GPM]	204 [54]
Pressure Cap Rating w/Heat Exchanger	kPa [PSI]	103 [15]

INSTALLATION DIAGRAMS:

Heat Exchanger Cooled with Twin Disc MG-507A-1 Marine Gear	3884540-B
Keel Cooled with Twin Disc MG-507A-1 Marine Gear	3884600

*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

Marine Engine Performance Data

Curve No. M-90726

DS-4961

CPL: 2833

DATE: 08Mar01

General Engine Data

Engine Model	6CTA8.3-M (JW)
Rating Type	Continuous
Rated Engine Power	190 [255]
Rated Engine Speed	1800
Rated HP Production Tolerance	±5
Rated Engine Torque	1009 [744]
Peak Engine Torque @ 1200 RPM	1193 [880]
Brake Mean Effective Pressure	1533 [222]
Minimum Idle Speed Setting	680
Normal Idle Speed Variation	±50
High Idle Speed Range - Minimum	2025
High Idle Speed Range - Maximum	2125
Compression Ratio	16.8:1
Piston Speed	8.1 [1596]
Maximum Torque Capacity from Front of Crank ²	N.A.
Firing Order	1-5-3-6-2-4
Weight (Dry) Engine Only - Average	712 [1570]
Weight (Dry) Engine With Heat Exchanger System - Average	767 [1690]

Fuel System¹

Fuel Consumption @ Rated Speed	51 [13]
Approximate Fuel Flow to Pump	110 [29]
Maximum Allowable Fuel Supply to Pump Temperature	60 [140]
Approximate Fuel Flow Return to Tank	59 [16]
Approximate Fuel Return to Tank Temperature	42 [108]
Maximum Heat Rejection to Drain Fuel⁵	7 [374]
Fuel Transfer Pump Pressure Range	124 - 172 [18-25]

Air System¹

Intake Manifold Pressure	1240 [49]
Intake Air Flow	250 [529]
Heat Rejection to Ambient	11 [600]

Exhaust System¹

Exhaust Gas Flow	541 [1146]
Exhaust Gas Temperature (Turbine Out)	419 [785]
Exhaust Gas Temperature (Manifold)	594 [1100]

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	7.68 [5.73]
HC (Hydrocarbons)	0.44 [0.33]
CO (Carbon Monoxide)	0.44 [0.33]
PM (Particulate Matter)	0.19 [0.14]

Cooling System¹

Coolant Flow to Engine Heat Exchanger/Keel Cooler	227 [60]
Standard Thermostat Operating Range (Min.)	71 [160]
Standard Thermostat Operating Range (Max.)	77 [170]
Heat Rejection to Engine Coolant ³	160 [9100]
Sea Water Flow (With Heat Exchanger Option) ⁴	208 [55]
Pressure Cap Rating (With Heat Exchanger Option)	103 [15]

INSTALLATION DIAGRAMS:

3884600

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions²Consult Installation Direction Booklet for Limitations³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.⁵May not be at rated load and speed. Maximum heat rejection may occur at other than rated conditions.

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://marketingtechdata.cummins.com/curves/database/htmlfiles/curvemainpage.htm>

Marine Engine Performance Data

Curve No. M-9438
DS-4961
CPL: 1221
DATE: 12May99

General Engine Data*

Engine Model.....	6CTA8.3-M(JW)
Rating Type	Medium Continuous
Rated Engine Power..... kW [HP]	224 [300]
Rated Engine Speed	2500
High Idle Speed Range	2750 - 2900
Idle Speed Range.....	750 - 900
Engine Torque	854 [630]
Brake Mean Effective Pressure	1296 [188]
Compression Ratio.....	15.5:1
Piston Speed	11.3 [2217]
Average Noise Level	100.0
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	litre/hr [GPH]	58.3 [15.4]
Approximate Fuel Flow to Pump	litre/hr [GPH]	70 [18]
Fuel Transfer Pump Pressure Range.....	kPa [PSI]	124 - 172 [18 - 25]

Weight (Dry)

Engine Only	kg [lb]	692 [1525]
With Heat Exchanger Cooling System	kg [lb]	+55 [120]

Air System*

Intake Manifold Pressure	mm Hg [in. Hg]	955 [37]
Intake Air Flow	litre/sec [CFM]	300 [630]
Heat Rejection to Ambient	kW [BTU/min.]	29 [1700]
Minimum Ambient Temperature for Cold Start (No Aids)	°C [°F]	0 [32]

Exhaust System*

Exhaust Gas Flow (after turbine)	litre/sec [CFM]	710 [1500]
Exhaust Gas Temperature (after turbine)	°C [°F]	443 [830]

Cooling System*

Heat Rejection to Coolant	kW [BTU/min.]	192 [10,900]
Engine Water Flow	litre/min. [GPM]	284 [75]
Raw Water Flow	litre/min. [GPM]	235 [62]
Pressure Cap Rating w/Heat Exchanger	kPa [PSI]	103 [15]

INSTALLATION DIAGRAMS:

Heat Exchanger Cooled with Twin Disc MG-507A-1 Marine Gear	3884540-B
Keel Cooled with Twin Disc MG-507A-1 Marine Gear	3884600

*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

Marine Engine Performance Data

Curve No. M-90216
DS-4961
CPL: 2172
DATE: 12May99

General Engine Data*

Engine Model.....	6CTA8.3-M (SW)
Rating Type	Intermittent
Rated Engine Power	kW [HP] 261 [350]
Rated Engine Speed	RPM 2500
High Idle Speed Range	RPM 2675 - 2825
Idle Speed Range.....	RPM 550 - 750
Engine Torque	N•m [ft/lb] 994 [735]
Brake Mean Effective Pressure	kPa [PSI] 1517 [220]
Compression Ratio.....	15.35:1
Piston Speed	m/sec [ft/min.] 11.2 [2212]
Average Noise Level	dBa at 1m 102
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	litre/hr [GPH] 69.8 [18.1]
Approximate Fuel Flow to Pump	litre/hr [GPH] 193 [51]
Fuel Transfer Pump Pressure Range.....	kPa [PSI] 124 - 172 [18 - 25]

Weight (Dry)

Engine Only	kg [lb] 801 [1765]
With Heat Exchanger Cooling System	kg [lb] +55 [120]

Air System*

Intake Manifold Pressure.....	mm Hg [in. Hg] 1219 [48]
Intake Air Flow.....	litre/sec [CFM] 368 [782]
Heat Rejection to Ambient	kW [BTU/min.] 35 [2012]
Minimum Ambient Temperature for Cold Start (No Aids)	°C [°F] 10 [50]

Exhaust System*

Exhaust Gas Flow (after turbine)	litre/sec [CFM] 784 [1650]
Exhaust Gas Temperature (after turbine)	°C [°F] 410 [770]

Cooling System*

Heat Rejection to Coolant.....	kW [BTU/min.] 257 [14,600]
Engine Water Flow	litre/min. [GPM] 284 [75]
Raw Water Flow	litre/min. [GPM] 238 [63]
Pressure Cap Rating w/Heat Exchanger	kPa [PSI] 103 [15]

INSTALLATION DIAGRAMS:

Engine Only	3170262
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*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

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://ibu.cummins.com/ibu/ibuweb/TechHome.nsf/pages/TechPubsHome>

Marine Engine Performance Data

Curve No. M-90413
DS-4961
CPL: 2172
DATE: 22Jun99

General Engine Data*

Engine Model.....	6CTA8.3-M (SW)
Rating Type	Intermittent
Rated Engine Power..... kW [HP]	321 [430]
Rated Engine Speed	RPM 2600
High Idle Speed Range	RPM 2800 - 2950
Idle Speed Range.....	RPM 550 - 750
Engine Torque	N•m [ft/lb] 1182 [869]
Brake Mean Effective Pressure	kPa [PSI] 1841 [267]
Compression Ratio.....	15.35:1
Piston Speed	m/sec [ft/min.] 11.7 [2305]
Average Noise Level	dBa at 1m 102
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	litre/hr [GPH] 87.9 [23.2]
Approximate Fuel Flow to Pump	litre/hr [GPH] 259 [68.4]
Fuel Transfer Pump Pressure Range	kPa [PSI] 124 - 172 [18 - 25]

Weight (Dry)

Engine with Heat Exchanger Cooling System.....	kg [lb] 856 [1820]
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Air System*

Intake Manifold Pressure.....	mm Hg [in. Hg] 1626 [64]
Intake Air Flow.....	litre/sec [CFM] 434 [920]
Heat Rejection to Ambient.....	kW [BTU/min.] 42 [2415]
Minimum Ambient Temperature for Cold Start (No Aids)	°C [°F] 10 [50]

Exhaust System*

Exhaust Gas Flow (after turbine)	litre/sec [CFM] 998 [2100]
Exhaust Gas Temperature (after turbine)	°C [°F] 443 [830]

Cooling System*

Heat Rejection to Coolant	kW [BTU/min.] 276 [15750]
Engine Water Flow	litre/min. [GPM] 322 [85]
Raw Water Flow	litre/min. [GPM] 238 [63]
Pressure Cap Rating w/Heat Exchanger	kPa [PSI] 103 [15]

INSTALLATION DIAGRAMS: 3170262

*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

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://ibu.cummins.com/ibu/ibuweb/TechHome.nsf/pages/TechPubsHome>

RUN HARD. DREAM BIG.™



KT19-M

M A R I N E

272 - 380 KW

365 - 510 HP

ENGINE SPECIFICATIONS

Configuration	In-line 6 Cylinder, 4-Stroke Diesel
Bore & Stroke	159mm x 159mm (6.25 x 6.25 in)
Displacement	19L (1150 in³)
Compression Ratio	15.5:1
Rotation	Counterclockwise facing flywheel
Weight (kc)	1634 kg (3600 lb)
Oil Pan Capacity	38 L (10 gallons) Standard Capacity 72 L (19 gallons) High Capacity

POWER RATINGS

Rating	Continuous Duty			Heavy Duty	Medium Duty
Rated rpm	1800	1800	1800	1800	2100
kW (BHP)	272 (365)	283 (380)	317 (425)	351 (470)	380 (510)
Max Torque Nm (ft-lb)	1516 (1118)	1654 (1220)	1851 (1365)	2045 (1508)	1902 (1403)
RPM	1500	1500	1500	1500	1500

STANDARD FEATURES

Engine Design

Rugged in-line six cylinder configuration. Four cycle design for quiet, fuel efficient operation. Replaceable wet cylinder liners for longer life and lower rebuild costs. Individual, 4 valve design cylinder heads for improved economy and performance. Oil cooled pistons for added durability.

Cooling System

Keel cooled or engine mounted heat exchanger system available. Copper-nickle material utilized in heat exchanger construction. Spin-on Fleetguard® water treatment filters for protection against cooling system corrosion.

Air System

Top mounted Holset turbocharger with forward facing exhaust connection, optimized for marine usage. Marine grade air cleaner with air inlet restriction indicator. Cast iron water cooled exhaust manifold.

Fuel System

Dependable Cummins PT® fuel system for added reliability. Dual spin-on Fleetguard® fuel filters.

Lubrication System

Marine grade cast aluminum lube oil pan (38 L [10 gal]) or high capacity (72 L [19 gal]) pan available. Fleetguard® spin-on oil filters for simplified service. Marine gear oil cooler options available.

Electrical System

24 volt standard electrical system with 12 and 32 volt options available. Marine grade wiring harness. Engine alarms/switches for low oil pressure and high water temperature for safe operation.

AVAILABLE ACCESSORIES

Front Power Take-Off - up to 187 kW (250 hp)

Belt or Gear Driven Accessory Drives

Pre-lub Starter protects engine against damage from dry starts

Flywheel Housing SAE 0 and 1 available

Classification Society Approvals: consult your local Cummins professional for a complete listing of current marine agency approvals for this engine.

Marine Engine Performance Data

Curve No. M-4007
DS-4964
CPL: 0219
DATE: 12May99

General Engine Data*

Engine Model.....	KT19-M
Rating Type	Continuous
Rated Engine Power	272 [365]
Rated Engine Speed	1800
High Idle Speed Range	1962 - 2106
Idle Speed Range	675 - 775
Engine Torque	1444 [1064]
Brake Mean Effective Pressure	962 [140]
Compression Ratio	15.5:1
Piston Speed	9.5 [1875]
Average Noise Level	84.5
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	68.2 [18.0]
Approximate Fuel Flow to Pump	215 [57]

Weight (Dry)

Engine Only	1634 [3600]
With Heat Exchanger Cooling System	+181 [400]

Air System*

Intake Manifold Pressure	686 [27]
Intake Air Flow	420 [890]
Heat Rejection to Ambient.....	34 [1900]
Minimum Ambient Temperature for Cold Start (No Aids)	0 [32]

Exhaust System*

Exhaust Gas Flow (after turbine)	960 [2050]
Exhaust Gas Temperature (after turbine)	416 [780]

Cooling System*

Heat Rejection to Engine Coolant***	224 [12,800]
Engine Water Flow	643 [170]
Raw Water Flow	405 [107]
Pressure Cap Rating w/Heat Exchanger	103 [15]

INSTALLATION DIAGRAMS:

Keel Cooled with Twin Disc MG514C Marine Gear.....	3382864
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*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

***Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do not include fouling factors. Cooler sizing should be based on the above heat values factored by an amount for service fouling typical of the cooler design applied.

****Consult option notes for flow specifications of optional Cummins seawater pumps.

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

Marine Engine Performance Data

Curve No. M-4096
DS-4964
CPL: 0219
DATE: 12May99

General Engine Data*

Engine Model.....	KT19-M
Rating Type	Continuous
Rated Engine Power..... kW [HP]	283 [380]
Rated Engine Speed	1800
High Idle Speed Range	1962-2106
Idle Speed Range.....	675-775
Engine Torque.....Nm [ft/lb]	1503 [1108]
Brake Mean Effective Pressure	1002 [145]
Compression Ratio.....	15.5:1
Piston Speed	9.5 [1875]
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	litre/hr [GPH]	70.8 [18.7]
Approximate Fuel Flow to Pump	litre/hr [GPH]	212 [56]
Fuel Rail Pressure Range	kPa [PSI]	898 [130]

Weight (Dry)

Engine Only	kg [lb]	1634 [3600]
With Heat Exchanger Cooling System	kg [lb]	+181 [400]

Air System*

Intake Manifold Pressure.....	mm Hg [in Hg]	686 [27]
Intake Air Flow	litre/sec [CFM]	430 [910]
Heat Rejection to Ambient.....	kW [BTU/min]	36 [2000]
Minimum Ambient Temperature for Cold Start (No Aids)	°C [°F]	0 [32]

Exhaust System*

Exhaust Gas Flow (after turbine)	litre/sec [CFM]	1030 [2150]
Exhaust Gas Temperature (after turbine)	°C [°F]	443 [830]

Cooling System*

Heat Rejection to Engine Coolant***	kW [BTU/min]	233 [13,300]
Engine Water Flow	litre/min [GPM]	643 [170]
Raw Water Flow	litre/min [GPM]	405 [107]
Pressure Cap Rating w/Heat Exchanger.....	kPa [PSI]	103 [15]

INSTALLATION DIAGRAMS:

Keel Cooled with Twin Disc MG514C Marine Gear.....	3382864
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*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

***Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do not include fouling factors. Cooler sizing should be based on the above heat values factored by an amount for service fouling typical of the cooler design applied.

****Consult option notes for flow specifications of optional Cummins seawater pumps.

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

Marine Engine Performance Data

Curve No. M-4110

DS-4964

CPL: 0219

DATE: 12May99

General Engine Data*

Engine Model.....	KT19-M
Rating Type	Continuous
Rated Engine Power	317 [425]
Rated Engine Speed	1800
High Idle Speed Range	1962 - 2106
Idle Speed Range	675 - 775
Engine Torque	1681 [1240]
Brake Mean Effective Pressure	1121 [163]
Compression Ratio	15.5:1
Piston Speed	9.5 [1875]
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	litre/hr [GPH]	78.9 [20.8]
Approximate Fuel Flow to Pump	litre/hr [GPH]	234 [62]
Fuel Rail Pressure Range	kPa [PSI]	1068 [155]

Weight (Dry)

Engine Only	kg [lb]	1634 [3600]
With Heat Exchanger Cooling System	kg [lb]	+181 [400]

Air System*

Intake Manifold Pressure	mm Hg [in. Hg]	864 [34]
Intake Air Flow	litre/sec [CFM]	460 [970]
Heat Rejection to Ambient	kW [BTU/min.]	40 [2300]
Minimum Ambient Temperature for Cold Start (No Aids)	°C [°F]	0 [32]

Exhaust System*

Exhaust Gas Flow (after turbine)	litre/sec [CFM]	1120 [2400]
Exhaust Gas Temperature (after turbine)	°C [°F]	466 [870]

Cooling System*

Heat Rejection to Engine Coolant***	kW [BTU/min.]	260 [14,800]
Engine Water Flow	litre/min. [GPM]	643 [170]
Raw Water Flow	litre/min. [GPM]	405 [107]
Pressure Cap Rating w/Heat Exchanger	kPa [PSI]	103 [15]

INSTALLATION DIAGRAMS:

Keel Cooled with Twin Disc MG514C Marine Gear.....	3382864
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*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

***Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do not include fouling factors. Cooler sizing should be based on the above heat values factored by an amount for service fouling typical of the cooler design applied.

****Consult option notes for flow specifications of optional Cummins seawater pumps.

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

Marine Engine Performance Data

Curve No. M-4221
DS-4964
CPL: 1318
DATE: 12May99

General Engine Data*

Engine Model.....	KT19-M
Rating Type	Heavy Duty
Rated Engine Power..... kW [BP]	351 [470]
Rated Engine Speed	1800
High Idle Speed Range	1980 -2288
Idle Speed Range.....	625 - 700
Engine Torque	1859 [1371]
Brake Mean Effective Pressure	1241 [180]
Compression Ratio.....	15.5:1
Piston Speed	9.5 [1875]
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	litre/hr [GPH]	88.4 [23.4]
Approximate Fuel Flow to Pump	litre/hr [GPH]	265 [70]
Fuel Rail Pressure Range	kPa [PSI]	827 [120]

Weight (Dry)

Engine Only	kg [lb]	1634 [3600]
With Heat Exchanger Cooling System	kg [lb]	+181 [400]

Air System*

Intake Manifold Pressure	mm Hg [in. Hg]	940 [37]
Intake Air Flow	litre/sec [CFM]	497 [1054]
Heat Rejection to Ambient	kW [BTU/min.]	52 [3000]
Minimum Ambient Temperature for Cold Start (No Aids)	°C [°F]	4 [40]

Exhaust System*

Exhaust Gas Flow (after turbine)	litre/sec [CFM]	1337 [2850]
Exhaust Gas Temperature (after turbine)	°C [°F]	532 [990]

Cooling System*

Heat Rejection to Engine Coolant***	kW [BTU/min.]	342 [19,500]
Engine Water Flow	litre/min. [GPM]	648 [171]
Raw Water Flow	litre/min. [GPM]	405 [107]
Pressure Cap Rating w/Heat Exchanger	kPa [PSI]	103 [15]

INSTALLATION DIAGRAMS:

Keel Cooled with Twin Disc MG514C.....	3382864
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*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

***Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do not include fouling factors. Cooler sizing should be based on the above heat values factored by an amount for service fouling typical of the cooler design applied.

****Consult option notes for flow specifications of optional Cummins seawater pumps.

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

Marine Engine Performance Data

Curve No. M-4095
DS-4964
CPL: 1318
DATE: 12May99

General Engine Data*

Engine Model.....	KT19-M
Rating Type	Medium Continuous
Rated Engine Power..... kW [HP]	380 [510]
Rated Engine Speed	2100
High Idle Speed Range	RPM 2289 - 2457
Idle Speed Range.....	RPM 625 - 700
Engine Torque	N•m [ft/lb] 1729 [1275]
Brake Mean Effective Pressure	kPa [PSI] 1153 [167]
Compression Ratio.....	15.5:1
Piston Speed	m/sec [ft/min.] 11.1 [2188]
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	litre/hr [GPH] 103.6 [27.4]
Approximate Fuel Flow to Pump	litre/hr [GPH] 325 [86]
Fuel Rail Pressure Range	kPa [PSI] 1103 [160]

Weight (Dry)

Engine Only	kg [lb] 1634 [3600]
With Heat Exchanger Cooling System	kg [lb] +181 [400]

Air System*

Intake Manifold Pressure.....	mm Hg [in. Hg] 1041 [41]
Intake Air Flow	litre/sec [CFM] 580 [1230]
Heat Rejection to Ambient.....	kW [BTU/min.] 52 [3000]
Minimum Ambient Temperature for Cold Start (No Aids)	°C [°F] 4 [40]

Exhaust System*

Exhaust Gas Flow (after turbine)	litre/sec [CFM] 1560 [3300]
Exhaust Gas Temperature (after turbine)	°C [°F] 532 [990]

Cooling System*

Heat Rejection to Engine Coolant***	kW [BTU/min.] 342 [19,500]
Engine Water Flow	litre/min. [GPM] 756 [200]
Raw Water Flow	litre/min. [GPM] 473 [125]
Pressure Cap Rating w/Heat Exchanger.....	kPa [PSI] 103 [15]

INSTALLATION DIAGRAMS:

Keel Cooled with Twin Disc MG514C.....	3382864
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*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

***Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do not include fouling factors. Cooler sizing should be based on the above heat values factored by an amount for service fouling typical of the cooler design applied.

****Consult option notes for flow specifications of optional Cummins seawater pumps.

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

KT19-M

MARINE

272-380 KW

365-510 HP



ENGINE DIMENSIONS

Length		Width		Height		Weight	
mm	in	mm	in	mm	in	kg	lb
1820.7	71.68	1003.3	39.5	1904.5	74.98	1634	3600

PERFORMANCE DATA

Rating	Continuous Duty 365 bhp				Continuous Duty 380 bhp				Continuous Duty 425 bhp			
rpm	1800	1600	1400	1200	1800	1600	1400	1200	1800	1600	1400	1200
kW	272	191	128	81	283	199	134	84	317	223	149	94
g/kW-hr	210	210	211	215	210	209	208	212	209	208	209	228
L/hr	68.2	47.7	32.2	20.8	70.8	49.6	33.3	21.2	78.9	55.3	37.1	25.5
bhp	365	256	172	108	380	267	179	113	425	299	200	126
lb/hp-hr	.345	.345	.346	.357	.345	.343	.344	.341	.343	.342	.343	.344
gal/hr	18.0	12.6	8.5	5.5	18.7	13.1	8.8	5.5	20.8	14.6	9.8	6.2

Rating	Heavy Duty 470 bhp				Medium Duty 510 bhp			
rpm	1800	1600	1400	1200	2100	1900	1700	1500
kW	351	248	172	113	380	290	215	154
g/kW-hr	211	219	221	224	229	227	224	223
L/hr	88.4	64.6	45.3	30.2	103.6	78.4	57.5	40.9
bhp	470	332	231	152	510	389	288	206
lb/hp-hr	.349	.361	.364	.368	.376	.373	.369	.367
gal/hr	23.4	17.1	12.0	8.0	27.4	20.7	15.2	10.8

Above data represents performance along a 3.0 fixed pitch propeller curve. Fuel consumption has a tolerance of +5% and is based on fuel of 35° API gravity at 16 °C (60 °F) having an LHV of 42, 780 KJ/KG (18,390 BTU/lb) when used at 29 °C (85 °F) and weighing 838.9 g/liter (7.001 lb/US gal). Observed horsepower is certified within ± 3% of rated horsepower. Cummins has always been a pioneer in product improvement. Thus specifications may change without notice. Consult your local Cummins professional for further information.

Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa(29.612 in Hg) and 25 °C (77 °F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

Continuous

Intended for continuous use in applications requiring uninterrupted service at full power. This rating is an ISO 3046 standard power rating.

Heavy Duty

Intended for continuous use in variable load applications where full power is limited to eight hours out of every ten hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is for applications that operate less than 5,000 hours per year.

Medium Continuous Duty

Intended for continuous use in variable load applications where full power is limited to six hours out of every twelve hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is for applications that operate less than 3,000 hours per year.



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RUN HARD. DREAM BIG.™



KTA19-M

M A R I N E

3 7 2 - 4 1 0 K W

5 0 0 - 5 5 0 H P

ENGINE SPECIFICATIONS

Configuration	In-line 6 Cylinder, 4-Stroke Diesel
Bore & Stroke	159mm x 159mm (6.25 x 6.25 in)
Displacement	19L (1150 in ³)
Compression Ratio	15.5:1
Rotation	Counterclockwise facing flywheel
Weight (kc)	2170 kg (4780 lb)
Oil Pan Capacity	38 L (10 gallons)

POWER RATINGS

Rating	Continuous Duty	Heavy Duty	Medium Duty
Rated rpm	1800	1800	2100
kW (BHP)	372 (500)	395 (530)	410 (550)
Max Torque Nm (ft-lb)	2077 (1532)	2306 (1701)	2054 (1515)
RPM	1500	1500	1500

STANDARD FEATURES

Engine Design

Rugged in-line six cylinder configuration. Four cycle design for quiet, fuel efficient operation. Replaceable wet cylinder liners for longer life and lower rebuild costs. Individual, 4 valve design cylinder heads for improved economy and performance. Oil cooled pistons for added durability.

Cooling System

Keel cooled or engine mounted heat exchanger system available. Copper-nickle material utilized in heat exchanger construction. Spin-on Fleetguard® water treatment filters for protection against cooling system corrosion.

Air System

Top mounted Holset turbocharger with forward facing exhaust connection, optimized for marine usage. Marine grade air cleaner with air inlet restriction indicator. Engine mounted aftercooler for improved economy and performance. Cast iron water cooled exhaust manifold.

Fuel System

Dependable Cummins PT® fuel system can be operated mechanically or with CENTRY electronics for enhanced engine fueling. Dual spin-on Fleetguard® fuel filters.

Lubrication System

Marine grade cast aluminum lube oil pan (38 L [10 gal]) or high capacity (72 L [19 gal]) pan available. Fleetguard® spin-on oil filters for simplified service. Marine gear oil cooler options available.

Electrical System

24 volt standard electrical system with 12 volt option available. Marine grade wiring harness. Engine alarms/switches for low oil pressure and high water temperature for safe operation.

AVAILABLE ACCESSORIES

Front Power Take-Off - up to 187 kW (250 hp)

Belt or Gear Driven Accessory Drives

Pre-lub Starter protects engine against damage from dry starts

Flywheel Housing SAE 0

Classification Society Approvals: consult your local Cummins professional for a complete listing of current marine agency approvals for this engine

KTA19-M

M A R I N E

372 - 410 KW

500 - 550 HP

ENGINE DIMENSIONS

Length		Width		Height		Weight	
mm	in	mm	in	mm	in	kg	lb
1820.7	71.68	1003.3	39.50	1904.5	74.98	2170	4780

PERFORMANCE DATA

Rating	Continuous Duty 500 bhp				Heavy Duty 530 bhp				Medium Duty 550 bhp			
rpm	1800	1600	1400	1200	1800	1600	1400	1200	2100	1900	1700	1500
kW	372	262	175	110	395	279	195	128	410	313	232	166
g/kW-hr	208	223	218	213	209	215	218	223	210	210	209	209
L/hr	92.2	69.5	45.4	27.9	98.2	71.6	50.7	34.1	102.6	78.4	57.9	41.3
bhp	500	351	235	148	530	374	261	172	550	420	311	222
lb/hp-hr	.340	.365	.357	.350	.342	.354	.359	.366	.345	.345	.344	.344
gal/hr	24.3	18.3	12.0	7.4	25.9	18.9	13.4	9.0	27.1	20.7	15.3	10.9

Above data represents performance along a 3.0 fixed pitch propeller curve. Fuel consumption has a tolerance of +5% and is based on fuel of 35 ° API gravity at 16 °C (60 °F) having an LHV of 42,780 KJ/KG (18,390 BTU/lb) when used at 29 °C (85 °F) and weighing 838.9 g/liter (7.001 lb/US gal). Observed horsepower is certified within $\pm 3\%$ of rated horsepower. Cummins has always been a pioneer in product improvement. Thus specifications may change without notice. Consult your local Cummins professional for further information.

Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa(29.612 in Hg) and 25 °C (77 °F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

Continuous

Intended for continuous use in applications requiring uninterrupted service at full power. This rating is an ISO 3046 standard power rating.

Heavy Duty

Intended for continuous use in variable load applications where full power is limited to eight hours out of every ten hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is for applications that operate less than 5,000 hours per year.

Medium Continuous Duty

Intended for continuous use in variable load applications where full power is limited to six hours out of every twelve hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is for applications that operate less than 3,000 hours per year.



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Marine Engine Performance Data

Curve No. M-4106
DS-4964
CPL: 0969
DATE: 12May99

General Engine Data*

Engine Model.....	KTA19-M
Rating Type	Continuous
Rated Engine Power	372 [500]
Rated Engine Speed	1800
High Idle Speed Range	1962 - 2106
Idle Speed Range	675 - 775
Engine Torque	1978 [1458]
Brake Mean Effective Pressure	1318 [191]
Compression Ratio	15.5:1
Piston Speed	9.5 [1875]
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	litre/hr [GPH]	92.2 [24.3]
Approximate Fuel Flow to Pump	litre/hr [GPH]	288 [76]
Fuel Rail Pressure Range	kPa [PSI]	1294 [187]

Weight (Dry)

Engine Only	kg [lb]	1725 [3800]
With Heat Exchanger Cooling System	kg [lb]	+181 [400]

Air System*

Intake Manifold Pressure	mm Hg [in. Hg]	914 [36]
Intake Air Flow	litre/sec [CFM]	520 [1100]
Heat Rejection to Ambient.....	kW [BTU/min.]	46 [2600]
Minimum Ambient Temperature for Cold Start (No Aids)	°C [°F]	4 [40]

Exhaust System*

Exhaust Gas Flow (after turbine)	litre/sec [CFM]	1300 [2750]
Exhaust Gas Temperature (after turbine)	°C [°F]	477 [890]

Cooling System*

Heat Rejection to Engine Coolant***	kW [BTU/min.]	303 [17,300]
Engine Water Flow	litre/min. [GPM]	643 [170]
Raw Water Flow	litre/min. [GPM]	405 [107]
Pressure Cap Rating w/Heat Exchanger	kPa [PSI]	103 [15]

INSTALLATION DIAGRAMS:

Keel Cooled with Twin Disc MG518-1	3884652
Heat Exchanger with Twin Disc MG518-1	3884525

*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

***Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do not include fouling factors. Cooler sizing should be based on the above heat values factored by an amount for service fouling typical of the cooler design applied.

****Consult option notes for flow specifications of optional Cummins seawater pumps.

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

Marine Engine Performance Data

Curve No. M-4222

DS-4964

CPL: 0969

DATE: 12May99

General Engine Data*

Engine Model.....	KTA19-M
Rating Type	Heavy Duty
Rated Engine Power	395 [530]
Rated Engine Speed	1800
High Idle Speed Range	1980 - 2288
Idle Speed Range	675 - 775
Engine Torque	2097 [1546]
Brake Mean Effective Pressure	1400 [203]
Compression Ratio	15.5:1
Piston Speed	N.A.
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	litre/hr [GPH]	98.2 [25.9]
Approximate Fuel Flow to Pump	litre/hr [GPH]	295 [77]
Fuel Rail Pressure	kPa [PSI]	1425 [206]

Weight (Dry)

Engine Only	kg [lb]	1725 [3800]
With Heat Exchanger Cooling System	kg [lb]	+181 [400]

Air System*

Intake Manifold Pressure	mm Hg [in. Hg]	1077 [42]
Intake Air Flow	litre/sec [CFM]	523 [1106]
Heat Rejection to Ambient	kW [BTU/min.]	52 [3000]
Minimum Ambient Temperature for Cold Start (No Aids)	°C [°F]	4 [40]

Exhaust System*

Exhaust Gas Flow (after turbine)	litre/sec [CFM]	1234 [2615]
Exhaust Gas Temperature (after turbine)	°C [°F]	438 [820]

Cooling System*

Heat Rejection to Engine Coolant***	kW [BTU/min.]	341 [19,400]
Engine Water Flow	litre/min. [GPM]	648 [171]
Raw Water Flow	litre/min. [GPM]	405 [107]
Pressure Cap Rating w/Heat Exchanger	kPa [PSI]	103 [15]

INSTALLATION DIAGRAMS:

Keel Cooled with Twin Disc MG518-1	3884652
Heat Exchanger with Twin Disc MG518-1	3884525

*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

***Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do not include fouling factors. Cooler sizing should be based on the above heat values factored by an amount for service fouling typical of the cooler design applied.

****Consult option notes for flow specifications of optional Cummins seawater pumps.

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

Marine Engine Performance Data

Curve No. M-4180
DS-4964
CPL: 0969
DATE: 12May99

General Engine Data*

Engine Model.....	KTA19-M
Rating Type	Medium Continuous
Rated Engine Power..... kW [HP]	410 [550]
Rated Engine Speed	2100
High Idle Speed Range	2289-2457
Idle Speed Range.....	675-775
Engine Torque	1865 [1375]
Brake Mean Effective Pressure	1243 [180]
Compression Ratio	15.5:1
Piston Speed	11.1 [2188]
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	litre/hr [GPH]	102.6 [27.1]
Approximate Fuel Flow to Pump	litre/hr [GPH]	309 [81]
Fuel Rail Pressure Range	kPa [PSI]	1079 [156]

Weight (Dry)

Engine Only	kg [lb]	1725 [3800]
With Heat Exchanger Cooling System	kg [lb]	+181 [400]

Air System*

Intake Manifold Pressure	mm Hg [in Hg]	1077 [42]
Intake Air Flow	litre/sec [CFM]	610 [1290]
Heat Rejection to Ambient	kW [BTU/min]	52 [3000]
Minimum Ambient Temperature for Cold Start (No Aids)	°C [°F]	4 [40]

Exhaust System*

Exhaust Gas Flow (after turbine)	litre/sec [CFM]	1440 [3050]
Exhaust Gas Temperature (after turbine)	°C [°F]	438 [820]

Cooling System*

Heat Rejection to Engine Coolant***	kW [BTU/min]	341 [19,400]
Engine Water Flow	litre/min [GPM]	757 [200]
Raw Water Flow	litre/min [GPM]	473 [125]
Pressure Cap Rating w/Heat Exchanger	kPa [PSI]	103 [15]

INSTALLATION DIAGRAMS:

Keel Cooled with Twin Disc MG518-1.	3884652
Heat Exchanger with Twin Disc MG518-1.	3884525

*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

***Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do not include fouling factors. Cooler sizing should be based on the above heat values factored by an amount for service fouling typical of the cooler design applied.

****Consult option notes for flow specifications of optional Cummins seawater pumps.

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KTA19-M3

M A R I N E

3 7 3 - 4 7 7 K W

5 0 0 - 6 4 0 H P

ENGINE SPECIFICATIONS

Configuration	In-line 6 Cylinder, 4-Stroke Diesel
Bore & Stroke	159 mm x 159 mm (6.25 in x 6.25 in)
Displacement	19 L (1150 in³)
Compression Ratio	13.8:1
Rotation	Counterclockwise facing flywheel
Oil Pan Capacity	38 L (10 gallons) Standard Capacity 72 L (19 gallons) High Capacity

POWER RATINGS

Rating	Continuous Duty*			Heavy Duty*
Rated RPM	1800	1800	1800	1800
kW (BHP)	373 (500)	395 (530)	447 (600)	477 (640)
Max Torque N·m (ft-lb)	4187 (3089)	2291 (1690)	2645 (1951)	2712 (2000)
RPM	1400	1400	1400	1400

*Ratings are IMO emissions compliant.

STANDARD FEATURES

Engine Design

Rugged in-line six cylinder configuration. Four cycle design for quiet, fuel efficient operation. Replaceable wet cylinder liners for longer life and lower rebuild costs. Individual, 4 valve design cylinder heads for improved economy and performance. Oil cooled pistons for added durability.

Cooling System

Keel cooled or engine mounted heat exchanger system available. Spin-on Fleetguard® water treatment filters for protection against cooling system corrosion.

Air System

Top mounted Holset turbocharger with forward facing exhaust connection, optimized for marine usage. Marine grade air cleaner with air inlet restriction indicator. Cast iron water cooled exhaust manifold.

Fuel System

Dependable Cummins PT® fuel system can be operated mechanically or with CENTRY electronics for enhanced engine fueling. Dual spin-on Fleetguard® fuel filters. Premium

fuel injectors utilize ceramic components for reduced wear.

Lubrication System

Marine grade cast aluminum lube oil pan (72 L [19 gal]) Fleetguard® spin-on oil filters for simplified service. Integrated Marine gear oil cooler options available.

Electrical System

24 volt standard electrical system with 12 and 32 volt options available. Marine grade wiring harness. Engine alarms/switches for low oil pressure and high water temperature for safe operation.

IMO Emissions Certified

Certificates of compliance are available from the U.S. EPA and Lloyd's Register of Shipping.

AVAILABLE ACCESSORIES

Front Power Take-Off

Belt or Gear Driven Accessory Drives

Pre-lub Starter protects engine against damage from dry starts

Flywheel Housing SAE 0

Classification Society Approvals: consult your local Cummins professional for a complete listing of current marine agency approvals for this engine.

KTA19-M3

M A R I N E

373 - 477 kW

500 - 640 HP



ENGINE DIMENSIONS

Length		Width		Height		Weight	
mm	in	mm	in	mm	in	kg	lb
1820.7	71.68	1003.3	39.50	1904.5	74.98	2073	4570

Weights and dimensions do not include marine gear.

PERFORMANCE DATA

Rating	Continuous Duty 500 bhp*				Continuous Duty 530 bhp*			
rpm	1800	1600	1400	1200	1800	1600	1400	1200
kW	373	272	189	125	395	288	201	132
g/kW-hr	208	208	208	213	207	208	207	208
L/hr	92.7	67.5	46.9	31.8	97.6	71.5	49.7	33.8

bhp	500	364	254	167	530	386	269	177
lb/hp-hr	.343	.342	.342	.352	.341	.343	.341	.352
gal/hr	24.5	17.8	12.4	8.4	25.8	18.9	13.1	8.9

Rating	Continuous Duty 600 bhp*				Heavy Duty 640 bhp*			
rpm	1800	1600	1400	1200	1800	1600	1400	1200
kW	448	315	210	133	477	345	243	156
g/kW-hr	207	213	213	219	212	214	224	223
L/hr	108.3	79.9	53.2	34.7	120.8	87.9	65.0	41.5

bhp	600	422	282	178	640	462	326	209
lb/hp-hr	.334	.350	.350	.362	.349	.352	.369	.368
gal/hr	28.6	21.1	14.1	9.2	31.9	23.2	17.2	11.0

*Ratings are IMO emissions compliant.

Above data represents performance along a 3.0 fixed pitch propeller curve. Fuel consumption has a tolerance of +5% and is based on fuel of 35° API gravity at 16 °C (60 °F) having an LHV of 42, 780 KJ/KG (18,390 BTU/lb) when used at 29 °C (85 °F) and weighing 838.9 g/liter (7.001 lb/US gal). Observed horsepower is certified within ± 3 % of rated horsepower. Cummins has always been a pioneer in product improvement. Thus specifications may change without notice. Consult your local Cummins professional for further information.

Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa(29.612 in Hg) and 25 °C (77 °F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

Continuous

Intended for continuous use in applications requiring uninterrupted service at full power. This rating is an ISO 3046 standard power rating.

Heavy Duty

Intended for continuous use in variable load applications where full power is limited to eight hours out of every ten hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is for applications that operate less than 5,000 hours per year.



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Marine Engine Performance Data

Curve No. M-4341
DS-4964
CPL: 4150
DATE: 31May01

General Engine Data

Engine Model.....	KTA19-M3
Rating Type	Continuous
Rated Engine Power	373 [500]
Rated Engine Speed	1800
Rated HP Production Tolerance	±3
Rated Engine Torque	1978 [1459]
Peak Engine Torque	4187 [3089]
Brake Mean Effective Pressure	2142 [1580]
Minimum Idle Speed Setting	650
Normal Idle Speed Variation	±25
High Idle Speed Range - Minimum	1815
High Idle Speed Range - Maximum	2016
Maximum Allowable Engine Speed	N.A.
Maximum Torque Capacity from Front of Crank ²	2542 [1875]
Compression Ratio	13.8:1
Piston Speed	10 [1875]
Firing Order.....	1-5-3-6-2-4
Weight (Dry) Engine Only - Average.....	2073 [4570]
Weight (Dry) Engine With Heat Exchanger System - Average	2251 [4962]
Weight Tolerance (Dry) Engine Only	±10

Noise and Vibration..... N.A.

Fuel System¹

Fuel Consumption @ rated speed	litre/hr [GPH]	92.7 [24.5]
Approximate Fuel Flow to Pump	litre/hr [GPH]	212 [56]
Maximum Allowable Fuel Supply to Pump Temperature.....	°C [°F]	60 [140]
Approximate Fuel Flow Return to Tank.....	l/hr [gal/hr]	N.A.
Approximate Fuel Return to Tank Temperature	°C [°F]	N.A.
Maximum Heat Rejection to Drain Fuel	kW [BTU/min]	N.A.
Fuel Rail Pressure - Gauge	kPaG [PSIG]	724 [105]
Fuel Rail Pressure - INSITE	kPaA [PSIA]	N/A

Air System¹

Intake Manifold Pressure	mm Hg [in. Hg]	1041 [41]
Intake Air Flow	litre/sec [CFM]	529 [1120]
Heat Rejection to Ambient	kW [BTU/min.]	19 [1075]

Exhaust System¹

Exhaust Gas Flow	litre/sec [CFM]	1180 [2500]
Exhaust Gas Temperature (Turbine Out)	°C [°F]	444 [830]
Exhaust Gas Temperature (Manifold)	°C [°F]	566 [1050]

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	g/kw-hr [g/bhp-hr]	8.49 [6.33]
HC (Hydrocarbons)	g/kw-hr [g/bhp-hr]	0.93 [0.69]
CO (Carbon Monoxide).....	g/kw-hr [g/bhp-hr]	2.87 [2.14]
PM (Particulate Matter).....	g/kw-hr [g/bhp-hr]	N.A.

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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All Data is Subject to Change Without Notice - consult the following Cummins intranet site for most recent data:
<http://marketingtechdata.cummins.com/curves/database/htmlfiles/curvemainpage.htm>

General Engine Data

Engine Model.....	KT A19-M3
Rating Type	Continuous
Rated Engine Power	395 [530] kW [HP]
Rated Engine Speed	1800 RPM
Rated HP Production Tolerance.....	±3 %
Rated Engine Torque	2097 [1546] N•m [ft/lb]
Peak Engine Torque	2291 [1690] N•m [ft/lb]
Brake Mean Effective Pressure	1398 [203] kPa [PSI]
Minimum Idle Speed Setting.....	650 RPM
Normal Idle Speed Variation.....	±25 RPM
High Idle Speed Range - Minimum	1815 RPM
High Idle Speed Range - Maximum	2016 RPM
Maximum Allowable Engine Speed	N.A. RPM
Maximum Torque Capacity from Front of Crank ²	2542 [1875] N•m [ft/lb]
Compression Ratio	13.8:1
Piston Speed	10 [1875] m/sec [ft/min.]
Firing Order	1-5-3-6-2-4
Weight (Dry) Engine Only - Average	2073 [4570] kg [lb]
Weight (Dry) Engine With Heat Exchanger System - Average	2251 [4962] kg [lb]
Weight Tolerance (Dry) Engine Only	±10 %

Noise and Vibration N.A.

Fuel System¹

Fuel Consumption @ rated speed	97.7 [25.8] litre/hr [GPH]
Approximate Fuel Flow to Pump	212 [56] litre/hr [GPH]
Maximum Allowable Fuel Supply to Pump Temperature.....	60 [140] °C [°F]
Approximate Fuel Flow Return to Tank.....	N.A. l/hr [gal/hr]
Approximate Fuel Return to Tank Temperature	N.A. °C [°F]
Maximum Heat Rejection to Drain Fuel	N.A. kW [BTU/min]
Fuel Rail Pressure - Gauge	814 [118] kPaG [PSIG]
Fuel Rail Pressure - INSITE	N/A kPaA [PSIA]

Air System¹

Intake Manifold Pressure.....	1118 [44] mm Hg [in. Hg]
Intake Air Flow.....	557 [1180] litre/sec [CFM]
Heat Rejection to Ambient.....	20 [1140] kW [BTU/min.]

Exhaust System¹

Exhaust Gas Flow	1227 [2600] litre/sec [CFM]
Exhaust Gas Temperature (Turbine Out)	449 [840] °C [°F]
Exhaust Gas Temperature (Manifold)	583 [1080] °C [°F]

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen).....	8.69 [6.83] g/kw-hr [g/bhp-hr]
HC (Hydrocarbons).....	0.70 [0.52] g/kw-hr [g/bhp-hr]
CO (Carbon Monoxide)	2.29 [1.71] g/kw-hr [g/bhp-hr]
PM (Particulate Matter).....	N.A. g/kw-hr [g/bhp-hr]

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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://marketingtechdata.cummins.com/curves/database/htmlfiles/curvemainpage.htm>

General Engine Data

Engine Model	KTA19-M3
Rating Type	Continuous
Rated Engine Power	447 [600]
Rated Engine Speed	1800
Rated HP Production Tolerance	±3
Rated Engine Torque	2374 [1751]
Peak Engine Torque	TBD
Brake Mean Effective Pressure	1583 [230]
Minimum Idle Speed Setting	650
Normal Idle Speed Variation	±25
High Idle Speed Range - Minimum	1815
High Idle Speed Range - Maximum	2016
Maximum Allowable Engine Speed	N.A.
Maximum Torque Capacity from Front of Crank ²	2542 [1875]
Compression Ratio	13.8:1
Piston Speed	10 [1875]
Firing Order	1-5-3-6-2-4
Weight (Dry) Engine Only - Average	2073 [4570]
Weight (Dry) Engine With Heat Exchanger System - Average	2251 [4962]
Weight Tolerance (Dry) Engine Only	±10

Noise and Vibration N.A.

Fuel System¹

Fuel Consumption @ rated speed	108.3 [28.6]
Approximate Fuel Flow to Pump	212 [56]
Maximum Allowable Fuel Supply to Pump Temperature	60 [140]
Approximate Fuel Flow Return to Tank	N.A.
Approximate Fuel Return to Tank Temperature	N.A.
Maximum Heat Rejection to Drain Fuel	N.A.
Fuel Rail Pressure - Gauge	972 [141]
Fuel Rail Pressure - INSITE	N/A

Air System¹

Intake Manifold Pressure	1270 [50]
Intake Air Flow	538 [1140]
Heat Rejection to Ambient	23 [1309]

Exhaust System¹

Exhaust Gas Flow	1345 [2850]
Exhaust Gas Temperature (Turbine Out)	436 [816]
Exhaust Gas Temperature (Manifold)	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	9.08 [6.77]
HC (Hydrocarbons)	0.74 [0.55]
CO (Carbon Monoxide)	2.74 [2.04]
PM (Particulate Matter)	N.A.

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

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Marine Engine Performance Data

Curve No. M-4223
DS-4964
CPL: 4150
DATE: 31May01

General Engine Data

Engine Model.....	KTA19-M3
Rating Type	Heavy Duty
Rated Engine Power	477 [640]
Rated Engine Speed	1800
Rated HP Production Tolerance.....	±3
Rated Engine Torque	2531 [1867]
Peak Engine Torque	TBD
Brake Mean Effective Pressure	1689 [245]
Minimum Idle Speed Setting	650
Normal Idle Speed Variation	±25
High Idle Speed Range - Minimum	1815
High Idle Speed Range - Maximum	2016
Maximum Allowable Engine Speed	N.A.
Maximum Torque Capacity from Front of Crank ²	2542 [1875]
Compression Ratio	13.8:1
Piston Speed	10 [1875]
Firing Order	1-5-3-6-2-4
Weight (Dry) Engine Only - Average	2073 [4570]
Weight (Dry) Engine With Heat Exchanger System - Average	2251 [4962]
Weight Tolerance (Dry) Engine Only	±10

Noise and Vibration N.A.

Fuel System¹

Fuel Consumption @ rated speed	120.8 [31.9]
Approximate Fuel Flow to Pump	212 [56]
Maximum Allowable Fuel Supply to Pump Temperature.....	N.A.
Approximate Fuel Flow Return to Tank.....	N.A.
Approximate Fuel Return to Tank Temperature	N.A.
Maximum Heat Rejection to Drain Fuel	N.A.
Fuel Rail Pressure - Gauge	1082 [157]
Fuel Rail Pressure - INSITE	N/A

Air System¹

Intake Manifold Pressure	1397 [55]
Intake Air Flow	604[1280]
Heat Rejection to Ambient.....	24 [1366]

Exhaust System¹

Exhaust Gas Flow	1345 [2850]
Exhaust Gas Temperature (Turbine Out).....	436 [816]
Exhaust Gas Temperature (Manifold).....	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen).....	9.66 [7.2]
HC (Hydrocarbons).....	0.72 [0.54]
CO (Carbon Monoxide)	3.14 [2.34]
PM (Particulate Matter).....	N.A.

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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RUN HARD. DREAM BIG.™



KTA19-M4

M A R I N E

522 KW

700 HP

ENGINE SPECIFICATIONS

Configuration	In-line 6 Cylinder, 4-Stroke Diesel
Bore & Stroke	159 mm x 159 mm (6.25 in x 6.25 in)
Displacement	19 L (1150 in³)
Compression Ratio	13.8:1
Rotation	Counterclockwise facing flywheel
Oil Pan Capacity	72 L (19 gallons)

POWER RATINGS

Rating	Medium Duty*
Rated RPM	2100
kW (BHP)	522 (700)
Max Torque N·m (ft·lb) RPM	2586 (1907) 1900

*Ratings are IMO emissions compliant.

STANDARD FEATURES

Engine Design

Rugged in-line six cylinder configuration. Four cycle design for quiet, fuel efficient operation. Replaceable wet cylinder liners for longer life and lower rebuild costs. Individual, 4 valve design cylinder heads for improved economy and performance. Gallery cooled pistons for maximum durability.

Cooling System

Keel cooled or engine mounted heat exchanger system available. Spin-on Fleetguard® water treatment filters for protection against cooling system corrosion.

Air System

Top mounted Holset turbocharger with forward facing exhaust connection, optimized for marine usage. Marine grade air cleaner with air inlet restriction indicator. Low temperature aftercooler for increased efficiency. Cast iron water cooled exhaust manifold.

Fuel System

Dependable Cummins PT® fuel system can be operated mechanically or with CENTRY electronics for enhanced engine fueling. Dual spin-on Fleetguard® fuel filters. Premium fuel injectors utilize ceramic components for increased durability.

Lubrication System

Marine grade cast aluminum lube oil pan (72 L [19 gal]) Fleetguard® spin-on oil filters for simplified service.

Electrical System

24 volt standard electrical system with 12 volt options available. Marine grade wiring harness. Engine alarms/switches for low oil pressure and high water temperature for safe operation.

IMO Emissions Certified

Certificates of compliance available from the U.S. EPA and Lloyd's Register of Shipping.

AVAILABLE ACCESSORIES

Front Power Take-Off

Belt or Gear Driven Accessory Drives

Pre-lub Starter protects engine against damage from dry starts

Flywheel Housing SAE 0

Classification Society Approvals: consult your local Cummins professional for a complete listing of current marine agency approvals for this engine.

KTA19-M4

M A R I N E

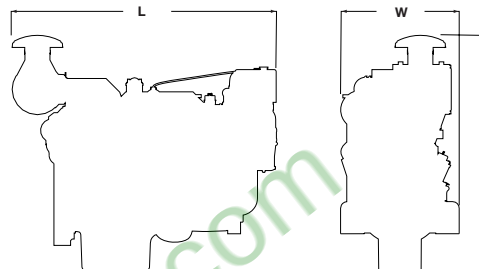
522 KW

700 HP



ENGINE DIMENSIONS

Length		Width		Height		Weight	
mm	in	mm	in	mm	in	kg	lb
1820.7	71.68	1003.3	39.50	1904.5	74.98	KC	2073
						HX	2251
							4962



PERFORMANCE DATA

Rating	Medium Continuous Duty 700 bhp*			
rpm	2100	1900	1700	1500
kW	522	386	277	190
g/kW-hr	226	210	214	212
L/hr	140.6	96.8	70.8	48.1
bhp	700	518	371	255
lb/hp-hr	.371	.346	.353	.349
gal/hr	37.1	25.6	18.7	12.7

*Ratings are IMO emissions compliant.

Above data represents performance along a 3.0 fixed pitch propeller curve. Fuel consumption has a tolerance of +5% and is based on fuel of 35° API gravity at 16 °C (60 °F) having an LHV of 42, 780 KJ/KG (18,390 BTU/lb) when used at 29 °C (85 °F) and weighing 838.9 g/liter (7.001 lb/US gal). Observed horsepower is certified within ± 3 % of rated horsepower. Cummins has always been a pioneer in product improvement. Thus specifications may change without notice. Consult your local Cummins professional for further information.

Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa(29.612 in Hg) and 25 °C (77 °F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

Medium Continuous Duty

Intended for continuous use in variable load applications where full power is limited to six hours out of every twelve hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is for applications that operate less than 3,000 hours per year.



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Marine Engine Performance Data

Curve No. M-4278
DS-4964
CPL: 2356
DATE: 31May01

General Engine Data

Engine Model.....	KTA19-M4
Rating Type	Medium Continuous
Rated Engine Power..... kW [HP]	522 [700]
Rated Engine Speed	2100
Rated HP Production Tolerance..... %	±3
Rated Engine Torque..... N•m [ft/lb]	2374 [1751]
Peak Engine Torque..... N•m [ft/lb]	2586 [1907]
Brake Mean Effective Pressure	1586 [230]
Minimum Idle Speed Setting..... RPM	650
Normal Idle Speed Variation..... RPM	±25
High Idle Speed Range - Minimum	2115
High Idle Speed Range - Maximum	2205
Maximum Allowable Engine Speed	N.A.
Maximum Torque Capacity from Front of Crank ²	2542 [1875]
Compression Ratio	13.8:1
Piston Speed	11 [2188]
Firing Order	1-5-3-6-2-4
Weight (Dry) Engine Only - Average	2073 [4570]
Weight (Dry) Engine With Heat Exchanger System - Average	2251 [4962]
Weight Tolerance (Dry) Engine Only	±10

Noise and Vibration N.A.

Fuel System¹

Fuel Consumption @ rated speed	litre/hr [GPH]	135 [35.7]
Approximate Fuel Flow to Pump	litre/hr [GPH]	235 [62]
Maximum Allowable Fuel Supply to Pump Temperature	°C [°F]	49 [120]
Approximate Fuel Flow Return to Tank	litre/hr [GPH]	265 [70]
Approximate Fuel Return to Tank Temperature	°C [°F]	59 [138]
Maximum Heat Rejection to Drain Fuel	kW [BTU/min]	N.A.
Fuel Rail Pressure - Gauge	kPaG [PSIG]	1269 [184]
Fuel Rail Pressure - INSITE	kPaA [PSIA]	N/A

Air System¹

Intake Manifold Pressure	mm Hg [in. Hg]	1499 [59]
Intake Air Flow	litre/sec [CFM]	748 [1584]
Heat Rejection to Ambient	kW [BTU/min.]	26 [1480]

Exhaust System¹

Exhaust Gas Flow	litre/sec [CFM]	1860 [3940]
Exhaust Gas Temperature (Turbine Out)	°C [°F]	433 [810]
Exhaust Gas Temperature (Manifold)	°C [°F]	638 [1180]

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	g/kw-hr [g/bhp-hr]	8.81 [6.57]
HC (Hydrocarbons)	g/kw-hr [g/bhp-hr]	0.76 [0.57]
CO (Carbon Monoxide)	g/kw-hr [g/bhp-hr]	1.64 [1.22]
PM (Particulate Matter)	g/kw-hr [g/bhp-hr]	N.A.

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

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RUN HARD. DREAM BIG.™



KTA38-MO

M A R I N E

559 - 633 KW

750 - 850 HP

ENGINE SPECIFICATIONS

Configuration	V-12 Cylinder, 4-Stroke Diesel
Bore & Stroke	159 mm x 159 mm (6.25 in x 6.25 in)
Displacement	38 L (2300 in³)
Compression Ratio	13.9:1
Rotation	Counterclockwise facing flywheel
Oil Pan Capacity	114 L (30 gallons) Standard Capacity 185 L (49 gallons) High Capacity

POWER RATINGS

Rating	Continuous Duty*		
Rated RPM	1600	1800	1800
kW (BHP)	559 (750)	597 (800)	634 (850)
Max Torque N·m (ft·lb)	3531 (2604)	2287 (2499)	3587 (2646)
RPM	1300	1400	1400

*Ratings are IMO emissions compliant.

STANDARD FEATURES

Engine Design

Four cycle design for quiet and fuel-efficient operation.
Low profile for ease of installation and service.
Replaceable wet cylinder liners for longer life and lower rebuild cost. Oil cooled pistons for added durability.

Cooling System

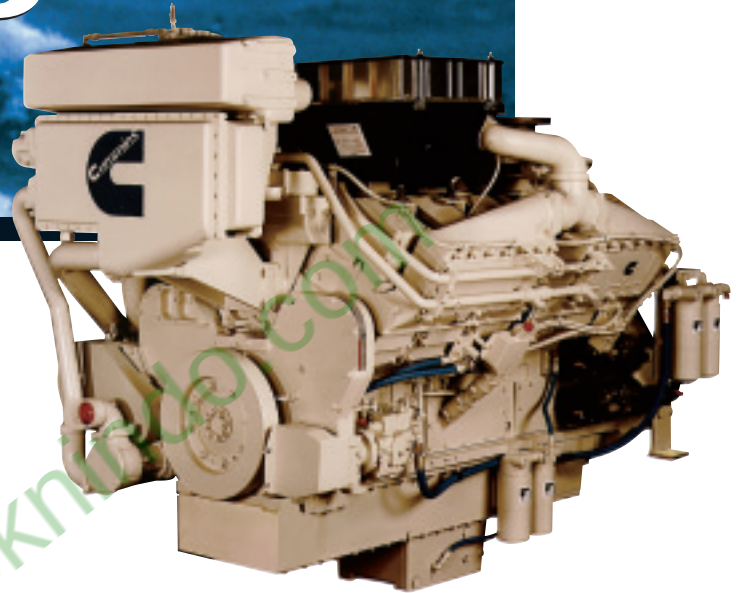
Keel cooled or engine mounted heat exchanger for reduced installation cost and complexity. Spin-on Fleetguard® water treatment filter.

Air System

Twin Holset turbochargers optimized for marine use.
Marine grade air filters with air inlet restriction included. Dry exhaust manifold with water shielding for reduced fuel consumption and improved emissions.

Fuel System

Dependable Cummins PT® fuel system can be operated mechanically or with CENTRY® electronics for enhanced engine fueling. Step Timing Control (STC) allows for smooth engine acceleration under load. Spin-on Fleetguard filters or optional duplex Fleetguard fuel filters.



Lubrication System

Marine-grade oil pan (114 L [30 gal]) or high capacity (185 L [49 gal]) available. Fleetguard spin-on filter cartridge for simplified service.

Electrical System

24-volt standard electrical system with 12-volt available. Standard alarm/switches for low oil and high water temperature for safe operation. Marine grade wiring harness.

IMO Emissions Certified

Certificates of compliance available from the U.S. EPA and Lloyd's Register of Shipping.

AVAILABLE ACCESSORIES

Front Power Take-Off

Available Accessory Drives belt or gear driven

Centinel Oil Management System reduces oil and filter disposal costs

Eliminator System replaces all lube oil cartridges

Prelub® Starter protects engine against damage from dry starts and extends engine life

Classification Society Approvals: consult your local Cummins professional for a complete listing of current marine agency approvals for this engine

KTA38-MO

M A R I N E

559-633 KW

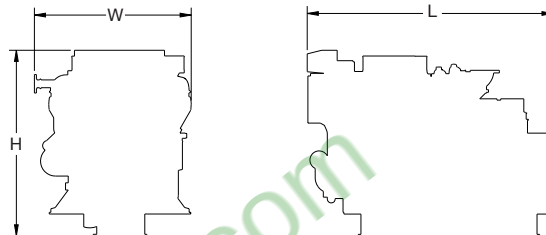
750-850 HP



ENGINE DIMENSIONS

Length		Width		Weight	
mm	in	mm	in	kg	lb
2003	79	1465.6	57.7	4222	9300

	Height	
	mm	in
KC	2055.5	80.92
HX	1803.2	70.99



PERFORMANCE DATA

Rating	Continuous Duty 750 bhp*				Continuous Duty 800 bhp*			
rpm	1600	1400	1200	1000	1800	1600	1400	1200
kW	560	390	257	157	597	434	303	200
g/kW-hr	218	219	213	200	219	207	203	203
L/hr	145.4	101.9	65.2	37.5	155.5	107.2	73.3	48.3
bhp	750	523	345	211	800	582	406	268
lb/hp-hr	.358	.360	.349	.328	.360	.340	.335	.334
gal/hr	38.4	26.9	17.2	9.9	41.1	28.3	19.4	12.8

Rating	Continuous Duty 850 bhp*			
rpm	1800	1600	1400	1200
kW	634	461	322	212
g/kW-hr	214	221	209	204
L/hr	162.1	121.6	80.4	51.6

bhp	850	618	431	284
lb/hp-hr	.353	.364	.346	.335
gal/hr	42.8	32.1	21.3	13.6

*Ratings are IMO emissions compliant.

Above data represents performance along a 3.0 fixed pitch propeller curve. Fuel consumption has a tolerance of + 5 % and is based on fuel of 35 ° API gravity at 16 °C (60 °F) having an LHV of 42, 780 KJ/KG (18,390 BTU/lb) when used at 29 °C (85 °F) and weighing 838.9 g/liter (7.001 lb/US gal). Observed power output is certified within ± 3 % of rated power. Cummins has always been a pioneer in product improvement. Thus specifications may change without notice. Consult your local Cummins professional for further information.

Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa(29.612 in Hg) and 25°C (77°F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

Continuous Duty

Intended for continuous use in applications requiring uninterrupted service at full power. This rating is an ISO 3046 standard power rating.



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Marine Engine Performance Data

Curve No. M-6220
DS-4983
CPL: 2915
DATE: 23Apr01

General Engine Data

Engine Model	KTA38-M0
Rating Type	Continuous
Rated Engine Power	559 [750]
Rated Engine Speed	1600
Rated HP Production Tolerance	±3
Rated Engine Torque	3339 [2462]
Peak Engine Torque	3531 [2604]
Brake Mean Effective Pressure	1113 [161]
Minimum Idle Speed Setting	650
Normal Idle Speed Variation	±25
High Idle Speed Range - Minimum	1615
High Idle Speed Range - Maximum	1792
Maximum Allowable Engine Speed	2375
Maximum Torque Capacity from Front of Crank ²	4341 [3202]
Compression Ratio	13.9:1
Piston Speed	8.5 [1667]
Firing Order	1R-6L-5R-2L-3R-4L- 6R-1L-2R-5L-4R-3L
Weight (Dry) Engine Only - Average	4218 [9300]
Weight (Dry) Engine With Heat Exchanger System - Average	4538 [10,005]
Weight Tolerance (Dry) Engine Only	±10

Noise and Vibration

N.A.

Fuel System¹

Fuel Consumption @ rated speed	145 [38]
Approximate Fuel Flow to Pump	303 [80]
Maximum Allowable Fuel Supply to Pump Temperature	60 [140]
Approximate Fuel Flow Return to Tank	157 [42]
Approximate Fuel Return to Tank Temperature	68 [155]
Maximum Heat Rejection to Drain Fuel	2 [131]
Fuel Rail Pressure - Gauge	779 [113]
Fuel Rail Pressure - INSITE	807 [117]

Air System¹

Intake Manifold Pressure	838 [33]
Intake Air Flow	832 [1762]
Heat Rejection to Ambient	76 [4310]

Exhaust System¹

Exhaust Gas Flow	1817 [3850]
Exhaust Gas Temperature (Turbine Out)	427 [800]
Exhaust Gas Temperature (Manifold)	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	9.40 [7.01]
HC (Hydrocarbons)	0.20 [0.15]
CO (Carbon Monoxide)	5.14 [3.83]
PM (Particulate Matter)	N.A.

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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Marine Engine Performance Data

Curve No. M-6324
DS-4983
CPL: 2915
DATE: 23Apr01

General Engine Data

Engine Model.....	KT38-M0
Rating Type	Continuous
Rated Engine Power..... kW [HP]	597 [800]
Rated Engine Speed..... RPM	1800
Rated HP Production Tolerance.....%	±3
Rated Engine Torque..... N•m [ft/lb]	3165 [2334]
Peak Engine Torque..... N•m [ft/lb]	2287 [2499]
Brake Mean Effective Pressure	1055 [153]
Minimum Idle Speed Setting.....RPM	650
Normal Idle Speed Variation.....RPM	±25
High Idle Speed Range - Minimum..... RPM	1815
High Idle Speed Range - Maximum..... RPM	2016
Maximum Allowable Engine Speed.....RPM	2375
Maximum Torque Capacity from Front of Crank ² N•m [ft/lb]	4341 [3202]
Compression Ratio	13.9:1
Piston Speed..... m/sec [ft/min.]	9.5 [1875]
Firing Order.....	1R-6L-5R-2L-3R-4L- 6R-1L-2R-5L-4R-3L
Weight (Dry) Engine Only - Average..... kg [lb]	4218 [9300]
Weight (Dry) Engine With Heat Exchanger System - Average..... kg [lb]	4538 [10,005]
Weight Tolerance (Dry) Engine Only	±10

Noise and Vibration N.A.

Fuel System¹

Fuel Consumption @ rated speed..... litre/hr [GPH]	155 [41]
Approximate Fuel Flow to Pump..... litre/hr [GPH]	307 [81]
Maximum Allowable Fuel Supply to Pump Temperature..... °C [°F]	60 [140]
Approximate Fuel Flow Return to Tank..... l/hr [gal/hr]	159 [42]
Approximate Fuel Return to Tank Temperature..... °C [°F]	68 [155]
Maximum Heat Rejection to Drain Fuel	2 [125]
Fuel Rail Pressure - Gauge.....kPaG [PSIG]	896 [130]
Fuel Rail Pressure - INSITE..... kPaA [PSIA]	924 [134]

Air System¹

Intake Manifold Pressure..... mm Hg [in. Hg]	1059 [42]
Intake Air Flow	972 [2059]
Heat Rejection to Ambient	76 [4327]

Exhaust System¹

Exhaust Gas Flow..... litre/sec [CFM]	1959 [4150]
Exhaust Gas Temperature (Turbine Out)..... °C [°F]	390 [733]
Exhaust Gas Temperature (Manifold)..... °C [°F]	505 [940]

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen).....g/kw-hr [g/bhp-hr]	9.36 [6.98]
HC (Hydrocarbons).....g/kw-hr [g/bhp-hr]	0.20 [0.15]
CO (Carbon Monoxide).....g/kw-hr [g/bhp-hr]	5.14 [3.83]
PM (Particulate Matter).....g/kw-hr [g/bhp-hr]	N.A.

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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Marine Engine Performance Data

Curve No. M-6219
DS-4983
CPL: 2915
DATE: 23Apr01

General Engine Data

Engine Model	KTA38-M0
Rating Type.....	Continuous
Rated Engine Power	634 [850]
Rated Engine Speed	1800
Rated HP Production Tolerance	±3
Rated Engine Torque.....	3363 [2480]
Peak Engine Torque.....	3587 [2646]
Brake Mean Effective Pressure.....	1121 [163]
Minimum Idle Speed Setting	650
Normal Idle Speed Variation	±25
High Idle Speed Range - Minimum	1815
High Idle Speed Range - Maximum	2160
Maximum Allowable Engine Speed	2375
Maximum Torque Capacity from Front of Crank ²	4341 [3202]
Compression Ratio.....	13.9:1
Piston Speed.....	10 [1875]
Firing Order	1R-6L-5R-2L-3R-4L 6R-1L-2R-5L-4R-3L
Weight (Dry) Engine Only - Average	4218 [9300]
Weight (Dry) Engine With Heat Exchanger System - Average	4538 [10,005]
Weight Tolerance (Dry) Engine Only.....	±10

Noise and Vibration

N.A.

Fuel System¹

Fuel Consumption @ rated speed	162 [43]
Approximate Fuel Flow to Pump	325 [86]
Maximum Allowable Fuel Supply to Pump Temperature	60 [140]
Approximate Fuel Flow Return to Tank	162 [43]
Approximate Fuel Return to Tank Temperature.....	68 [155]
Maximum Heat Rejection to Drain Fuel	2 [135]
Fuel Rail Pressure - Gauge	951 [138]
Fuel Rail Pressure - INSITE.....	979 [142]

Air System¹

Intake Manifold Pressure	1118 [44]
Intake Air Flow	1003 [2126]
Heat Rejection to Ambient	76 [4344]

Exhaust System¹

Exhaust Gas Flow	2077 [4400]
Exhaust Gas Temperature (Turbine Out)	388 [729]
Exhaust Gas Temperature (Manifold)	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	9.40 [7.01]
HC (Hydrocarbons)	0.20 [0.15]
CO (Carbon Monoxide)	5.14 [3.83]
PM (Particulate Matter)	N.A.

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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RUN HARD. DREAM BIG.™



KTA38-M1

M A R I N E

6 7 1 - 8 2 0 K W

9 0 0 - 1 1 0 0 H P

ENGINE SPECIFICATIONS

Configuration	V-12 Cylinder, 4-Stroke Diesel
Bore & Stroke	159 mm x 159 mm (6.25 in x 6.25 in)
Displacement	38 L (2300 in³)
Compression Ratio	13.9:1
Rotation	Counterclockwise facing flywheel
Oil Pan Capacity	114 L (30 gallons) Standard Capacity 185 L (49 gallons) High Capacity

POWER RATINGS

Rating	Continuous Duty*		Medium Duty*
Rated RPM	1600	1800	1800
kW (BHP)	671 (900)	746 (1000)	820 (1100)
Max Torque N·m (ft·lb)	4187 (3089)	4187 (3089)	4655 (3433)
RPM	1300	1400	1400

*Ratings are IMO emissions compliant.

STANDARD FEATURES

Engine Design

Four cycle design for quiet and fuel-efficient operation.
Low profile for ease of installation and service.
Replaceable wet cylinder liners for longer life and lower rebuild cost. Oil cooled pistons for added durability.

Cooling System

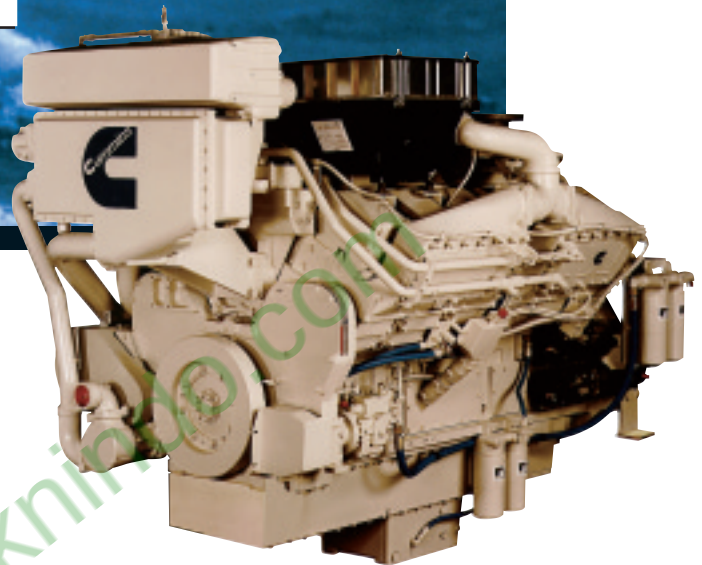
Keel cooled or engine mounted heat exchanger for reduced installation cost and complexity. Spin-on Fleetguard® water treatment filter.

Air System

Twin Holset turbochargers optimized for marine use.
Marine grade air filters with air inlet restriction included. Dry exhaust manifold with water shielding for reduced fuel consumption and improved emissions.

Fuel System

Dependable Cummins PT® fuel system can be operated mechanically or with CENTRY® electronics for enhanced engine fueling. Step Timing Control (STC) allows for smooth engine acceleration under load. Spin-on Fleetguard filters or optional duplex Fleetguard fuel filters.



Lubrication System

Marine-grade oil pan (114 L [30 gal]) or high capacity (185 L [49 gal]) available. Fleetguard spin-on filter cartridge for simplified service.

Electrical System

24-volt standard electrical system with 12-volt available. Standard alarm/switches for low oil and high water temperature for safe operation. Marine grade wiring harness.

IMO Emissions Certified

Certificates of compliance available from the U.S. EPA and Lloyd's Register of Shipping.

AVAILABLE ACCESSORIES

Front Power Take-Off

Available Accessory Drives belt or gear driven

Centinel Oil Management System reduces oil and filter disposal costs

Eliminator System replaces all lube oil cartridges

Prelub® Starter protects engine against damage from dry starts and extends engine life

Classification Society Approvals: consult your local Cummins professional for a complete listing of current marine agency approvals for this engine

KTA38-M1

M A R I N E

671-820 KW

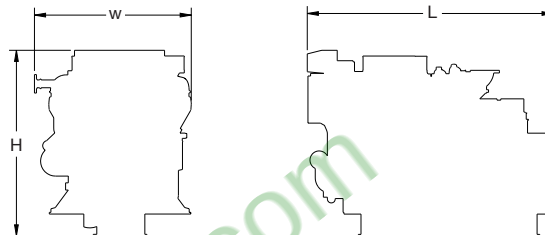
900-1100 HP



ENGINE DIMENSIONS

Length		Width		Weight	
mm	in	mm	in	kg	lb
2003	79	1465.6	57.7	4222	9300

	Height	
	mm	in
KC	2055.5	80.92
HX	1803.2	70.99



PERFORMANCE DATA

Rating	Continuous Duty 900 bhp*				Continuous Duty 1000 bhp*			
rpm	1600	1400	1200	1000	1800	1600	1400	1200
kW	671	450	283	164	746	524	351	220
g/kW-hr	212	223	228	225	208	220	225	231
L/hr	169.5	119.5	76.8	44	185.1	137.6	94.3	60.6
bhp	900	603	380	220	1000	703	470	295
lb/hp-hr	.348	.367	.374	.369	.342	.362	.371	.380
gal/hr	44.8	31.6	20.3	11.6	48.9	36.4	24.9	16.0

Rating	Medium Duty 1100 bhp*			
rpm	1800	1600	1400	1200
kW	821	598	416	267
g/kW-hr	205	208	212	204
L/hr	200.3	148.5	105.3	64.9
bhp	1100	801	558	358
lb/hp-hr	.334	.343	.349	.336
gal/hr	52.9	39.2	27.8	17.2

*Ratings are IMO emissions compliant.

Above data represents performance along a 3.0 fixed pitch propeller curve. Fuel consumption has a tolerance of + 5% and is based on fuel of 35° API gravity at 16 °C (60 °F) having an LHV of 42,780 KJ/KG (18,390 BTU/lb) when used at 29 °C (85 °F) and weighing 838.9 g/liter (7.001 lbs/US gal). Observed power output is certified within ± 3 % of rated power. Cummins has always been a pioneer in product improvement. Thus specifications may change without notice. Consult your local Cummins professional for further information.

Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa(29.612 in Hg) and 25 °C (77 °F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

Continuous

Intended for continuous use in applications requiring uninterrupted service at full power. This rating is an ISO 3046 standard power rating.

Medium Continuous Duty

Intended for continuous use in variable load applications where full power is limited to six hours out of every twelve hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is for applications that operate less than 3,000 hours per year.



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Marine Engine Performance Data

Curve No. M-6218
DS-4983
CPL: 2915
DATE: 23Apr01

General Engine Data

Engine Model	KTA38-M1
Rating Type	Continuous
Rated Engine Power	671 [900]
Rated Engine Speed	1600
Rated HP Production Tolerance	±3
Rated Engine Torque	4006 [2954]
Peak Engine Torque	4187 [3089]
Brake Mean Effective Pressure	1335 [194]
Minimum Idle Speed Setting	650
Normal Idle Speed Variation	±25
High Idle Speed Range - Minimum	1615
High Idle Speed Range - Maximum	1792
Maximum Allowable Engine Speed	2375
Maximum Torque Capacity from Front of Crank ²	4341 [3202]
Compression Ratio	13.9:1
Piston Speed	9 [1667]
Firing Order	1R-6L-5R-2L-3R-4L 6R-1L-2R-5L-4R-3L
Weight (Dry) Engine Only - Average	4218 [9300]
Weight (Dry) Engine With Heat Exchanger System - Average	4538 [10,005]
Weight Tolerance (Dry) Engine Only	±10

Noise and Vibration

N.A.

Fuel System¹

Fuel Consumption @ rated speed	170 [45]
Approximate Fuel Flow to Pump	303 [80]
Maximum Allowable Fuel Supply to Pump Temperature	60 [140]
Approximate Fuel Flow Return to Tank	133 [35]
Approximate Fuel Return to Tank Temperature	68 [155]
Maximum Heat Rejection to Drain Fuel	2 [109]
Fuel Rail Pressure - Gauge	1034 [150]
Fuel Rail Pressure - INSITE	1062 [154]

Air System¹

Intake Manifold Pressure	813 [32]
Intake Air Flow	914 [1936]
Heat Rejection to Ambient	77 [4360]

Exhaust System¹

Exhaust Gas Flow	2232 [4730]
Exhaust Gas Temperature (Turbine Out)	404 [760]
Exhaust Gas Temperature (Manifold)	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	8.76 [6.53]
HC (Hydrocarbons)	0.13 [0.10]
CO (Carbon Monoxide)	8.10 [6.04]
PM (Particulate Matter)	N.A.

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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COLUMBUS, INDIANA

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Marine Engine Performance Data

Curve No. M-6217
DS-4983
CPL: 2915
DATE: 23Apr01

General Engine Data

Engine Model	KTA38-M1
Rating Type	Continuous
Rated Engine Power	746 [1000]
Rated Engine Speed	1800
Rated HP Production Tolerance	±3
Rated Engine Torque	3957 [2918]
Peak Engine Torque	4187 [3089]
Brake Mean Effective Pressure	1319 [191]
Minimum Idle Speed Setting	650
Normal Idle Speed Variation	±25
High Idle Speed Range - Minimum	1815
High Idle Speed Range - Maximum	2016
Maximum Allowable Engine Speed	2375
Compression Ratio	13.9:1
Piston Speed	10 [1875]
Maximum Torque Capacity from Front of Crank ²	4341 [3202]
Firing Order	1R-6L-5R-2L-3R-4L
Weight (Dry) Engine Only - Average	4218 [9300]
Weight (Dry) Engine With Heat Exchanger System - Average	4538 [10,005]
Weight Tolerance (Dry) Engine Only	±10

Noise and Vibration

N.A.

Fuel System¹

Fuel Consumption @ rated speed	litre/hr [GPH]	185 [49]
Approximate Fuel Flow to Pump	litre/hr [GPH]	390 [103]
Maximum Allowable Fuel Supply to Pump Temperature	°C [°F]	60 [140]
Approximate Fuel Flow Return to Tank	l/hr [gal/hr]	205 [54]
Approximate Fuel Return to Tank Temperature	°C [°F]	68 [155]
Maximum Heat Rejection to Drain Fuel	kW [BTU/min]	3 [169]
Fuel Rail Pressure - Gauge	kPaG [PSIG]	1117 [162]
Fuel Rail Pressure - INSITE	kPaA [PSIA]	1145 [166]

Air System¹

Intake Manifold Pressure	mm Hg [in. Hg]	1234 [49]
Intake Air Flow	litre/sec [CFM]	1099 [2329]
Heat Rejection to Ambient	kW [BTU/min.]	77 [4394]

Exhaust System¹

Exhaust Gas Flow	litre/sec [CFM]	2232 [4730]
Exhaust Gas Temperature (Turbine Out)	°C [°F]	391 [735]
Exhaust Gas Temperature (Manifold)	°C [°F]	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	g/kw-hr [g/bhp-hr]	9.37 [6.99]
HC (Hydrocarbons)	g/kw-hr [g/bhp-hr]	0.21 [0.16]
CO (Carbon Monoxide)	g/kw-hr [g/bhp-hr]	3.43 [2.56]
PM (Particulate Matter)	g/kw-hr [g/bhp-hr]	N.A.

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

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RUN HARD. DREAM BIG.™



KTA38-M2

M A R I N E

783 - 1119 KW
1050 - 1500 HP

ENGINE SPECIFICATIONS

Configuration	V-12 Cylinder, 4-Stroke Diesel
Bore & Stroke	159 mm x 159 mm (6.25 in x 6.25 in)
Displacement	38 L (2300 in³)
Compression Ratio	13.9:1
Rotation	Counterclockwise facing flywheel
Oil Pan Capacity	114 L (30 gallons) Standard Capacity 186 L (49 gallons) High Capacity

POWER RATINGS

Rating	Continuous Duty*		Heavy Duty*			Medium Duty*	Intermittent Duty*
Rated RPM	1600	1800	1800	1900	1950	1950	2050/969
kW (BHP)	783 (1050)	895 (1200)	969 (1300)	1007 (1350)	1007 (1350)	1044 (1400)	1119 (1500)
Max Torque N·m (ft·lb)	5002 (3689)	5210 (3843)	5383 (3971)	5329 (3931)	5177 (3814)	5112 (3771)	5469 (4034)
RPM	1300	1400	1400	1500	1500	1500	1500

*Ratings are IMO emissions compliant.

STANDARD FEATURES

Engine Design

Four cycle design for quiet and fuel-efficient operation.
Low profile for ease of installation and service.
Replaceable wet cylinder liners for longer life and lower rebuild cost. Gallery cooled pistons for maximum durability.

Cooling System

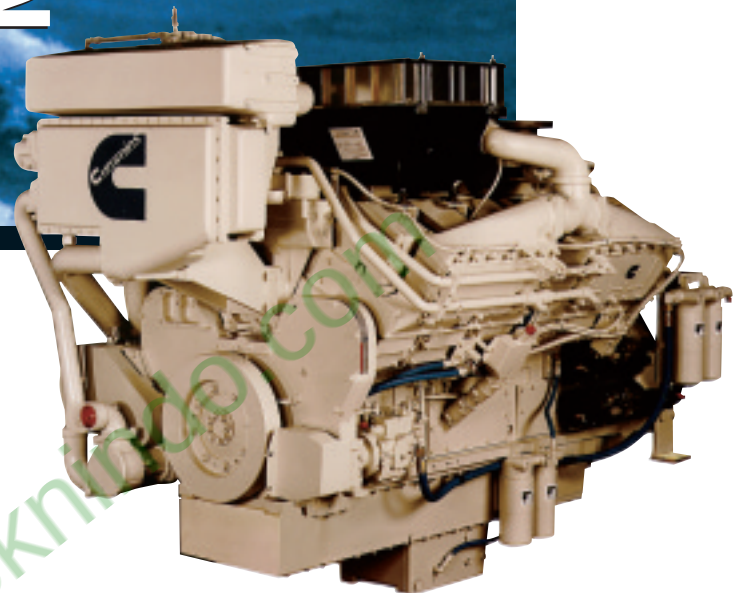
Keel cooled or engine mounted heat exchanger for reduced installation cost and complexity. Spin-on Fleetguard® water treatment filter.

Air System

Twin Holset turbochargers optimized for marine use.
Marine grade air filters with air inlet restriction included. Dry exhaust manifold with water shielding for reduced fuel consumption and improved emissions.

Fuel System

Dependable Cummins PT® fuel system can be operated mechanically or with CENTRY® electronics for enhanced engine fueling. Step Timing Control (STC) allows for smooth engine acceleration under load. Spin-on Fleetguard filters or optional duplex Fleetguard fuel filters.



Lubrication System

Marine-grade oil pan (114 L [30 gal]) or high capacity (185 L [49 gal]) available. Fleetguard spin-on filter cartridge for simplified service.

Electrical System

24-volt standard electrical system with 12-volt available. Standard alarm/switches for low oil and high water temperature for safe operation. Marine grade wiring harness.

IMO Emissions Certified

Certificates of compliance available from the U.S. EPA and Lloyd's Register of Shipping.

AVAILABLE ACCESSORIES

Front Power Take-Off

Available Accessory Drives belt or gear driven

Centinel Oil Management System reduces oil and filter disposal costs

Eliminator System replaces all lube oil cartridges

Prelub® Starter protects engine against damage from dry starts and extends engine life

Classification Society Approvals: consult your local Cummins professional for a complete listing of current marine agency approvals for this engine

KTA38-M2

MARINE

783-1119 KW

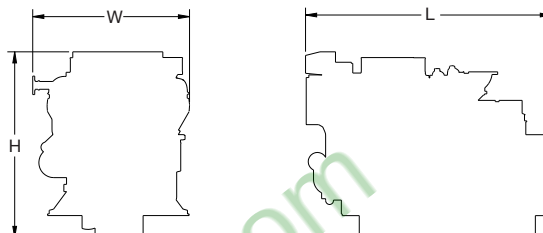
1050-1500 HP



ENGINE DIMENSIONS

Length		Width		Weight	
mm	in	mm	in	kg	lb
2003	79	1465.6	57.7	4222	9300

	Height	
	mm	in
KC	2055.5	80.92
HX	1803.2	70.99



PERFORMANCE DATA

Rating	Continuous Duty 1050 bhp*				Continuous Duty 1200 bhp*				Heavy Duty 1300 bhp*				Heavy Duty 1350 bhp @ 1950 rpm*			
rpm	1600	1400	1200	1000	1800	1600	1400	1200	1800	1600	1400	1200	1950	1700	1500	1300
kW	783	524	330	191	895	629	421	266	969	706	492	324	1007	695	496	337
g/kW-hr	216	225	242	242	210	219	233	249	207	202	200	197	205	207	213	217
L/hr	201.4	140.8	95.2	55.1	224.4	164.4	117.1	78.9	239.2	170.2	117.1	76.1	246.3	171.4	126.2	87.3
bhp	1050	703	443	256	1200	843	565	356	1300	946	660	435	1350	932	665	452
lb/hp-hr	.355	.370	.397	.399	.346	.360	.383	.411	.340	.333	.328	.323	.338	.340	.351	.358
gal/hr	53.2	37.2	25.1	14.6	59.3	43.4	30.9	20.9	63.2	45	30.9	20.1	65.1	45.3	33.3	23.1

Rating	Heavy Duty 1350 bhp @ 1900 rpm*				Medium Duty 1400 bhp*				Intermittent Duty 1500 bhp*			
rpm	1900	1700	1500	1200	1950	1700	1500	1200	2050	1800	1500	1200
kW	1007	746	532	291	1044	721	514	281	1119	788	481	263
g/kW-hr	210	203	200	212	206	209	214	213	209	200	197	215
L/hr	251.5	180.5	126.6	73.6	256.6	179.2	131.2	71.5	279	188.3	112.8	67.4
bhp	1350	1000	713	390	1400	967	689	377	1500	1056	645	353
lb/hp-hr	.344	.344	.329	.348	.339	.342	.353	.351	.344	.330	.323	.353
gal/hr	66.4	47.7	33.5	19.4	67.8	47.3	34.7	18.9	73.7	49.8	29.8	17.8

*Ratings are IMO emissions compliant.

Above data represents performance along a 3.0 fixed pitch propeller curve. Fuel consumption has a tolerance of + 5% and is based on fuel of 35° API gravity at 16°C (60°F) having an LHV of 42, 780 KJ/KG (18,390 BTU/lb) when used at 29°C (85°F) and weighing 838.9 g/liter (7.001 lb/U.S. gal) with LTA. Observed power output is certified within ± 3 % of rated power. Cummins has always been a pioneer in product improvement. Thus specifications may change without notice. Consult your local Cummins professional for further information.

Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa(29.612 in Hg) and 25 °C (77 °F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

Continuous Duty

Intended for continuous use in applications requiring uninterrupted service at full power. This rating is an ISO 3046 standard power rating.

Heavy Duty

Intended for continuous use in variable load applications where full power is limited to eight hours out of every ten hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is for applications that operate less than 5,000 hours per year.

Medium Continuous Duty

Intended for continuous use in variable load applications where full power is limited to six hours out of every twelve hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is for applications that operate less than 3,000 hours per year.

Intermittent Duty

Intended for intermittent use in variable load applications where full power is limited to two hours out of every eight hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is intended for applications that operate less than 1,500 hours per year.



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Marine Engine Performance Data

Curve No. M-6199
DS-4983
CPL: 2404
DATE: 23Apr01

General Engine Data

Engine Model	KTA38-M2
Rating Type	Continuous
Rated Engine Power	783 [1050]
Rated Engine Speed	1600
Rated HP Production Tolerance	±3
Rated Engine Torque	4674 [3447]
Peak Engine Torque	5002 [3689]
Brake Mean Effective Pressure	1558 [226]
Minimum Idle Speed Setting	625
Normal Idle Speed Variation	±25
High Idle Speed Range - Minimum	1744
High Idle Speed Range - Maximum	1872
Maximum Allowable Engine Speed	2375
Maximum Torque Capacity from Front of Crank ²	4341 [3202]
Compression Ratio	13.9:1
Piston Speed	8.5 [1667]
Firing Order	1R-6L-5R-2L-3R-4L- 6R-1L-2R-5L-4R-3L
Weight (Dry) Engine Only - Average	4218 [9300]
Weight (Dry) Engine With Heat Exchanger System - Average	4538 [10,005]
Weight Tolerance (Dry) Engine Only	±10

Noise and Vibration

N.A.

Fuel System¹

Fuel Consumption @ rated speed	201 [53]
Approximate Fuel Flow to Pump	315 [83]
Maximum Allowable Fuel Supply to Pump Temperature	60 [140]
Approximate Fuel Flow Return to Tank	113 [30]
Approximate Fuel Return to Tank Temperature	68 [155]
Maximum Heat Rejection to Drain Fuel	2 [106]
Fuel Rail Pressure - Gauge	689 [100]
Fuel Rail Pressure - INSITE	717 [104]

Air System¹

Intake Manifold Pressure	1123 [44]
Intake Air Flow	986 [2090]
Heat Rejection to Ambient	77 [4410]

Exhaust System¹

Exhaust Gas Flow	2232 [4730]
Exhaust Gas Temperature (Turbine Out)	480 [896]
Exhaust Gas Temperature (Manifold)	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	9.68 [7.22]
HC (Hydrocarbons)	0.11 [0.08]
CO (Carbon Monoxide)	7.21 [5.38]
PM (Particulate Matter)	N.A.

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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COLUMBUS, INDIANA

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Marine Engine Performance Data

Curve No. M-6192
DS-4983
CPL: 2404
DATE: 23Apr01

General Engine Data

Engine Model	KTA38-M2
Rating Type.....	Continuous
Rated Engine Power	895 [1200] kW [HP]
Rated Engine Speed	1800 RPM
Rated HP Production Tolerance	±3 %
Rated Engine Torque	4747 [3501] N•m [ft/lb]
Peak Engine Torque.....	5210 [3843] N•m [ft/lb]
Brake Mean Effective Pressure	1583 [230] kPa [PSI]
Minimum Idle Speed Setting	650 RPM
Normal Idle Speed Variation	±25 RPM
High Idle Speed Range - Minimum.....	1815 RPM
High Idle Speed Range - Maximum.....	2016 RPM
Maximum Allowable Engine Speed.....	2375 RPM
Compression Ratio.....	13.9:1
Piston Speed.....	10 [1875] m/sec [ft/min.]
Maximum Torque Capacity from Front of Crank ²	4341 [3202] N•m [ft/lb]
Firing Order	1R-6L-5R-2L-3R-4L-6R-1L-2R-5L-4R-3L
Weight (Dry) Engine Only - Average	4218 [9300] kg [lb]
Weight (Dry) Engine With Heat Exchanger System - Average	4538 [10,005] kg [lb]
Weight Tolerance (Dry) Engine Only.....	±10 %

Noise and Vibration

N.A.

Fuel System¹

Fuel Consumption @ rated speed	224 [59] l/hr [gal/hr]
Approximate Fuel Flow to Pump	398 [105] liter/hr [GPH]
Max. Allowable Fuel Supply to Pump Temperature.....	60 [140] °C [°F]
Approximate Fuel Flow Return to Tank	174 [46] l/hr [gal/hr]
Approximate Fuel Return to Tank Temperature.....	68 [155] °C [°F]
Maximum Heat Rejection to Drain Fuel	3 [144] kW [BTU/min]
Fuel Rail Pressure - Gauge	841 [122] kPaG [PSIG]
Fuel Rail Pressure - Insite.....	883 [128] kPaA [PSIA]

Air System¹

Intake Manifold Pressure	1372 [54] mm Hg [in. Hg]
Intake Air Flow	1227 [2599] litre/sec [CFM]
Heat Rejection to Ambient	78 [4461] kW [BTU/min.]

Exhaust System¹

Exhaust Gas Flow	1959 [4150] litre/sec [CFM]
Exhaust Gas Temperature (Turbine Out)	454 [849] °C [°F]
Exhaust Gas Temperature (Manifold)	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	7.64 [5.70] g/kw-hr [g/bhp-hr]
HC (Hydrocarbons)	0.17 [0.13] g/kw-hr [g/bhp-hr]
CO (Carbon Monoxide).....	3.62 [2.70] g/kw-hr [g/bhp-hr]
PM (Particulate Matter)	N.A.

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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COLUMBUS, INDIANA

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<http://marketingtechdata.cummins.com/curves/database/htmlfiles/curvemainpage.htm>

Marine Engine Performance Data

Curve No. M-6322
DS-4983
CPL: 2404
DATE: 23Apr01

General Engine Data

Engine Model.....	KTA38-M2
Rating Type	Continuous
Rated Engine Power	895 [1200] kW [HP]
Rated Engine Speed	1800 RPM
Rated HP Production Tolerance.....	±3 %
Rated Engine Torque	4747 [3501] N•m [ft/lb]
Peak Engine Torque	5195 [3832] N•m [ft/lb]
Brake Mean Effective Pressure	1583 [230] kPa [PSI]
Minimum Idle Speed Setting.....	650 RPM
Normal Idle Speed Variation.....	±25 RPM
High Idle Speed Range - Minimum.....	1815 RPM
High Idle Speed Range - Maximum.....	2016 RPM
Maximum Allowable Engine Speed	2375 RPM
Maximum Torque Capacity from Front of Crank ²	4341 [3202] N•m [ft/lb]
Compression Ratio	13.9:1
Piston Speed	10 [1875] m/sec [ft/min.]
Firing Order	1R-6L-5R-2L-3R-4L-6R-1L-2R-5L-4R-3L
Weight (Dry) Engine Only - Average	4218 [9300] kg [lb]
Weight (Dry) Engine With Heat Exchanger System - Average.....	4538 [10,005] kg [lb]
Weight Tolerance (Dry) Engine Only	±10 %

Noise and Vibration N.A.

Fuel System¹

Fuel Consumption @ rated speed	219 [58] l/hr [gal/hr]
Approximate Fuel Flow to Pump	382 [101] liter/hr [GPH]
Max. Allowable Fuel Supply to Pump Temperature	60 [140] °C [°F]
Approximate Fuel Flow Return to Tank	164 [43] l/hr [gal/hr]
Approximate Fuel Return to Tank Temperature	68 [155] °C [°F]
Maximum Heat Rejection to Drain Fuel	2 [135] kW [BTU/min]
Fuel Rail Pressure - Gauge.....	903 [131] kPaG [PSIG]
Fuel Rail Pressure - Insite.....	931 [135] kPaA [PSIA]

Air System¹

Intake Manifold Pressure.....	1433 [56] mm Hg [in. Hg]
Intake Air Flow.....	1227 [2599] litre/sec [CFM]
Heat Rejection to Ambient.....	78 [4461] kW [BTU/min.]

Exhaust System¹

Exhaust Gas Flow	1959 [4150] litre/sec [CFM]
Exhaust Gas Temperature (Turbine Out)	398 [748] °C [°F]
Exhaust Gas Temperature (Manifold)	N.A. °C [°F]

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen).....	7.64 [5.70] g/kw-hr [g/bhp-hr]
HC (Hydrocarbons).....	0.17 [0.13] g/kw-hr [g/bhp-hr]
CO (Carbon Monoxide)	3.62 [2.70] g/kw-hr [g/bhp-hr]
PM (Particulate Matter).....	N.A. g/kw-hr [g/bhp-hr]

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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Marine Engine Performance Data

Curve No. M-6194
DS-4983
CPL: 2404
DATE: 23Apr01

General Engine Data

Engine Model	KTA38-M2
Rating Type	Heavy Duty
Rated Engine Power	969 [1300]
Rated Engine Speed	1800
Rated HP Production Tolerance	±3
Rated Engine Torque	5143 [3793]
Peak Engine Torque	5383 [3971]
Brake Mean Effective Pressure	1715 [249]
Minimum Idle Speed Setting	650
Normal Idle Speed Variation	±25
High Idle Speed Range - Minimum	1815
High Idle Speed Range - Maximum	2016
Maximum Allowable Engine Speed	2375
Maximum Torque Capacity from Front of Crank ²	4341 [3202]
Compression Ratio	13.9:1
Piston Speed	10 [1875]
Firing Order	1R-6L-5R-2L-3R-4L- 6R-1L-2R-5L-4R-3L
Weight (Dry) Engine Only - Average	4218 [9300]
Weight (Dry) Engine With Heat Exchanger System - Average	4538 [10,005]
Weight Tolerance (Dry) Engine Only	±10

Noise and Vibration **N.A.**

Fuel System¹

Fuel Consumption @ rated speed	239 [63]
Approximate Fuel Flow to Pump	429 [113]
Max. Allowable Fuel Supply to Pump Temperature	60 [140]
Approximate Fuel Flow Return to Tank	190 [50]
Approximate Fuel Return to Tank Temperature	68 [155]
Maximum Heat Rejection to Drain Fuel	3 [157]
Fuel Rail Pressure - Gauge	917 [133]
Fuel Rail Pressure - Insite	945 [137]

Air System¹

Intake Manifold Pressure	1440 [57]
Intake Air Flow	1290 [2734]
Heat Rejection to Ambient	79 [4494]

Exhaust System¹

Exhaust Gas Flow	2920 [6188]
Exhaust Gas Temperature (Turbine Out)	443 [829]
Exhaust Gas Temperature (Manifold)	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	8.23 [6.14]
HC (Hydrocarbons)	0.34 [0.25]
CO (Carbon Monoxide)	3.41 [2.54]
PM (Particulate Matter)	N.A.

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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Marine Engine Performance Data

Curve No. M-6252
DS-4983
CPL: 2404
DATE: 23Apr01

General Engine Data

Engine Model	KTA38-M2
Rating Type	Heavy Duty
Rated Engine Power	1007 [1350]
Rated Engine Speed	1900
Rated HP Production Tolerance	±3
Rated Engine Torque	5059 [3732]
Peak Engine Torque	5329 [3931]
Brake Mean Effective Pressure	1687 [245]
Minimum Idle Speed Setting	650
Normal Idle Speed Variation	±25
High Idle Speed Range - Minimum	1915
High Idle Speed Range - Maximum	2128
Maximum Allowable Engine Speed	2375
Maximum Torque Capacity from Front of Crank ²	4341 [3202]
Compression Ratio	13.9:1
Piston Speed	10 [1979]
Firing Order	1R-6L-5R-2L-3R-4L- 6R-1L-2R-5L-4R-3L
Weight (Dry) Engine Only - Average	4218 [9300]
Weight (Dry) Engine With Heat Exchanger System - Average	4538 [10,005]
Weight Tolerance (Dry) Engine Only	±10

Noise and Vibration N.A.

Fuel System¹

Fuel Consumption @ rated speed	250 [66]
Approximate Fuel Flow to Pump	462 [122]
Max. Allowable Fuel Supply to Pump Temperature	60 [140]
Approximate Fuel Flow Return to Tank	211 [56]
Approximate Fuel Return to Tank Temperature	68 [155]
Maximum Heat Rejection to Drain Fuel	3 [175]
Fuel Rail Pressure - Gauge	965 [140]
Fuel Rail Pressure - Insite	993 [144]

Air System¹

Intake Manifold Pressure	1481 [58]
Intake Air Flow	1404 [2974]
Heat Rejection to Ambient	79 [4511]

Exhaust System¹

Exhaust Gas Flow	2926 [6200]
Exhaust Gas Temperature (Turbine Out)	438 [820]
Exhaust Gas Temperature (Manifold)	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	8.21 [6.12]
HC (Hydrocarbons)	0.17 [0.13]
CO (Carbon Monoxide)	2.13 [1.59]
PM (Particulate Matter)	N.A.

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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Marine Engine Performance Data

Curve No. M-6313

DS-4983

CPL: 2404

DATE: 23Apr01

General Engine Data

Engine Model	KTA38-M2
Rating Type.....	Heavy Duty
Rated Engine Power	1007 [1350]
Rated Engine Speed.....	1950
Rated HP Production Tolerance	±3
Rated Engine Torque.....	4930 [3636]
Peak Engine Torque	5177 [3814]
Brake Mean Effective Pressure	1644 [238]
Minimum Idle Speed Setting	650
Normal Idle Speed Variation	±25
High Idle Speed Range - Minimum	1965
High Idle Speed Range - Maximum	2184
Maximum Allowable Engine Speed	2375
Maximum Torque Capacity from Front of Crank ²	4341 [3202]
Compression Ratio.....	13.9:1
Piston Speed.....	10 [2031]
Firing Order	1R-6L-5R-2L-3R-4L- 6R-1L-2R-5L-4R-3L
Weight (Dry) Engine Only - Average	4218 [9300]
Weight (Dry) Engine With Heat Exchanger System - Average	4538 [10,005]
Weight Tolerance (Dry) Engine Only.....	±10

Noise and Vibration

N.A.

Fuel System¹

Fuel Consumption @ rated speed	254 [67]
Approximate Fuel Flow to Pump	477 [126]
Max. Allowable Fuel Supply to Pump Temperature.....	60 [140]
Approximate Fuel Flow Return to Tank	223 [59]
Approximate Fuel Return to Tank Temperature.....	68 [155]
Maximum Heat Rejection to Drain Fuel	3 [184]
Fuel Rail Pressure - Gauge	993 [144]
Fuel Rail Pressure - Insite.....	1020 [148]

Air System¹

Intake Manifold Pressure	1509 [59]
Intake Air Flow	1444 [3060]
Heat Rejection to Ambient	79 [4511]

Exhaust System¹

Exhaust Gas Flow	2973 [6300]
Exhaust Gas Temperature (Turbine Out).....	430 [805]
Exhaust Gas Temperature (Manifold)	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	11.01 [8.21]
HC (Hydrocarbons)	0.17 [0.13]
CO (Carbon Monoxide).....	2.13 [1.59]
PM (Particulate Matter)	N.A.

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions²Consult Installation Direction Booklet for Limitations³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.CUMMINS ENGINE COMPANY, INC.
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Marine Engine Performance Data

Curve No. M-6253

DS-4983

CPL: 2404

DATE: 23Apr01

General Engine Data

Engine Model	KTA38-M2
Rating Type.....	Medium Continuous
Rated Engine Power	1044 [1400]
Rated Engine Speed.....	1950
Rated HP Production Tolerance	±3
Rated Engine Torque.....	5112 [3771]
Peak Engine Torque	5366 [3958]
Brake Mean Effective Pressure	1705 [247]
Minimum Idle Speed Setting	650
Normal Idle Speed Variation	±25
High Idle Speed Range - Minimum	1965
High Idle Speed Range - Maximum	2184
Maximum Allowable Engine Speed	2375
Maximum Torque Capacity from Front of Crank ²	4341 [3202]
Compression Ratio.....	13.9:1
Piston Speed.....	10 [2031]
Firing Order	1R-6L-5R-2L-3R-4L- 6R-1L-2R-5L-4R-3L
Weight (Dry) Engine Only - Average	4218 [9300]
Weight (Dry) Engine With Heat Exchanger System - Average	4538 [10,005]
Weight Tolerance (Dry) Engine Only.....	±10

Noise and Vibration

N.A.

Fuel System¹

Fuel Consumption @ rated speed	257 [68]
Approximate Fuel Flow to Pump	447 [118]
Max. Allowable Fuel Supply to Pump Temperature.....	60 [140]
Approximate Fuel Flow Return to Tank	190 [50]
Approximate Fuel Return to Tank Temperature.....	68 [155]
Maximum Heat Rejection to Drain Fuel	3 [157]
Fuel Rail Pressure - Gauge	1151 [167]
Fuel Rail Pressure - Insite.....	1179 [171]

Air System¹

Intake Manifold Pressure	1321 [52]
Intake Air Flow	1480 [3135]
Heat Rejection to Ambient	80 [4527]

Exhaust System¹

Exhaust Gas Flow	2973 [6300]
Exhaust Gas Temperature (Turbine Out)	438 [820]
Exhaust Gas Temperature (Manifold)	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	8.64 [6.44]
HC (Hydrocarbons)	0.19 [0.14]
CO (Carbon Monoxide).....	2.23 [1.66]
PM (Particulate Matter)	N.A.

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions²Consult Installation Direction Booklet for Limitations³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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Marine Engine Performance Data

Curve No. M-6254
DS-4983
CPL: 2404
DATE: 09Apr01

General Engine Data

Engine Model	KTA38-M2
Rating Type	Intermittent
Rated Engine Power	1119 [1500]
Rated Engine Speed	2050
Rated HP Production Tolerance	±3
Rated Engine Torque	5210 [3843]
Peak Engine Torque	5469 [4034]
Brake Mean Effective Pressure	1737 [252]
Minimum Idle Speed Setting	650
Normal Idle Speed Variation	±25
High Idle Speed Range - Minimum	2065
High Idle Speed Range - Maximum	2296
Maximum Allowable Engine Speed	2375
Maximum Torque Capacity from Front of Crank ²	4341 [3202]
Compression Ratio	13.9:1
Piston Speed	11 [2135]
Firing Order	1R-6L-5R-2L-3R-4L- 6R-1L-2R-5L-4R-3L
Weight (Dry) Engine Only - Average	4218 [9300]
Weight (Dry) Engine With Heat Exchanger System - Average	4538 [10,005]
Weight Tolerance (Dry) Engine Only	±10

Noise and Vibration

N.A.

Fuel System¹

Fuel Consumption @ rated speed	279 [74]
Approximate Fuel Flow to Pump	469 [124]
Max. Allowable Fuel Supply to Pump Temperature	60 [140]
Approximate Fuel Flow Return to Tank	190 [50]
Approximate Fuel Return to Tank Temperature	68 [155]
Maximum Heat Rejection to Drain Fuel	3 [157]
Fuel Rail Pressure - Gauge	1310 [190]
Fuel Rail Pressure - Insite	1338 [194]

Air System¹

Intake Manifold Pressure	1372 [54]
Intake Air Flow	1638 [3471]
Heat Rejection to Ambient	80 [4561]

Exhaust System¹

Exhaust Gas Flow	3068 [6500]
Exhaust Gas Temperature (Turbine Out)	454 [850]
Exhaust Gas Temperature (Manifold)	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	8.60 [6.41]
HC (Hydrocarbons)	0.17 [0.13]
CO (Carbon Monoxide)	2.08 [1.55]
PM (Particulate Matter)	N.A.

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N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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RUN HARD. DREAM BIG.™



KTA50-M2

M A R I N E

1 0 4 4 - 1 4 9 2 K W

1 4 0 0 - 2 0 0 0 H P

ENGINE SPECIFICATIONS

Configuration	V-16 Cylinder, 4-Stroke Diesel
Bore & Stroke	159 mm x 159 mm (6.25 in x 6.25 in)
Displacement	50 L (3067 in³)
Compression Ratio	13.8:1
Rotation	Counterclockwise facing flywheel
Oil Pan Capacity	152 L (40 gallons) Standard Capacity 246 L (65 gallons) High Capacity

POWER RATINGS

Rating	Continuous Duty*		Heavy Duty*		Medium Duty*	Intermittent Duty*
Rated RPM	1600	1800	1800	1900	1950	2050
kW (BHP)	1044 (1400)	1194 (1600)	1268 (1700)	1343 (1800)	1399 (1875)	1492 (2000)
Max Torque N·m (ft·lb)	6530 (4816)	6683 (4929)	7235 (5336)	7061 (5208)	7334 (5409)	7296 (5381)
RPM	1300	1400	1400	1500	1500	1500

*Ratings are IMO emissions compliant.

STANDARD FEATURES

Engine Design

Four cycle design for quiet and fuel-efficient operation. Low profile for ease of installation and service. Replaceable wet cylinder liners for longer life and lower rebuild cost. Gallery cooled pistons for maximum durability.

Cooling System

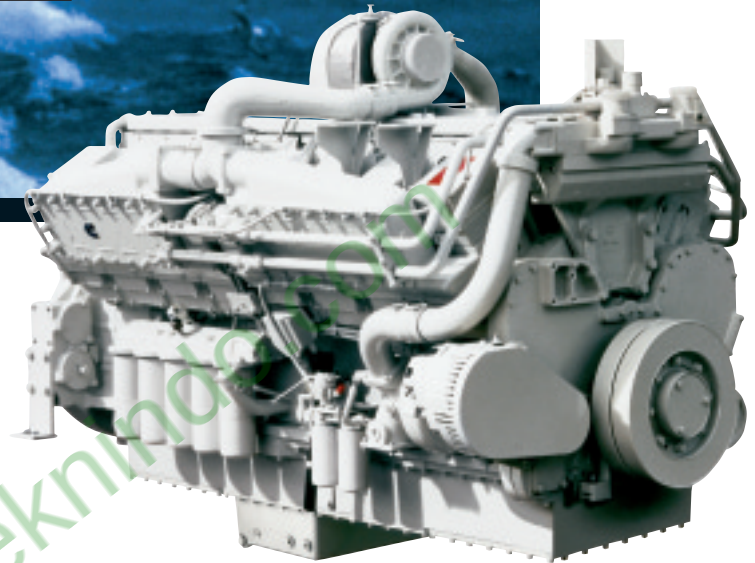
Keel cooled or engine mounted heat exchanger for reduced installation cost and complexity. Spin-on Fleetguard® water treatment filter.

Air System

Twin Holset turbochargers optimized for marine use. Marine grade air filters with air inlet restriction included. Dry exhaust manifold with water shielding for reduced fuel consumption and improved emissions.

Fuel System

Dependable Cummins PT® fuel system can be operated mechanically or with CENTRY® electronics for enhanced engine fueling. Step Timing Control (STC) allows for smooth engine acceleration under load. Spin-on Fleetguard filters or optional duplex Fleetguard fuel filters.



Lubrication System

Marine-grade oil pan (151 L [40 gal]) or high capacity (246 L [65 gal]) available. Fleetguard spin-on filter cartridge for simplified service.

Electrical System

24-volt standard electrical system with 12-volt available. Standard alarm/switches for low oil and high water temperature for safe operation. Marine grade wiring harness.

IMO Emissions Certified

Certificates of compliance are available from the U.S. EPA and Lloyd's Register of Shipping.

AVAILABLE ACCESSORIES

Front Power Take-Off

Available Accessory Drives belt or gear driven

Centinel Oil Management System reduces oil and filter disposal costs

Eliminator System replaces all lube oil cartridges

Prelub® Starter protects engine against damage from dry starts and extends engine life

Classification Society Approvals: consult your local Cummins professional for a complete listing of current marine agency approvals for this engine

KTA50-M2

MARINE

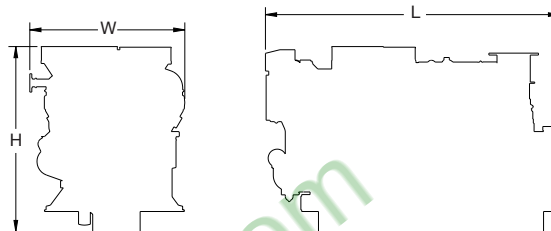
1044 - 1492 KW

1400 - 2000 HP



ENGINE DIMENSIONS

	Length		Width		Height		Weight	
	mm	in	mm	in	mm	in	kg	lb
Keel Cooled	2603.4	102.5	1488.6	58.61	1930.6	76.01	4858	10700
Heat Exchanger	2618	103.07	1466.2	57.73	1930.6	76.01	5178	11405



PERFORMANCE DATA

Rating	Continuous Duty 1400 bhp*				Continuous Duty 1600 bhp*				Heavy Duty 1700 bhp*			
rpm	1600	1400	1200	1000	1800	1600	1400	1200	1800	1600	1400	1200
kW	1044	700	441	255	1194	839	562	354	1268	923	644	424
g/kW-hr	204	210	211	212	207	205	210	217	203	201	196	191
L/hr	253.9	175.2	111	64.5	295.2	205.3	140.4	91.6	307.5	221.5	150.2	96.6
bhp	1400	938	591	342	1600	1124	753	474	1700	1237	863	569
lb/hp-hr	.336	.346	.347	.348	.341	.338	.345	.357	.334	.331	.322	.314
gal/hr	67.1	46.3	29.3	17.0	78	54.2	37.1	24.2	81.2	58.5	39.7	25.5

Rating	Heavy Duty 1800 bhp*				Medium Duty 1875 bhp*				Intermittent Duty 2000 bhp*			
rpm	1900	1700	1500	1300	1950	1700	1500	1300	2050	1800	1500	1200
kW	1343	994	709	482	1399	966	689	468	1492	1050	642	351
g/kW-hr	199	200	195	190	209	199	195	193	206	231	232	232
L/hr	318.1	236.6	165.1	108.9	348	229	160.1	107.5	367.1	289.2	177.3	97.2
bhp	1800	1333	951	646	1875	1295	923	627	2000	1408	860	471
lb/hp-hr	.327	.328	.321	.312	.343	.327	.321	.317	.340	.380	.381	.382
gal/hr	84	62.5	43.6	28.8	91.9	60.5	42.3	28.4	97.0	76.4	46.8	25.7

*Ratings are IMO emissions compliant.

Above data represents performance along a 3.0 fixed pitch propeller curve. Fuel consumption has a tolerance of + 5% and is based on fuel of 35 ° API gravity at 16 °C (60 °F) having an LHV of 42, 780 KJ/KG (18,390 BTU/lb) when used at 29 °C (85 °F) and weighing 838.9 g/liter (7.001 lb/U.S. gal) with LTA. Observed power output is certified within ± 3% of rated power. Cummins has always been a pioneer in product improvement. Thus specifications may change without notice. Consult your local Cummins professional for further information.

Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa(29.612 in Hg) and 25 °C (77 °F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

Continuous Duty

Intended for continuous use in applications requiring uninterrupted service at full power. This rating is an ISO 3046 standard power rating.

Heavy Duty

Intended for continuous use in variable load applications where full power is limited to eight hours out of every ten hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is for applications that operate less than 5,000 hours per year.

Medium Continuous Duty

Intended for continuous use in variable load applications where full power is limited to six hours out of every twelve hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is for applications that operate less than 3,000 hours per year.

Intermittent Duty

Intended for intermittent use in variable load applications where full power is limited to two hours out of every eight hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is intended for applications that operate less than 1,500 hours per year.



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Marine Engine Performance Data

Curve No. M-6208
DS-4998
CPL: 8045
DATE: 25Apr01

General Engine Data

Engine Model	KTA50-M2
Rating Type	Continuous
Rated Engine Power	1044 [1400]
Rated Engine Speed	1600
Rated HP Production Tolerance	±3
Rated Engine Torque	6231 [4596]
Peak Engine Torque	6530 [4816]
Brake Mean Effective Pressure	1558 [226]
Minimum Idle Speed Setting	650
Normal Idle Speed Variation	±25
High Idle Speed Range - Minimum	1615
High Idle Speed Range - Maximum	1792
Maximum Allowable Engine Speed	2375
Maximum Torque Capacity from Front of Crank ²	4341 [3202]
Compression Ratio	13.9:1
Piston Speed	9 [1667]
Firing Order	1R-1L-3R-3L-2R-2L-5R-4L- 8R-8L-6R-6L-7R-7L-4R-5L
Weight (Dry) Engine Only - Average	5431 [11,973]
Weight (Dry) Engine With Heat Exchanger System - Average	5751 [12,678]
Weight Tolerance (Dry) Engine Only	±10

Noise and Vibration

Average Noise Level - Top	(Idle)..... dBA @ 1m	75
	(Rated)..... dBA @ 1m	82
Average Noise Level - Right Side	(Idle)..... dBA @ 1m	73
	(Rated)..... dBA @ 1m	81
Average Noise Level - Left Side	(Idle)..... dBA @ 1m	74
	(Rated)..... dBA @ 1m	81
Average Noise Level - Front	(Idle)..... dBA @ 1m	73
	(Rated)..... dBA @ 1m	81

Fuel System¹

Fuel Consumption @ rated speed	l/hr [gal/hr]	254 [67]
Approximate Fuel Flow to Pump	litre/hr [gal/hr]	458 [121]
Maximum Allowable Fuel Supply to Pump Temperature	°C [°F]	60 [140]
Approximate Fuel Flow Return to Tank	l/hr [gal/hr]	204 [54]
Approximate Fuel Return to Tank Temperature	°C [°F]	68 [155]
Maximum Heat Rejection to Drain Fuel	kW [BTU/min]	3 [169]
Fuel Rail Pressure - Gauge	kPaG [PSIG]	820 [119]
Fuel Rail Pressure - INSITE	kPaA [PSIA]	848 [123]

Air System¹

Intake Manifold Pressure	mm Hg [in. Hg]	1067 [42]
Intake Air Flow	litre/sec [CFM]	1424 [3018]
Heat Rejection to Ambient	kW [BTU/min.]	82 [4640]

Exhaust System¹

Exhaust Gas Flow	litre/sec [CFM]	3693 [7825]
Exhaust Gas Temperature (Turbine Out)	°C [°F]	535 [995]
Exhaust Gas Temperature (Manifold)	°C [°F]	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	g/kw-hr [g/bhp-hr]	9.68 [7.22]
HC (Hydrocarbons)	g/kw-hr [g/bhp-hr]	0.11 [0.08]
CO (Carbon Monoxide)	g/kw-hr [g/bhp-hr]	7.21 [5.38]

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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<http://marketingtechdata.cummins.com/curves/database/htmlfiles/curvehomepage.htm>

Marine Engine Performance Data

Curve No. M-6209
DS-4998
CPL: 2589
DATE: 25Apr01

General Engine Data

Engine Model	KTA50-M2
Rating Type	Continuous
Rated Engine Power	1193 [1600]
Rated Engine Speed	1800
Rated HP Production Tolerance	±3
Rated Engine Torque	6329 [4668]
Peak Engine Torque	6683 [4929]
Minimum Idle Speed Setting	650
Normal Idle Speed Variation	±25
High Idle Speed Range - Minimum	1815
High Idle Speed Range - Maximum	2016
Maximum Allowable Engine Speed	2375
Brake Mean Effective Pressure	1583 [230]
Compression Ratio	13.9:1
Piston Speed	10 [1875]
Maximum Torque Capacity from Front of Crank ²	4341 [3202]
Firing Order	1R-1L-3R-3L-2R-2L-5R-4L- 8R-8L-6R-6L-7R-7L-4R-5L
Weight (Dry) Engine Only - Average	5431 [11,973]
Weight (Dry) Engine With Heat Exchanger System - Average	6084 [13,413]
Weight Tolerance (Dry) Engine Only	±10

Noise and Vibration

Average Noise Level - Top	(Idle)	dBA @ 1m	85
	(Rated)	dBA @ 1m	94
Average Noise Level - Right Side	(Idle)	dBA @ 1m	84
	(Rated)	dBA @ 1m	93
Average Noise Level - Left Side	(Idle)	dBA @ 1m	84
	(Rated)	dBA @ 1m	92
Average Noise Level - Front	(Idle)	dBA @ 1m	84
	(Rated)	dBA @ 1m	92

Fuel System¹

Fuel Consumption @ rated speed	litre/hr [gal/hr]	295 [78]
Approximate Fuel Flow to Pump	litre/hr [gal/hr]	533 [141]
Maximum Allowable Fuel Supply to Pump Temperature	°C [°F]	60 [140]
Approximate Fuel Flow Return to Tank	l/hr [gal/hr]	238 [63]
Approximate Fuel Return to Tank Temperature	°C [°F]	68 [155]
Maximum Heat Rejection to Drain Fuel	kW [BTU/min]	4 [197]
Fuel Rail Pressure - Gauge	kPaG [PSIG]	841 [122]
Fuel Rail Pressure - INSITE	kPaA [PSIA]	869 [126]

Air System¹

Intake Manifold Pressure	mm Hg [in. Hg]	1270 [50]
Intake Air Flow	litre/sec [CFM]	1733 [3672]
Heat Rejection to Ambient	kW [BTU/min.]	78 [4464]

Exhaust System¹

Exhaust Gas Flow	litre/sec [CFM]	3573 [7570]
Exhaust Gas Temperature (Turbine Out)	°C [°F]	497 [925]
Exhaust Gas Temperature (Manifold)	°C [°F]	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	g/kw-hr [g/bhp-hr]	8.15 [6.08]
HC (Hydrocarbons)	g/kw-hr [g/bhp-hr]	0.16 [0.12]
CO (Carbon Monoxide)	g/kw-hr [g/bhp-hr]	3.95 [2.95]
PM (Particulate Matter)	g/kw-hr [g/bhp-hr]	N.A.

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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Marine Engine Performance Data

Curve No. M-6210
DS-4998
CPL: 2589
DATE: 30Apr01

General Engine Data

Engine Model	KTA50-M2
Rating Type	Heavy Duty
Rated Engine Power	1268 [1700]
Rated Engine Speed	1800
Rated HP Production Tolerance	±3
Rated Engine Torque	6725 [4960]
Peak Engine Torque	7235 [5336]
Minimum Idle Speed Setting	650
Normal Idle Speed Variation	±25
High Idle Speed Range - Minimum	1815
High Idle Speed Range - Maximum	2016
Maximum Allowable Engine Speed	2375
Brake Mean Effective Pressure	1682 [244]
Compression Ratio	13.9:1
Piston Speed	10 [1875]
Maximum Torque Capacity from Front of Crank ²	4341 [3202]
Firing Order	1R-1L-3R-3L-2R-2L-5R-4L- 8R-8L-6R-6L-7R-7L-4R-5L
Weight (Dry) Engine Only - Average	5431 [11,973]
Weight (Dry) Engine With Heat Exchanger System - Average	6084 [13,413]
Weight Tolerance (Dry) Engine Only	± 10

Noise and Vibration

Average Noise Level - Top (Idle)	dBA @ 1m	90
(Rated)	dBA @ 1m	100
Average Noise Level - Right Side (Idle)	dBA @ 1m	89
(Rated)	dBA @ 1m	98
Average Noise Level - Left Side (Idle)	dBA @ 1m	90
(Rated)	dBA @ 1m	98
Average Noise Level - Front (Idle)	dBA @ 1m	89
(Rated)	dBA @ 1m	98

Fuel System¹

Fuel Consumption @ rated speed	litre/hr [GPH]	308 [81]
Approximate Fuel Flow to Pump	litre/hr [GPH]	553 [146]
Maximum Allowable Fuel Supply to Pump Temperature	°C [°F]	60 [140]
Approximate Fuel Flow Return to Tank	l/hr [gal/hr]	245 [65]
Approximate Fuel Return to Tank Temperature	°C [°F]	68 [155]
Maximum Heat Rejection to Drain Fuel	kW [BTU/min]	4 [203]
Fuel Rail Pressure - Gauge	kPaG [PSIG]	938 [136]
Fuel Rail Pressure - INSITE	kPaA [PSIA]	965 [140]

Air System¹

Intake Manifold Pressure	mm Hg [in. Hg]	1321 [52]
Intake Air Flow	litre/sec [CFM]	1803 [3820]
Heat Rejection to Ambient	kW [BTU/min.]	81 [4608]

Exhaust System¹

Exhaust Gas Flow	litre/sec [CFM]	3693 [7825]
Exhaust Gas Temperature (Turbine Out)	°C [°F]	510 [950]
Exhaust Gas Temperature (Manifold)	°C [°F]	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	g/kw-hr [g/bhp-hr]	7.97 [5.95]
HC (Hydrocarbons)	g/kw-hr [g/bhp-hr]	0.16 [0.12]
CO (Carbon Monoxide)	g/kw-hr [g/bhp-hr]	3.44 [2.57]

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N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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Marine Engine Performance Data

Curve No. M-6211
DS-4998
CPL: 2589
DATE: 30Apr01

General Engine Data

Engine Model	KTA50-M2
Rating Type	Heavy Duty
Rated Engine Power	1342 [1800]
Rated Engine Speed	1900
Rated HP Production Tolerance	±3
Rated Engine Torque	6746 [4976]
Peak Engine Torque	7061 [5208]
Minimum Idle Speed Setting	6750
Normal Idle Speed Variation	±25
High Idle Speed Range - Minimum	1915
High Idle Speed Range - Maximum	2128
Maximum Allowable Engine Speed	2375
Brake Mean Effective Pressure	1687 [245]
Compression Ratio	13.9:1
Piston Speed	10 [1979]
Maximum Torque Capacity from Front of Crank ²	4341 [3202]
Firing Order	1R-1L-3R-3L-2R-2L-5R-4L- 8R-8L-6R-6L-7R-7L-4R-5L
Weight (Dry) Engine Only - Average	5431 [11,973]
Weight (Dry) Engine With Heat Exchanger System - Average	5751 [12,678]
Weight Tolerance (Dry) Engine Only	±10

Noise and Vibration

Average Noise Level - Top (Idle)	dBA @ 1m	96
(Rated)	dBA @ 1m	106
Average Noise Level - Right Side (Idle)	dBA @ 1m	94
(Rated)	dBA @ 1m	104
Average Noise Level - Left Side (Idle)	dBA @ 1m	95
(Rated)	dBA @ 1m	104
Average Noise Level - Front (Idle)	dBA @ 1m	94
(Rated)	dBA @ 1m	104

Fuel System¹

Fuel Consumption @ rated speed	litre/hr [GPH]	337 [89]
Approximate Fuel Flow to Pump	litre/hr [GPH]	591 [156]
Maximum Allowable Fuel Supply to Pump Temperature	°C [°F]	60 [140]
Approximate Fuel Flow Return to Tank	l/hr [gal/hr]	254 [67]
Approximate Fuel Return to Tank Temperature	°C [°F]	68 [155]
Maximum Heat Rejection to Drain Fuel	kW [BTU/min]	4 [209]
Fuel Rail Pressure - Gauge	kPaG [PSIG]	979 [142]
Fuel Rail Pressure - INSITE	kPaA [PSIA]	1007 [146]

Air System¹

Intake Manifold Pressure	mm Hg [in. Hg]	1422 [56]
Intake Air Flow	litre/sec [CFM]	1966 [4166]
Heat Rejection to Ambient	kW [BTU/min.]	81 [4615]

Exhaust System¹

Exhaust Gas Flow	litre/sec [CFM]	3693 [7825]
Exhaust Gas Temperature (Turbine Out)	°C [°F]	504 [939]
Exhaust Gas Temperature (Manifold)	°C [°F]	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	g/kw-hr [g/bhp-hr]	8.20 [6.12]
HC (Hydrocarbons)	g/kw-hr [g/bhp-hr]	0.17 [0.13]
CO (Carbon Monoxide)	g/kw-hr [g/bhp-hr]	2.13 [1.59]
PM (Particulate Matter)	g/kw-hr [g/bhp-hr]	N.A.

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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Marine Engine Performance Data

Curve No. M-6277
DS-4998
CPL: 2589
DATE: 30Apr01

General Engine Data

Engine Model	KTA50-M2
Rating Type	Medium Continuous
Rated Engine Power	1398 [1875] kW [HP]
Rated Engine Speed	1950 RPM
Rated HP Production Tolerance	±3 %
Rated Engine Torque	6847 [5050] N•m [ft/lb]
Peak Engine Torque	7334 [5409] N•m [ft/lb]
Minimum Idle Speed Setting	650 RPM
Normal Idle Speed Variation	±25 RPM
High Idle Speed Range - Minimum	1965 RPM
High Idle Speed Range - Maximum	2184 RPM
Maximum Allowable Engine Speed	2375 RPM
Brake Mean Effective Pressure	1712 [248] kPa [PSI]
Compression Ratio	13.9:1
Piston Speed	10 [2031] m/sec [ft/min.]
Maximum Torque Capacity from Front of Crank ²	4341 [3202] N•m [ft/lb]
Firing Order	1R-1L-3R-3L-2R-2L-5R-4L- 8R-8L-6R-6L-7R-7L-4R-5L
Weight (Dry) Engine Only - Average	5431 [11,973] kg [lb]
Weight (Dry) Engine With Heat Exchanger System - Average	5751 [12,678] kg [lb]
Weight Tolerance (Dry) Engine Only	±10 %

Noise and Vibration

Average Noise Level - Top (Idle)	dBA @ 1m	100
(Rated)	dBA @ 1m	110
Average Noise Level - Right Side (Idle)	dBA @ 1m	98
(Rated)	dBA @ 1m	109
Average Noise Level - Left Side (Idle)	dBA @ 1m	99
(Rated)	dBA @ 1m	108
Average Noise Level - Front (Idle)	dBA @ 1m	98
(Rated)	dBA @ 1m	108

Fuel System¹

Fuel Consumption @ rated speed	litre/hr [GPH]	348 [92]
Approximate Fuel Flow to Pump	litre/hr [GPH]	632 [167]
Maximum Allowable Fuel Supply to Pump Temperature	°C [°F]	60 [140]
Approximate Fuel Flow Return to Tank	l/hr [gal/hr]	284 [75]
Approximate Fuel Return to Tank Temperature	°C [°F]	68 [155]
Maximum Heat Rejection to Drain Fuel	kW [BTU/min]	4 [235]
Fuel Rail Pressure - Gauge	kPaG [PSIG]	1034 [150]
Fuel Rail Pressure - INSITE	kPaA [PSIA]	1062 [154]

Air System¹

Intake Manifold Pressure	mm Hg [in. Hg]	1473 [58]
Intake Air Flow	litre/sec [CFM]	2068 [4381]
Heat Rejection to Ambient	kW [BTU/min.]	82 [4681]

Exhaust System¹

Exhaust Gas Flow	litre/sec [CFM]	3693 [7825]
Exhaust Gas Temperature (Turbine Out)	°C [°F]	502 [935]
Exhaust Gas Temperature (Manifold)	°C [°F]	N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	g/kw-hr [g/bhp-hr]	8.63 [6.44]
HC (Hydrocarbons)	g/kw-hr [g/bhp-hr]	0.19 [0.14]
CO (Carbon Monoxide)	g/kw-hr [g/bhp-hr]	2.22 [1.66]

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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Marine Engine Performance Data

Curve No. M-6278
DS-4998
CPL: 2589
DATE: 30Apr01

General Engine Data

Engine Model	KTA50-M2
Rating Type	Intermittent
Rated Engine Power	1491 [2000]
Rated Engine Speed	2050
Rated HP Production Tolerance	% ±3
Rated Engine Torque	N•m [ft/lb] 6947 [5124]
Peak Engine Torque	N•m [ft/lb] 7296 [5381]
Minimum Idle Speed Setting	RPM 650
Normal Idle Speed Variation	RPM ±15
High Idle Speed Range - Minimum	RPM 2065
High Idle Speed Range - Maximum	RPM 2153
Maximum Allowable Engine Speed	RPM 2375
Brake Mean Effective Pressure	kPa [PSI] 1737 [252]
Compression Ratio	13.9:1
Piston Speed	m/sec [ft/min.] 11 [2135]
Maximum Torque Capacity from Front of Crank ²	N•m [ft/lb] 4341 [3202]
Firing Order	1R-1L-3R-3L-2R-2L-5R-4L-8R-8L-6R-6L-7R-7L-4R-5L
Weight (Dry) Engine Only - Average	kg [lb] 5431 [11,973]
Weight (Dry) Engine With Heat Exchanger System - Average	kg [lb] 5751 [12,678]
Weight Tolerance (Dry) Engine Only	% ±10

Noise and Vibration

Average Noise Level - Top (Idle)	dBa @ 1m 106
(Rated)	dBa @ 1m 117
Average Noise Level - Right Side (Idle)	dBa @ 1m 105
(Rated)	dBa @ 1m 116
Average Noise Level - Left Side (Idle)	dBa @ 1m 105
(Rated)	dBa @ 1m 115
Average Noise Level - Front (Idle)	dBa @ 1m 105
(Rated)	dBa @ 1m 115

Fuel System¹

Fuel Consumption @ rated speed	litre/hr [GPH] 367 [97]
Approximate Fuel Flow to Pump	litre/hr [GPH] 632 [167]
Maximum Allowable Fuel Supply to Pump Temperature	°C [°F] 60 [140]
Approximate Fuel Flow Return to Tank	l/hr [gal/hr] 265 [70]
Approximate Fuel Return to Tank Temperature	°C [°F] 68 [155]
Maximum Heat Rejection to Drain Fuel	kW [BTU/min] 4 [219]
Fuel Rail Pressure - Gauge	kPaG [PSIG] 1138 [165]
Fuel Rail Pressure - INSITE	kPaA [PSIA] 1165 [169]

Air System¹

Intake Manifold Pressure	mm Hg [in. Hg] 1600 [63]
Intake Air Flow	litre/sec [CFM] 2257 [4782]
Heat Rejection to Ambient	kW [BTU/min.] 85 [4815]

Exhaust System¹

Exhaust Gas Flow	litre/sec [CFM] 3693 [7825]
Exhaust Gas Temperature (Turbine Out)	°C [°F] 476 [888]
Exhaust Gas Temperature (Manifold)	°C [°F] N.A.

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	g/kw-hr [g/bhp-hr] 8.59 [6.41]
HC (Hydrocarbons)	g/kw-hr [g/bhp-hr] 0.17 [0.13]
CO (Carbon Monoxide)	g/kw-hr [g/bhp-hr] 2.08 [1.55]

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¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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Run Hard. Dream Big.™



N14-M

M A R I N E

269 - 392 KW

360 - 525 HP

ENGINE SPECIFICATIONS

Configuration	In-line 6-cylinder, 4-stroke diesel
Bore & Stroke	140 mm x 152 mm (5.50 in x 6.00 in)
Displacement	14 L (855 in³)
Compression Ratio	17:1
Rotation	Counterclockwise facing flywheel
Oil Pan Capacity	36 L (9.58 gallons)

POWER RATINGS

Rating	Continuous Duty*	Heavy Duty*	Medium Duty*
Rated RPM	1800	1800	2100
kW (Hp)	269 (360) 298 (400) 328 (440)	358 (480)	392 (525)
Max Torque	1498 (1105) @ 1400 (360)	1993 (1470) @ 1400	1871 (1380) @ 1500
N·m (ft·lb) @ RPM	1661 (1225) @ 1400 (400) 1830 (1350) @ 1400 (440)		

*Ratings are IMO emissions compliant.

STANDARD FEATURES

Engine Design

Heavy duty in-line six-cylinder configuration. Four-cycle design for quiet and fuel-efficient operation. Low-profile for ease of installation and easy service access. Replaceable wet cylinder liners for longer life and for lower rebuild costs. Articulated piston for increased power/torque capacity.

Cooling System

Heat exchanger or keel-cooled configurations. Heat exchanger system is low profile and engineered for simplicity, utilizing o-ring seals and piping that eliminates hoses and clamps for leak-free operation. Spin-on Fleetguard® water treatment filter.

Air System

Holset turbocharger optimized for marine applications. Marine grade air filter with air inlet restriction indicator. Water shielded exhaust manifold and turbocharger for excellent performance and reliability.

Fuel System

Dependable Cummins PT® fuel system for added reliability. Fleetguard spin-on cartridge fuel filter. Step Timing Control (STC) allows for smooth engine acceleration and minimal smoke.



Lubrication System

Cast aluminum, marine grade, (36 L [9.58 gal]) capacity lube oil pan. High-capacity gear-driven lube oil pump, externally mounted for ease of service. Fleetguard combination filter - combined bypass and primary filter cartridge, for simplified service and reduced disposal cost.

Electrical System

24-volt standard electrical system with available 24-volt isolated ground components. 24-volt, 60-amp engine-mounted belt-driven alternator. Marine grade wiring harness. Engine alarms/switches for low oil pressure and high water temperature.

IMO Emissions Certified

Certificates of compliance are available from the U.S. EPA and Lloyd's Register of Shipping.

AVAILABLE ACCESSORIES

Front Power Take-Off

Accessory Drive Pulley

Hydraulic Pump Drives (2) SAE A/B available

Classification Society

Approvals: Check with your local Cummins professional for an updated listing.

Ask your nearest Cummins distributor for other available options.

N14-M

MARINE

269 - 392 KW
360 - 525 HP



ENGINE DIMENSIONS

Length		Width		Height		Weight	
mm	in	mm	in	mm	in	kg	lb
1451.3	57.14	946.5	37.27	1295.4	51.0	1407	3100

PERFORMANCE DATA

Rating	Continuous Duty 360 bhp*				Continuous Duty 400 bhp*				Continuous Duty 440 bhp*			
rpm	1800	1600	1400	1200	1800	1600	1400	1200	1800	1600	1400	1200
kW	269	195	136	90	298	217	151	100	328	239	166	110
g/kW-hr	197	200	199	208	195	200	208	207	193	196	200	202
l/hr	63.3	46.4	32.3	22.3	69.2	51.7	37.5	24.7	75.6	55.9	39.5	26.5
bhp	360	262	183	120	400	291	203	134	440	320	223	147
lb/hr-hr	.325	.329	.325	.344	.320	.330	.341	.340	.318	.324	.327	.333
gal/hr	16.7	12.3	8.5	5.9	18.3	13.7	9.9	6.5	20.0	14.8	10.4	7.0

Rating	Heavy Duty 480 bhp*				Medium Duty 525 bhp*			
rpm	1800	1600	1400	1200	2100	1800	1500	1200
kW	358	260	182	120	392	258	158	87
g/kW-hr	194	196	198	202	202	192	179	171
l/hr	82.7	60.6	43.0	28.9	94.4	59.2	33.7	17.7
bhp	480	349	244	161	525	346	212	116
lb/hr-hr	.318	.321	.327	.330	.332	.316	.294	.284
gal/hr	21.8	16.0	11.4	7.6	24.9	15.6	8.9	4.7

*Ratings are IMO emissions compliant.

Above data represents performance along a 3.0 fixed pitch propeller curve. Fuel consumption has a tolerance of +5% and is based on fuel of 35° API gravity at 16 °C (60 °F) having an LHV of 42, 780 KJ/KG (18,390 BTU/lb) when used at 29 °C (85 °F) and weighing 838.9 g/liter (7.001 lb/US gal). Observed horsepower is certified within ± 3 % of rated horsepower. Cummins has always been a pioneer in product improvement. Thus specifications may change without notice. Consult your local Cummins professional for further information.

Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa (29.612 in Hg) and 25°C (77°F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

Continuous

Intended for continuous use in applications requiring uninterrupted service at full power. This rating is an ISO 3046 standard power rating.

Heavy Duty

Intended for continuous use in variable load applications where full power is limited to eight hours out of every ten hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is for applications that operate less than 5,000 hours per year.

Medium Continuous Duty

Intended for continuous use in variable load applications where full power is limited to six hours out of every twelve hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is for applications that operate less than 3,000 hours per year.

Intermittent Duty

Intended for intermittent use in variable load applications where full power is limited to two hours out of every eight hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is intended for applications that operate less than 1,500 hours per year.



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Marine Engine Performance Data

Curve No. M-10233
DS-4963
CPL: 2862
DATE: 10Nov99

General Engine Data

Engine Model	N14-M
Rating Type	Continuous
Rated Engine Power	269 [360]
Rated Engine Speed	1800
Rated HP Production Tolerance.....	±3
Rated Engine Torque	1424 [1050]
Peak Engine Torque @ 1400 rpm.....	1498 [1105]
Brake Mean Effective Pressure.....	1282 [186]
Low Idle Speed	650
High Idle Speed	2070
Compression Ratio.....	17.0:1
Piston Speed	9 [1800]
Average Noise Level - Top.....	99.5
Maximum Torque Capacity from Front of Crank ²	
Firing Order	1-5-3-6-2-4

Fuel System¹

Fuel Consumption	litre/hr [GPH]	63.2 [16.7]
Approximate Fuel Flow to Pump	litre/hr [GPH]	196.8 [52.0]
Fuel Rail Pressure Range	kPa [PSI]	758 [110]

Weight (Dry)¹

Engine Only	kg [lb]	1406 [3100]
With Heat Exchanger Cooling System	kg [lb]	1588 [3500]

Air System¹

Intake Manifold Pressure.....	mm Hg [in. Hg]	965 [38]
Intake Air Flow.....	litre/sec [CFM]	380 [800]
Heat Rejection to Ambient.....	kW [BTU/min.]	19 [1080]

Exhaust System¹

Exhaust Gas Flow	litre/sec [CFM]	976 [2070]
Exhaust Gas Temperature (Turbine Out).....	°C [°F]	472 [880]
Exhaust Gas Temperature (Manifold)	°C [°F]	572 [1060]

Emissions¹

NOx (in accordance with ISO8178 Cycle E3)	g/kw-hr [g/bhp-hr]	8.02 [5.98]
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Cooling System¹

Coolant Flow to Engine Heat Exchanger/Keel Cooler.....	litre/min. [GPM]	424 [112]
Coolant Flow to LTA Heat Exchanger/Keel Cooler	litre/min. [GPM]	N/A
Standard Thermostat Operating Range (Min.).....	°C [°F]	82 [180]
Standard Thermostat Operating Range (Max.)	°C [°F]	94 [202]
LTA Thermostat Operating Range (Min.).....	°C [°F]	N/A
LTA Thermostat Operating Range (Max.)	°C [°F]	N/A
Heat Rejection to Engine Coolant ³	kW [BTU/min.]	194 [11,050]
Heat Rejection to LTA Coolant ³	kW [BTU/min.]	N/A
Minimum Sea Water Flow (With Heat Exchanger Option) ⁴	litre/min. [GPM]	N/A
Pressure Cap Rating (With Heat Exchanger Option)	kPa [PSI]	103 [15]

INSTALLATION DIAGRAMS:

Keel Cooled.....	3170352
Heat Exchanger.....	3170354

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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COLUMBUS, INDIANA

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Marine Engine Performance Data

Curve No. M-10173
DS-4963
CPL: 2861
DATE: 12Nov99

General Engine Data

Engine Model	N14-M
Rating Type	Continuous
Rated Engine Power kW [HP]	328 [440]
Rated Engine Speed RPM	1800
Rated HP Production Tolerance	±3
Rated Engine Torque	1741 [1284]
Peak Engine Torque @ 1400 rpm..... N•m [ft/lb]	1830 [1350]
Brake Mean Effective Pressure..... kPa [PSI]	1565 [227]
Low Idle Speed	650
High Idle Speed	2070
Compression Ratio	17.0:1
Piston Speed	9 [1800]
Average Noise Level - Top	102.9
Maximum Torque Capacity from Front of Crank ²	
Firing Order	1-5-3-6-2-4

Fuel System¹

Fuel Consumption litre/hr [GPH]	75.0 [19.8]
Approximate Fuel Flow to Pump litre/hr [GPH]	243.8 [64.4]
Fuel Rail Pressure Range kPa [PSI]	979 [142]

Weight (Dry)¹

Engine Only	1406 [3100]
With Heat Exchanger Cooling System	1588 [3500]

Air System¹

Intake Manifold Pressure..... mm Hg [in. Hg]	1067 [42]
Intake Air Flow..... litre/sec [CFM]	415 [880]
Heat Rejection to Ambient..... kW [BTU/min.]	24 [1380]

Exhaust System¹

Exhaust Gas Flow litre/sec [CFM]	1085 [2300]
Exhaust Gas Temperature (Turbine Out) °C [°F]	468 [875]
Exhaust Gas Temperature (Manifold)..... °C [°F]	577 [1070]

Emissions¹

NOx (in accordance with ISO8178 Cycle E3).....	g/kw-hr [g/bhp-hr]	9.39 [7.00]
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Cooling System¹

Coolant Flow to Engine Heat Exchanger/Keel Cooler litre/min. [GPM]	424 [112]
Coolant Flow to LTA Heat Exchanger/Keel Cooler litre/min. [GPM]	49 [13]
Standard Thermostat Operating Range (Min.)..... °C [°F]	82 [180]
Standard Thermostat Operating Range (Max.)..... °C [°F]	94 [202]
LTA Thermostat Operating Range (Min.)..... °C [°F]	66 [150]
LTA Thermostat Operating Range (Max.)..... °C [°F]	77 [170]
Heat Rejection to Engine Coolant ³ kW [BTU/min.]	186 [10,600]
Heat Rejection to LTA Coolant ³ kW [BTU/min.]	67 [3,800]
Minimum Sea Water Flow (With Heat Exchanger Option) ⁴ litre/min. [GPM]	227 [60]
Pressure Cap Rating (With Heat Exchanger Option)..... kPa [PSI]	103 [15]

INSTALLATION DIAGRAMS:

Keel Cooled.....	3170352
Heat Exchanger.....	3170354

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

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<http://marketingtechdata.cummins.com/curves/database/htmlfiles/curvemainpage.htm>

Marine Engine Performance Data

Curve No. M-10236
DS-4963
CPL: 2862
DATE: 12Nov99

General Engine Data

Engine Model	N14-M
Rating Type	Heavy Duty
Rated Engine Power	358 [480]
Rated Engine Speed	1800
Rated HP Production Tolerance.....	±3
Rated Engine Torque	1899 [1401]
Peak Engine Torque @ 1400 rpm.....	1993 [1470]
Brake Mean Effective Pressure.....	1703 [247]
Low Idle Speed	650
High Idle Speed	2070
Compression Ratio	17.0:1
Piston Speed	9 [1800]
Average Noise Level - Top.....	104.2
Maximum Torque Capacity from Front of Crank ²	
Firing Order	1-5-3-6-2-4

Fuel System¹

Fuel Consumption	litre/hr [GPH]	82.5 [21.8]
Approximate Fuel Flow to Pump	litre/hr [GPH]	265.0 [70.0]
Fuel Rail Pressure Range	kPa [PSI]	1145 [166]

Weight (Dry)¹

Engine Only	kg [lb]	1406 [3100]
With Heat Exchanger Cooling System	kg [lb]	1588 [3500]

Air System¹

Intake Manifold Pressure.....	mm Hg [in. Hg]	1397 [55]
Intake Air Flow.....	litre/sec [CFM]	458 [970]
Heat Rejection to Ambient.....	kW [BTU/min.]	30 [1680]

Exhaust System¹

Exhaust Gas Flow	litre/sec [CFM]	1322 [2800]
Exhaust Gas Temperature (Turbine Out).....	°C [°F]	494 [920]
Exhaust Gas Temperature (Manifold)	°C [°F]	616 [1140]

Emissions¹

NOx (in accordance with ISO8178 Cycle E3)	g/kw-hr [g/bhp-hr]	9.66 [7.20]
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Cooling System¹

Coolant Flow to Engine Heat Exchanger/Keel Cooler.....	litre/min. [GPM]	424 [112]
Coolant Flow to LTA Heat Exchanger/Keel Cooler	litre/min. [GPM]	N/A
Standard Thermostat Operating Range (Min.).....	°C [°F]	82 [180]
Standard Thermostat Operating Range (Max.).....	°C [°F]	94 [202]
LTA Thermostat Operating Range (Min.).....	°C [°F]	N/A
LTA Thermostat Operating Range (Max.).....	°C [°F]	N/A
Heat Rejection to Engine Coolant ³	kW [BTU/min.]	259 [14,740]
Heat Rejection to LTA Coolant ³	kW [BTU/min.]	N/A
Minimum Sea Water Flow (With Heat Exchanger Option) ⁴	litre/min. [GPM]	N/A
Pressure Cap Rating (With Heat Exchanger Option)	kPa [PSI]	103 [15]

INSTALLATION DIAGRAMS:

Keel Cooled.....	3170352
Heat Exchanger.....	3170354

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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Marine Engine Performance Data

Curve No. M-10208
DS-4963
CPL: 2861
DATE: 12Nov99

General Engine Data

Engine Model	N14-M
Rating Type	Medium Continuous
Rated Engine Power	392 [525]
Rated Engine Speed	2100
High Idle Speed	2300
Idle Speed	650
Rated HP Production Tolerance	±3
Rated Engine Torque	1780 [1313]
Peak Engine Torque @ 1500 rpm	1871 [1380]
Brake Mean Effective Pressure	1593 [231]
Compression Ratio	17.0:1
Piston Speed	11 [2100]
Average Noise Level	104.9
Maximum Torque Capacity from Front of Crank ²	
Firing Order	1-5-3-6-2-4

Fuel System¹

Fuel Consumption	94.1 [24.9]
Approximate Fuel Flow to Pump	298 [79]
Fuel Rail Pressure Range	1323 [192]

Weight (Dry)¹

Engine Only	1407 [3100]
With Heat Exchanger Cooling System	1588 [3500]

Air System¹

Intake Manifold Pressure	1397 [55]
Intake Air Flow	523 [1100]
Heat Rejection to Ambient	32 [1838]

Exhaust System¹

Exhaust Gas Flow	1462 [3100]
Exhaust Gas Temperature (Turbine Out)	466 [870]
Exhaust Gas Temperature (Manifold)	TBD

Emissions¹

NOx (in accordance with ISO8178 Cycle E3)	9.48 [7.07]
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Cooling System¹

Coolant Flow to Engine Heat Exchanger/Keel Cooler	427 [113]
Coolant Flow to LTA Heat Exchanger/Keel Cooler	57 [15]
Standard Thermostat Operating Range (Min.)	82 [180]
Standard Thermostat Operating Range (Max.)	94 [202]
LTA Thermostat Operating Range (Min.)	66 [150]
LTA Thermostat Operating Range (Max.)	77 [170]
Heat Rejection to Engine Coolant ³	203 [11,550]
Heat Rejection to LTA Coolant ³	92 [5,250]
Minimum Sea Water Flow (With Heat Exchanger Option) ⁴	234 [62]
Pressure Cap Rating (With Heat Exchanger Option)	103 [15]

INSTALLATION DIAGRAMS:

Keel Cooled	3170352
Heat Exchanger	3170354

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

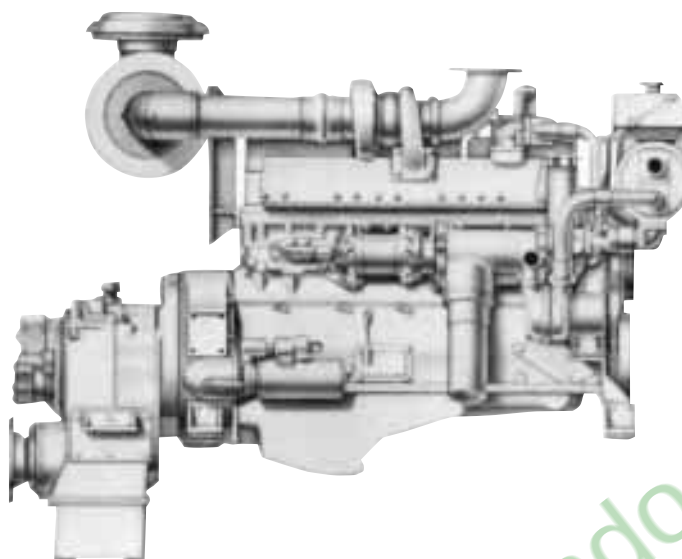
⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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NT-855-M
Chart your course
with confidence.



Specifications

**Four Stroke Cycle, Turbocharged
In-line, 6 Cylinder Diesel Engine**

Marine Medium Continuous Rating

Crankshaft Power	360 bhp	(269 kW)
Rated RPM	2100 rpm	
Fuel Consumption at Rated rpm	18.9 U.S. g/hr. (71.5 L/hr.)	

Marine Heavy Duty Rating

Crankshaft Power	340 bhp	(254 kW)
Rated RPM	1800 rpm	
Fuel Consumption at Rated rpm	16.7 U.S. g/hr. (63.2 L/hr.)	

Marine Continuous Rating

Crankshaft Power	300 bhp	(224 kW)
Rated RPM	1800 rpm	
Fuel Consumption at Rated rpm	15.3 U.S. g/hr. (57.8 L/hr.)	

Marine Continuous Rating

Crankshaft Power	270 bhp	(201 kW)
Rated RPM	1800 rpm	
Fuel Consumption at Rated rpm	13.7 U.S. g/hr. (52.0 L/hr.)	

Marine Continuous Rating

Crankshaft Power	240 bhp	(179 kW)
Rated RPM	1800 rpm	
Fuel Consumption at Rated rpm	12.3 U.S. g/hr. (46.4 L/hr.)	

Bore and Stroke	5.50x6 in.	(140x152 mm)
Displacement	855 cu. in.	(14 L)
Oil Pan Capacity	7 U.S.gals.	(26 L)
Net Weight, Dry *	2,770 lbs.	(1,258 kg)

Available Equipment

Accessory Drive Pulley: Multigroove pulley mounted at front of engine.

Air Intake System: Light or normal duty dry air cleaner, mounted. Air restriction service indicator.

Alternators: 24 or 32 volt insulated or 24 volt grounded, of various amperage outputs. Includes built-in voltage regulator.

By-Pass Oil Filter: Replaceable element type mounted.

Cooling System: Heat exchanger with copper nickel tube bundle mounted. Self priming raw water pump, belt driven.

Crankshaft Pulley: Two groove pulleys available.

Electrical Accessories: Starter relay switch, low oil pressure and high water temperature alarm switches, 24 volt alarm horn.

Engine Support: Pad type front engine support. Rear engine and marine gear supports for various marine gears.

Exhaust Outlet: Straight or 90-degree exhaust connection for 5 in. (127 mm) piping. Flexible exhaust tubing.

Flywheel and Flywheel Housing: SAE 1 for use with various marine gears.

Front Power Take-Off: Various front PTO units available.

Fuel System Accessories: Fuel supply and injector drain line check valves. Float tank 1.5 gal. (5.7 L) capacity mounted on port side of engine.

Hydraulic Pump Drive: Spline coupling to adapt an S.A.E. A type hydraulic pump. Drive is 1.5 times engine speed, capable of 90 lb.-ft. (122 N•m) torque.

Instrument Panel: Panels include start switch gauges for water temperature, oil pressure, marine gear oil pressure, voltmeter, tach/hourmeter, circuit breaker and local-off-remote switch (supplied in kit).

Available Equipment continued on back.

	Marine Medium Continuous Rating	Marine Continuous Rating	Marine Continuous Rating
Crankshaft Power	360 BHP @ 2100 RPM (269 kW) @ 2100 RPM	300 BHP @ 1800 RPM (224 kW) @ 1800 RPM	240 BHP @ 1800 RPM (179 kW) @ 1800 RPM
Propeller Shaft Power	349 SHP @ 2100 RPM (260 kW) @ 2100 RPM	291 SHP @ 1800 RPM (217 kW) @ 1800 RPM	233 SHP @ 1800 RPM (174 kW) @ 1800 RPM
Fuel Consumption U.S. Gal./Hr. (Litre/Hr)	18.9 (71.5) @ 2100 RPM 14.1 (51.9) @ 1900 RPM 10.4 (39.4) @ 1700 RPM 7.4 (28.4) @ 1500 RPM 5.1 (20.4) @ 1300 RPM	15.3 (58.3) @ 1800 RPM 10.6 (40.1) @ 1600 RPM 7.2 (26.5) @ 1400 RPM 2.9 (17.4) @ 1000 RPM	12.3 (46.4) @ 1800 RPM 8.6 (32.6) @ 1600 RPM 5.9 (22.3) @ 1400 RPM 3.9 (14.8) @ 1200 RPM 2.4 (9.1) @ 1000 RPM

RATING CONDITIONS: Ratings are based upon ISO 3046 (SAE J1228) conditions of 29.612 in. hg. (100 kPa), 81 degrees F. (27 degrees C.), and 60% relative humidity.

Propeller Shaft Power represents the net power available after typical reverse/reduction gear losses and is 97 percent of rated power.

Fuel consumption is based upon No. 2 diesel fuel with a fuel weight of 7.1 lbs. (3.2 kg.) per U.S. gal., and the power requirements of a typical fixed pitch propeller. (Marine continuous rating propeller curve calculated at a 3.0 exponent, other rating propeller curves calculated at a 2.7 exponent.)

MARINE CONTINUOUS RATING: This power rating is intended for continuous use in applications requiring uninterrupted service at full power. This rating is the ISO 3046 standard Power Rating and the SAE J1228 Continuous Crankshaft Power.

MARINE HEAVY DUTY RATING: Intended for continuous use in variable load applications where full power is limited to eight (8) hours out of every ten (10) hours of operation. Also, reduced power operations must be at or below 200 RPM of the maximum rated RPM. This is an ISO 3046 Fuel Stop Power Rating and is for applications that operate less than 5,000 hours per year.

Available Equipment

(Continued)

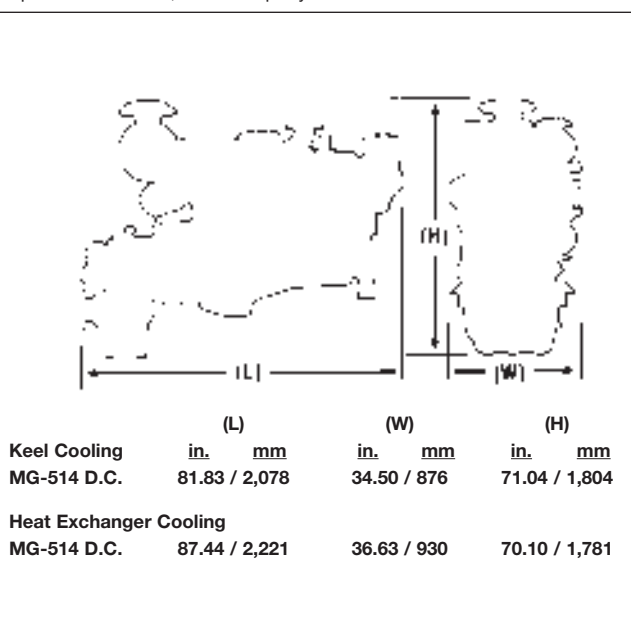
Marine Agency Certification: Available from American Bureau of Shipping, Lloyd's Register of Shipping, Bureau Veritas, Det Norske Veritas, Registro Italiano Navale, GL or Canadian Coast Guard Ship Safety Branch factory test and inspection certificate.

Main Gear Oil Cooler: Mounted and plumbed in engine coolant circuit. Available for remote installation.

Oil Drain Accessories: Mounted suction type sump pump for draining oil pump.

Starters: 24 volt or 32 volt electric starters or air starters available.

MARINE MEDIUM CONTINUOUS RATING: This power rating is intended for continuous use in variable load applications where full power is limited to six hours out of every twelve hours of operation. Reduced power operations must be at or below 200 RPM of the maximum rated RPM. This rating is an ISO 3046 Fuel Stop Power Rating, and is for applications that operate less than 3,000 hours per year.



Cummins has always been a pioneer in product improvement. Thus specifications may change without notice. Illustrations may include optional equipment.



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Marine Engine Performance Data

Curve No. M-1180-D
DS-4962
CPL: 0731
DATE: 12May99

General Engine Data*

Engine Model.....	NT855-M
Rating Type	Continuous
Rated Engine Power..... - kW [BHP]	179 [240]
Rated Engine Speed	1800
High Idle Speed Range	1962 - 2106
Idle Speed Range..... - RPM	575 - 675
Engine Torque	949 [700]
Brake Mean Effective Pressure	851 [123]
Compression Ratio.....	14.5:1
Piston Speed	9.1 [1800]
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	46.4 [12.3]
Approximate Fuel Flow to Pump	139 [36]
Fuel Rail Pressure Range	585 [84]

Weight (Dry)

Engine Only	1258 [2770]
With Heat Exchanger Cooling System	+127 [280]

Air System*

Intake Manifold Pressure.....	511 [20]
Intake Air Flow.....	270 [570]
Heat Rejection to Ambient.....	23 [1300]
Minimum Ambient Temperature for Cold Start (No Aids)	0 [32]

Exhaust System*

Exhaust Gas Flow (after turbine)	590 [1250]
Exhaust Gas Temperature (after turbine)	382 [720]

Cooling System*

Heat Rejection to Engine Coolant***	153 [8700]
Engine Water Flow	317 [84]
Raw Water Flow	234 [62]
Pressure Cap Rating w/Heat Exchanger	103 [15]

INSTALLATION DIAGRAMS: 3383880

*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

***Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do not include fouling factors. Cooler sizing should be based on the above heat values factored by an amount for service fouling typical of the cooler design applied.

****Consult option notes for flow specifications of optional Cummins seawater pumps.

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

Marine Engine Performance Data

Curve No. M-1179

DS-4962

CPL: 0731

DATE: 12May99

General Engine Data*

Engine Model.....	NT855-M
Rating Type	Continuous
Rated Engine Power.....kW [HP]	201 [270]
Rated Engine Speed	1800
High Idle Speed Range	1962-2106
Idle Speed Range.....RPM	575-650
Engine Torque-Nm [ft/lb]	1068 [787]
Brake Mean Effective Pressure	958 [139]
Compression Ratio.....	14.5:1
Piston Speed	9.1 [1800]
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	litre/hr [GPH]	52.0 [13.7]
Approximate Fuel Flow to Pump	litre/hr [GPH]	155 [41]
Fuel Rail Pressure Range	kPa [PSI]	710 [103]

Weight (Dry)

Engine Only	kg [lb]	1258 [2770]
With Heat Exchanger Cooling System	kg [lb]	+127 [280]

Air System*

Intake Manifold Pressure.....	mm Hg [in Hg]	592 [23]
Intake Air Flow.....	litre/sec [CFM]	280 [600]
Heat Rejection to Ambient.....	kW [BTU/min]	26 [1500]
Minimum Ambient Temperature for Cold Start (No Aids)	°C [°F]	0 [32]

Exhaust System*

Exhaust Gas Flow (after turbine)	litre/sec [CFM]	640 [1350]
Exhaust Gas Temperature (after turbine)	°C [°F]	404 [760]

Cooling System*

Heat Rejection to Engine Coolant***	kW [BTU/min]	171 [9700]
Engine Water Flow	litre/min [GPM]	427 [113]
Raw Water Flow	litre/min [GPM]	234 [62]
Pressure Cap Rating w/Heat Exchanger.....	kPa [PSI]	103 [15]

INSTALLATION DIAGRAMS: 3383880

*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

***Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do not include fouling factors. Cooler sizing should be based on the above heat values factored by an amount for service fouling typical of the cooler design applied.

****Consult option notes for flow specifications of optional Cummins seawater pumps.

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

Marine Engine Performance Data

Curve No. M-1418
DS-4962
CPL: 0731
DATE: 12May99

General Engine Data*

Engine Model.....	NT855-M
Rating Type	Continuous
Rated Engine Power..... - kW [BHP]	224 [300]
Rated Engine Speed	1800
High Idle Speed Range	1962 - 2106
Idle Speed Range	575 - 650
Engine Torque	1186 [875]
Brake Mean Effective Pressure	1064 [154]
Compression Ratio.....	14.5:1
Piston Speed	9.1 [1800]
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	57.8 [15.3]
Approximate Fuel Flow to Pump	174 [46]
Fuel Rail Pressure Range	847 [123]

Weight (Dry)

Engine Only	1258 [2770]
With Heat Exchanger Cooling System	+127 [280]

Air System*

Intake Manifold Pressure	610 [24]
Intake Air Flow.....	280 [590]
Heat Rejection to Ambient	29 [1700]
Minimum Ambient Temperature for Cold Start (No Aids)	0 [32]

Exhaust System*

Exhaust Gas Flow (after turbine)	650 [1400]
Exhaust Gas Temperature (after turbine)	432 [810]

Cooling System*

Heat Rejection to Engine Coolant***	191 [10,900]
Engine Water Flow	427 [113]
Raw Water Flow	234 [62]
Pressure Cap Rating w/Heat Exchanger	103 [15]

INSTALLATION DIAGRAMS: 3383880

*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

***Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do not include fouling factors. Cooler sizing should be based on the above heat values factored by an amount for service fouling typical of the cooler design applied.

****Consult option notes for flow specifications of optional Cummins seawater pumps.

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

Marine Engine Performance Data

Curve No. M-1915
DS-4962
CPL: 0731
DATE: 12May99

General Engine Data*

Engine Model.....	NT855-M
Rating Type	Heavy Duty
Rated Engine Power	254 [340]
Rated Engine Speed	1800
High Idle Speed Range	1962 - 2106
Idle Speed Range.....	575 - 650
Engine Torque	1345 [992]
Brake Mean Effective Pressure	1206 [175]
Compression Ratio.....	14.5:1
Piston Speed	9.1 [1800]
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	litre/hr [GPH]	63.2 [16.7]
Approximate Fuel Flow to Pump	litre/hr [GPH]	190 [49]
Fuel Rail Pressure Range	kPa [PSI]	971 [141]

Weight (Dry)

Engine Only	kg [lb]	1258 [2770]
With Heat Exchanger Cooling System	kg [lb]	+127 [280]

Air System*

Intake Manifold Pressure	mm Hg [in. Hg]	813 [32]
Intake Air Flow.....	litre/sec [CFM]	318 [670]
Heat Rejection to Ambient.....	kW [BTU/min.]	34 [2000]
Minimum Ambient Temperature for Cold Start (No Aids)	°C [°F]	0 [32]

Exhaust System*

Exhaust Gas Flow (after turbine)	litre/sec [CFM]	738 [1590]
Exhaust Gas Temperature (after turbine)	°C [°F]	432 [810]

Cooling System*

Heat Rejection to Engine Coolant***	kW [BTU/min.]	191 [10,900]
Engine Water Flow	litre/min. [GPM]	427 [113]
Raw Water Flow	litre/min. [GPM]	234 [62]
Pressure Cap Rating w/Heat Exchanger	kPa [PSI]	50 [7]

INSTALLATION DIAGRAMS: 3383880

*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

***Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do not include fouling factors. Cooler sizing should be based on the above heat values factored by an amount for service fouling typical of the cooler design applied.

****Consult option notes for flow specifications of optional Cummins seawater pumps.

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

Marine Engine Performance Data

Curve No. M-1419
DS-4962
CPL: 0731
DATE: 12May99

General Engine Data*

Engine Model.....	NT855-M
Rating Type	Med. Continuous
Rated Engine Power..... kW [HP]	269 [360]
Rated Engine Speed	RPM 2100
High Idle Speed Range	RPM 2254 - 2467
Idle Speed Range.....	RPM 575 - 675
Engine Torque	N•m [ft/lb] 1220 [900]
Brake Mean Effective Pressure	kPa [PSI] 1094 [159]
Compression Ratio.....	14.5:1
Piston Speed	m/sec [ft/min] 10.7 [2100]
Average Noise Level	dBa at 1m 99.5
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	litre/hr [GPH] 71.5 [18.9]
Approximate Fuel Flow to Pump	litre/hr [GPH] 215 [57]
Fuel Rail Pressure Range	kPa [PSI] 1227 [178]

Weight (Dry)

Engine Only	kg [lb] 1258 [2770]
With Heat Exchanger Cooling System	kg [lb] +127 [280]

Air System*

Intake Manifold Pressure.....	mm Hg [in. Hg] 965 [38]
Intake Air Flow.....	litre/sec [CFM] 380 [800]
Heat Rejection to Ambient.....	kW [BTU/min.] 36 [2000]
Minimum Ambient Temperature for Cold Start (No Aids)	°C [°F] 0 [32]

Exhaust System*

Exhaust Gas Flow (after turbine)	litre/sec [CFM] 890 [1900]
Exhaust Gas Temperature (after turbine)	°C [°F] 432 [810]

Cooling System*

Heat Rejection to Engine Coolant***	kW [BTU/min.] 236 [13,400]
Engine Water Flow	litre/min. [GPM] 488 [129]
Raw Water Flow	litre/min. [GPM] 264 [70]
Pressure Cap Rating w/Heat Exchanger.....	kPa [PSI] 103 [15]

INSTALLATION DIAGRAMS: 3383880

*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

***Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do not include fouling factors. Cooler sizing should be based on the above heat values factored by an amount for service fouling typical of the cooler design applied.

****Consult option notes for flow specifications of optional Cummins seawater pumps.

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

Marine Engine Performance Data

Curve No. M-1399
DS-4962
CPL: 0700
DATE: 12May99

General Engine Data*

Engine Model.....	NT855-M
Rating Type	Continuous
Rated Engine Power..... kW [HP]	261 [350]
Rated Engine Speed	RPM 1800
High Idle Speed Range	RPM 1962 - 2106
Idle Speed Range.....	RPM 575 - 675
Engine Torque	N•m [ft/lb] 1384 [1021]
Brake Mean Effective Pressure	kPa [PSI] 1241 [180]
Compression Ratio.....	14.5:1
Piston Speed	m/sec [ft/min.] 9.1 [1800]
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	litre/hr [GPH] 66.4 [17.6]
Approximate Fuel Flow to Pump	litre/hr [GPH] 211 [56]
Fuel Rail Pressure Range	kPa [PSI] 1116 [162]

Weight (Dry)

Engine Only	kg [lb] 1303 [2870]
With Heat Exchanger Cooling System	kg [lb] +127 [280]

Air System*

Intake Manifold Pressure.....	mm Hg [in. Hg] 940 [37]
Intake Air Flow	litre/sec [CFM] 380 [800]
Heat Rejection to Ambient	kW [BTU/min.] 33 [1900]
Minimum Ambient Temperature for Cold Start (No Aids)	°C [°F] 0 [32]

Exhaust System*

Exhaust Gas Flow (after turbine)	litre/sec [CFM] 880 [1850]
Exhaust Gas Temperature (after turbine)	°C [°F] 427 [800]

Cooling System*

Heat Rejection to Engine Coolant***	kW [BTU/min.] 220 [12,500]
Engine Water Flow	litre/min. [GPM] 427 [113]
Raw Water Flow	litre/min. [GPM] 234 [62]
Pressure Cap Rating w/Heat Exchanger	kPa [PSI] 103 [15]

INSTALLATION DIAGRAMS: 3383880

*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

***Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do not include fouling factors. Cooler sizing should be based on the above heat values factored by an amount for service fouling typical of the cooler design applied.

****Consult option notes for flow specifications of optional Cummins seawater pumps.

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA



Marine NTA-855-M

Chart your course
with confidence.

Specifications

Four Stroke Cycle, Turbocharged-Aftercooled
In-line, 6 Cylinder Diesel Engine

Marine Medium Continuous Rating

Crankshaft Power	400 bhp	(298 kW)
Rated RPM	2100 rpm	
Fuel Consumption at Rated rpm	20.9 U.S. g/hr. (79 L/hr.)	

Marine Heavy Duty Rating

Crankshaft Power	380 bhp	(283 kW)
Rated RPM	1800	
Fuel Consumption at Rated rpm	18.6 U.S. g/hr. (70.4 L/hr.)	

Marine Continuous Rating

Crankshaft Power	350 bhp	(261 kW)
Rated RPM	1800	
Fuel Consumption at Rated rpm	17.6 U.S. g/hr. (66.4 L/hr.)	

Bore and Stroke	5.50x6 in.	(140x152 mm)
Displacement	855 cu. in.	(14 L)
Oil Pan Capacity	7 U.S.gals.	(26.5 L)
Net Weight, Dry	2,870 lbs.	(1,303 kg)

Available Equipment

Accessory Drive Pulley: Multigroove pulley mounted at front of engine.

Air Intake System: Light or normal duty dry air cleaner, mounted. Air restriction service indicator.

Alternators: 24 or 32 volt insulated or 24 volt grounded, of various amperage outputs. Includes built-in voltage regulator.

By-Pass Oil Filter: Replaceable element type mounted.

Cooling System: Heat exchanger with copper nickel tube bundle mounted. Self priming raw water pump, belt driven.

Crankshaft Pulley: Two groove pulleys available.

Electrical Accessories: Starter relay switch, low oil pressure and high water temperature alarm switches, 24 volt alarm horn.

Engine Support: Pad type front engine support. Rear engine and marine gear supports for various marine gears.

Exhaust Outlet: Straight or 90-degree exhaust connection for 5 in. (127 mm) piping. Flexible exhaust tubing.

Flywheel and Flywheel Housing: SAE 1 for use with various marine gears.

Front Power Take-Off: Various front PTO units available.

Fuel System Accessories: Fuel supply and injector drain line check valves. Float tank 1.5 gal. (5.7 L) capacity mounted on port side of engine.

Instrument Panel: Panels include start switch gauges for water temperature, oil pressure, marine gear oil pressure, voltmeter, tach/hourmeter, circuit breaker and local-off-remote switch supplied in kit.

Available Equipment continued on back.

	Marine Medium Continuous Rating	Marine Continuous Rating
Crankshaft Power	400 BHP @ 2100 RPM (298 kW) @ 2100 RPM	350 BHP @ 1800 RPM (261 kW) @ 1800 RPM
Propeller Shaft Power	388 SHP @ 2100 RPM (289 kW) @ 2100 RPM	340 SHP @ 1800 RPM (254 kW) @ 1800 RPM
Fuel Consumption U.S. Gal./Hr. (Litre/Hr)	20.9(79.0) @ 2100 RPM 15.5(59.7) @ 1900 RPM 11.4(43.1) @ 1700 RPM 8.3(31.4) @ 1500 RPM	17.6(66.4) @ 1800 RPM 12.5(47.3) @ 1600 RPM 8.5(32.2) @ 1400 RPM 5.4(20.4) @ 1200 RPM

RATING CONDITIONS: Ratings are based upon ISO 3046 (SAE J1228) conditions of 29.612 in. hg. (100 kPa), 81 degrees F. (27 degrees C.), and 60% relative humidity.

Propeller Shaft Power represents the net power available after typical reverse/reduction gear losses and is 97 percent of rated power.

Fuel consumption is based upon No. 2 diesel fuel with a fuel weight of 7.1 lbs. (3.2 kg.) per U.S. gal., and the power requirements of a typical fixed pitch propeller. (Marine continuous rating propeller curve calculated at a 3.0 exponent, other rating propeller curves calculated at a 2.7 exponent.)

MARINE CONTINUOUS RATING: This power rating is intended for continuous use in applications requiring uninterrupted service at full power. This rating is the ISO 3046 standard Power Rating and the SAE J1228 Continuous Crankshaft Power.

MARINE HEAVY DUTY RATING: Intended for continuous use in variable load applications where full power is limited to eight (8) hours out of every ten (10) hours of operation. Also, reduced power operations must be at or below 200 RPM of the maximum rated RPM. This is an ISO 3046 Fuel Stop Power Rating and is for applications that operate less than 5,000 hours per year.

Available Equipment

(Continued)

Marine Agency Certification: Available from American Bureau of Shipping, Lloyd's Register of Shipping, Bureau Veritas, Det Norske Veritas, Registro Italiano Navale, GL or Canadian Coast Guard Ship Safety Branch factory test and inspection certificate.

Main Gear Oil Cooler: Mounted and plumbed in engine coolant circuit. Available for remote installation.

Oil Drain Accessories: Mounted suction type sump pump for draining oil pump.

Starters: 24 volt or 32 volt electric starters or air starters available.

MARINE MEDIUM CONTINUOUS RATING: This power rating is intended for continuous use in variable load applications where full power is limited to six hours out of every twelve hours of operation. Reduced power operations must be at or below 200 RPM of the maximum rated RPM. This rating is an ISO 3046 Fuel Stop Power Rating, and is for applications that operate less than 3,000 hours per year.

Cummins has always been a pioneer in product improvement. Thus specifications may change without notice. Illustrations may include optional equipment.



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Marine Engine Performance Data

Curve No. M-1916
DS-4962
CPL: 0701
DATE: 12May99

General Engine Data*

Engine Model.....	NTA855-M
Rating Type	Heavy Duty
Rated Engine Power	283 [380]
Rated Engine Speed	1800
High Idle Speed Range	2040 - TBD
Idle Speed Range.....	575 - 675
Engine Torque	1504 [1109]
Brake Mean Effective Pressure	1351 [196]
Compression Ratio.....	14.5:1
Piston Speed	9.1 [1800]
Average Noise Level	99
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	70.4 [18.6]
Approximate Fuel Flow to Pump	212 [56]
Fuel Rail Pressure Range	916 [133]

Weight (Dry)

Engine Only	1303 [2870]
With Heat Exchanger Cooling System	+127 [280]

Air System*

Intake Manifold Pressure	965 [38]
Intake Air Flow.....	410 [870]
Heat Rejection to Ambient.....	35 [2000]
Minimum Ambient Temperature for Cold Start (No Aids)	0 [32]

Exhaust System*

Exhaust Gas Flow (after turbine)	959 [2012]
Exhaust Gas Temperature (after turbine)	427 [800]

Cooling System*

Heat Rejection to Engine Coolant***	229 [13,000]
Engine Water Flow	427 [113]
Raw Water Flow	234 [62]
Pressure Cap Rating w/Heat Exchanger	103 [15]

INSTALLATION DIAGRAMS: 3019688

*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

***Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do not include fouling factors. Cooler sizing should be based on the above heat values factored by an amount for service fouling typical of the cooler design applied.

****Consult option notes for flow specifications of optional Cummins seawater pumps.

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

Marine Engine Performance Data

Curve No. M-1400
DS-4962
CPL: 0701
DATE: 12May99

General Engine Data*

Engine Model.....	NTA855-M
Rating Type	Medium Continuous
Rated Engine Power..... kW [HP]	298 [400]
Rated Engine Speed	RPM 2100
High Idle Speed Range	RPM 2289 - 2457
Idle Speed Range.....	RPM 575 - 675
Engine Torque	N•m [ft/lb] 1356 [1000]
Brake Mean Effective Pressure	kPa [PSI] 1216 [176]
Compression Ratio.....	14.5:1
Piston Speed	m/sec [ft/min] 10.7 [2100]
Average Noise Level	dBa at 1m 99
Maximum Torque Capacity from Front of Crank**	
Firing Order	1-5-3-6-2-4

Fuel System*

Fuel Consumption	litre/hr [GPH] 79.0 [20.9]
Approximate Fuel Flow to Pump	litre/hr [GPH] 238 [63]
Fuel Rail Pressure Range	kPa [PSI] 1109 [161]

Weights (Dry)

Engine Only	kg [lb] 1303 [2870]
With Heat Exchanger Cooling System	kg [lb] +127 [280]

Air System*

Intake Manifold Pressure.....	mm Hg [in. Hg] 1143 [45]
Intake Air Flow	litre/sec [CFM] 490 [1040]
Heat Rejection to Ambient.....	kW [BTU/min.] 40 [2300]
Minimum Ambient Temperature for Cold Start (No Aids)	°C [°F] 0 [32]

Exhaust System*

Exhaust Gas Flow (after turbine)	litre/sec [CFM] 1120 [2350]
Exhaust Gas Temperature (after turbine)	°C [°F] 410 [770]

Cooling System*

Heat Rejection to Engine Coolant***	kW [BTU/min.] 261 [14,800]
Engine Water Flow	litre/min. [GPM] 488 [129]
Raw Water Flow	litre/min. [GPM] 264 [70]
Pressure Cap Rating w/Heat Exchanger.....	kPa [PSI] 103 [15]

INSTALLATION DIAGRAMS: 3019688

*All Data at Rated Conditions

**Consult Installation Direction Booklet for Limitations

***Heat rejection to coolant values are based on 50% water/ 50% ethylene glycol mix and do not include fouling factors. Cooler sizing should be based on the above heat values factored by an amount for service fouling typical of the cooler design applied.

****Consult option notes for flow specifications of optional Cummins seawater pumps.

CUMMINS ENGINE COMPANY, INC.
COLUMBUS, INDIANA

RUN HARD. DREAM BIG.™



QSM11

M A R I N E

535 - 635 HP

399 - 474 KW

ENGINE SPECIFICATIONS

Configuration	In-line 6-cylinder, 4-stroke diesel
Bore & Stroke	125 mm x 147 mm (4.92 in x 5.79 in)
Displacement	10.8 L (661 in³)
Rotation	Counterclockwise facing flywheel

POWER RATINGS

Rating	High Output*	Intermittent Duty*	High Output*
Rated RPM	2300	2300	2300
BHP	635	580	535
kW	474	433	399
Metric HP	644	588	542
Max Torque N·m (ft·lb)	1715 (2325)	1570 (2129)	1860 (2522)
RPM	1700	1700	1300

*Ratings are IMO emissions compliant

FEATURES AND BENEFITS

Engine Design

Heavy-duty inline six-cylinder configuration. Four cycle design for quiet and fuel efficient operation. Low profile for ease of installation and easy service access. Replaceable wet cylinder liners for longer life and lower rebuild costs.

Cooling System

Low profile, heat exchanger configuration with standard closed crankcase ventilation system.

Air System

Holset turbocharger optimized for marine applications. Marine grade air filter. Large capacity sea water aftercooler. Cladded dry exhaust manifold for increased fuel efficiency and improved emissions.

Fuel System

Cummins full authority electronic Quantum System optimizes combustion for increased engine performance and fuel efficient operation.

Lubrication System

34 L (9.0 g) marine grade, cast aluminum oil pan designed to resist corrosion. Spin-on Fleetguard oil filters.

Electrical System

12-volt and 24-volt systems available. Marine grade wiring harness and instrument panels.

Manufacturing

ISO certified plants.

IMO Emissions Certified

Certificates of Compliance are available from the U.S. EPA and Lloyd's Register of Shipping.

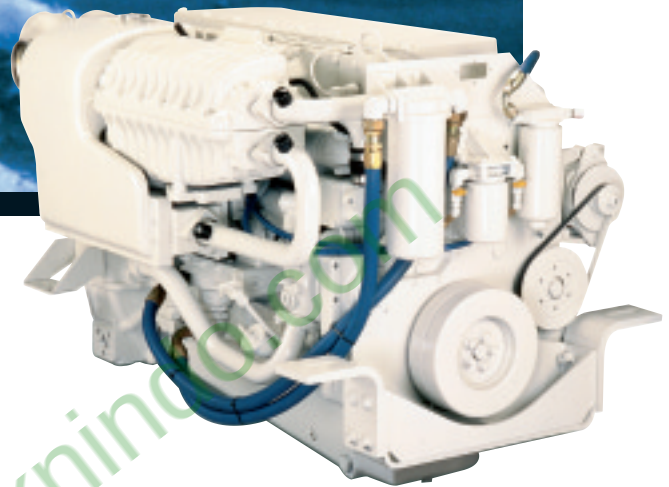
AVAILABLE ACCESSORIES

Auxiliary Pump

Hydraulic Pump Drive: SAE A or B flange

Accessory Drive Pulley: Belt or gear driven

Sea Cruise Package: Includes backup throttle, digital interface, engine synchronization, cruise control, idle speed control and slow idle.



QSM11

MARINE

535 - 635 HP

399 - 474 KW



ENGINE DIMENSIONS

Length		Width		Height		Weight	
mm	in	mm	in	mm	in	kg	lb
1353.9	53.3	981.6	38.65	1012.2	39.85	1125	2475



FUEL CONSUMPTION (PROP CURVE)

Rating	High Output 635 bhp*				Intermittent Duty 580 bhp*				High Output 535 bhp*			
rpm	2300	2100	1900	1700	2300	2100	1900	1700	2300	2100	1900	1700
kW	474	371	283	209	433	338	258	191	399	313	239	178
L/hr	121.9	84.2	64.9	48.1	111.3	82.2	61.1	46.0	98.9	74.0	55.7	41.3
bhp	635	497	379	280	580	454	346	256	535	420	321	238
lb/hp-hr	.355	.314	.316	.318	.355	.335	.330	.334	.342	.327	.321	.321
gal/hr	32.2	22.3	17.1	12.7	29.4	21.7	16.3	12.2	26.1	19.6	14.7	10.9

*Ratings are IMO emissions compliant.

Above data represents performance along a 3.0 fixed pitch propeller curve. Fuel consumption has a tolerance of +5% and is based on fuel of 35° API gravity at 16 °C (60 °F) having an LHV of 42, 780 KJ/KG (18,390 BTU/lb) when used at 29 °C (85 °F) and weighing 838.9 g/liter (7.001 lb/US gal). Observed horsepower is certified within ± 3% of rated horsepower. Cummins has always been a pioneer in product improvement. Thus specifications may change without notice. Consult your local Cummins professional for further information.

Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa (29.612 in Hg) and 25°C (77°F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

High Output

Intended for use in variable load applications where full power is limited to one hour out of every eight hours of operation. This rating is for pleasure/non-revenue generating applications that operate less than 300 hours per year.

Intermittent Duty

Intended for intermittent use in variable load applications where full power is limited to two hours out of every eight hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is intended for applications that operate less than 1,500 hours per year.



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Marine Engine Performance Data

Curve No. M-2831
DS-4968
CPL: 2817
DATE: 20Nov00

General Engine Data

Engine Model	QSM11-M
Rating Type	High Output
Rated Engine Power kW [HP]	399 [535]
Rated Engine Speed RPM	2300
Rated HP Production Tolerance	±5
Rated Engine Torque	1656 [1222]
Peak Engine Torque @ 1300 RPM	2522 [1860]
Brake Mean Effective Pressure..... kPa [PSI]	1922 [279]
Minimum Idle Speed Setting RPM	600
Normal Idle Speed Variation	±10
High Idle Speed Range - Minimum	2340
High Idle Speed Range - Maximum	2360
Maximum Torque Capacity from Front of Crank ² N•m [ft/lb]	N.A.
Compression Ratio.....	15.9:1
Piston Speed..... m/sec [ft/min.]	11.3 [2220]
Firing Order.....	1-5-3-6-2-4
Weight (Dry) Engine Only - Average	N.A.
Weight (Dry) Engine With Heat Exchanger System - Average	1134 [2500]

Fuel System¹

Approximate Fuel Flow to Pump litre/hr [GPH]	281 [74]
Maximum Allowable Fuel Supply to Pump Temperature	60 [140]
Approximate Fuel Flow Return to Tank litre/hr [GPH]	N.A.
Approximate Fuel Return to Tank Temperature..... °C [°F]	N.A.
Maximum Heat Rejection to Drain Fuel⁵	N.A.
Fuel Transfer Pump Pressure Range..... kPa [PSI]	965 - 1241 [140 - 180]

Air System¹

Intake Manifold Pressure mm Hg [in. Hg]	1717 [68]
Intake Air Flow litre/sec [CFM]	594 [1259]
Heat Rejection to Ambient kW [BTU/min.]	21 [1200]

Exhaust System¹

Exhaust Gas Flow litre/sec [CFM]	1251 [2650]
Exhaust Gas Temperature (Turbine Out) °C [°F]	444 [831]
Exhaust Gas Temperature (Manifold)	N.A.
Heat Rejection to Exhaust..... kW [BTU/min.]	333 [19,000]

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)g/kw-hr [g/bhp-hr]	6.71 [5.00]
HC (Hydrocarbons).....g/kw-hr [g/bhp-hr]	0.21 [0.16]
CO (Carbon Monoxide).....g/kw-hr [g/bhp-hr]	0.25 [0.19]
PM (Particulate Matter).....g/kw-hr [g/bhp-hr]	N.A.

Cooling System¹

Coolant Flow to Engine Heat Exchanger/Keel Coolerlitre/min. [GPM]	379 [100]
Standard Thermostat Operating Range (Min.) °C [°F]	N.A.
Standard Thermostat Operating Range (Max.)..... °C [°F]	N.A.
Heat Rejection to Engine Coolant ³ kW [BTU/min.]	156 [8,900]
Sea Water Flow (With Heat Exchanger Option) ⁴litre/min. [GPM]	379 [100]
Pressure Cap Rating (With Heat Exchanger Option)..... kPa [PSI]	103 [15]

INSTALLATION DRAWING

Heat Exchanger Cooled	3170353
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TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

⁵May not be at rated load and speed. Maximum heat rejection may occur at other than rated conditions.

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://marketingtechdata.cummins.com/curves/database/htmlfiles/curvemainpage.htm>

Marine Engine Performance Data

Curve No. M-2621
DS-4968
CPL: 2443
DATE: 20Nov00

General Engine Data

Engine Model	QSM11-M
Rating Type	Intermittent
Rated Engine Power kW [HP]	433 [580]
Rated Engine Speed RPM	2300
Rated HP Production Tolerance	±5
Rated Engine Torque..... N•m [ft/lb]	1796 [1324]
Peak Engine Torque @ 1700 RPM..... N•m [ft/lb]	2129 [1570]
Brake Mean Effective Pressure..... kPa [PSI]	2083 [302]
Minimum Idle Speed Setting RPM	600
Normal Idle Speed Variation	±10
High Idle Speed Range - Minimum	2340
High Idle Speed Range - Maximum	2360
Maximum Torque Capacity from Front of Crank ² N•m [ft/lb]	N.A.
Compression Ratio.....	15.9:1
Piston Speed..... m/sec [ft/min.]	11.3 [2220]
Firing Order	1-5-3-6-2-4
Weight (Dry) Engine Only - Average	N.A.
Weight (Dry) Engine With Heat Exchanger System - Average	1134 [2500]

Fuel System¹

Approximate Fuel Flow to Pump litre/hr [GPH]	281 [74]
Maximum Allowable Fuel Supply to Pump Temperature °C [°F]	60 [140]
Approximate Fuel Flow Return to Tank litre/hr [GPH]	N.A.
Approximate Fuel Return to Tank Temperature..... °C [°F]	N.A.
Maximum Heat Rejection to Drain Fuel ⁵ kW [BTU/min]	N.A.
Fuel Transfer Pump Pressure Range..... kPa [PSI]	965 - 1241 [140 - 180]

Air System¹

Intake Manifold Pressure mm Hg [in. Hg]	1753 [69]
Intake Air Flow litre/sec [CFM]	580 [1230]
Heat Rejection to Ambient kW [BTU/min.]	23 [1300]

Exhaust System¹

Exhaust Gas Flow litre/sec [CFM]	1371 [2905]
Exhaust Gas Temperature (Turbine Out) °C [°F]	513 [955]
Exhaust Gas Temperature (Manifold) °C [°F]	N.A.
Heat Rejection to Exhaust..... kW [BTU/min.]	333 [19,250]

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)g/kw-hr [g/bhp-hr]	7.17 [5.35]
HC (Hydrocarbons)g/kw-hr [g/bhp-hr]	0.23 [0.17]
CO (Carbon Monoxide)g/kw-hr [g/bhp-hr]	0.43 [0.32]
PM (Particulate Matter)g/kw-hr [g/bhp-hr]	0.11 [0.08]

Cooling System¹

Coolant Flow to Engine Heat Exchanger/Keel Cooler litre/min. [GPM]	379 [100]
Standard Thermostat Operating Range (Min.) °C [°F]	N.A.
Standard Thermostat Operating Range (Max.)..... °C [°F]	N.A.
Heat Rejection to Engine Coolant ³ kW [BTU/min.]	158 [9,000]
Sea Water Flow (With Heat Exchanger Option) ⁴litre/min. [GPM]	379 [100]
Pressure Cap Rating (With Heat Exchanger Option)..... kPa [PSI]	103 [15]

INSTALLATION DRAWING

Heat Exchanger Cooled	3170353
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TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

³Heat rejection values are based on 50% water/ 50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.

⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

⁵May not be at rated load and speed. Maximum heat rejection may occur at other than rated conditions.

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://marketingtechdata.cummins.com/curves/database/htmlfiles/curvemainpage.htm>

Marine Engine Performance Data

Curve No. M-2620
DS-4968
CPL: 2443
DATE: 20Nov00

General Engine Data

Engine Model	QSM11-M
Rating Type	High Output
Rated Engine Power	474 [635]
Rated Engine Speed	2300
Rated HP Production Tolerance	±5
Rated Engine Torque	1966 [1450]
Peak Engine Torque @ 1700 RPM	2325 [1715]
Brake Mean Effective Pressure	2281 [331]
Minimum Idle Speed Setting	600
Normal Idle Speed Variation	±10
High Idle Speed Range - Minimum	2340
High Idle Speed Range - Maximum	2360
Maximum Torque Capacity from Front of Crank ²	N.A.
Compression Ratio	15.9:1
Piston Speed	11.3 [2220]
Firing Order	1-5-3-6-2-4
Weight (Dry) Engine Only - Average	N.A.
Weight (Dry) Engine With Heat Exchanger System - Average	1134 [2500]

Fuel System¹

Approximate Fuel Flow to Pump	281 [74]
Maximum Allowable Fuel Supply to Pump Temperature	60 [140]
Approximate Fuel Flow Return to Tank	N.A.
Approximate Fuel Return to Tank Temperature	N.A.
Maximum Heat Rejection to Drain Fuel ⁵	N.A.
Fuel Transfer Pump Pressure Range	965 - 1241 [140 - 180]

Air System¹

Intake Manifold Pressure	1956 [77]
Intake Air Flow	628 [1330]
Heat Rejection to Ambient	39 [2207]

Exhaust System¹

Exhaust Gas Flow	1520 [3220]
Exhaust Gas Temperature (Turbine Out)	535 [994]
Exhaust Gas Temperature (Manifold)	N.A.
Heat Rejection to Exhaust	418 [23,795]

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	6.93 [5.17]
HC (Hydrocarbons)	0.34 [0.25]
CO (Carbon Monoxide)	0.42 [0.31]
PM (Particulate Matter)	0.08 [0.06]

Cooling System¹

Coolant Flow to Engine Heat Exchanger/Keel Cooler	379 [100]
Standard Thermostat Operating Range (Min.)	N.A.
Standard Thermostat Operating Range (Max.)	N.A.
Heat Rejection to Engine Coolant ³	175 [9,970]
Sea Water Flow (With Heat Exchanger Option) ⁴	379 [100]
Pressure Cap Rating (With Heat Exchanger Option)	103 [15]

INSTALLATION DRAWING

Heat Exchanger Cooled	3170353
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TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

¹All Data at Rated Conditions

²Consult Installation Direction Booklet for Limitations

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⁴Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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COLUMBUS, INDIANA

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RUN HARD. DREAM BIG.™



QSK19-M MARINE

492 KW
660 HP

ENGINE SPECIFICATIONS

Configuration	In-line 6 Cylinder, 4-Stroke Diesel
Bore & Stroke	159 mm x 159 mm (6.25 in x 6.25 in)
Displacement	19 L (1150 in³)
Compression Ratio	15:1
Rotation	Counterclockwise facing flywheel

POWER RATINGS

Power Rating	Continuous Duty*
kW (HP)	492 (660)
Rated RPM	1800
Max Torque N·m (ft·lb) RPM	2797 (2063) 1400

*Ratings are IMO emissions compliant.

STANDARD FEATURES

Engine Design

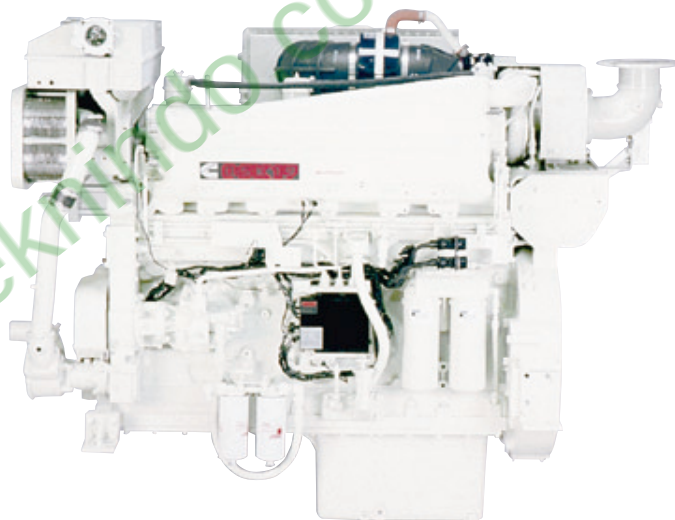
Heavy duty in-line six-cylinder configuration. Four cycle design for quiet and fuel-efficient operation. Low-profile for ease of installation and easy service access. Replaceable wet cylinder liners for longer life and lower rebuild costs. Forged steel, articulated piston for increased power/torque capacity.

Cooling System

Heat exchanger or keel-cooled configuration. Heat exchanger system is low profile and engineered for simplicity, utilizing O-ring seals and piping that eliminates hoses and clamps for a leak-free operation. Spin-on Fleetguard® water treatment filter.

Air System

Holset turbocharger optimized for marine applications. Marine grade air filter with air inlet restriction indicator. Cladded aerodynamic dry exhaust manifold for increased fuel efficiency and improved emissions. Low temperature aftercooled for optimum performance.



Fuel System

Dependable Cummins QUANTUM electronic fuel system for added reliability and precise fuel injection. QUANTUM features include engine protection, diagnostics, and flexible engine power settings.

Lubrication System

Cast aluminum, marine grade, high capacity lube oil pan (72 L [19 gal]). Fleetguard® combination filters - combined bypass and primary filter cartridge for simplified service and reduced disposal cost.

Electrical System

24 volt, 100 Amp alternator - isolated ground components.

IMO Emissions Certified

Certificates of compliance are available from the U.S. EPA. and Lloyd's Register of Shipping.

AVAILABLE ACCESSORIES

Prelub™ Starter - protects engine against damage from dry starts and extends engine life

Gear Driven Accessory Drive - SAE A or B, 2 bolt

Classification Society Approvals - consult your local Cummins professional for a current listing

QSK19-M

M A R I N E

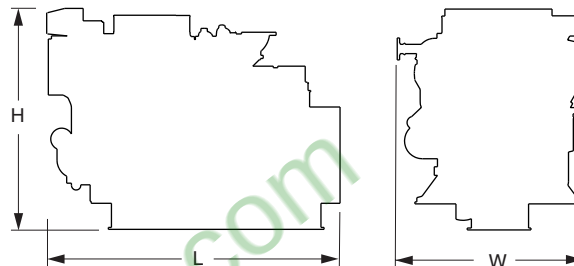
492 kW

660 HP



ENGINE DIMENSIONS

Length		Width		Height		Weight	
mm	in	mm	in	mm	in	kg	lb
1792	70.55	1064.6	41.91	1647.4	64.86	KC 2373	5231
						HX 2551	5623



PERFORMANCE DATA

Rating	Continuous Duty 660 bhp*			
RPM	1800	1600	1400	1200
kW	492	349	232	147
g/kW-hr	210	212	220	244
L/hr	123.3	87.0	60.8	39.5
bhp	660	467	312	197
lb/hp-hr	.346	.348	.362	.400
g/hr	32.6	23.0	16.1	10.4

*Ratings are IMO Emissions compliant.

Above data represents performance along a 3.0 fixed pitch propeller curve. Fuel consumption has a tolerance of +5% and is based on fuel of 35° API gravity at 16°C (60°F) having an LHV of 42, 780 KJ/KG (18,390 BTU/lb) when used at 29°C (85°F) and weighing 838.9 g/liter (7.001 lb/US gal). Observed horsepower is certified within ±3% of rated horsepower. Cummins has always been a pioneer in product improvement. Thus specifications may change without notice. Consult your local Cummins professional for further information.

Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa(29.612 in Hg) and 25°C (77°F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

Continuous Duty

Intended for continuous use in applications requiring uninterrupted service at full power. This rating is an ISO 3046 standard power rating.



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General Engine Data

Engine Model	QSK19-M
Rating Type	Continuous
Rated Engine Power	492 [660]
Rated Engine Speed	1800
Rated HP Production Tolerance	±4
Rated Engine Torque	2622 [1934]
Peak Engine Torque @ 1400 RPM	2797 [2063]
Brake Mean Effective Pressure	1749 [254]
Indicated Mean Effective Pressure	1993 [289]
Minimum Idle Speed Setting	650
Normal Idle Speed Variation	±15
High Idle Speed Range - Minimum	1840
High Idle Speed Range - Maximum	2130
Compression Ratio	15.0:1
Piston Speed	10 [1875]
Maximum Torque Capacity from Front of Crank ²	TBD
Firing Order	1-5-3-6-2-4
Weight (Dry) Engine Only - Average	2373 [5231]
Weight (Dry) Engine With Heat Exchanger System - Average	2551 [5623]
Weight Tolerance (Dry) Engine Only	±8.9

Noise and Vibration

Average Noise Level - Top (Rated)	101
Average Noise Level - Right Side (Rated)	100
Average Noise Level - Left Side (Rated)	102
Average Noise Level - Front (Rated)	103

Fuel System¹

Fuel Consumption @ rated speed	123 [33]
Approximate Fuel Flow to Pump	497 [131]
Maximum Allowable Fuel Supply to Pump Temperature	60 [140]
Approximate Fuel Flow Return to Tank	373 [99]
Approximate Fuel Return to Tank Temperature	71 [160]
Maximum Heat Rejection to Drain Fuel ⁵	8 [450]
Fuel Rail Pressure - Gauge	979 [142]
Fuel Rail Pressure - INSITE	1089 [158]

Air System¹

Intake Manifold Pressure	1421 [56]
Intake Air Flow	701 [1485]
Heat Rejection to Ambient	49 [2789]

Exhaust System¹

Exhaust Gas Flow	1652 [3500]
Exhaust Gas Temperature (Turbine Out)	485 [904]
Exhaust Gas Temperature (Manifold)	566 [1050]

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	8.68 [6.47]
HC (Hydrocarbons)	0.25 [0.19]
CO (Carbon Monoxide)	0.79 [0.59]

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

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General Engine Data

Engine Model	QSK19-M
Rating Type	Heavy Duty
Rated Engine Power	567 [760] kW [HP]
Rated Engine Speed	2100 RPM
Rated HP Production Tolerance	±4 %
Rated Engine Torque	2577 [1901] N•m [ft/lb]
Peak Engine Torque	3084 [2275] N•m [ft/lb]
Brake Mean Effective Pressure	1718 [249] kPa [PSI]
Indicated Mean Effective Pressure	1993 [289] kPa [PSI]
Minimum Idle Speed Setting	650 RPM
Normal Idle Speed Variation	±15 RPM
High Idle Speed Range - Minimum	2140 RPM
High Idle Speed Range - Maximum	2400 RPM
Maximum Allowable Speed	2450 RPM
Maximum Torque Capacity from Front of Crank ²	TBD N•m [ft/lb]
Compression Ratio	15.0:1
Piston Speed	11 [2188] m/sec [ft/min.]
Firing Order	1-5-3-6-2-4
Weight (Dry) Engine Only - Average	2373 [5231] kg [lb]
Weight (Dry) Engine With Heat Exchanger System - Average	2551 [5623] kg [lb]
Weight Tolerance (Dry) Engine Only	±8.9 %

Noise and Vibration

Average Noise Level - Top (Rated)	104 dBA @ 1m
Average Noise Level - Right Side (Rated)	103 dBA @ 1m
Average Noise Level - Left Side (Rated)	104 dBA @ 1m
Average Noise Level - Front (Rated)	105 dBA @ 1m

Fuel System¹

Average Fuel Consumption - ISO 8178 E3 Standard Test Cycle	98 [26] litre/hr [GPH]
Fuel Consumption @ rated speed	146 [39] litre/hr [GPH]
Approximate Fuel Flow to Pump	522 [138] litre/hr [GPH]
Maximum Allowable Fuel Supply to Pump Temperature	60 [140] °C [°F]
Approximate Fuel Flow Return to Tank	349 [92] l/hr [gal/hr]
Approximate Fuel Return to Tank Temperature	72 [162] °C [°F]
Maximum Heat Rejection to Drain Fuel ⁵	8 [450] kW [BTU/min]
Fuel Rail Pressure - Gauge	1220 [177] kPaG [PSIG]
Fuel Rail Pressure - INSITE	1317 [191] kPaA [PSIA]

Air System¹

Intake Manifold Pressure	1600 [63] mm Hg [in. Hg]
Intake Air Flow	813 [1722] litre/sec [CFM]
Heat Rejection to Ambient	57 [3239] kW [BTU/min.]

Exhaust System¹

Exhaust Gas Flow	1982 [4200] litre/sec [CFM]
Exhaust Gas Temperature (Turbine Out)	474 [885] °C [°F]
Exhaust Gas Temperature (Manifold)	577 [1070] °C [°F]

Emissions (in accordance with ISO8178 Cycle E3)

NOx (Oxides of Nitrogen)	7.70 [5.74] g/kw-hr [g/bhp-hr]
HC (Hydrocarbons)	0.31 [0.23] g/kw-hr [g/bhp-hr]
CO (Carbon Monoxide)	0.46 [0.34] g/kw-hr [g/bhp-hr]

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