

## **V222TI MARINE ENGINE**

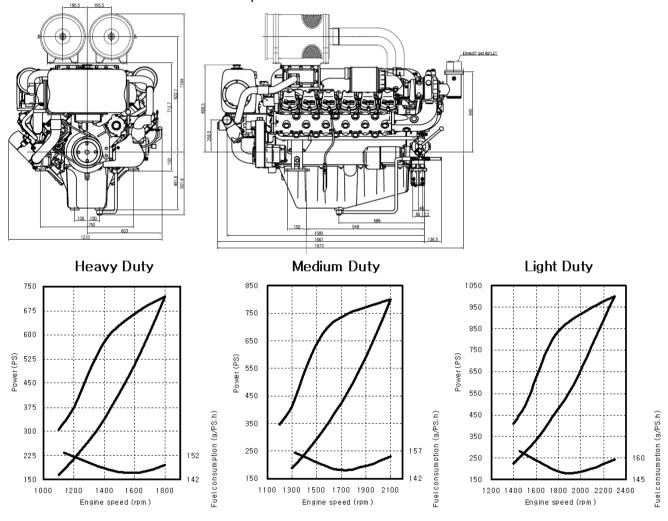


## **POWER RATING**

Production tolerance:  $\pm 3\%$ 

MODEL	CONDITIONS	POWER	rpm	Base Engine
V222TIH	HEAVY DUTY	720PS (530kW)	1,800	
V222TIM	MEDIUM DUTY	800PS (588kW)	2,100	D2842LB
V222TIL	LIGHT DUTY	1000PS (736kW)	2,300	

**Note : 1)** No reduction in rating for intake air temperature is up to 45  $^{\circ}$ C (318K) and sea water temperature is up to 32  $^{\circ}$ C (305K), relative humidity is up to 60 % all data are based on operation to ISO 3046.



- Heavy Duty: Operation hours are unlimited per year, at average load is up to 90 %, at full load is up to 80 %
   Typical gearbox ratio: 2.5 ~ 6
  - (Fishing trawler, Tug boat, Pushing vessel, Cargo boat, Freighter, Ferry)
- Medium Duty: Operation hours are up to 3,000 per year, at average load is up to 70 %
   At full load is (up to 30 % / 4hrs per 12 hour operation period)
   Typical gearbox ratio: 2 ~ 3.5
  - (Fishing boat, Pilot boat, Escort boat, Passenger boat, Ferry, Cruising vessel)
- Light Duty
   Operation hours are up to 1,000 per year, at average load is up to 50 %
   At full load is (up to 20 % / 2hrs per 12 hour operation period)
   Typical gearbox ratio: 1 ~ 2.5
   (Light weight fishing boat, Yacht, Coastguard boat, Fast boat, Fire pump, Navy)



## **V222TI MARINE ENGINE**



Engine Specification								
Model		Units	V222TIH	V222TIM	V222TIL			
Engine type			4 cycle, V type, direct- injection, water cooled with wet turbo charger & inter-cooler					
Rating output (B.H.P)		PS(kW)/rpm	720(530)/1,800	800(588)/2,100	1000(736)/2,300			
Displacement		сс	21,927					
Cylinder number - bore(φ) x stroke		mm	12 - φ128 x 142					
Valve clearance at cold In / Ex		mm	0.25 / 0.35					
Low idling rpm		rpm	$725 \pm 25$					
No load max. rpm		rpm	below 2,070	below 2,415	below 2,645			
Mean effective pressure		kg/cm <sup>2</sup>	16.4	15.6	17.9			
Mean piston speed		m/sec.	8.52	9.94	10.89			
Compression ratio			15:1	15:1	14.6:1			
Firing order			1 - 12 - 5 - 8 - 3 - 10 - 6 - 7 - 2 - 11 - 4 - 9					
Governor type of injection	n pump		Mechanical variable speed (R.Q.V)					
Fuel consumption		g / PS.h	148	154	159			
ruer consumption		Lit / h	129	148	191			
Injection timing (B.T.D.C	)	deg	20 °± 1°	20 °± 1°	20 °± 1°			
Starting system			Electric Starting by starter motor					
Starter motor capacity		V - kW	24 - 6.6					
Alternator capacity		V – A	24 - 50					
Battery		V – Ah	24 - 200					
Cooling system			Indirect sea water cooling with heat exchanger					
Cooling water capacity	Max. / Min.	lit.	98 / 87					
Fresh water pump type			Centrifugal type, driven by belt					
Sea water pump type			Bronze impeller type driven by belt					
Lubricating oil (Engine)	pan capacity	lit.	Max: 40, Min: 33 (Engine total: 43)					
	pressure	kg/cm <sup>2</sup>	Full: 3.5, Idle: 1.2					
Direction of revolution		Counter clockwise viewed from stern side						
Engine Size ( L x W x H )		mm	1,973 x 1,233 x 1,606					
Engine dry weight		kg	1,750	1,750	1,830			

 $psi = kg/cm^2 \times 14.22$  $lb/ft. = N.m \times 0.737$ kW = 0.2388 kcal/s

lb= kg x 2.205  $lb/PS.h = g/kW.h \times 0.00162$  $cfm = m^3/min \times 35.3$ 

 $hp = PS \times 0.98635$  $\overline{\text{U.S}}$  gal. = liter x 0.264

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**\*** Specifications are subject to change without prior notice.