

J-444NA1 & J-444NA2

MERMAID ENGINE DATA



The Mermaid J444 engines have proven popular in a number of applications from heavy duty commercial fishing to leisure use on the inland waterways in wide beam barges.

This data sheet brings together the relevant technical data required to assist in the design of an installation for these engines.

This does not purport to be an all encompassing reference document, but covers the most commonly required and requested pieces of information.

If any information not included within this document is required, please contact the Mermaid factory for further advice.

The information detailed below and on the following pages relates to the following models within the Mermaid J444 range of engines only; J-444NA1 & J-444NA2.

BASE ENGINE SPECIFICATIONS

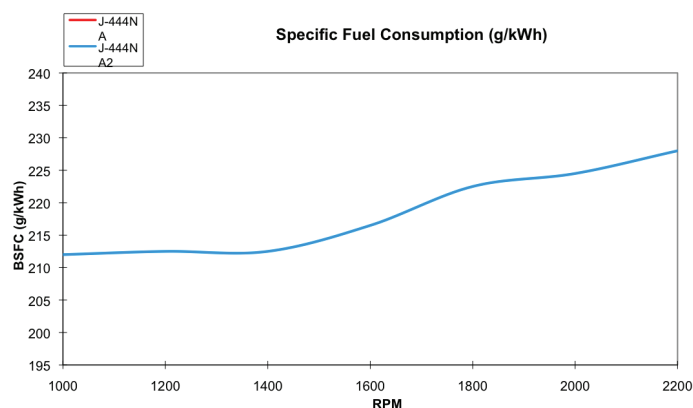
Description	J-444NA1	J-444NA2
Number of cylinders	4	
Direction of rotation (facing flywheel)	Counter Clockwise	
Bore (mm)	103	
Stroke (mm)	132	
Compression ratio	18.6:1	18.6:1
Displacement (Litres)	4.4	
Rated Power (HP / kW)	74 / 55.3	85 / 63
Rated Speed (rpm)	2200	
Maximum Torque (Nm)	305	320
Maximum Torque Speed (rpm)	1200	1200
Minimum SFC at full load (g/kWh)	N/A	209
Noise at maximum rating (dBA @ 1 Metre)	89	
Dry weight (Bobtailed) (kg)	560	560

LUBRICATION SYSTEM

Description	J-444NA1	J-444NA2
Lubricating oil pressure (bar)	4.6	
Maximum oil temperature: continuous (°C)	125	
Maximum oil temperature: intermittent (°C)	135	
Engine angularity limits (continuous operation)		
Maximum front up or front down	35°	
Maximum lateral right or left	35°	
Total system capacity inc pipes & filter	14 Litres	
Minimum recommended oil grade (API)	CF4	
Oil filter maintenance interval (Hours)	500	
Oil consumption at maximum rating	0.1% of fuel consumption	

FUEL SYSTEM

Description	J-444NA1	J-444NA2
Injection system	Rotary Mechanical (Delphi)	
Maximum fuel intake restriction (mbar)	100	
Minimum fuel feed line bore (mm)	8	
Minimum fuel return line bore (mm)	6	
Maximum fuel intake temperature (°C)	50	
Engine pre filter	30 Micron	
Engine main filter	5 Micron	
Emissions level	EU ST2 NRMM	



INTAKE SYSTEM

Description	J-444NA1	J-444NA2
Max allowable restriction (clean filter) (mbar)	25	
Max allowable restriction (dirty filter) (mbar)	85	
Air required for combustion at rated speed	81g/s	

EXHAUST SYSTEM

Description	J-444NA1	J-444NA2
Exhaust type	Water cooled with heat exchanger	
Max allowable back pressure (mbar)	150	
Max exhaust temp at rated speed (°C)	671	
Exhaust flow at maximum output (kg/h)	300	302
Water cooled exhaust connection diameter	63mm / 2.5"	
Dry exhaust connection size	2" BSP	

ELECTRICAL SYSTEM

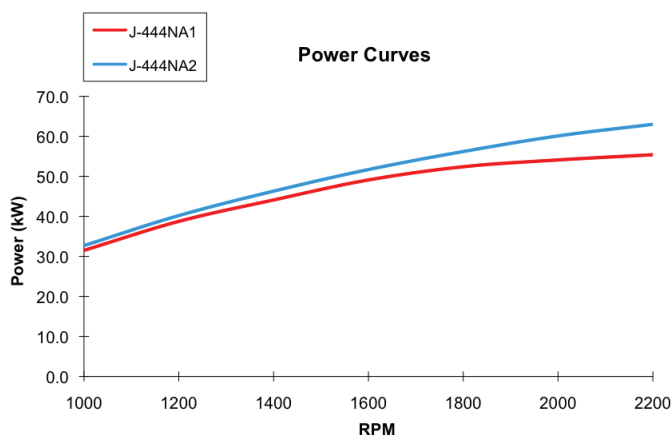
Description	J-444NA1	J-444NA2
Type	Negative Ground, ETR	
Standard	12V Earth return	
Optional Voltage	24V	
Optional Earthing	IER available	
Minimum cranking speed (rpm)	100	
Minimum recommended battery capacity	145	
Minimum recommended battery CCA	850	
Minimum recommended battery cable CSA	70mm ²	
Note! There is no standard ETS electrical system available on J-444 engines. All units will be supplied ETR only. ETR = Fuel solenoid 'Energise To Run' ETS = Fuel solenoid 'Energise To Stop'		

POWER TAKE OFFS

Description	J-444NA1	J-444NA2
Flywheel	Full engine power	
Crank nose (axial drive) format	SAE J1946	Size 1410, Type S
Crank nose (axial drive) at rated speed	60kW / 260Nm	
LD PTO (LH side) format	SAE J744	SAE A
LD PTO capacity	10kW / 27Nm	
LD PTO ratio to engine speed	1.625	
HD PTO (RH side) format	SAE J744	SAE B
HD PTO capacity	60kW / 205Nm	
HD PTO ratio to engine speed	1.268	

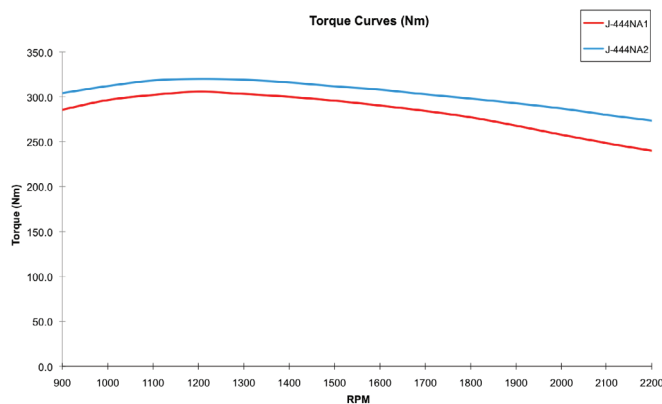
POWER CURVES

Performance shown is to ISO Fuel Stop Power (ISO14396) after 50 hours running without fan.



TORQUE CURVES

Performance shown is to ISO Fuel Stop Power (ISO14396) after 50 hours running without fan.



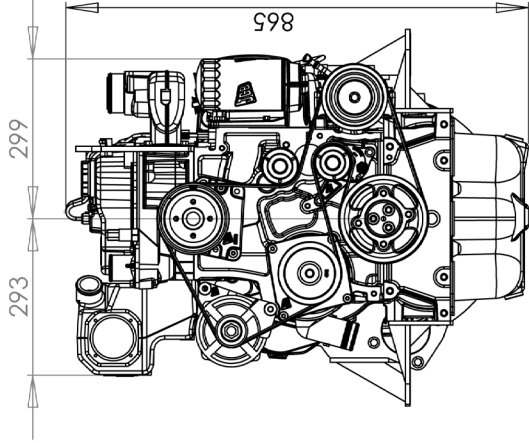
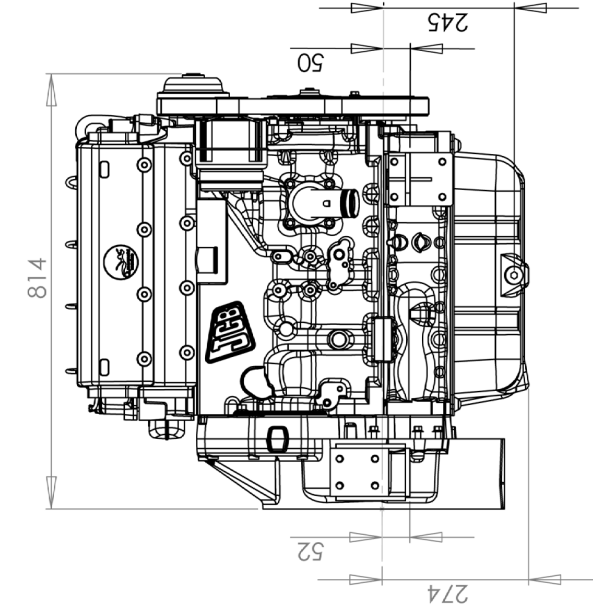
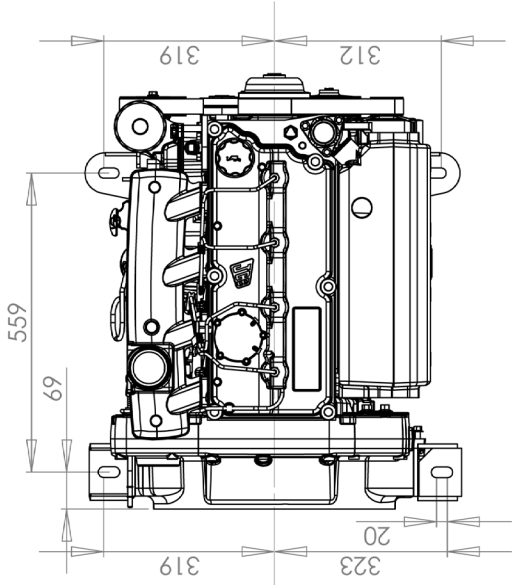
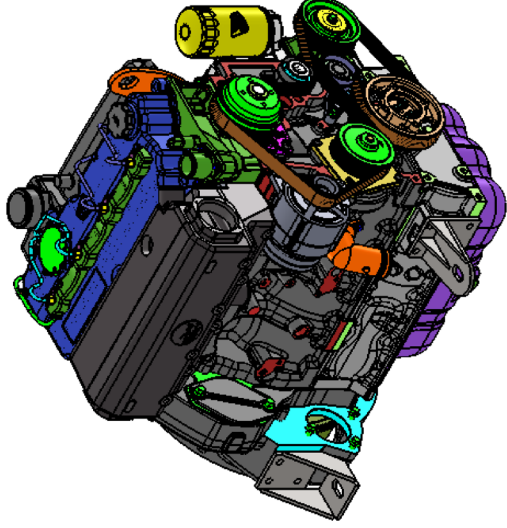
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PAY SPECIAL ATTENTION TO SHEET SCALE. IT MAY EFFECT ACTUAL MODEL SCALE WHEN IMPORTED INTO DIFFERENT SOFTWARE

GENERAL TOLERANCES UNLESS OTHERWISE STATED		THIRD ANGLE		FINISH:		DESCRIPTION:	
FABRICATED/ CAST: ANGULAR: ANGULAR:		ALL DIMENSION IN: mm DEBUR AND BREAK SHARP EDGES DO NOT SCALE DRAWING IF IN DOUBT ASK MACHINE FACES AND SURFACE TEXTURE TO BE:		Natural		Mermaid Marine J444 GAD	
HOLES TO BE WITHIN 0.125 (0.005) OF TRUE POSITION		UNLESS OTHERWISE STATED		DRAWN D.Wilcox		DWG NO.	
SCREW THREAD CLASS EXTERNAL: 60/2A INTERNAL: 6H		3.2 / 125		CHECKED D.Peters		J444 NA	
				DATE 11/10/2012		SCALE: 1:10	
						WEIGHT: 13713.89g	
						SHEET SIZE: A3	
						REV.	
						SHEET 1 OF 1	