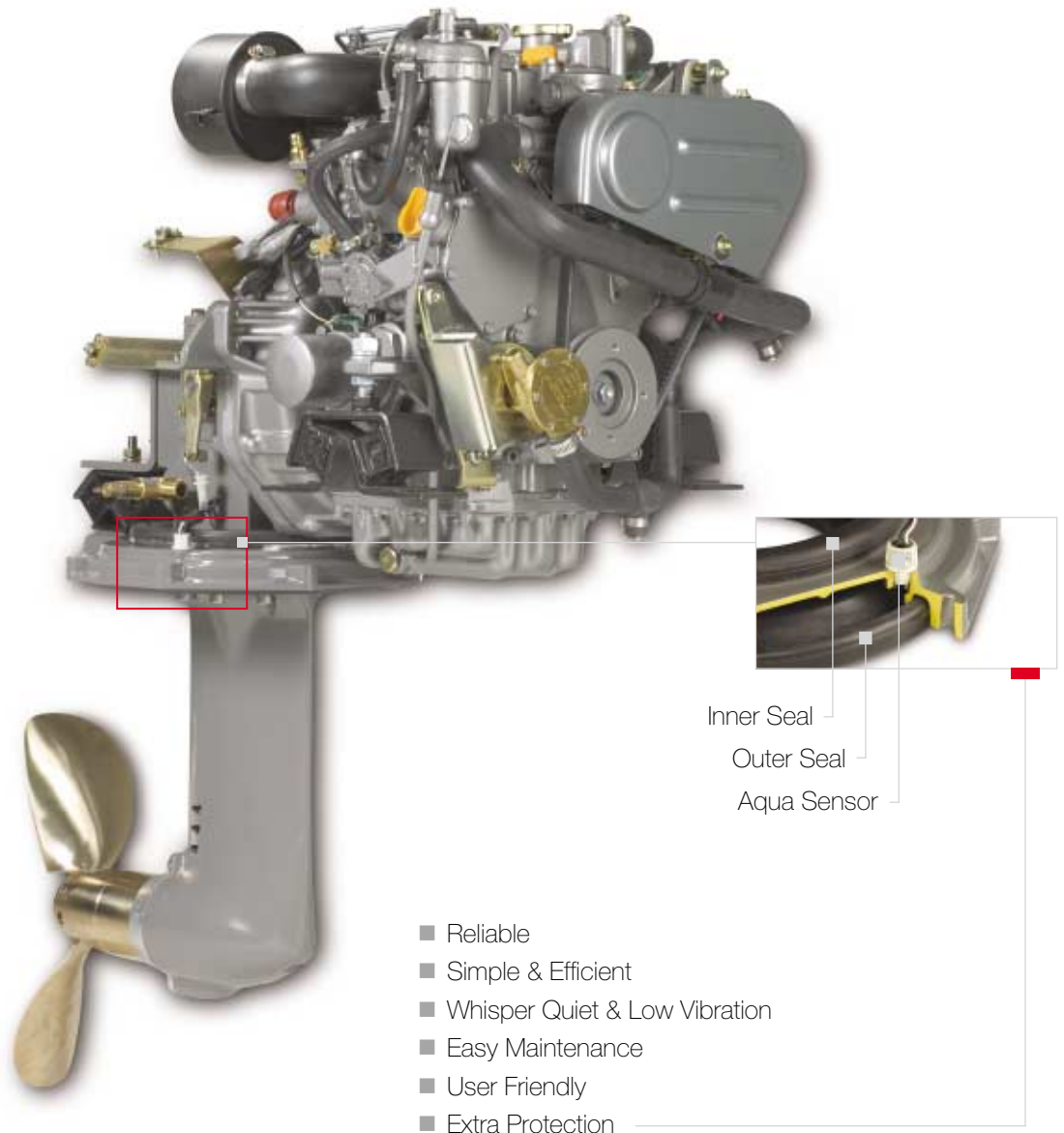




Yanmar Saildrive SD20

The Powerful Gem



Yanmar Saildrive Type	SD20
Reduction gear system	Constant mesh gear with dog clutch
Reduction ratio (fwd / asn)	2.64/2.64
Propeller speed (fwd / asn)	1287/1287 (for 1GM10), 1321/1321 (for YM series)
Direction of rotation (propeller shaft - fwd)	Counter clockwise viewed from stern
Dry weight Saildrive	30 kg (66 lbs)

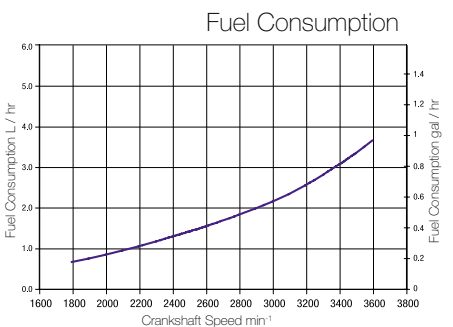
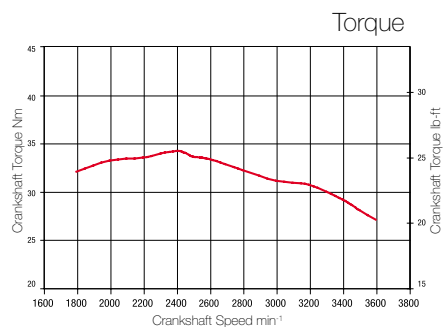
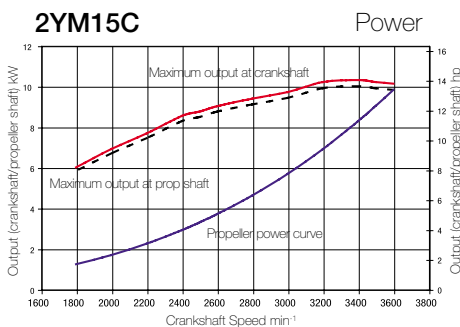
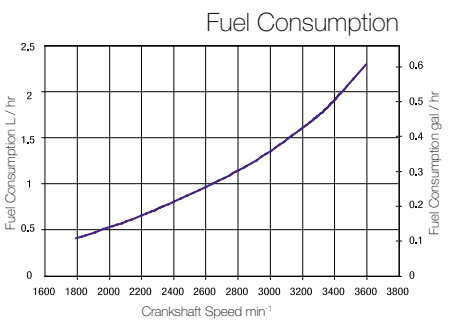
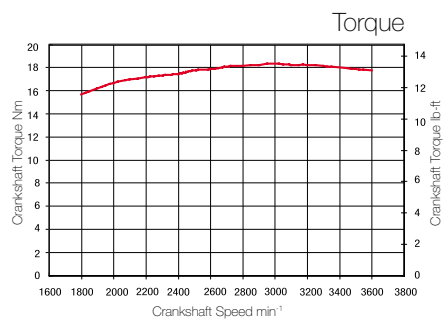
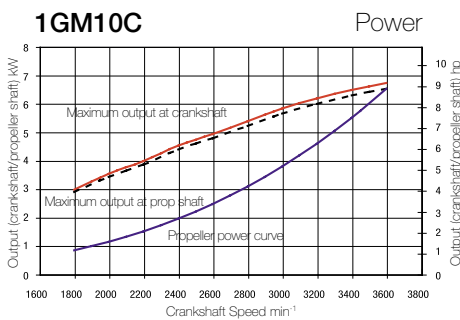


Engine Model	1GM10C x SD20	2YM15C x SD20
Configuration	4-stroke, vertical, water cooled diesel engine	4-stroke, vertical, water cooled diesel engine
Maximum output at crankshaft	* 6.7 kW (9 hp) / 3600 rpm ** 6.6 kW (9 hp) / 3600 rpm	* 10.3 kW (14 hp) / 3600 rpm ** 10.0 kW (13.6 hp) / 3600 rpm
Continuous rating output at crankshaft	5.9 kW (8 hp) / 3400 rpm	9.4 kW (12.8 hp) / 3489 rpm
Displacement	0.318 L (19.41 cu in)	0.57 L (34.7 cu in)
Bore x stroke	75 mm x 72 mm (2.95 in x 2.83 in)	70 mm x 74 mm (2.75 in x 2.91 in)
Cylinders	1	2
Combustion system	Indirect injection	Indirect injection
Aspiration	Natural aspiration	Natural aspiration
Starting system	Electric starting with manual combination	Electric starting 12 V - 1.4 kW
Alternator	12 V - 35 A	12 V - 60 A (80 A optional)
Cooling system	Seawater cooling	Fresh water cooling
Lubrication system	Enclosed, forced lubricating system	Enclosed, forced lubricating system
Lubrication oil for Saildrive	API CC and SAE 10W30	API GL4 or GL5 and SAE 80W90 or 90
Direction of rotation (crankshaft)	Counter clockwise viewed from flywheel	Counter clockwise viewed from flywheel
Dry weight with Saildrive	104 kg (229 lbs)	134 kg (295 lbs)
Environmental	Will meet the comprehensive emissions regulations to be introduced in EU and US Tier 2 in 2006	
Engine mounting	Rubber type flexible mounting	

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

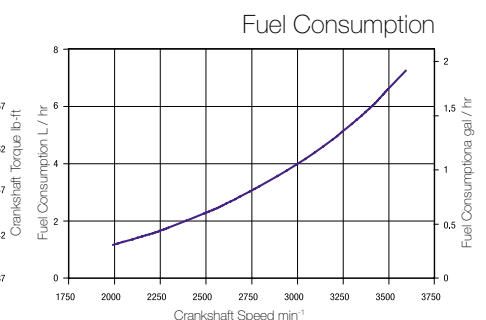
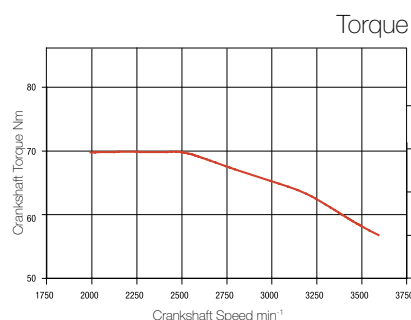
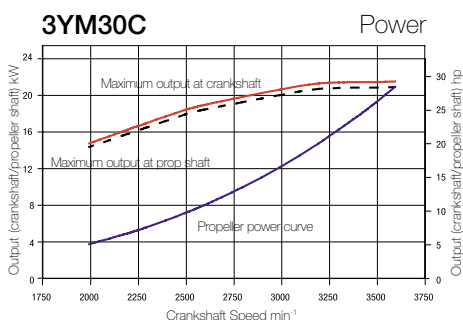
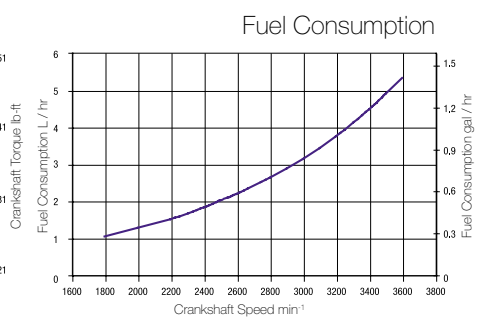
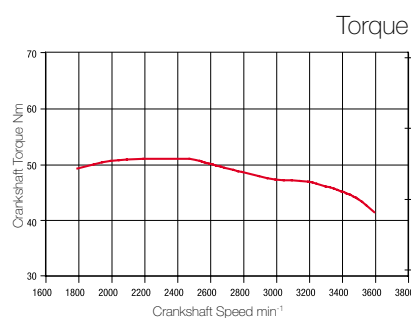
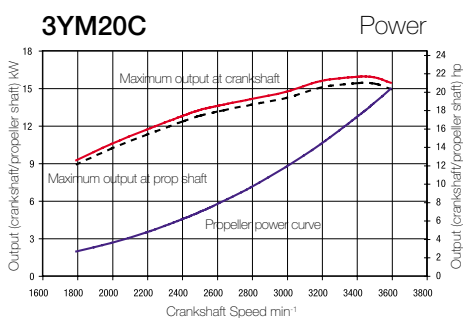
* Fuel temperature 25°C at the inlet of the fuel injection pump (ISO 3046-1)

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

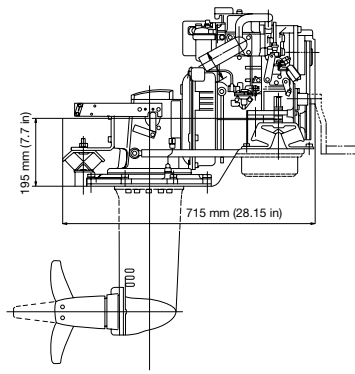
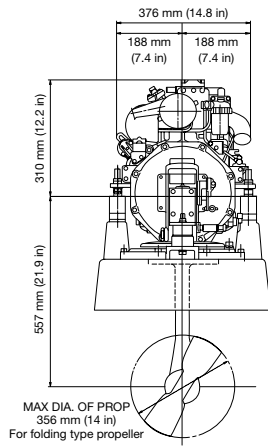




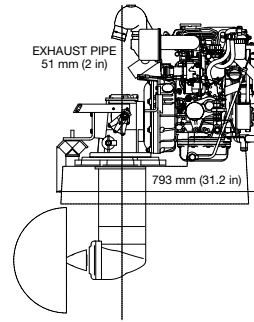
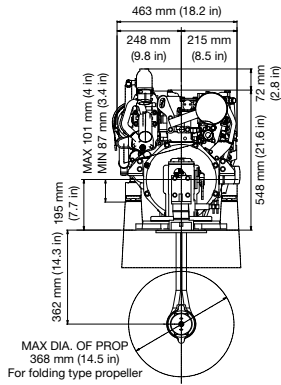
3YM20C x SD20	3YM30C x SD20
4-stroke, vertical, water cooled diesel engine	4-stroke, vertical, water cooled diesel engine
* 16.2 kW (22 hp) / 3600 rpm ** 15.3 kW (21 hp) / 3600 rpm	* 22.1 kW (30 hp) / 3600 rpm ** 21.3 kW (29.1 hp) / 3600 rpm
14.7 kW (20 hp) / 3489 rpm	20.1 kW (27.3 hp) / 3489 rpm
0.854 L (52.1 cu in)	1.115 L (68 cu in)
70 mm x 74 mm (2.8 in x 2.9 in)	76 mm x 82 mm (2.9 in x 3.2 in)
3	3
Indirect injection	Indirect injection
Natural aspiration	Natural aspiration
Electric starting 12 V - 1.4 kW	Electric starting 12 V - 1.4 kW
12 V - 60 A (80 A optional)	12 V - 60 A (80 A optional)
Fresh water cooling	Fresh water cooling
Enclosed, forced lubricating system	Enclosed, forced lubricating system
API GL4 or GL5 and SAE 80W90 or 90	API GL4 or GL5 and SAE 80W90 or 90
Counter clockwise viewed from flywheel	Counter clockwise viewed from flywheel
151 kg (333 lbs)	157 kg (346 lbs)



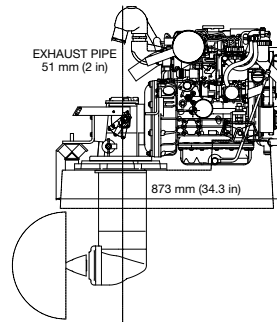
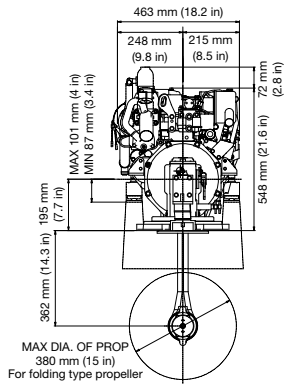
1GM10C



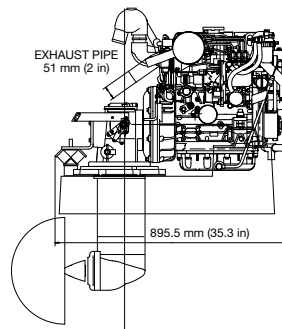
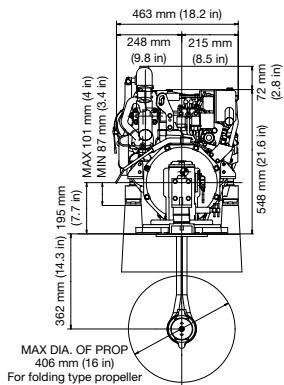
2YM15C



3YM20C



3YM30C



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