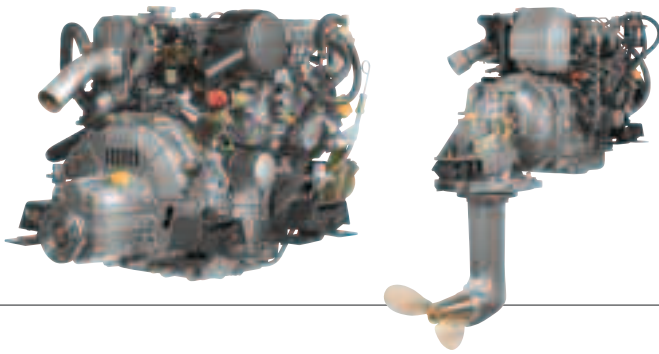


Yanmar type 3YM20

The Powerful Gem



Configuration	4-stroke, vertical, water cooled diesel engine
Maximum output at crankshaft	* 16.2 kW (22 hp) / 3600 rpm ** 15.3 kW (21 hp) / 3600 rpm
Continuous rating output at crankshaft	14.7 kW (20 hp) / 3489 rpm
Displacement	0.854 L (52.1 cu in)
Bore x stroke	70 mm x 74 mm (2.8 in x 2.9 in)
Cylinders	3
Combustion system	Indirect injection
Aspiration	Natural aspiration
Starting system	Electric starting 12 V - 1.4 kW
Alternator	12 V - 60 A (80 A optional)
Cooling system	Fresh water cooling with heat exchanger
Lubrication system	Enclosed, forced lubricating system
Direction of rotation (crankshaft)	Counter clockwise viewed from stern
Dry weight without gear	120 kg (266 lbs)
Environmental	BSO II, SAV, EPA II compliant and will meet the 2003/44/EC emission requirements to be effective from 2006
Engine mounting	Rubber type flexible mounting

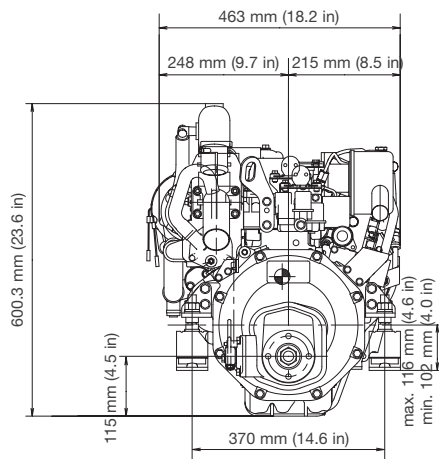
NOTE: Fuel condition: Density at 15°C = 0.842 g/cm³; 1 hp = 0.7355 kW

* Fuel temperature 25°C at the inlet of the fuel injection pump (ISO 3046-1)

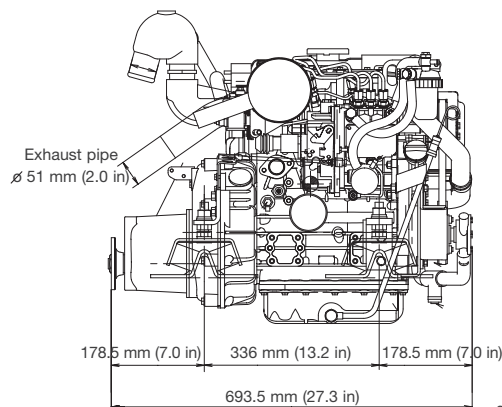
** Fuel temperature 40°C at the inlet of the fuel injection pump (ISO 8665)

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

Rear view

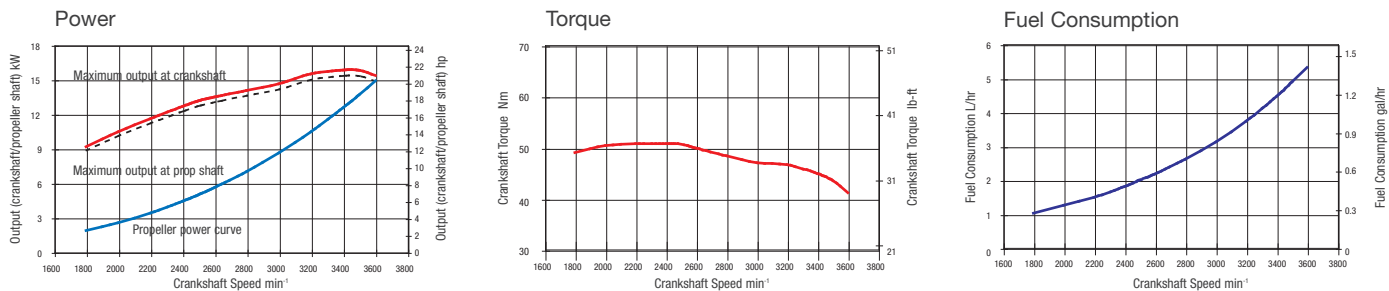


Right side view



3YM20 w/ KM2P-1 marine gear

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

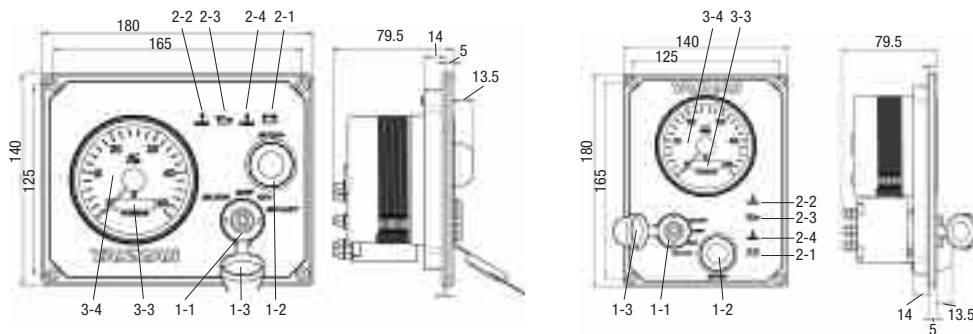


Marine Gears/Drive

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
① Switch unit	
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 Alarm lamp unit	
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 Meters	
3-1 Lubricating oil pressure meter	X
3-2 Coolant temperature meter	X
3-3 Hour meter	O
3-4 Tachometer	O
④ Audible alarm buzzer	
	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.

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