

# T4.230-Evo3



Power at crankshaft	165.5 kW [225 hp]
Displacement	2.755 l [168 in <sup>3</sup> ]
Configuration	4 cylinders in line
Operation type	4 strokes Diesel
Bore & Stroke	92 x 103,6 mm [3.62 x 4.07 in]
Compression ratio	15.6 : 1
Rated speed	3800 rpm
Idling speed	700 rpm
Peak torque	550 Nm
Peak torque speed	2200-2600 rpm
Engine base	Toyota
Fuel system	Direct injection Common Rail Electronically controlled
Air intake	Turbocharged with intercooler
Cooling	Closed cooling with heat exchanger
Max mounting angle	7° Front down 7° Front up
Alternator	12 Volt 130 Amp
Rating	M6
Emission compliance	IMO II Annex VI Compliant RCD 2013/53/EU EPA marine Tier 3 BSO2
Dry weight	334 kg [736.3 lbs]

**Engine block**

- 4 valves per cylinder
- Dual overhead camshaft (DOHC)
- Watercooled exhaust manifold
- Internal balancers

**Fuel system**

- Common Rail injection system
- Fuel filter with hand primer
- Integrated fuel cooler

**Lubrication System**

- Replaceable full-flow oil filter
- Oil dipstick
- Transmission oil cooler

**Cooling system**

- Closed cooling with heat exchanger
- Belt driven self-priming raw water pump
- Coolant circulating pump
- Water cooled exhaust elbow

**Electrical system & instrumentation**

- 12 V / 130 A alternator
- 12 V Electrical system
- Complete instrumentation including key switch and alarms
- Extension cable harness with plug-in connection

**Air intake**

- Turbocharger
- Intercooler

**Other features**

- Flexible engine mountings

**Optional equipments & accessories**

- Complete marine propulsion systems
- Marine transmission adaptation kits
- Throttle and shift controls
- Additional instrumentation, Flying bridge extension harness
- Water boiler systems
- Complete fuel systems
- Complete exhaust systems
- Trolling valve
- Switchable Turbine Fuel Prefilter
- Exhaust Muffler & Connections
- Sea water Circuit Kit

**Command Panel SI-5**

- Rpm Display
- Oil pressure
- Water temperature
- Maintenance schedule
- Trim Indicator
- Fuel level
- NMEA 2000
- J1939 CAN BUS



**PROPELLION ENGINE**
**Transmission**

- TTM40A
- TTM50A
- ZF45A
- ZF68A

For other transmission requests,  
please contact technical support.

**Stern drive**

- Bravo X One
- Bravo X Three
- Bravo X Two

**LUBRICATION SYSTEM**

Oil pressure @ idle speed	bar	1
	psi	7.3
Oil pressure @ rated speed	bar	4.5
	psi	65.3
Oil quantity excluding filter @ 0° angle	liters	7.5
	gal US	1.98
Maximum permitted installed tilt angle	front down	°7
	front up	°7
Maximum permitted intermittent angle	tilt	°15
	side tilt	°7

**PERFORMANCE**

RPM @ crankshaft	rpm	700	1400	2000	2600	3200	3600	3800	4000
Torque @ crankshaft	Nm	216.9	297.4	553.9	551.3	484	436.3	416.9	353.6
	ft-lb	160	219.4	408.5	406.6	357	321.8	307.5	260.8
Power @ crankshaft	hp	21.6	59.3	157.7	204.1	220.5	223.7	225	201.4
	Kw	15.9	43.6	116	150.1	162.2	164.5	165.5	148.1
Power at calculated propeller load exp.3	hp	1.9	11.3	43.8	72.2	134.6	191.7	225	-
	Kw	1.4	8.3	32.2	53.1	99	141	165.5	-

**FUEL SYSTEM**

RPM @ crankshaft	rpm	700	1400	2000	2600	3200	3600	3800	4000
Fuel consumption propeller load exp.3	l/h	1	2,26	6,61	14,53	27,01	38,58	42,2	-
	gal US/h	0,26	0,59	1,74	3,83	7,15	10,18	11,14	
Fuel consumption at full load	l/h	5	9	26	34,2	40	42	42,2	42,5
	gal US/h	1,3	2,4	6,9	9	10,6	11,1	11,1	11,2
Maximum permitted fuel inlet pressure	kPa	-30 / +20							
	psi	-4.4 / +2.9							
Maximum permitted fuel return pressure	kPa	20							
	psi	2.9							

**PROPELLION ENGINE**
**COOLING SYSTEM**

Coolant circulation pump flow	l/min gal US/min	160 42.2
Raw water pump flow	l/min gal US/min	155 40.9
Total heat rejection at rated speed	kW BTU/min	124 -
Total coolant capacity	l gal US	15 3.96
Thermostat, start open at	°C °F	80 176
Thermostat, fully open at	°C °F	94 201

**EXHAUST SYSTEM**

Exhaust gas flow	m³/min ft³/min	36.17 1277
Permitted back pressure in the exhaust line	kPa inH <sub>2</sub> O	20 120.4
Maximum exhaust temperature	°C °F	550 1022

**AIR INTAKE SYSTEM**

Engine air consumption at 25°C	m³/min ft³/min	12.4 437
Maximum allowance intake air temperature	°C °F	50 122
Maximum temperature rise, ambient to engine inlet	°C °F	20 68
Maximum air intake restriction, clean air filter	kPa inH <sub>2</sub> O	3 12
Maximum air intake restriction, dirty air filter	kPa inH <sub>2</sub> O	6.25 25.1
Boost pressure	kPa psi	170-175 24.6 / 25.3

**ELECTRICAL SYSTEM**

Alternator	voltage amperes	V A	12 130
Electric starter motor		kW	2.7
Battery, minimum cold start current		CCA	650 min
Recommended battery K20		A/h	100 to 120

**DRY WEIGHT**

Weight without transmission	kg lbs	334 736.3
Dry weight with TTM40A	kg lbs	404 890.6

**INSTALLATION TIPS**

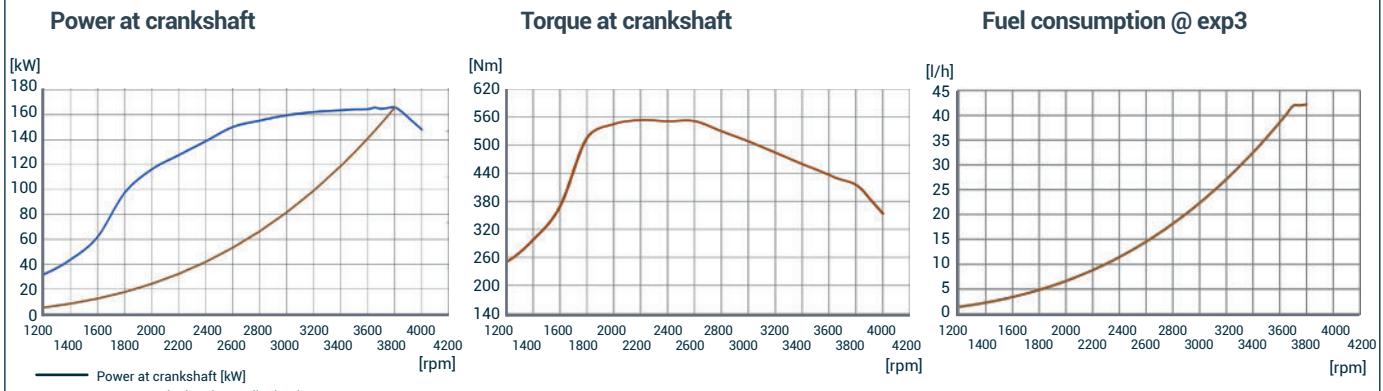
Fuel line supply diameter	mm in	10 0.39
Fuel line return diameter	mm in	10 0.39
Sea water line diameter	mm in	38 1.5
Exhaust line diameter	mm in	104 4.1

**RATINGS**

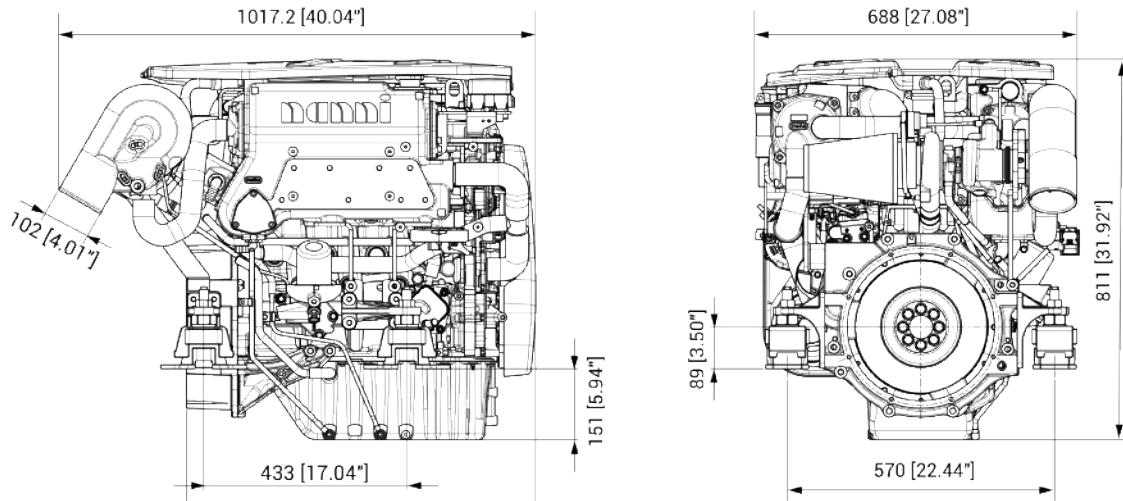
Rating	M6
Operating hours	Up to 500 annual operating hours
Load Factor	Up to 35 %
Duty Cycle	Full power for no more than 30 minutes out of each 8 hours of operation. The remaining operation time must be at or below cruising speed.

## PROPELLION ENGINE

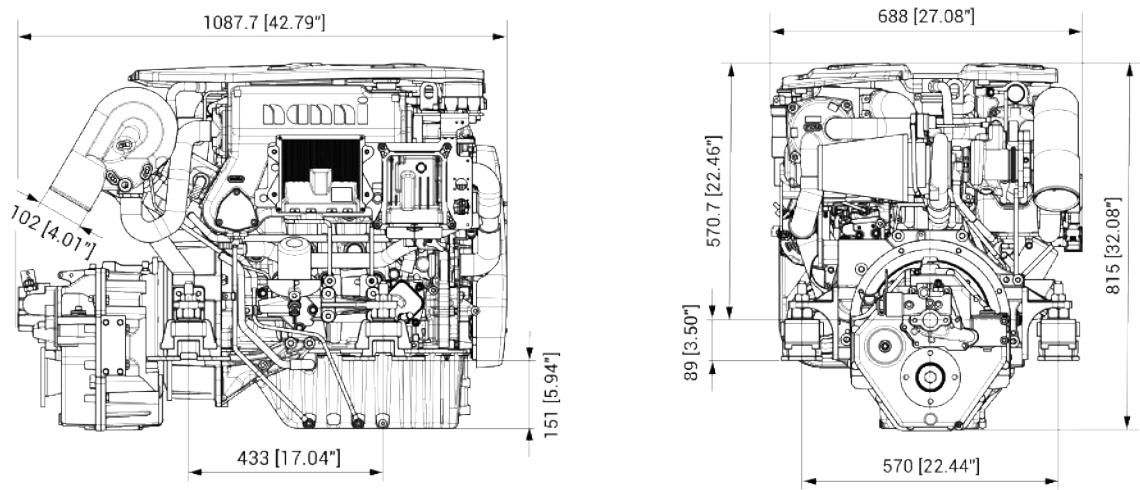
### PERFORMANCE CURVES

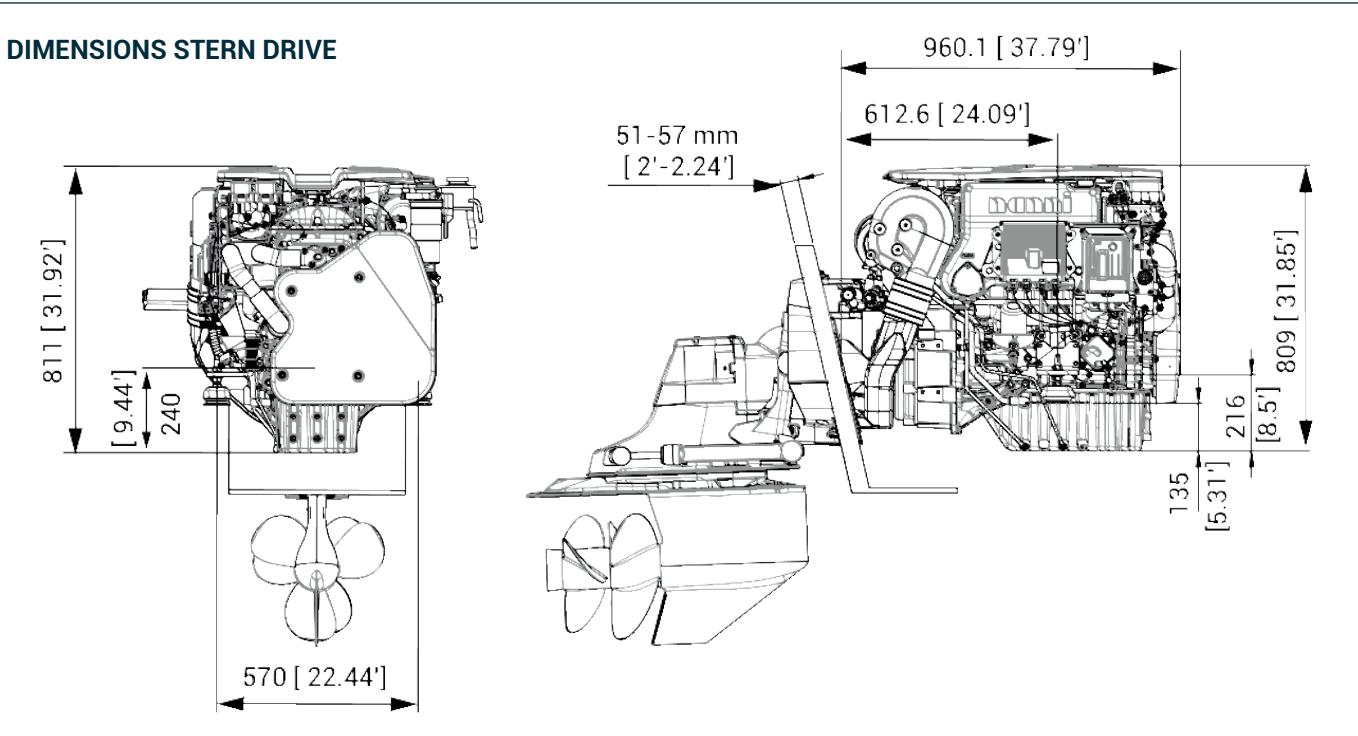


### DIMENSIONS BOBTAIL



### DIMENSIONS SHAFT LINE





NOTE 1: Dimensions are given in mm [in.].

NOTE 2: data are subject to change without notice. Text and illustrations are not binding. This document is not suitable for vessel installation.

NOTE 3: Technical data according to ISO 8665.

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