



# **MARINE DIESEL ENGINES**

# 4LHA Series - HTP / DTP / STP

Engine Model		4LHA-HTP	4LHA-DTP	4LHA-STP			
Max. output at crankshaft*  Max. output at crankshaft**	kW [mhp] kW [mhp]	113 [154] @3300 rpm 118 [160] @3300 rpm	140 [190] @3300 rpm 147 [200] @3300 rpm	169 [230] @3300 rpm 177 [240] @3300 rpm			
Configuration		In-line, 4-stroke, vertical, water-cooled diesel engine					
No. of cylinders		4 cylinder					
Displacement		3.455 L					
Bore x stroke		100 mm x 110 mm	mm [3.94 in x 4.33 in]				
Aspiration		Turbocharged & intercooled					
Combustion system		Direct injection, VE rotary pump	Direct injection, in-line pump	Direct injection, in-line pump			
Starting system		Electric starting 12V - 2.5 kW					
Engine management		Mechanical					
Cooling system		Fresh water cooling by centrifugal fresh water pump  Seawater cooling by rubber impeller seawater pump					
Alternator		12V - 80A					
Lubrication system		Enclosed, forced lubricating system					
Engine lube oil specifications		API class: CD or higher, SAE grade: 15W-40					
Direction of rotation at crankshaft		Counterclockwise viewed from stern					
Dry weight without gear		342 kg [754 lbs]	365 kg [805 lbs]	365 kg [805 lbs]			
Engine dimensions <sup>†</sup> L x W x H		1131 x 719 x 811 mm					
Emission compliance		EU RCD 1, BSO II, EMC					
Flywheel housing size		SAE #4					
Controls		Mechanical					

<sup>\*</sup> Fuel temperature 40°C at the inlet of the fuel injection pump [ISO 8665: 2006]

\*\* Fuel temperature 25°C at the inlet of the fuel injection pump (ISO 3046)

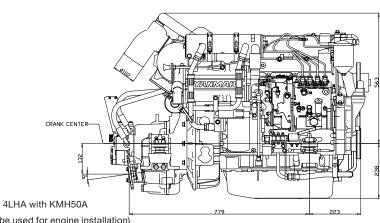
†Dimensions include KMH50A gearbox and L-type elbow (Dimensions may vary with other gears/elbow) Technical data is according to (ISO 8665 )/(ISO 3046)

Fuel condition: Density at  $15^{\circ}$ C = 0.84 g/cm<sup>3</sup>: 1 kW = 1.3596 mhp = 1.3410 HP

#### **DIMENSIONS**

#### Rear view

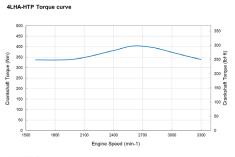
## Right side view

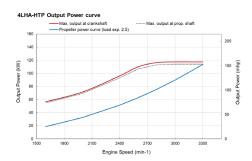


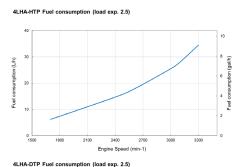




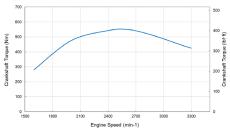
#### PERFORMANCE CURVES

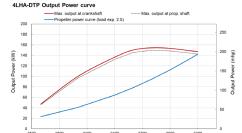


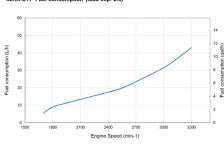




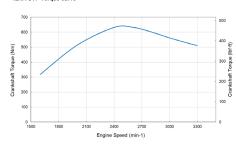


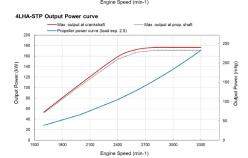


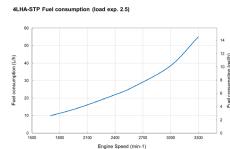




#### 4LHA-STP Torque curve







#### MARINE GEAR\*

Model	KMH50A-LH [down angle 8°]		KMH50V-LH [down angle 8°]		ZF63A [down angle 8°]					
Туре	Hydraulic multi-disc		Hydraulic multi-disc			Hydraulic, wet multi-disc				
Dry weight	58** [128 lbs]		59 kg [130 lbs]			30 kg [66 lbs]				
Reduction ratio [fwd/asn]	1.67/1.67^^	2.13/2.13	2.43/2.43	1.22/1.22	1.58/1.58	2.08/2.08	1.22/1.22	1.56/1.56	2.04/2.04	2.54/2.54
Direction of rotation [viewed from stern]	Clockwise & counterclockwise		Clockwise & Counterclockwise		Clockwise & counter clockwise					
Lubrication system	Forced lubrication					Forced lubrication				
Lube oil specifications	API class: CF or higher, SAE grade: #30					ATF				
Max. lube oil capacity	1.8 L		5.4 L		4.0 L					
Dry weight - engine & gear	400 kg [882 lbs]			401 kg [884 lbs]			386 kg [851 lbs]			

 $<sup>{}^\</sup>star \text{For other configurations, consult your local Yanmar distributor.}$ 

### **ACCESSORIES**

# Standard engine package

- Exhaust mixing elbow [L-type]
- Alternator 12V 80A
- 3G instrument panel

# Optional accessories

- High-riser mixing elbow [instead of L-elbow]
- Flexible mounts
- Extension wire harness [3m, 5m, 10m, 20m]
- SOLAS including Certificate [factory fit only]
- Air venting device for cooling water tank
- Lube oil evacuation pump
- Water separator
- Trolling valve [only for KMH50A]

<sup>\*\*</sup>Dry weight includes cooler and brackets

 $<sup>^{\</sup>wedge}$  KMH50A-LH (1.67 ratio) is not available as standalone supply & hence need to order with engine.