

# J-444T1 (ST3) & J-444T2 (ST2)

## 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-444T1 (ST3) & J-444T2 (ST2).

### BASE ENGINE SPECIFICATIONS

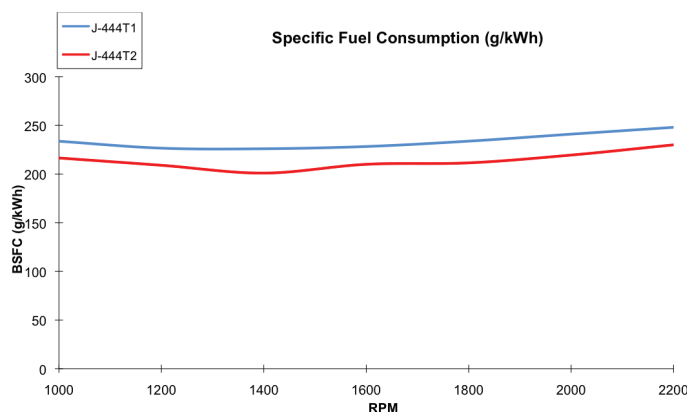
Description	J-444T1	J-444T2
Number of cylinders	4	
Direction of rotation (facing flywheel)	Counter Clockwise	
Bore (mm)	103	
Stroke (mm)	132	
Compression ratio	17.2:1	18.3:1
Displacement (Litres)	4.4	
Rated Power (HP / kW)	85 / 63	100 / 74
Rated Speed (rpm)	2200	
Maximum Torque (Nm)	362	425
Maximum Torque Speed (rpm)	1200	1300
Minimum SFC at full load (g/kWh)	226	209
Noise at maximum rating (dBA @ 1 Metre)	89	
Dry weight (Bobtailed) (kg)	567	567

### LUBRICATION SYSTEM

Description	J-444T1	J-444T2
Lubricating oil pressure (bar)	4.9	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)	CH4	CF4
Oil filter maintenance interval (Hours)	500	
Oil consumption at maximum rating	0.03% of fuel consumption	0.1% of fuel consumption

### FUEL SYSTEM

Description	J-444T1	J-444T2
Injection system	Rotary Mechanical (Delphi)	
Maximum fuel intake restriction (mbar)	150	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 St3A NRMM	EU St2 NRMM



## INTAKE SYSTEM

Description	J-444T1	J-444T2
Max allowable restriction (clean filter) (mbar)	50	
Max allowable restriction (dirty filter) (mbar)	80	85
Air required for combustion at rated speed	98g/s	121g/s
Turbocharging pressure at rated speed	0.7bar	0.664bar
Turbocharged air max temp at cooler inlet	94°C	98°C

## EXHAUST SYSTEM

Description	J-444T1	J-444T2
Exhaust type	Dry manifold & turbo with thermal shield	
Max allowable back pressure (mbar)	150	
Max exhaust temp at rated speed (°C)	572	664
Exhaust flow at maximum output (kg/h)	371	437
Water cooled exhaust connection diameter	89mm / 3.5"	
Dry exhaust connection size	N/A	

## ELECTRICAL SYSTEM

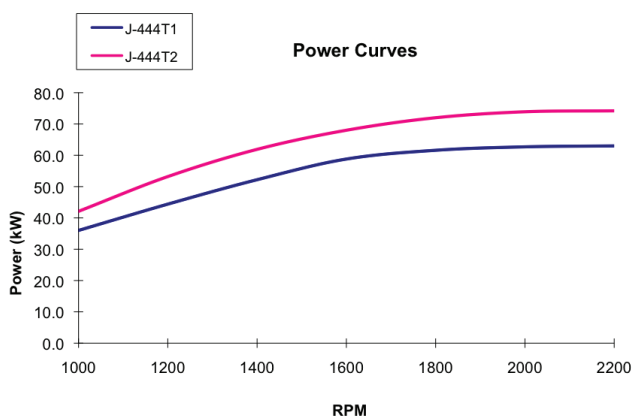
Description	J-444T1	J-444T2
Type	Negative Ground, ETR	
Standard	12V Earth return	
Optional Voltage	24V	
Optional Earthing	IER available	
Minimum cranking speed (rpm)	105	100
Minimum recommended battery capacity	145Ah	
Minimum recommended battery CCA	850	
Minimum recommended battery cable CSA	70mm²	
Note! 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-444T1	J-444T2
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	

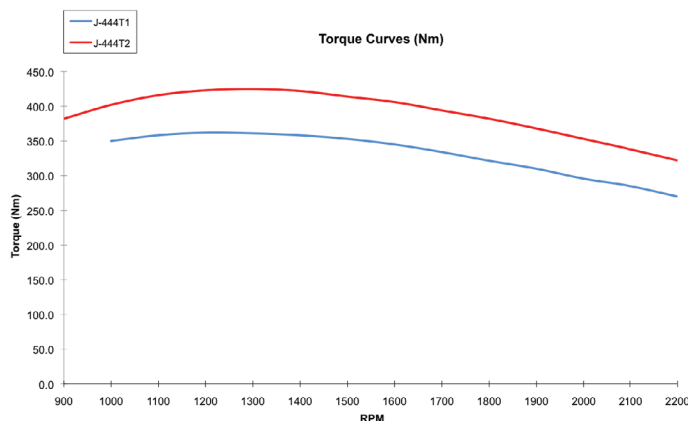
## POWER CURVES

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



## TORQUE CURVES

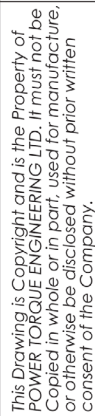
Performance shown is to ISO Fuel Stop Power (ISO14396) after 50 hours running without fan.



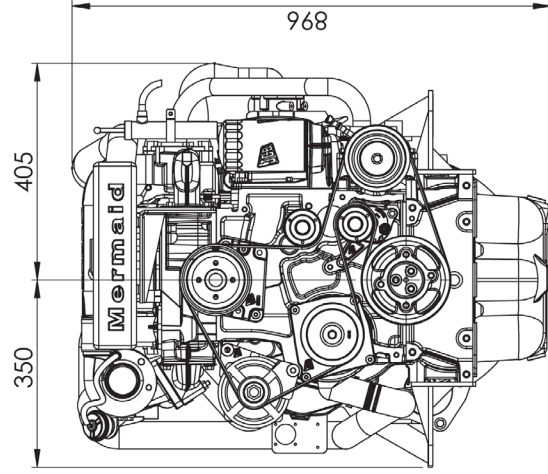
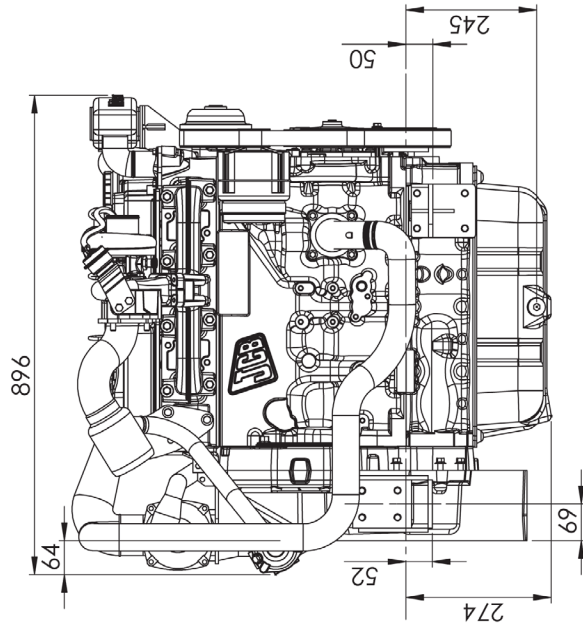
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PAY SPECIAL ATTENTION TO SHEET SCALE, IT MAY EFFECT ACTUAL MODEL SCALE WHEN IMPORTED INTO DIFFERENT SOFTWARE

GENERAL TOLERANCES UNLESS OTHERWISE STATED		THIRD ANGLE 		FINISH:		DESCRIPTION:	
FABRICATED/ UNLESS OTHERWISE STATED	$\pm 1.50$ (+/- 0.060)		ALL DIMENSION IN mm		Natural		Mermaid Marine J444 GAD
MACHINED:	$\pm 0.25$ (+/- 0.010)		DEBUR AND BREAK SHARP EDGES		MATERIAL:		
ANGULAR:	$\pm 0.30^\circ$		IF IN DOUBT ASK		DWG NO.		
HOLES TO BE WITHIN 0.125 TO 0.0057 OF TRUE POSITION		MACHINE FACES AND SURFACE TEXTURE TO BE:		DRAWN M.Vanney	CHECKED D.Peters	DATE 25/03/2013	WEIGHT: 164380.81g
SCREW THREAD CLASS EXTERNAL: 6g/2A INTERNAL: 6h				UNLESS OTHERWISE STATED		SHEET 1 OF 1	