

# Yanmar type 3YM20

## The Powerful Gem

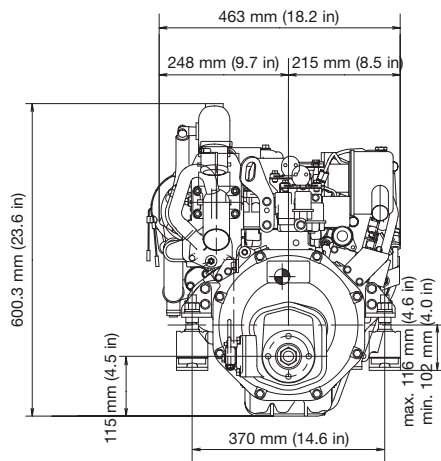


<b>Configuration</b>	4-stroke, vertical, water cooled diesel engine
<b>Maximum output at crankshaft</b>	* 16.2 kW (22 hp) / 3600 rpm ** 15.3 kW (21 hp) / 3600 rpm
<b>Continuous rating output at crankshaft</b>	14.7 kW (20 hp) / 3489 rpm
<b>Displacement</b>	0.854 L (52.1 cu in)
<b>Bore x stroke</b>	70 mm x 74 mm (2.8 in x 2.9 in)
<b>Cylinders</b>	3
<b>Combustion system</b>	Indirect injection
<b>Aspiration</b>	Natural aspiration
<b>Starting system</b>	Electric starting 12 V - 1.4 kW
<b>Alternator</b>	12 V - 60 A (80 A optional)
<b>Cooling system</b>	Fresh water cooling with heat exchanger
<b>Lubrication system</b>	Enclosed, forced lubricating system
<b>Direction of rotation (crankshaft)</b>	Counter clockwise viewed from stern
<b>Dry weight without gear</b>	120 kg (266 lbs)
<b>Environmental</b>	BSO II, SAV, EPA II compliant and will meet the 2003/44/EC emission requirements
<b>Engine mounting</b>	Rubber type flexible mounting

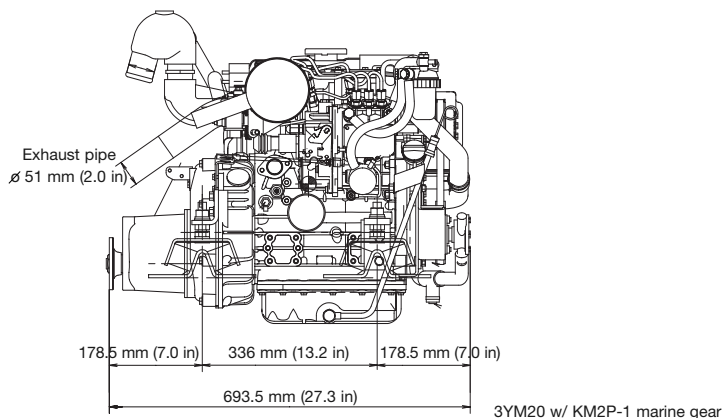
NOTE: Fuel condition: Density at 15°C = 0.842 g/cm<sup>3</sup>; 1 hp = 0.7355 kW  
 \* Fuel temperature 25°C at the inlet of the fuel injection pump (ISO 3046-1)  
 \*\* Fuel temperature 40°C at the inlet of the fuel injection pump (ISO 8665)

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

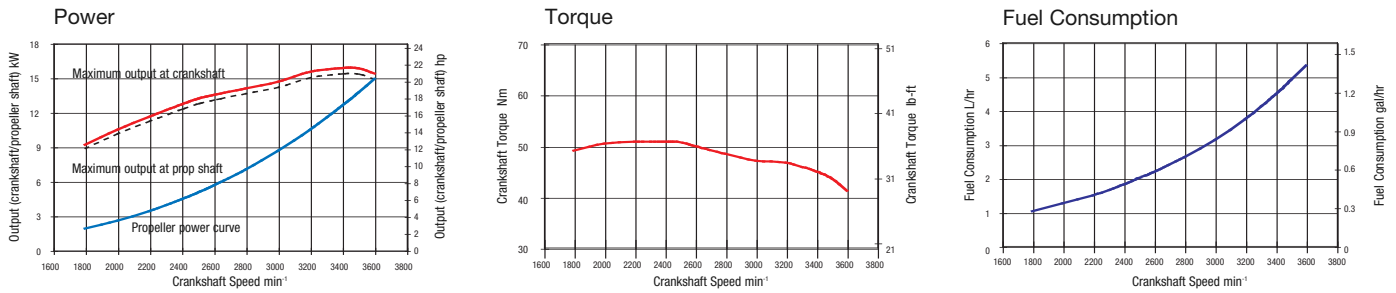
**Front view**



**Right side view**



Performance Curves (Output is according ISO 8665 - Output includes +/- 3% tolerance)

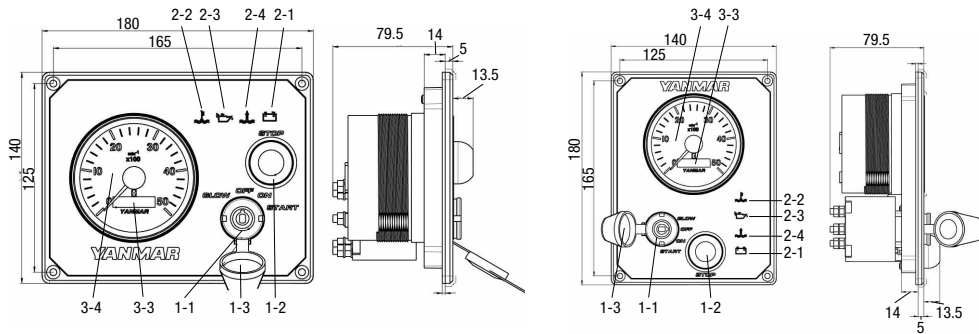


Marine Gears/Drive

Model	KM2P-1			Saildrive (SD20)
Type	Constant mesh gear with servo-cone clutch			Constant mesh gear with dog clutch
Dry weight	10 kg (22 lbs)			30 kg (66 lbs)
Reduction ratio (fwd/asn)	2.21/3.06	2.62/3.06	3.22/3.06	2.64/2.64
Propeller speed (fwd/asn)	1580/1140	1332/1140	1083/1140	1321/1321
Direction of rotation (propeller shaft - fwd)	Clockwise viewed from stern			Counter clockwise viewed from stern
Dry weight engine and gear/drive	130 kg (287 lbs)			151 kg (333 lbs)
Length engine and gear/drive	693 mm (27 in)			873 mm (34 in)

Instrument Panels

Digital B-type Panel



Function	Type of instrument panel
	Digital B-type Panel
① <b>Switch unit</b>	
1-1 Key switch for GLOW/OFF/ON/START (4-position switch)	O
1-2 Push button switch for engine stop	O
1-3 Moisture cap for key switch	O
② <b>Alarm lamp unit</b>	
2-1 Battery low charge alarm	O
2-2 Coolant high temperature alarm	O
2-3 Lubricating oil low pressure	O
2-4 Water in sail drive seal alarm	O
2-5 Water in fuel filter alarm	X
2-6 Sea water insufficient flow alarm	X
③ <b>Meters</b>	
3-1 Lubricating oil pressure meter	X
3-2 Coolant temperature meter	X
3-3 Hour meter	O
3-4 Tachometer	O
④ <b>Audible alarm buzzer</b>	O

Note: O = Equipped on panel X = Not equipped on panel

Accessories

Standard Package

- Set of flexible mounting
- Exhaust/water mixing elbow (L-type)
- V-belt cover
- Expansion tank for fresh water cooling system
- Alternator 12 V - 60 A
- Electric stop solenoid

Optional

- Additional Digital B-type instrument panel
- Primary 80 A alternator or second 60/80 A alternator
- Alternator bracket and cover for second alternator
- Exhaust/water mixing elbow, U-type (high riser)
- Various extension wire harnesses
- Various couplings (straights, tapers, slits)

Texts and illustrations are not binding. Yanmar Marine reserves the right to introduce adaptations without prior notification.