

Beta MID ENGINE RANGE Heat Exchanger Cooled

£ Pounds Sterling Date: September 2009 – Issue 3

Engine Types	Beta 43	Beta 50	Beta 60	Beta 75	Beta 90
Cylinders	4	4	4	4	4
BHP	43	50	56	75	90
RPM	2800	2800	2700	2600	2600
Capacity cc's	1999	2197	2434	3620	3769

Price of our standard engine is complete with gearbox, control panel, flexible mountings - as detailed below **excluding VAT**. If these specifications do not cover your requirements then please ask and we will quote you.

STANDARD SPECIFICATION

Beta Marine heat exchanger cooled propulsion engine (Recreational Craft Directive emission compliant) with heat exchanger and header tank, water cooled exhaust manifold, fresh and sea water pumps, injection bend, mechanical fuel lift pump, fuel and oil filters, sump pump, flywheel with heavy inertia ring for super smooth running at low rpm, flywheel housing, special quiet air intake filter, 12 volt starter, 65 amp battery charging alternator, shutdown solenoid, control panel "ABV" with tachometer/hour recorder, keystart switch and pushbutton stop, warning lights and alarm buzzer for low oil pressure, high water temperature, no charge, and power on; with 3 m interconnection cable with multi pin plug and sockets to engine harness. Gearbox as indicated under section (a), (b), (c), (d), (e), or (f) with nominal 2:1 reduction of the type shown, heavy duty engine feet with flexible mountings, "Morse" type end fittings for speed and gear control, engine test certificate, operators manual. Red paint and packed on skid base with a 3 year warranty.

1.	NOTE - All mechanical gearboxes must be used with a right-handed propeller in ahead.					
a.	Twin Disc- Technodrive gearbox	6465	7447	7686	10096	10506
b.	ZF mechanical gearbox	7246	7558	8084	N/A	N/A
c.	PRM hydraulic gearbox	6952	7200	8225	9688	10126
d.	ZF Hydraulic gearbox	7770	7960	8169	9580	10825
e.	ZF Hydraulic 8° down angle gearbox					
f.	ZF V drive gearbox	8108	8426	9323	11227	11883
g.	Bobtail engine with drive plate, housing – (less mechanical gearbox)	5496	6224	6525	8089	8674
h.	Bobtail engine with drive plate, housing to suit Borg Warner Velvet drives – (less hydraulic gearbox)	6137	6865	7303	8730	9315
i.	Allowance for keel cooling , with dry exhaust stub.	(255)	(255)	(255)	(492)	(492)

PROPELLERS

A general guidance for propeller dimensions in inches – based upon 3 blade RH rotation and reduction ratio 2:1. For accurate guidance please provide us with full boat details.

18" x 12"	19" x 12"	Please Ask	Please Ask	Please Ask
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GEARBOX OPTIONS			Beta 43	Beta 50	Beta 60	Beta 75	Beta 90
GEARBOX OPTIONS – The following gearbox options can be fitted at the extra cost over the standard box already included in item 1.							
a.	Twin Disc – Technodrive						
	TMC 60 mechanical gearbox	2.0:1 2.5:1	Inc	N/A	N/A	N/A	N/A
	Oil cooler for TMC 60 running LH in ahead		96	N/A	N/A	N/A	N/A
	TMC 260 mechanical gearbox	2.0, 2.47, 2.88 :1	657	Inc	Inc	N/A	N/A
	TM 345 hydraulic gearbox	2.0, 2.47:1	1017	358	421	N/A	N/A
	TM 93 hydraulic gearbox	2.09, 2.40, 2.77:1	-	-	-	Inc	Inc
b.	ZF - mechanical gearbox						
	ZF15M / ZF15MA (8° Down Angle)	1.88 : 1	Inc	Inc	N/A	N/A	N/A
	ZF15MA (8° Down Angle)	2.63 : 1	Inc	N/A	N/A	N/A	N/A
	ZF25M	1.88 : 1 or 2.74 : 1	-	206	Inc	N/A	N/A
c.	Newage PRM – hydraulic gearbox with special 2 stage “quiet” damper (Free wheeling propeller when sailing)						
	PRM150	2.09 : 1	Inc	Inc	N/A	N/A	N/A
	PRM150	2.83 : 1	Inc	N/A	N/A	N/A	N/A
	PRM260	1.96 : 1	728	728	Inc	Inc	Inc
	PRM260	2.94 : 1	728	728	Inc	Inc	N/A
	PRM500	1.94 / 2.57 / 2.9 : 1	-	-	772	772	772
	Hydraulic ‘Soft Shift’ valve block for PRM 260, 500, 750		318	318	318	318	318
d.	ZF - hydraulic gearbox parallel shaft (Free wheeling propeller when sailing)						
	ZF25	1.97 : 1 or 2.80 : 1	Inc	Inc	Inc	Inc	N/A
	ZF45 -1	2.2 / 2.5 / 3.0 : 1	-	-	-	-	Inc
e.	ZF 8° Down Angle – hydraulic gearbox with special 2 stage “quiet” damper (Free wheeling propeller when sailing)						
	ZF 25 A	1.93 : 1 (also 2.29 & 2.71:1)	Inc	Inc	Inc	Inc	N/A
	ZF 45 A	2.44 : 1	-	-	-	-	Inc
f.	ZF V Drive gearbox						
	ZF 15 MIV Mechanical 15°	2.13 : 1 or 2.72 : 1	Inc	Inc	N/A	N/A	N/A
	ZF 63 IV Hydraulic 12°	1.99 : 1 or 2.48 : 1	-	-	Inc	Inc	Inc

OPTIONS - The following options are available and the prices indicated are the **extra** cost of these options over the standard specification with ABV Panel.

2.	CONTROL PANELS						
a.	Control panel ABVW - as panel ABV but fully waterproof with sealed push buttons instead of keyswitch.	77	77	77	77	77	
b.	Control panel B as start panel ABV - but including water temperature gauge.	94	94	94	94	94	
c.	Control panel C as panel ABV - but including voltmeter, water temperature and oil pressure gauges.	216	216	216	216	216	
d.	Extension loom together with starter motor relay on engine - price for 2m.	£56 basic + £22 per extra metre					
3.	SPECIAL ENGINE FEET –						
	Manufactured to suit your existing engine bearers & shaft alignment/ installation (owner to provide required dimensions detailed on our drawing). Nett Price	263	263	263	263	263	

4.	FLEXIBLE COUPLINGS – based upon torque loadings from a reduction ratio of 2:1 (please ask for 3:1)		Beta 43	Beta 50	Beta 60	Beta 75	Beta 90
a.	R&D flexible coupling disc.	4" Flange	57	57	N/A	N/A	N/A
b.		5" for PRM 260, TM345 & TM93	120	120	120	120	120
c.		5.75" for PRM 500	-	-	143	143	143
d.	R&D split boss steel clamp coupling (Std: 25mm & 1")	4" Flange	85	85	N/A	N/A	N/A
e.		5" for PRM260, TM345 & TM93	109	109	109	109	109
f.		5.75" for PRM 500	-	-	145	145	145
g.	Centaflex with 2:1 reduction ratio	Type 16 bore up to 40mm	308	308	308	N/A	N/A
h.		AM-30 /50 bore 25mm to 50mm	562	562	562	654	654
i.	Aquadrive /Python drives etc. , when fitting these drive shafts you should fit an 'R' type gearbox drive plate.		180	180	180	TBA	TBA

5.	ENGINE MOUNTED OPTIONS						
a.	Calorifier connections.	24	24	24	39	39	
b.	Shallow sump fitted	146	146	146	N/A	N/A	
c.	Sump drain pump fitted.	Incl.	Incl.	Incl.	Incl.	Incl.	
d.	Extra for high rise injection bend in place of standard (150mm rise above centre of manifold) including lagging tape.	139	139	139	Incl.	Incl.	
e.	Bilge Pump Kit complete with Jabsco pump 1 inch electromagnetic clutch, belt, pulley, 2 metres of pipe and clips. (Must be used with shaft extension).	536	536	536	536	536	
f.	Shaft Extension PTO – gear end – 38mm	118	118	118	118	118	
g.	Fitting of Free Issued hydraulic pump in-line off forward end.	468	468	468	468	468	
h.	Fitting 14.6 cc per rev hydraulic pump with 12 volt electromagnetic clutch belt driven from forward end.	747	747	747	747	747	
i.	Mounting of Sea Frost Compressor - portside.	507	507	507	507	507	
j.	Brackets and special feet for conversion to Hybrid	347	347	347	N/A	N/A	

6.	INSTALLATION KITS						
a.	Water inlet kit comprising 1 seacock with strainer and 2 metres of pipe with clips.	158	158	158	158	158	
b.	Water cooled exhaust kit comprising 3 metres of exhaust hose, skin fitting, stainless steel clips.	175	175	175	187	187	
c.	Wet exhaust silencer with clips.	84	84	84	119	119	
d.	Antisiphon Kit with airvent, 2m x 22mm hose and clips	132	132	132	TBA	TBA	
e.	Electric fuel lift pump .	68	68	68	68	68	
f.	Flexible fuel pipe connections to engine (2 off).	37	37	37	37	37	
g.	Fuel delivery kit comprising 5 metres of copper pipe with end fittings for connection to tank and to flexible pipe on engine (see h).	35	35	35	35	35	
h.	Fuel leak off kit comprising 5 metres of copper pipe with connections to engine flexible pipe as in (h) and fuel tank.	35	35	35	35	35	
i.	Diesel fuel filter /water separators.	74	74	74	74	74	
j.	Remote oil filter either engine mounted or for bulk head mounting – max distance 750 mm.	224	224	224	224	224	
k.	Remote Header Tank kit supplied loose	165	165	165	165	165	

7	ENGINE CONTROLS	Beta 43	Beta 50	Beta 60	Beta 75	Beta 90
a.	Single lever control head for speed and gearbox. Side mount.	99	99	99	99	99
b.	Control cable lengths from 3 – 7.5 metres in increments of 0.25 metres. Price for 3m length (each).	17	17	17	17	17
c.	Extra cost per cable 0.25 metres (2 cables required).	1.0	1.0	1.0	1.0	1.0

8	ELECTRICAL OPTIONS					
	12 Volt battery - Minimum recommended Battery Size	120 Ah (CCA 670A)			180 Ah (CCA 1200A)	
	24 Volt battery - Minimum Recommended Battery Size	2 x 12V 180 Ah (CCA 670 A)				
a.	1 metre battery leads (2 off).	28	28	28	28	28
b.	Battery isolating switch	18	18	18	18	18
c.	12V Alternator 65 Amp	Incl.	Incl.	Incl.	Incl.	Incl.
d.	Fitting flat Polyvee belt and pulleys to standard alternator	113	113	113	250	250
e.	12V Alternator 100 amp in standard position with Polyvee belt drive (No split charge relay included)	290	290	290	290	290
f.	Beta Controller (smart charger) to fit 100 amp alternator only	174	174	174	174	174
g.	12V Alternator 70 amp in standard position with <u>insulated return</u> and Polyvee belt drive	342	342	342	342	342
h.	2nd 12 Volt Alternator - 150 amps engine mounted.	465	465	465	465	465
i.	12V Split charging system for engine and domestic batteries – VSR Voltage Sensitive Relay – 125 Amp.	77	77	77	77	77

j.	24 Volt Electric Start with 24 volt x 55 Amp alternator	1589	1589	1589	1589	1589
k.	2nd - 24 Volt Alternator 80 Amp	587	587	587	587	587

l.	Travel Power – engine mounted generator with 230 volt, single phase 50Hz, new AC output panels – develops 230 volt output at variable engine speed in addition to standard battery charging alternators					
	3.5kW Travel Power with new main and remote panels	3377	3377	3377	3377	3377
	5.0kW Travel Power with new main and remote panels	4246	4246	4246	4246	4246

9	Short voyage Spares Kit in a plastic box including: Lubricating oil x 2, Fuel, and Air Filters; Impellor, "O" Rings, standard V Belt and fuse.	99	99	99	99	99
10	Engine Storage – beyond 6 months – requires Ensis and Calibration fluid protection.	36	36	36	36	36
11	Sound deadening material: size 1.25m x 1m x 38mm – to be supplied in engine packing case and may require cutting to fit in case	108	108	108	108	108
12	Tri-wall packing on a wooden base	Inc	Inc	Inc	Inc	Inc
13	Extra for Wooden Export packing case (Nett Price)	88	88	88	88	88
14	2/3 Day Delivery UK Mainland (Nett Price) (For Scotland - Price on Application)	81	81	81	102	102

Prices and specifications are subject to amendment without notice. Information given is subject to our current conditions of Tender and Sale.