

# Yanmar type 6SY-650

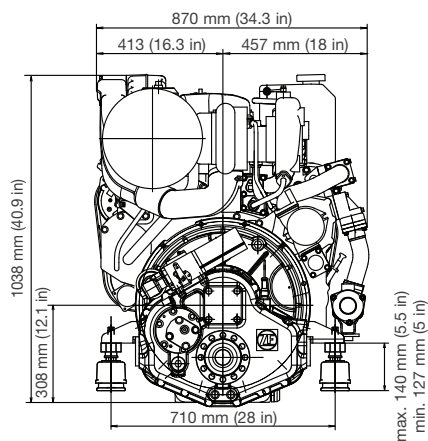


<b>Configuration</b>	4-stroke, vertical, water cooled diesel engine
<b>Maximum output at crankshaft</b>	* 481 kW (654 mhp) / 2300 rpm
<b>Continuous rating output at crankshaft</b>	479 kW (651 mhp) / 2100 rpm
<b>Displacement</b>	11.7 L (714 cu in)
<b>Bore x stroke</b>	127 mm x 154 mm (5.0 in x 6.1 in)
<b>Cylinders</b>	6 in line
<b>Combustion system</b>	Direct injection
<b>Aspiration</b>	Turbocharged with charge air cooler
<b>Starting system</b>	Electric starting 24 V - 6.7 kW (2 pole)
<b>Alternator</b>	24 V - 65 A (2 pole)
<b>Cooling system</b>	Fresh water cooling by centrifugal fresh water pump and rubber impeller seawater pump
<b>Lubrication system</b>	Enclosed, forced lubricating system
<b>Direction of rotation (crankshaft)</b>	Counter clockwise viewed from flywheel side
<b>Dry weight without gear</b>	1150 kg (2536 lbs)
<b>Environmental</b>	EU RCD, US EPA Tier 2, BSO II & EMC
<b>Engine mounting</b>	Rubber type flexible mounting

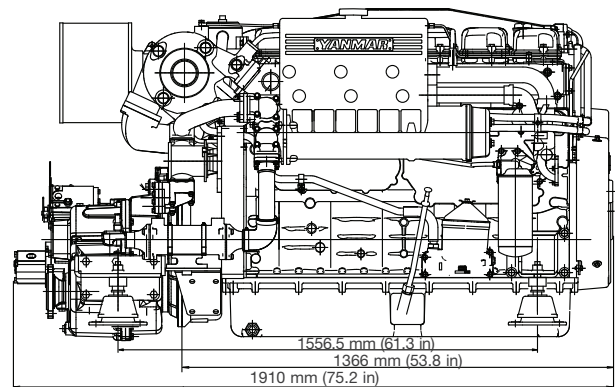
NOTE: Fuel condition: Density at 15°C = 0.84 g/cm<sup>3</sup>; 1 mhp = 1PS = 0.7355 kW = 0.9863 bhp  
 \* Fuel temperature 40°C at the inlet of the fuel injection pump (ISO 8665)  
 Technical data is according to ISO 8665 / 3046

**Dimensions** (For detailed line-drawings, please refer to our web-site: [www.yanmarmarine.com](http://www.yanmarmarine.com))

**Rear view**

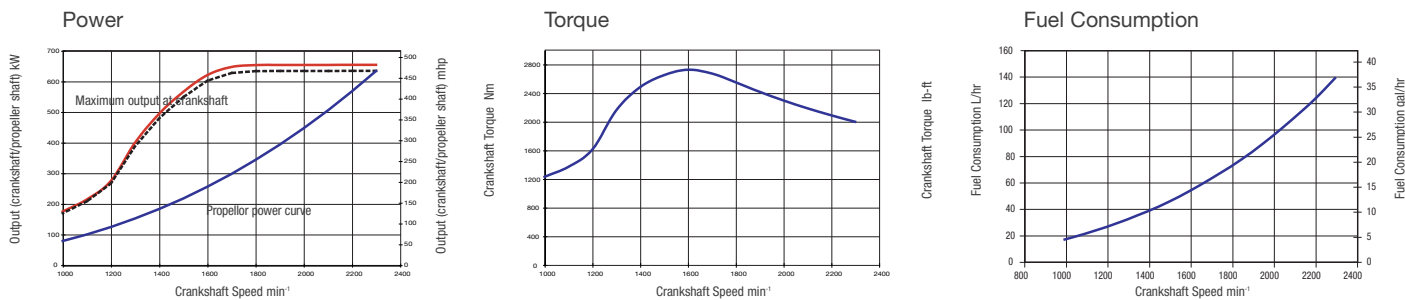


**Right side view**



6SY-650 with ZF 325-1 marine gear

## Performance Curves (Output is according ISO 8665)

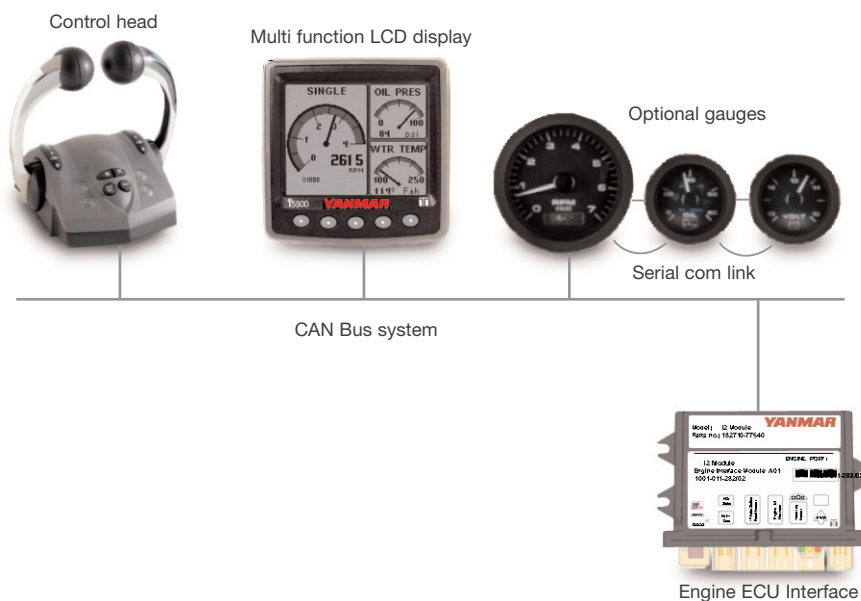


## Marine gear (example) \*\*\*

Model	ZF 325-1				ZF 325-1A				TD MG 5095SC				TD MG 5095A			
Type	hydraulic				hydraulic				hydraulic				hydraulic			
Dry weight	130 kg (286 lbs)				130 kg (286 lbs)				175 kg (385 lbs)				177 kg (390 lbs)			
Reduction ratio (fwd)	1.46	1.73	2.03	2.25	1.49	1.73	2.04	2.24	1.47	1.71	2.0	2.46	1.52	1.81	2.04	2.48
Propeller speed (fwd)	1575	1329	1133	1022	1544	1329	1127	1027	1565	1345	1150	935	1513	1271	1127	927
Direction of rotation (propeller shaft - fwd)	Clockwise & counter clockwise viewed from flywheel side				Clockwise & counter clockwise viewed from flywheel side				Clockwise & counter clockwise viewed from flywheel side				Clockwise & counter clockwise viewed from flywheel side			
Dry weight engine and gear/drive	1280 kg (2822 lbs)				1280 kg (2822 lbs)				1325 kg (2921 lbs)				1327 kg (2926 lbs)			
Length engine and gear/drive	1910 mm (75 in)				1910 mm (75 in)				1982 mm (78 in)				1987 mm (78 in)			

\*\*\* Gear also available in; ZF325-IV (V-drive) reduction ratio: 1.73 & 2.04, TD MG 5114 IV (V-drive) reduction ratio: 1.52, 1.80 & 1.97  
 \*\*\* Other marine gearboxes and configurations available upon request. Contact your local supplier for more information.

## Electronic Control System (NMEA 2000 Canbus System)



## Engine Accessories

### Standard Engine Package System

- Alternator
- Protection cover for belt transmission
- Transmission oil cooler
- Water level sensor
- Engine control harness

### Optional Engine Package System

- Electric oil draining pump
- Engine heater
- Extra rear PTO
- Hydraulic pump
- Exhaust mixing elbow
- Crankshaft pulley
- Additional alternator

## Electronic Control System

### Standard Electronic Control

- Electronic Control Head
- LCD display
- Back-up throttle control system

### Optional Electronic Control

- Second station control system
- Various engine Monitoring gauges
- Various engine Control heads