

## Disadvantages of old type diesel outboard engines:



1. Belt transmission: low efficiency, low safety level, high rate of power loss and fuel consumption

7. 30% higher fuel consumption and 50% lower sailing speed comparing with new type outboard engine of same capacity.

5. Dry clutch: bigger impact when shifting, noisy, easy mechanical damage.



3. Hand-cranked start: hard to start and easy to cause injuries.

6. Grease lubrication for transmission system: shorter service life for bearing and bevel gear.

4. Cast-iron body: heavy, bad performance of anti-erosion

2. Upper engine lower transmission layout: higher gravity and less boat stability.



## Advancetages of New type diesel outboard motors



1. Shaft connection: high efficiency of transmission, high safety level, low power loss and fuel consumption.

7. New and unique design of appearance, 30% lower fuel consumption and 50% higher sailing speed comparing with the old type outboard engine of same capacity.

6. Gear oil for transmission lubrication: longer service life for bearing and bevel gear.



5. Multi-disc wet clutch: small impact when shifting, quiet, very few damage of mechanical parts

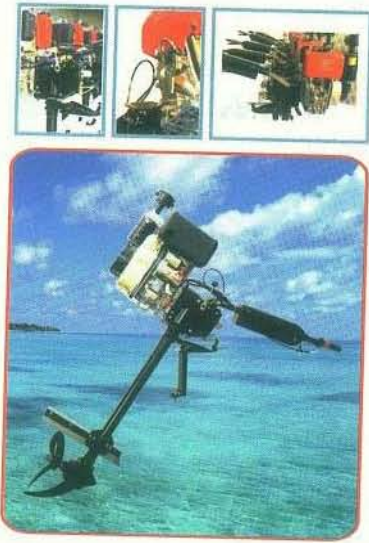
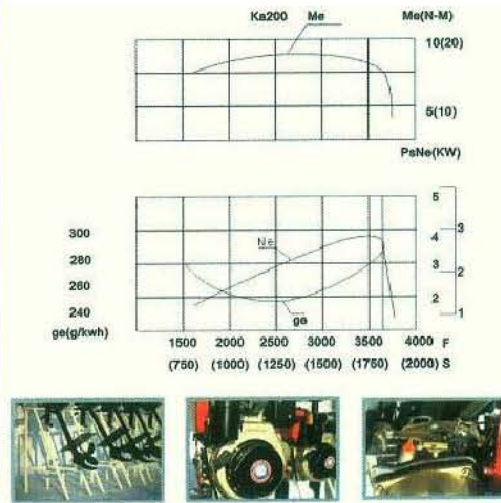
3. Electric start + hand start: one-button start, more comfortable and reliable.

4. Aluminum body: light weight and good performance of anti-erosion.

2. Horizontal connection of engine and transmission: lower gravity and higher boat stability.



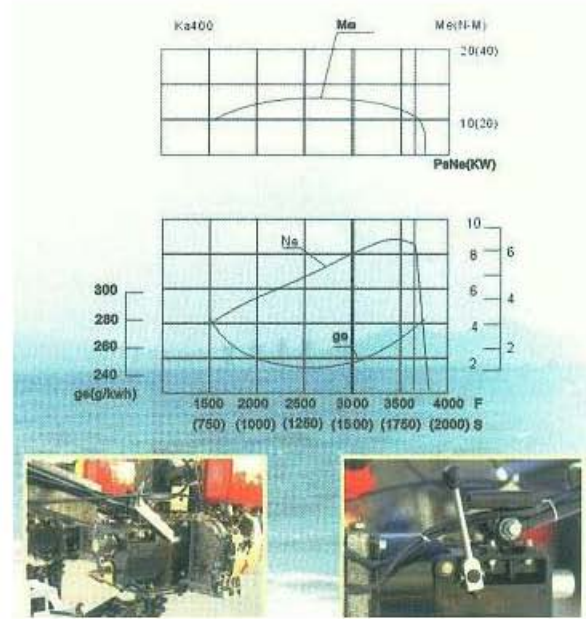
# Diesel Outboard Engine/Motor Technical



Item	Main Specification				
Model	7GX-3.1		7GX-4.4		
Diesel Engine type	Single cylinder, Vertical type, 4-stroke, air-cooled, Direct Injection				
Bore * Stroke (mm)	1-70*55		1-78*62		
Displacement(L)	0.211		0.296		
Rated speed of Output shaft	3000 / 1500	3600 / 1800	3000 / 1500	3600 / 1800	
Power	Max (KW/Ps)	2.8kw (3.8ps)	3.1kw (4.2ps)	4kw (5.4ps)	4.4kw (6ps)
	Rated (KW/Ps)	2.5kw (3.4ps)	2.8kw (3.8ps)	3.7kw (5.0ps)	4kw (5.4ps)
Direction of Output Rotation	Anticlockwise (from the output side)				
Valve clearance (mm)	0.1 - 0.15 (cold position)				
Starting way	Recoil start ( Electric Start)				
Fuel	Kgf/cm2 (Mpa)	220-230 (21.6-22.6)			
	Fuel supply advance ang	200±10			
	Fuel capacity (L)	2.5	3.5		
	Fuel Mark	# 0 (summer) or #-10 (winter)			
Oil	Method of Lubrication	Pressure Splash Compound			
	Engine Oil	SAE10W-30, Level CC above			
	Oil capacity (L)	1.65 L	1.1 L		
Engine size (L*W*H) (mm)	332 * 396 * 420		383 * 442 * 458		
Engine Net Weight (Kg)	≤ 25		≤ 33		
Machinery Net Weight (Kg)	≤ 55 / 58 / 61		≤ 69		
Speed of Impeller	> 1400 r/min				
Diameter of Impeller	340 mm		380 mm		
Transmission Fluid	Middle Duty Industrial Gear Oil HL-20				
Transmission capacity	3 L				

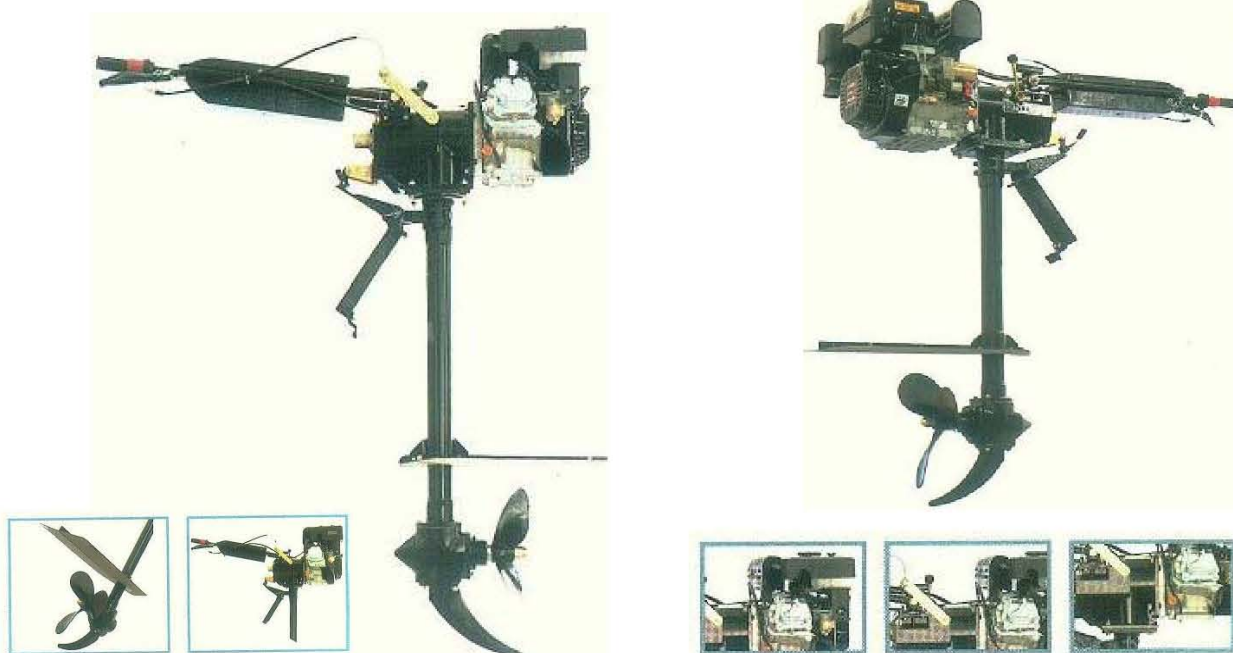


## Diesel Outboard Engine/Motor Technical



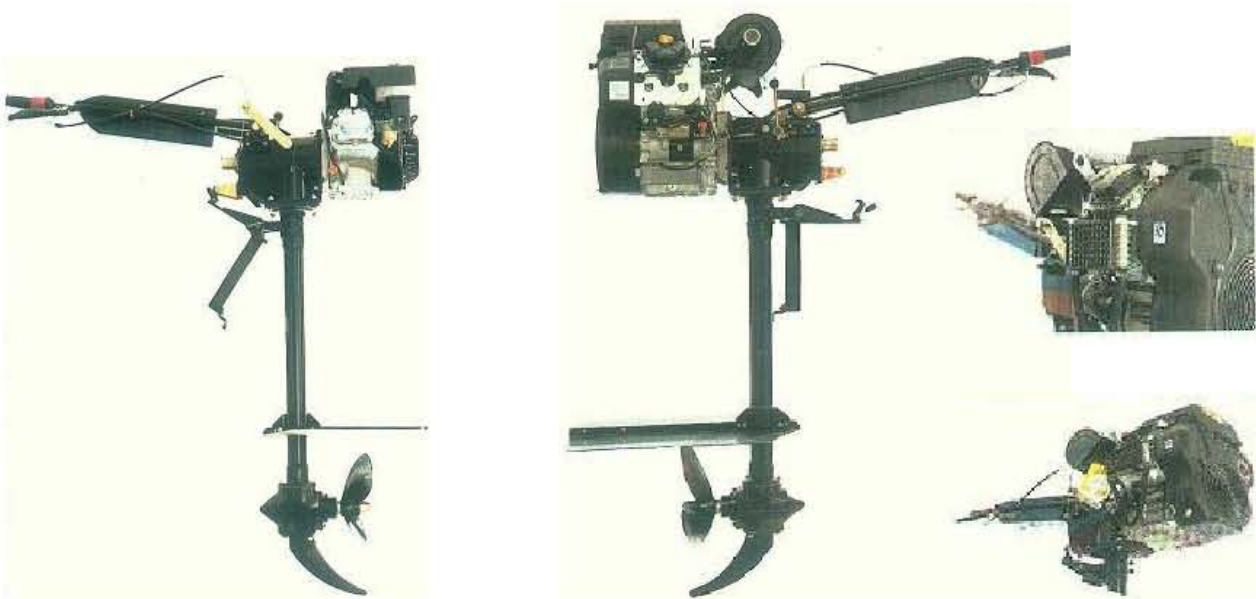
Item		Main Specification			
Model		7GX-6.8		7GX-8.2	
Diesel Engine type		Single cylinder, Vertical type, 4-stroke, air-cooled, Direct Injection			
Bore * Stroke (mm)		1-86*72		1-88*75	
Displacement(L)		0.418		0.456	
Rated speed of Output shaft (rpm)		3000 / 1500	3600 / 1800	3000 / 1500	3600 / 1800
Power	Max (KW/Ps)	6.3kw (8.6ps)	6.8kw (9.3ps)	7.5kw (10.2ps)	8.2kw (11.2ps)
	Rated (KW/Ps)	5.7kw (7.8ps)	6.3kw (8.6ps)	7kw (9.5ps)	7.5kw (10.2ps)
Direction of Output Rotation		Anticlockwise (from the output side)			
Valve clearance (mm)		0.1 - 0.15 (cold position)			
Starting way		Recoil start ( Electric Start)			
Fuel	Kgf/cm <sup>2</sup> (Mpa)	220-230 (21.6-22.6)			
	Fuel supply advance ang	200±10			
	Fuel capacity (L)	5.5		5.5	
	Fuel Mark	# 0 (summer) or #-10 (winter)			
Oil	Method of Lubrication	Pressure Splash Compound			
	Engine Oil	SAE10W-30, Level CC above			
	Oil capacity (L)	1.65 L		1.65 L	
Engine size (L*W*H) (mm)		418 * 465 * 495		418 * 465 * 495	
Engine Net Weight (Kg)		≤ 48		≤ 48	
Machinery Net Weight (Kg)		≤ 78 / 81 / 84		≤ 84	
Speed of Impeller		> 1400 r/min			
Diameter of Impeller		380 mm		380 mm	
Transmission Fluid		Middle Duty Industrial Gear Oil HL-20			
Transmission capacity		3 L			

## Gasoline Outboard Engine/Motor Technical



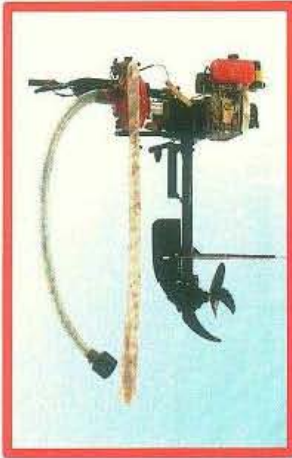
Item	Main Specification			
Model	7GX-4	7GX-4.4	7GX-5.3	7GX-6.2
Diesel Engine type	Single cylinder, horizontal type, 4-stroke, air-cooled, OHV			
Bore * Stroke (mm)	65*55	70*55	70*60	80*60
Displacement(L)	0.183	0.212	0.265	0.302
Rated speed of Output shaft	1560r/min			
Max torque (N.m/rpm)	10.8 /2500rpm	12.5 /2500rpm	15.5 /2500rpm	18.5 /2500rpm
Fuel consumption (g/kw.h)	≤395			
Rated power(KW/Ps)	4kw (5.4ps)	4.4kw (6ps)	5.3kw (7.2ps)	6.2kw (8.4ps)
Direction of Output Rotation	Anticlockwise (from the output side)			
Valve clearance (mm)	Intake: 0.1-0.15mm; Exhaust: 0.15-0.20mm			
Starting way	Recoil start ( Electric Start)			
Fuel capacity (L)	3.0L		4.6L	
Fuel Mark	#93			
Method of Lubrication	Pressure Splash Compound			
Engine Oil	SAE10W-30, Level CC above			
Oil capacity (L)	0.6 L		0.95 L	
Engine size (L*W*H) (mm)	330 * 375 * 336		380 * 430 * 415	
Engine Net Weight (Kg)	≤ 15	≤ 16	≤ 25	≤ 26
Machinery Net Weight (Kg)	≤ 51	≤ 52	≤ 61	≤ 62
Speed of Impeller	1560 r/min			
Diameter of Impeller	350 mm		360 mm	
Transmission Fluid	Middle Duty Industrial Gear Oil HL-20			
Transmission capacity	3 L			
Applicable scope	3-5 meter ship	4-6 meter ship	5-7 meter ship	6-8 meter ship

Gasoline Outboard Engine/Motor Technical



Item	Main Specification		
Model	7GX-7.8	7GX-9.0	7GX-14.7
Diesel Engine type	Single cylinder, horizontal type, 4-stroke, air-cooled, OHV		V-Double cylinders
Bore * Stroke (mm)	85*66	90*60	78*71
Displacement(L)	0.375	0.42	0.678
Rated speed of Output shaft	1560r/min		
Max torque (N.m/rpm)	23.2 /2500rpm	26.5 /2500rpm	43.5 /2500rpm
Fuel consumption (g/kw.h)	≤395		≤360
Rated power(KW/Ps)	7.8kw (10.6ps)	9.0kw (12ps)	14.7kw (20ps)
Direction of Output Rotation	Anticlockwise (from the output side)		
Valve clearance (mm)	Intake: 0.1-0.15mm; Exhaust: 0.15-0.20mm		
Starting way	Recoil start ( Electric Start)		
Fuel capacity (L)	6.0L		22L
Fuel Mark	#93		#90
Method of Lubrication	Pressure Splash Compound		
Engine Oil	SAE10W-30, Level CC above		
Oil capacity (L)	1.1 L		1.5 L
Engine size (L*W*H) (mm)	405 * 450 * 443		455 * 400 * 450
Engine Net Weight (Kg)	≤ 31.5	≤ 32	≤ 45
Machinery Net Weight (Kg)	≤ 68	≤ 68	≤ 81
Speed of Impeller	1560 r/min		
Diameter of Impeller	370 mm		380 mm
Transmission Fluid	Middle Duty Industrial Gear Oil HL-20		
Transmission capacity	3 L		
Applicable scope	6-8 meter ship	6-10 meter ship	8-14 meter ship





## 抽水功能

Functions of water pump

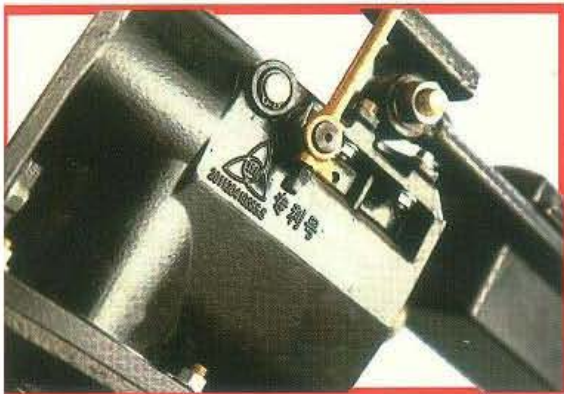


## 发电功能

Function of power generation



## 防绞杂物功能 Function of anti-binding sundry



专利号  
Patent number

**2-STROKE**

**4-STROKE**

**OUTBOARDS**



# Outboard Motor Technical Parameter List

Item NO.	measurement units	FOUR-STROKE										TWO-STROKE					
		F2.5BMS	F4BMS/L	F5BMS/L	F9.9BMS/L	F15BMS/L	T2.5BM	T4BM (S/L)	T5BM (S/L)	T9.9BM (S/L)	T15BM (S/L)	T40BM (L)					
Parameter	mm(in.)	625(25)	717(28.2)	717(28.2)	1001 (39.4)	1001 (39.4)	603 (23.7)	677 (26.7)	677 (26.7)	873 (34.4)	873 (34.4)	873 (34.4)	1106 (43.5)				
Length	mm(in.)	343(13.5)	361(14.2)	361(14.2)	427 (16.8)	427 (16.8)	240 (9.4)	322(12.7)	322(12.7)	332 (13.1)	332 (13.1)	332 (13.1)	408 (16.0)				
Width	mm(in.)	1013(39.9)	S: 1029 (40.5) L: 1156 (45.5)	S: 1029 (40.5) L: 1156 (45.5)	S: 1080 (42.5) L: 1207 (47.5)	S: 1080 (42.5) L: 1207 (47.5)	916 (36.1)	S:1011 (39.8) L:1138 (44.8)	S:1011 (39.8) L:1138 (44.8)	S: 1040 (40.9) L: 1167 (45.9)	S: 1040 (40.9) L: 1167 (45.9)	S: 1040 (40.9) L: 1167 (45.9)	1340 (52.8)				
Height	mm(in.)	S:381 (15.0)	S:433 (17.1) L:560 (22.1)	S:433 (17.1) L:560 (22.1)	S:440 (17.3) L:567 (22.3)	S:440 (17.3) L:567 (22.3)	417 (16.4)	S:444 (17.50) L:571 (22.50)	S:440 (17.30) L:567 (22.30)	S:440 (17.30) L:567 (22.30)	S:440 (17.30) L:567 (22.30)	S:440 (17.30) L:567 (22.30)	533 (21.8)				
Transom height	mm(in.)	S:17	S:22; L:23	S:22; L:23	S:39.9; L:40.9	S:39.9; L:40.9	9.8	S:21; L:21.5	S:21; L:21.5	S:36; L:37.5	S:36; L:37.5	S:36; L:37.5	75.5				
Net Weight	r/min	5250~5750	4000~5000	4000~5000	4500~5500	4500~5500	4000~5000	4500~5500	4500~5500	4500~5500	4500~5500	4500~5500	4500~5500				
Full throttle operating range	KW(Hp)@r/min	1.9 (2.5) @5500	2.9 (4) @4500	2.9 (4) @4500	7.3 (9.9) @5000	11 (15) @5000	1.5 (2) @4500	2.9 (4) @5000	3.7 (5) @5000	7.3 (9.9) @5000	11 (15) @5000	29.4 (40) @5000	29.4 (40) @5000				
Maximum output	r/min	2000~2200	1250~1350	1250~1350	900~1000	900~1000	1100~1200	1100~1200	700~800	700~800	700~800	750~850	750~850				
Idling speed	OHV	OHV	OHV	OHV	OHC	2-Stroke	2-Stroke	2-Stroke	2-Stroke	2-Stroke	2-Stroke	2-Stroke	2-Stroke				
Engine type	cm3	72	112	112	323	323	50	83	246	246	246	246	698				
Cylinder quantity	mm(in.)	47×43	59×41(2.32×1.61)	59×41(2.32×1.61)	59×59(2.32×2.32)	42.0×36.0(1.65×1.42)	54.0×45.0(2.13×1.77)	56.0×50.0(2.20×1.97)	67.0×66.0(2.64×2.60)	67.0×66.0(2.64×2.60)	67.0×66.0(2.64×2.60)	67.0×66.0(2.64×2.60)	67.0×66.0(2.64×2.60)				
Bore×Stroke	mm(in.)	47×43	59×41(2.32×1.61)	59×41(2.32×1.61)	59×59(2.32×2.32)	42.0×36.0(1.65×1.42)	54.0×45.0(2.13×1.77)	56.0×50.0(2.20×1.97)	67.0×66.0(2.64×2.60)	67.0×66.0(2.64×2.60)	67.0×66.0(2.64×2.60)	67.0×66.0(2.64×2.60)	67.0×66.0(2.64×2.60)				
Control system	Tiller	Tiller	Tiller	Tiller	Tiller	Tiller	Tiller	Tiller	Tiller	Tiller	Tiller	Tiller	Tiller				
Starting System	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual				
Gear positions	Forward-neutral	Forward-neutral	Forward-neutral	Forward-neutral-reverse	Forward-neutral	Forward-neutral	Forward-neutral	Forward-neutral	Forward-neutral-reverse	Forward-neutral	Forward-neutral	Forward-neutral	Forward-neutral				
Gear ratio	2.08 (27/13)	2.08 (27/13)	2.08 (27/13)	2.08 (27/13)	2.08 (27/13)	2.08 (27/13)	2.08 (27/13)	2.08 (27/13)	2.08 (27/13)	2.08 (27/13)	2.08 (27/13)	2.08 (27/13)	1.85(24/13)				
Trim and tilt system	Manual tilt																
Fuel tank volume	L(Integral)	1.2	1.3	1.3	24	24	1.2	2.8	2.8	24	24	24	24				
Engine fuel ratio	/ gasoline: engine oil=50: 1																
Engine oil	L(Integral)	0.35	0.5	0.5	1	1	/	/	/	/	/	/	/				
Gear oil	cm3	75	100	100	250	250	100	320	320	250	250	250	430				
Propeller spec	in	3-7 1/7"x6"	3-7 1/7"x7"	3-7 1/7"x7"	3-9 1/4"x11" or 3-9 1/4"x8"	3-7 1/4"x6"	3-7 1/7"x7"	3-7 1/7"x7"	3-9 1/4"x8" or 3-9 1/4"x11"	3-11 1/8"x13"	3-11 1/8"x13"	3-11 1/8"x13"	3-11 1/8"x13"				