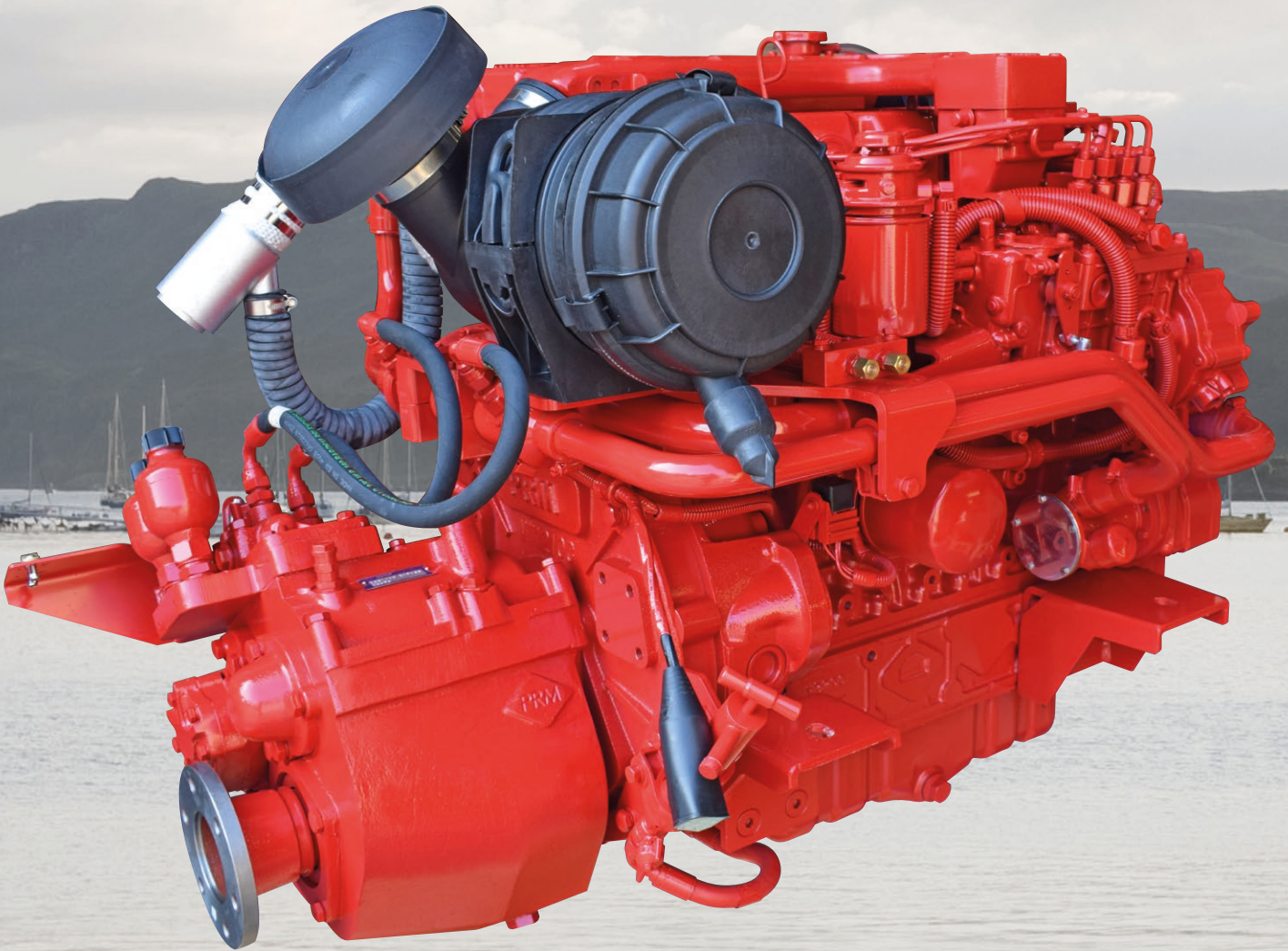


Your needs . . .



**. . . our tailored solutions
delivering reliability and peace of mind**

Commercial Use Only Engine Range

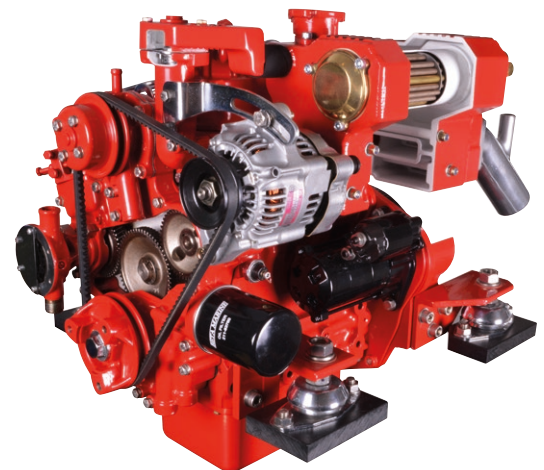
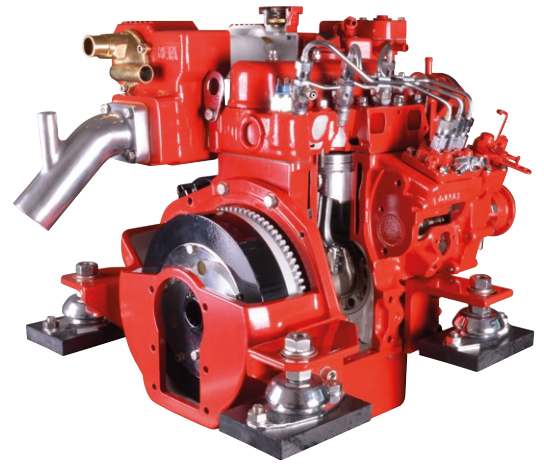
Heat Exchanger Cooled Beta 90 - Beta 150

Why Beta Marine?

Your needs . . .

- Our company has built its renowned reputation on over 30 years of customer centred focus, listening to maritime propulsion or power needs and providing value solutions. Proving our support & product at pre-purchase, during installation be it a new build or re-power and post-purchase with the delivery of an after sales service both nationally and internationally that is second to none.
- We value our employees equally as highly as our customers, are extremely proud of the retained bank of skills, experience and loyalty that we have built and have available in place today, which enables us to excel at providing maritime solutions to fit bespoke needs.
- Our company strives to continue to build our reputation with all our customers be they end users, dealers, international distributors or boat builders and our mission is simply to capture, retain and service your valued custom throughout our products natural life cycle.
- The combined experience of our dedicated seagoing team and dealer network, supported by state of the art computer aided design we have planned, installed and re-powered thousands of vessels and sit comfortably & confidently that we can support your unique needs and exceed your expectation.

. . . our tailored solutions delivering reliability and peace of mind



Beta Marine are an ISO Quality Assured Firm. Since 1987, we have been continually improving our Quality Procedures, whilst being monitored annually by ISO Quality Services Ltd.

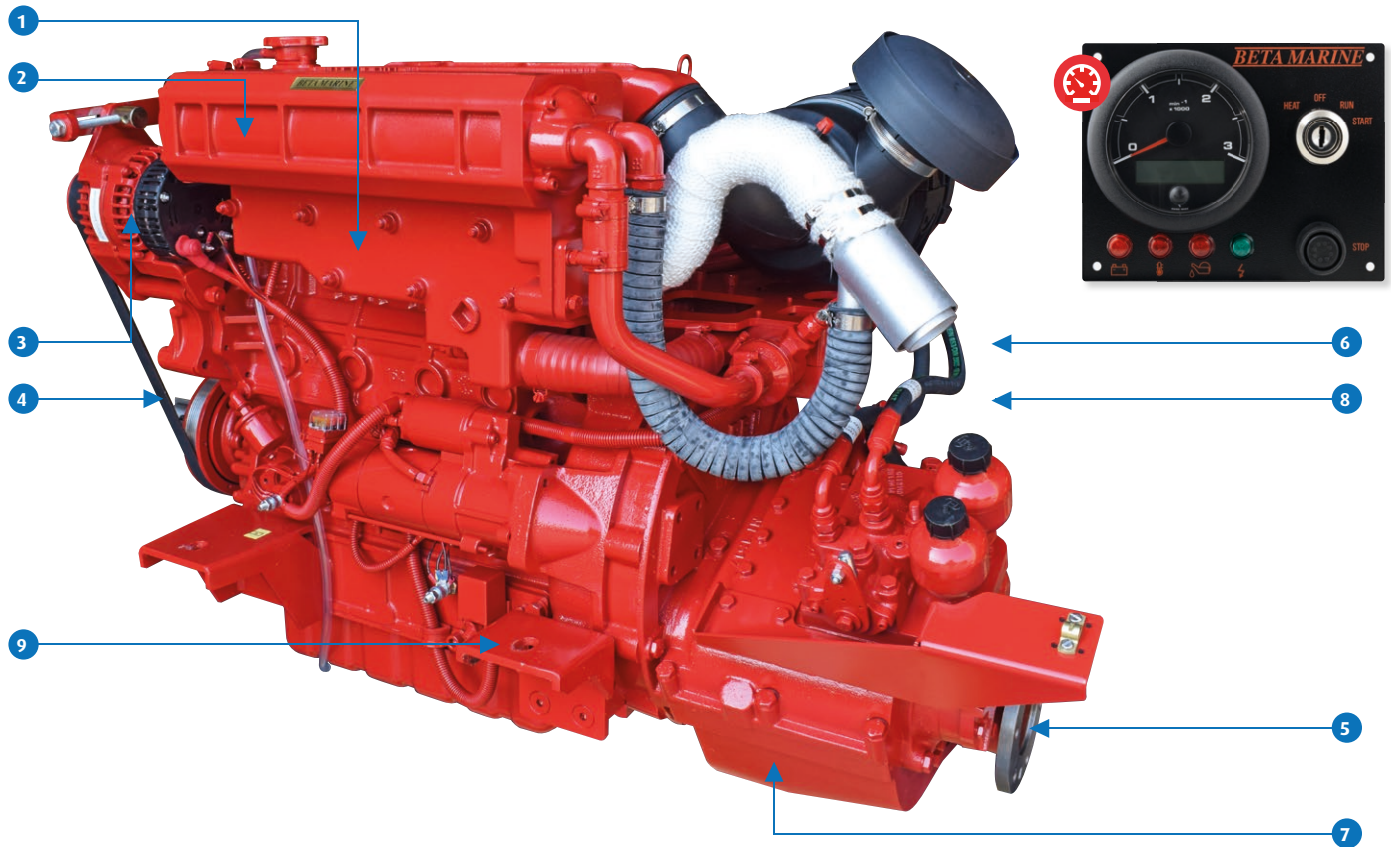
Cutaway Images Are For Illustration
Purposes & Not Necessarily Representative



ISO
9001

Quality
Management
Certification

Commercial Use Engine Range - Specifications



❶ 4 cylinders (Beta 90) or 6 cylinders (Beta 150) with high inertia flywheel for smooth running at low rpm.

❷ **HEAT EXCHANGER COOLED**, the Beta 90 & Beta 150 are naturally aspirated and especially suitable for commercial vessels up to 24m in length as they develop exceptionally high torque.

❸ 70 amp (Beta 90) or 90 amp (Beta 150) battery charging alternator giving full power at cruising speed with 12 volt electric starting as standard. **OPTIONAL OR ADDITIONAL ALTERNATORS** & polyvee belt/pulley drive transmission are available.

❹ **QUIET GEAR DRIVEN CAMSHAFT** for maximum engine reliability and reduced servicing, as no timing chains or toothed belts have to be replaced.

❺ Subject to criteria, Kubota/Iveco based engines accommodate installation angles up to 15° maximum when static and 25° when heeling.

❻ Direct mechanical fuel injection.

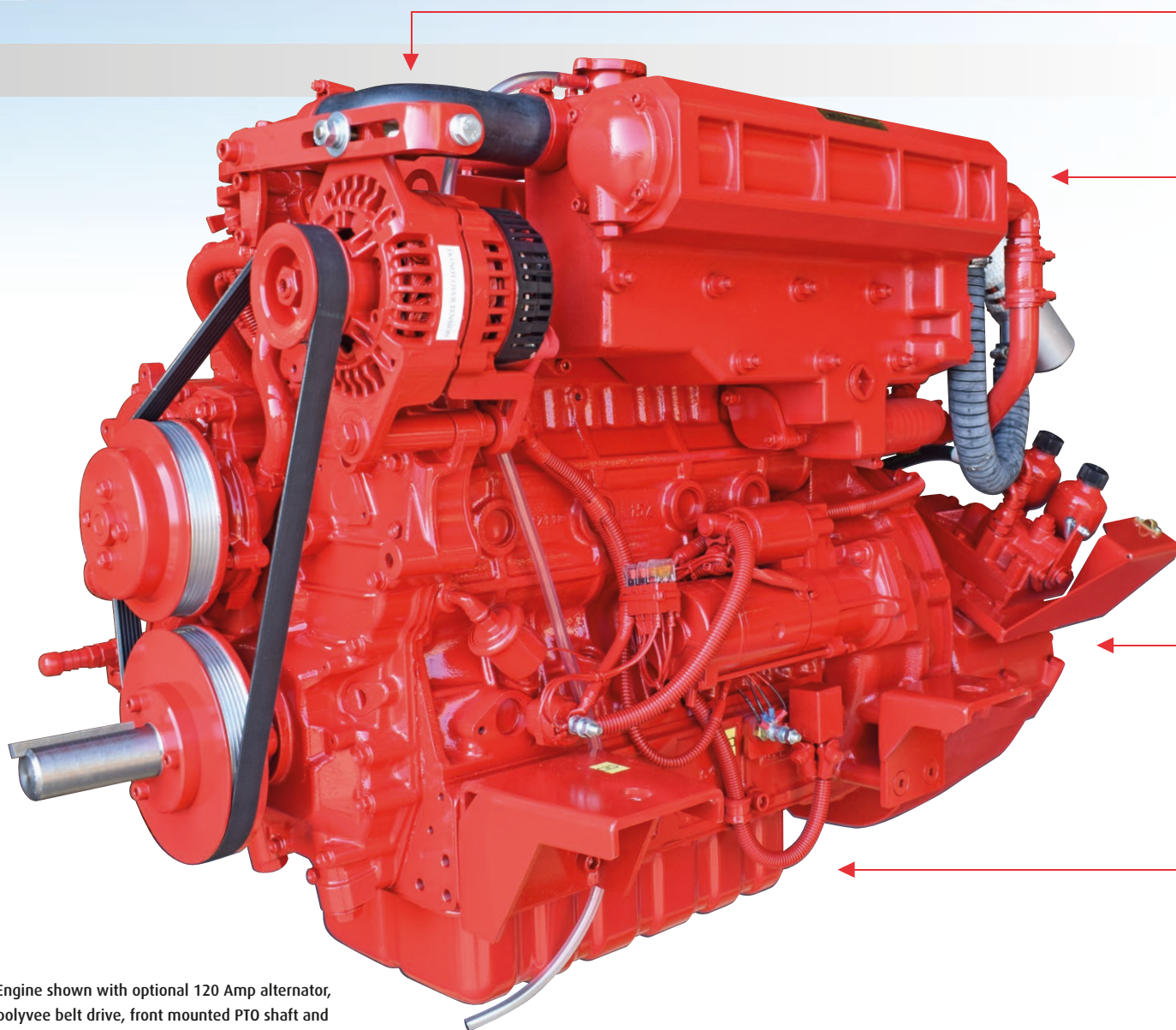
❼ Mechanical & hydraulic in-line or down angle or V drive gearbox options. Output rotation is clockwise in ahead, viewed from the gearbox end.

❽ Fuel filter, **MECHANICAL** fuel lift pump, **MECHANICAL** fuel injection pump and **MECHANICAL** engine governing ensures steadfast performance regardless of ambient conditions.

❾ Optional special feet service, to ease planning and installation Beta Marine offer 3D computer aided modeling for the design & the manufacture of bespoke feet to allow direct installation on to your vessels existing engine bearers.

Ⓜ Complete with "ABV" Control Panel & 3m of interconnection cable, "Morse" type engine speed and gearbox control brackets & end fittings. Heavy duty feet and flexible mountings.






Beta 90



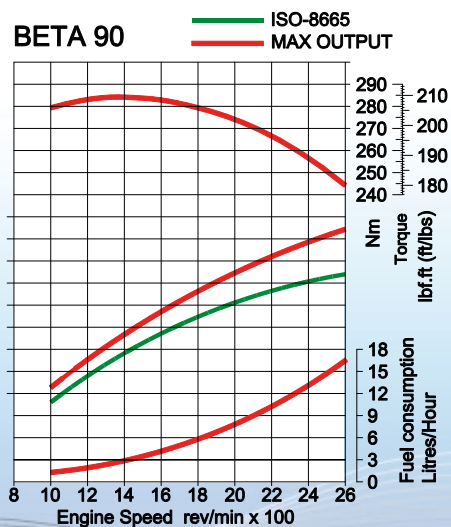
Engine shown with optional 120 Amp alternator, polyvee belt drive, front mounted PTO shaft and hydraulic gearbox soft shift

The Beta 90 is not RCD2 compliant and is for use by and only to be sold to Non-Recreational Craft up to 24m in length.

Kubota Base Engine

| | | |
|--|---------------------|---------------------|
|  | Cylinders | 4 |
|  | Displacement | 3769cc |
|  | Power | 90hp max @ 2,600rpm |
|  | Weight | 425Kg |
|  | Propeller | AIA* |

A general guidance for propeller size in inches, based upon 3 blade RH rotation and reduction ratio of 2:1. *For accurate individual advice please provide us with your vessels current full specifications



Based on theoretical propeller loading - matched at full speed



Control Panel Options

| | |
|----------------|------|
| ABV Panel | Std. |
| ABVW Panel | Opt. |
| B Panel | Opt. |
| BW Panel | Opt. |
| C Deluxe Panel | Opt. |

| | |
|--------------------------------|------|
| CW Deluxe Panel | Opt. |
| D Digital Panel | Opt. |
| Flybridge Control - Additional | |
| C Panel & 6m Connection Cable | Opt. |



Electrical Options

| | |
|---|------|
| 70 Amp, 12 Volt Alternator | Std. |
| 120 Amp, 12 Volt Alternator in Lieu of Standard | Opt. |
| 175 Amp, 12 Volt Alternator in Lieu of Standard | Opt. |
| 70 Amp, 12 Volt Insulated Return Alternator | Opt. |
| 100 Amp, 12 Volt Insulated Return Alternator | Opt. |
| 175 Amp, 12 Volt Secondary Domestic Alternator | Opt. |

| | |
|--|------|
| 24 Volt Electric Start and 55 Amp Alternator | Opt. |
| 80 Amp, 24 Volt Secondary Domestic Alternator | Opt. |
| 60 Amp, 24 Volt Secondary Domestic Insulated Return Alternator | Opt. |
| 3.5 kVA Travel Power - 230 Volt, Single Phase 50Hz | Opt. |
| 5.0 kVA Travel Power - 230 Volt, Single Phase 50Hz | Opt. |



Gearbox Options

| | |
|--|------|
| Bobtail - No Gearbox | |
| "Bobtail" Engine with Drive Plate and Housing Only | Std. |
| Technodrive / Twin Disc | |
| TM93 - Hydraulic | Std. |
| TM93A - 8° Down Angle, Hydraulic | Opt. |

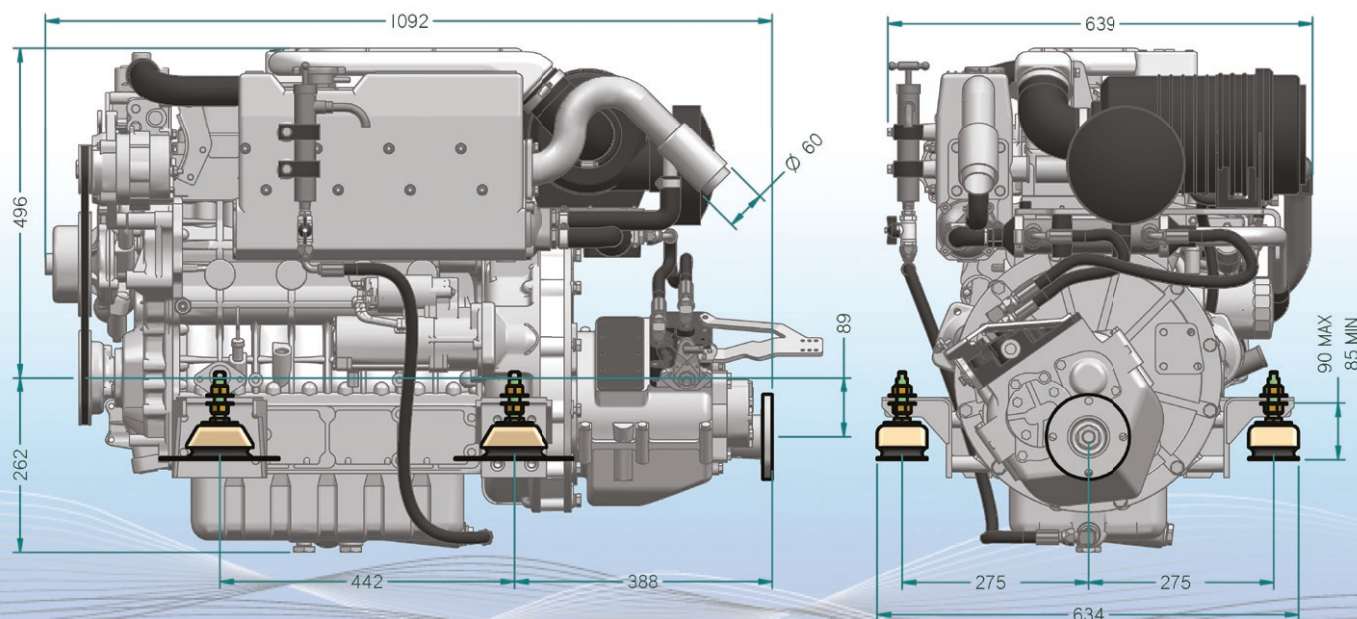
| | |
|----------------------------------|------|
| PRM Marine | |
| PRM280 - Hydraulic | Std. |
| PRM260C - In-line Hydraulic | Opt. |
| PRM500 - Hydraulic | Opt. |
| ZF | |
| ZF45 - Hydraulic | Std. |
| ZF45A - 8° Down Angle, Hydraulic | Std. |
| ZF681V - 12° V Drive, Hydraulic | Std. |



Cooling Options

| | |
|-----------------------|------|
| Heat Exchanger Cooled | Std. |
|-----------------------|------|

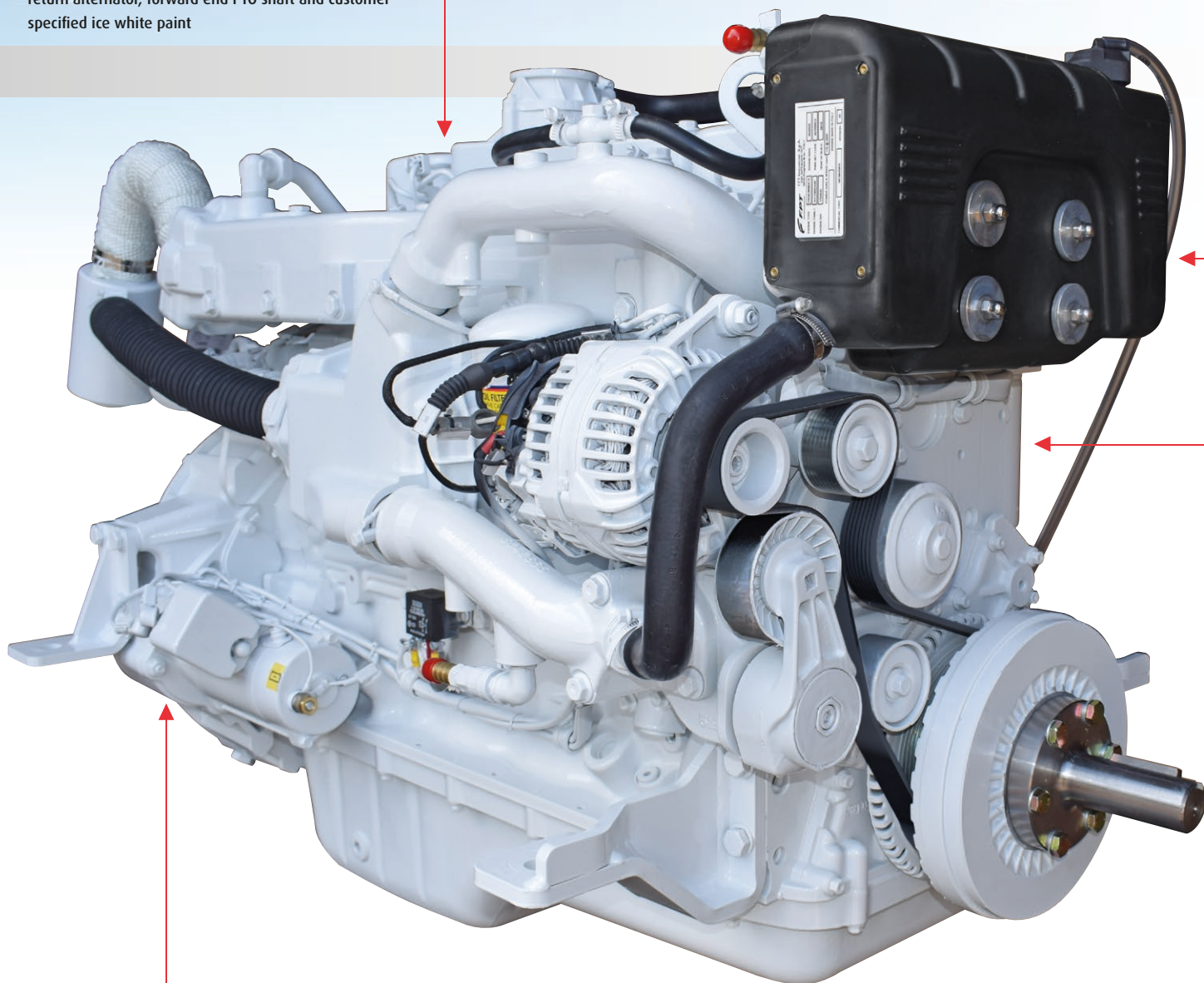
| | |
|-------------|------|
| Keel Cooled | Opt. |
|-------------|------|



These are typical dimensions: visit our website for all engine / gearbox option drawings or contact Beta Marine direct






Beta 150

Engine shown with optional 24v 70 Amp insulated return alternator, forward end PTO shaft and customer specified ice white paint



The Beta 150 is not RCD2 compliant and is for use by and only to be sold to Non-Recreational Craft up to 24m in length.

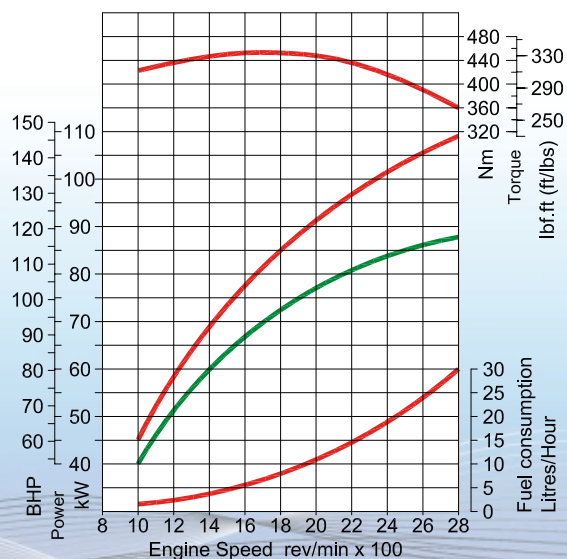
Iveco Base Engine

| | | |
|--|---------------------|-----------------------------|
|  | Cylinders | 6 |
|  | Displacement | 6700cc |
|  | Power | 147hp max @ 2,800rpm |
|  | Weight | 680Kg |
|  | Propeller | AIA* |

A general guidance for propeller size in inches, based upon 3 blade RH rotation and reduction ratio of 2:1. *For accurate individual advice please provide us with your vessels current full specifications

BETA150

ISO-8665
MAX OUTPUT



Based on theoretical propeller loading - matched at full speed



Control Panel Options

| | |
|----------------|------|
| ABV Panel | Std. |
| ABVW Panel | Opt. |
| B Panel | Opt. |
| BW Panel | Opt. |
| C Deluxe Panel | Opt. |

| | |
|--------------------------------|------|
| CW Deluxe Panel | Opt. |
| D Digital Panel | Opt. |
| Flybridge Control - Additional | |
| C Panel & 6m Connection Cable | Opt. |



Electrical Options

| | |
|---|------|
| 90 Amp, 12 Volt Alternator | Std. |
| 120 Amp, 12 Volt Alternator in Lieu of Standard | Opt. |
| 175 Amp, 12 Volt Alternator in Lieu of Standard | Opt. |
| 70 Amp, 12 Volt Insulated Return Alternator | Opt. |
| 100 Amp, 12 Volt Insulated Return Alternator | Opt. |

| | |
|--|------|
| 175 Amp, 12 Volt Secondary Domestic Alternator | Opt. |
| 24 Volt Electric Start and 55 Amp Alternator | Opt. |
| 80 Amp, 24 Volt Secondary Domestic Alternator | Opt. |
| 60 Amp, 24 Volt Secondary Domestic Insulated Return Alternator | Opt. |



Gearbox Options

| | |
|--|------|
| Bobtail - No Gearbox | |
| "Bobtail" Engine with Drive Plate and Housing Only | Std. |
| Technodrive / Twin Disc | |
| TM170 - Hydraulic | Opt. |
| TMC880 - 7° Down Angle, Hydraulic | Opt. |
| TMC265 - Hydraulic | Opt. |
| TMC265 - 7° Down Angle, Hydraulic | Opt. |

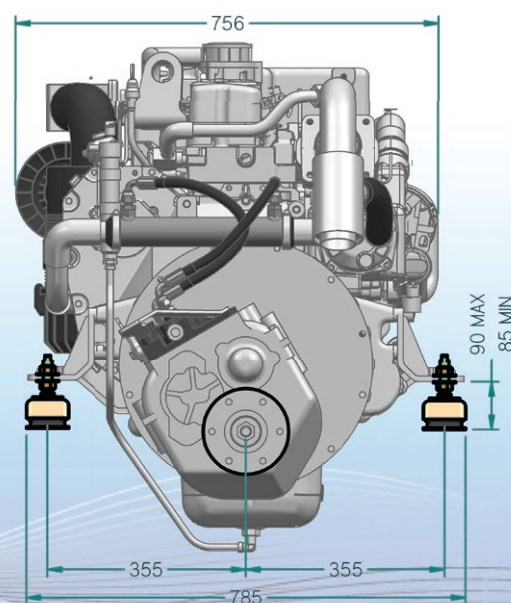
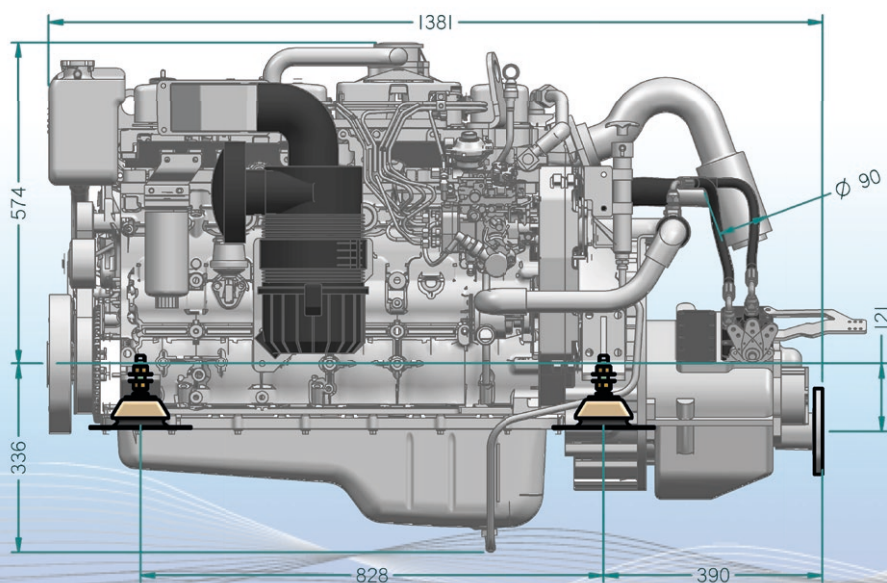
| | |
|------------------------------------|------|
| PRM Marine | |
| PRM500 - Hydraulic | Std. |
| PRM750A - 7° Down Angle, Hydraulic | Opt. |
| PRM1000 - Hydraulic | Opt. |
| ZF | |
| ZF45 - Hydraulic | Std. |
| ZF45A - 8° Down Angle, Hydraulic | Std. |



Cooling Options

| | |
|-----------------------|------|
| Heat Exchanger Cooled | Std. |
|-----------------------|------|

| | |
|-------------|------|
| Keel Cooled | Opt. |
|-------------|------|



These are typical dimensions: visit our website for all engine / gearbox option drawings or contact Beta Marine direct

Control Panels

Optional Control Panel 'A'

Is key switch controlled for engine preheat & start, push button controlled for engine stop, has a green light indicator for 'power on', red warning light indicators & audible alarm for low oil pressure, high water temperature and engine alternator not charging. Complete with 3m* of interconnection cable and multi pin plug connector.



Standard Control Panel 'ABV'

Is key switch controlled for engine preheat & start, push button controlled for engine stop, has a tachometer with running hour recorder, green light indicator for 'power on', red warning light indicators & audible alarm for low oil pressure, high water temperature and engine alternator not charging. Complete with 3m* of interconnection cable and multi pin plug connector.



Optional Control Panel 'ABVW'

Is push button controlled for engine preheat, start & stop, has a tachometer with running hour recorder, green light indicator for 'power on', red warning light indicators & audible alarm for low oil pressure, high water temperature and engine alternator not charging. Complete with 3m* of interconnection cable and multi pin plug connector.



Optional Control Panel 'B'

Is key switch controlled for engine preheat & start, push button controlled for engine stop, has a tachometer with running hour recorder and a water temperature gauge. Green light indicator for 'power on', red warning light indicators & audible alarm for low oil pressure, high water temperature and engine alternator not charging. Complete with 3m* of interconnection cable and multi pin plug connector.



*Extension looms are available, please refer to our relevant price list

BETA MARINE

Optional Control Panel 'BW'

Is push button controlled for engine preheat, start & stop, has a tachometer with running hour recorder and a water temperature gauge. Green light indicator for 'power on', red warning light indicators & audible alarm for low oil pressure, high water temperature and engine alternator not charging. Complete with 3m* of interconnection cable and multi pin plug connector.



Optional Control Panel 'C' Deluxe

Is key switch controlled for engine preheat & start, push button controlled for engine stop, has a tachometer with running hour recorder, oil pressure, voltmeter & water temperature gauges. Green light indicator for 'power on', red warning light indicators & audible alarm for low oil pressure, high water temperature, engine and or domestic alternators not charging. Complete with 3m* of interconnection cable and multi pin plug connector. Recommended option, when specifying an engine with both starter battery & domestic charge alternators.



Optional Control Panel 'CW' Deluxe

Is push button controlled for engine preheat & start, push button controlled for engine stop, has a tachometer with running hour recorder, oil pressure, voltmeter & water temperature gauges. Green light indicator for 'power on', red warning light indicators & audible alarm for low oil pressure, high water temperature, engine and or domestic alternators not charging. Complete with 3m* of interconnection cable and multi pin plug connector. Recommended option, when specifying an engine with both starter battery & domestic charge alternators.



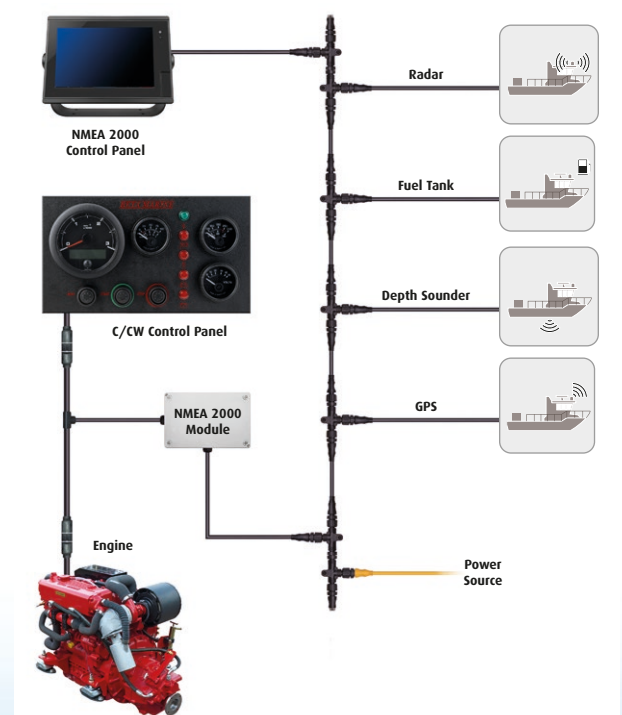
Control Panels

Optional 'Flybridge Control'

Comprises of a C Deluxe panel with 3m* of interconnection cable with multi pin plug and either a standard ABV panel or chosen optional panel complete with 6m* of interconnection cable and multi pin plug connector for the Flybridge.



Optional 'C/CW' - NMEA 2000 Module



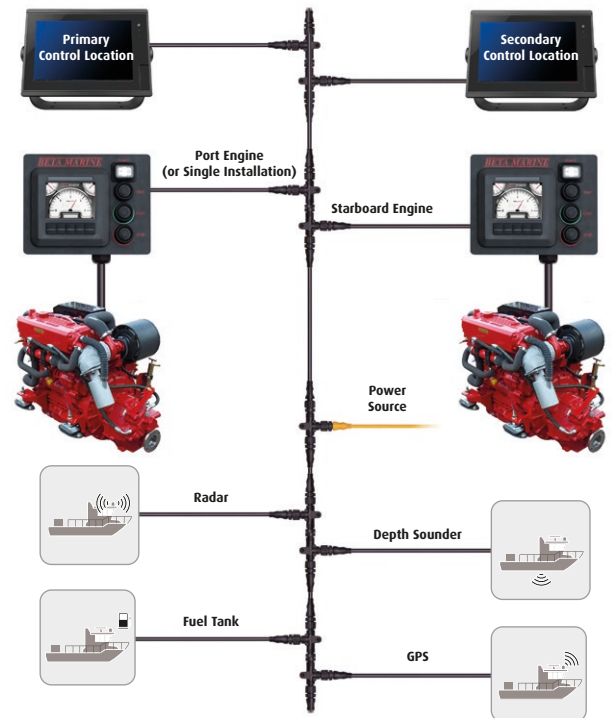
Beta Marine & Actisense have developed an interconnection module to facilitate an interface that will connect a Beta Marine C or CW engine control panel with an NMEA 2000 network. This module simply "T" connects between an engine and engine control panel & converts information to a NMEA 2000 network friendly format.

Which enables you to digitally monitor engine RPM, engine temperature, oil pressure or voltmeter reading from your NMEA 2000 control panel.

The interconnection module uses a standard Micro-C connection to allow data to be relayed and viewed all across your NMEA 2000 on-board network.

On vessels with twin engine installations it is possible to re-configure your NMEA 2000 network software to facilitate dual or independent viewing on network devices.

Optional Control Panel 'D' Digital

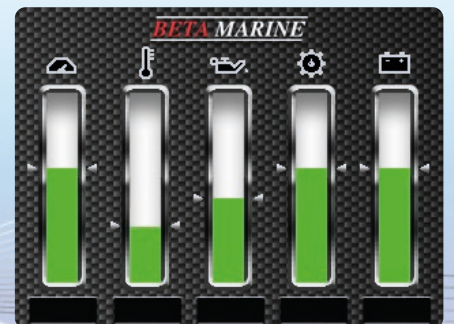


Our most technically advanced engine control/monitor whose module is water resistant to IP67 and has a super bright screen that facilitates viewing in both strong sunlight and also at night, simply select the appropriate setting to ensure that it is always easy on the eye.

As well as controlling the engine for preheat, start & stop at the press of a button it also allows you to digitally monitor engine RPM, engine temperature, oil pressure and provides a voltmeter for either single or twin alternator.

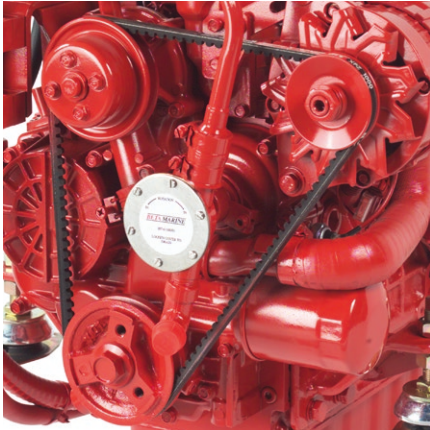
The panel uses standard Micro-C connection which allows data to be relayed and viewed all across your on-board network. It is compatible with NMEA 2000 & IEC 61162-3. On vessels with twin engine installations each engine control panel needs to be programmed as Port and Starboard to facilitate dual or independent viewing on other network devices.

Complete with 3m* of interconnection cable and multi pin plug connector.



*Extension looms are available, please refer to our relevant price list

Electrical & Installation Options



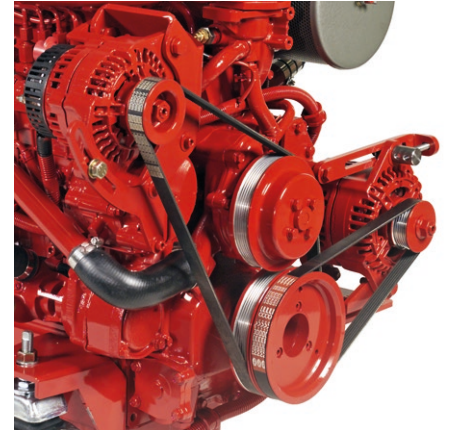
Standard Drive Belt Set Up

The Beta 90 is equipped with a 70 Amp alternator, the Beta 150 a 90 Amp alternator driven by an "A" profile drive belt as standard.



Optional Drive Belt Set Up

Beta Commercial Use engines equipped with a standard 70/90 Amp alternator can be driven by an optional polyvee belt/pulley drive.



Secondary Alternators

Available dependent on engine model, where appropriate polyvee belt/pulley drive will be included; please refer to the tables within the individual engine model pages.



3.5/5kVA
Travel Power

Beta 90 - Optional Travel Power 3.5 or 5 kVA

The engine mounted generator & bulkhead mounted inverter are very compact in size but produce either 3.5 or 5kVA mains electricity at 230 volts, single phase and 50 Hz just above engine tick over, achieving full output at approximately 1500 RPM or typical "normal" cruising speed. Providing ample power for most on board domestic electrical requirements. Complete with 5m shielded cable to run to the power control box and an option for a remote control switch.



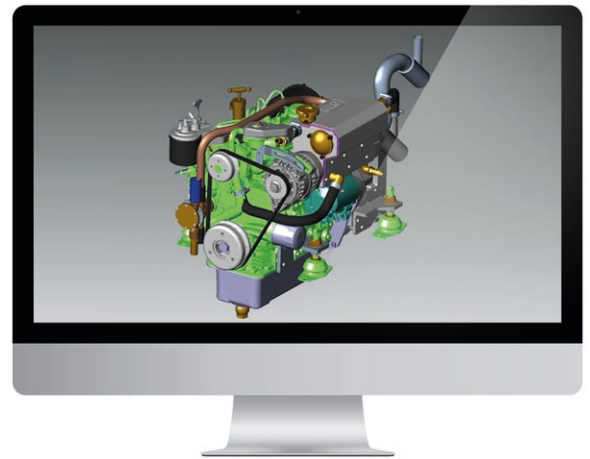
Optional Installation Accessories

Beta Marine offer a comprehensive range of accessories to support your installation with solutions available to cover all needs; engine, gearbox, propeller shaft connection, fresh & seawater management, additional or remote, lubrication, filtration, dry or wet exhaust components & for the engine bay. For comprehensive options please refer to relevant price list.

3D Computer Aided Design

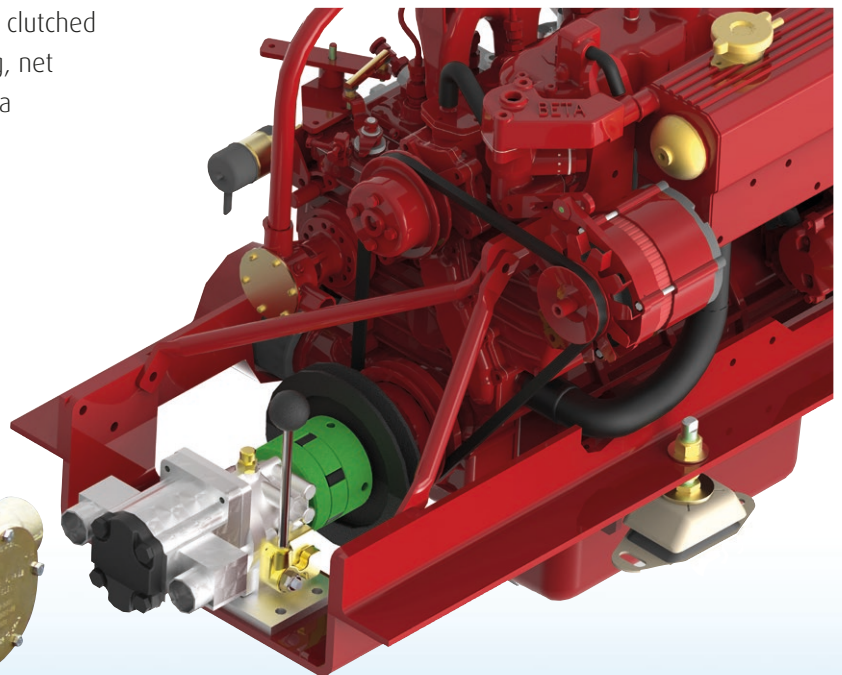
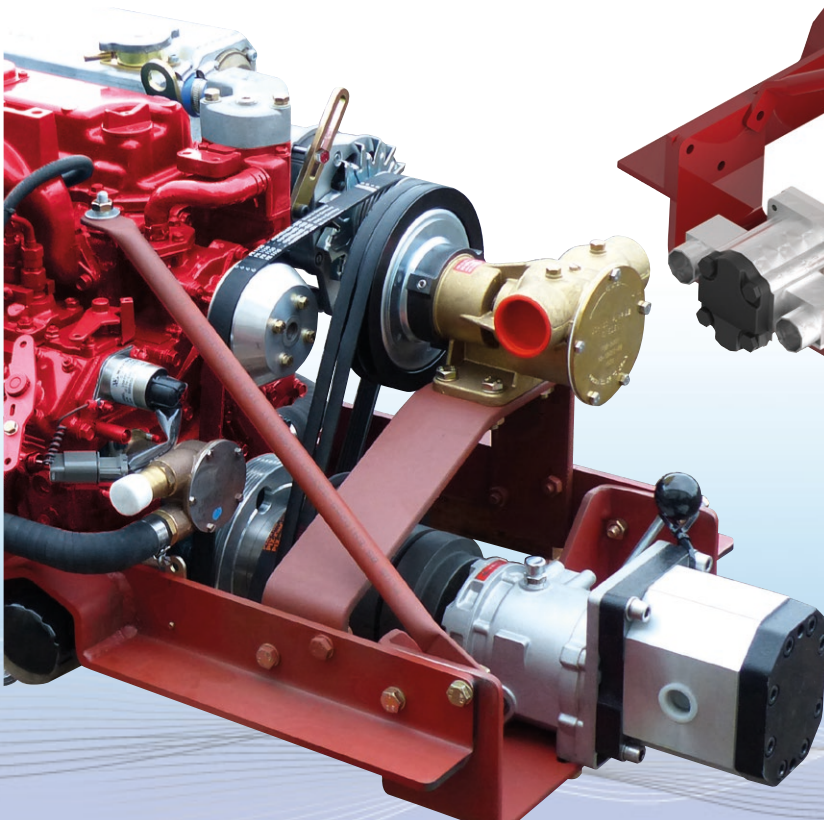
Beta Marine has continually and heavily, invested in state of the art 3D CAD software to ensure we are best placed to design, develop, stress test & create tooling to manufacture new products once they have successfully completed sea trials.

Additionally this investment has given us capacity to offer additional bespoke design services for both propulsion engines & generating sets to our customers, whether the need is recreational or for commercial offshore use.



Optional Hydraulic Pump Solutions

Beta Marine can design, manufacture, supply and install clutched or continuous running hydraulic pumps for deck washing, net trawling etc. Or we can design, manufacture and install a bespoke pump free issued by a customer.



Optional Power Take Off Solutions

Beta Marine can design, manufacture, supply and mount clutched or continuous running belt drive deck, bilge or air conditioning pumps etc. or alternatively design, manufacture and install PTO shafts and extended engine rails for the customer to self mount attachment's.

3D Computer Aided Design

Optional Special Feet Service

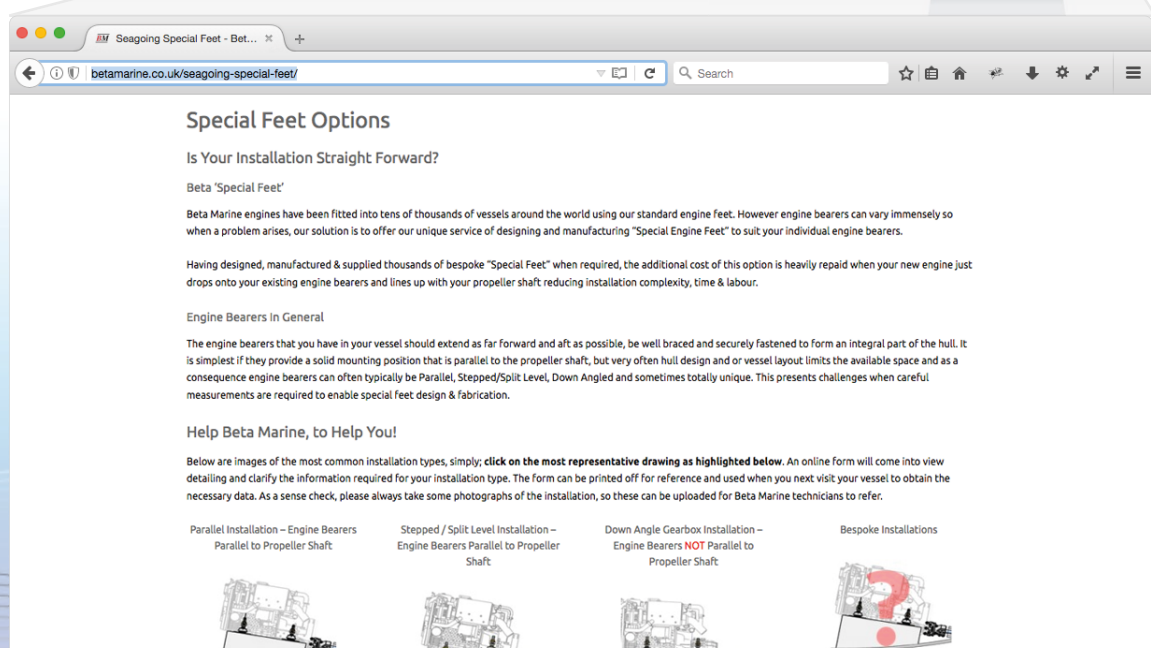
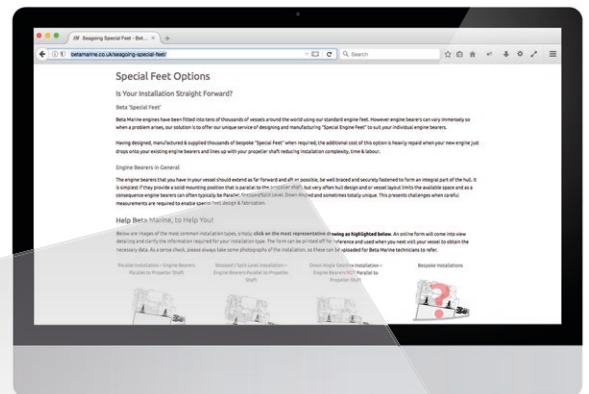
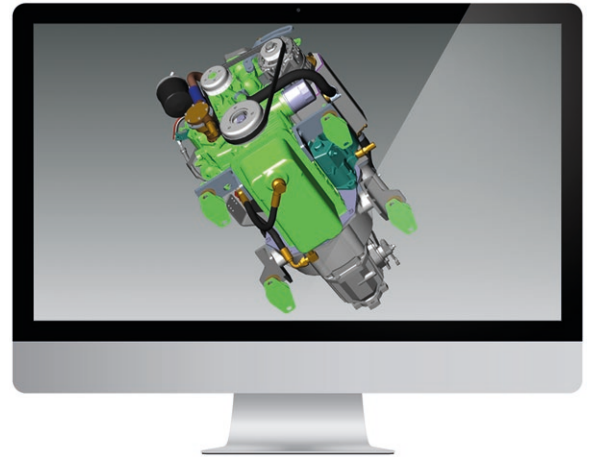
Beta Marine engines have been fitted into thousands of vessels around the world using our standard engine feet but when necessary we can design, manufacture and supply "Special Engine Feet" so that your engine drops straight onto your vessels existing engine bearers.

Step 1 – Designing Your Special Feet

Beta Marine will need to be advised of a number of accurate dimensions and or data to be able to produce a 3D model. There are different sets of information required, dependent upon your vessels bearer type, typically these are normally either Parallel, Stepped/Split Level or Down Angled. To help identify your vessels bearer type visit:

<http://www.betamarine.co.uk/seagoing-special-feet/>

Click on the most representative drawing as highlighted below. An online form will come into view detailing and clarify the information required for your installation type. The form can be printed off for reference and used when you next visit your vessel to obtain the necessary data. As a sense check, please take some photographs of the installation, these can be uploaded for Beta Marine technicians to refer to once you revisit the above, enter your data and submit your form.

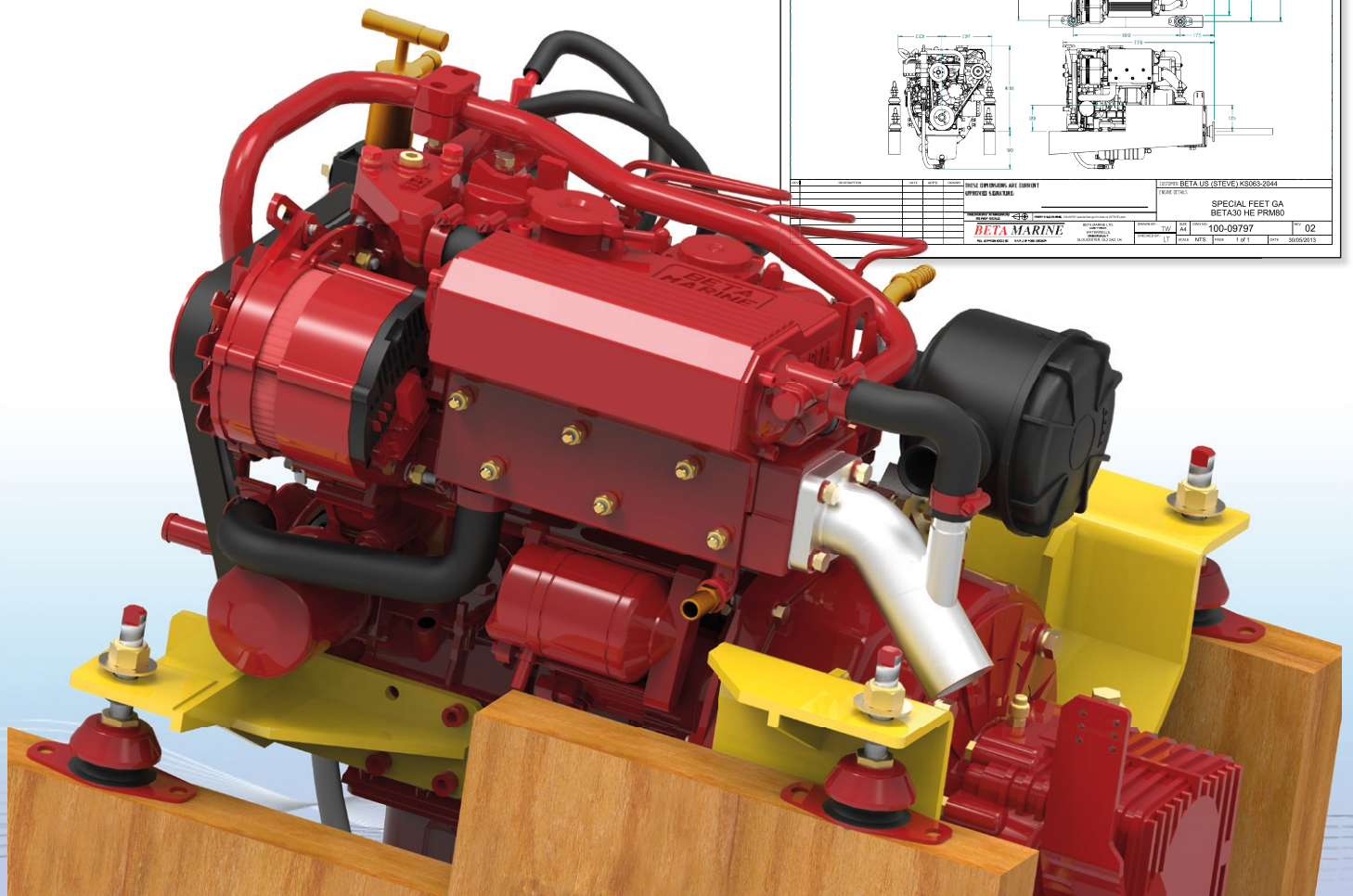
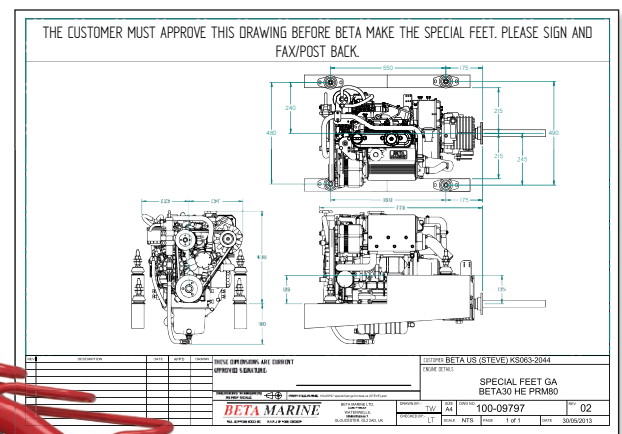
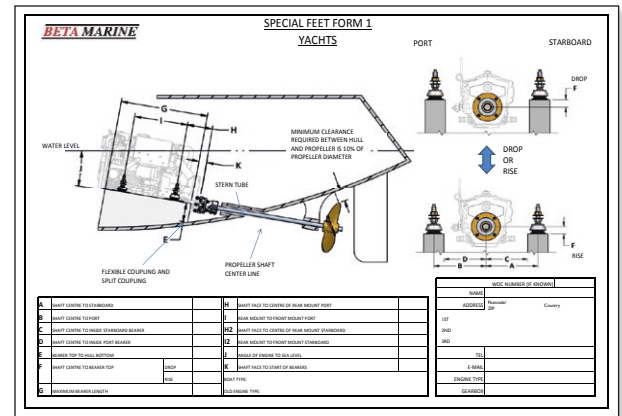


Step 2 – Approving Your Special Feet

Once your special feet form & photographs have been received, Beta Marine technicians will produce a virtual reality 3D model, once they are satisfied it will full fill your installation needs, a 2D drawing will be created and a pdf returned to you. Once this has been received it will need to be carefully checked through and given approval before any manufacturing commences.

Step 3 – Manufacturing Your Special Feet

Once approval has been given, we manufacture, paint and assemble your engine ready to drop onto your vessels existing engine bearers.





BETA MARINE

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Ref: SB 221-08009 REV 02 - 1121