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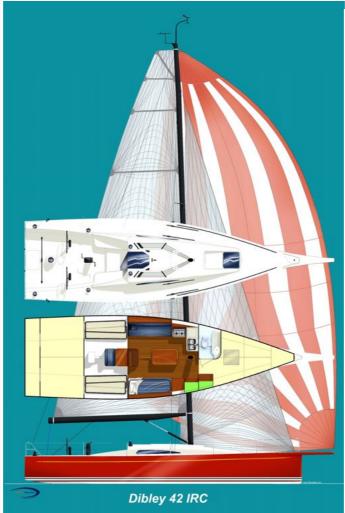
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### LATEST FROM THE DRAWING BOARD



### SPECIFICATIONS:

LOA	12.80 m	(42' - 0")
LWL	11.70 m	(38' - 4")
BEAM	3.89 m	(12' - 9")
DRAFT	2.90 m	(9' - 6")
DISPL [MEASURED]	5,875 kg's	(12,950 lb's)
IM	17.133 m	(56' - 2")
J	5.00 m	(16' - 4")
LP	5.25 m	(17' - 3")
ISP	19.24 m	(63' - 1")
STL	6.71 m	(22' - 0")
P	17.30 m	(56' - 9")
E	6.15 m	(20' - 2")

### **DIBLEY 42 IRC**

As soon as you see the word IRC and connect it with anything between 38' and 43', you will be excused from thinking heavy production type lead mines. It is this type form that seems to do well under this rule and not until you get into the 48' plus lengths that lighter displacement hull forms can start performing to the rating. The cost comparison of a TP 52 and a 42-footer both in build and campaign costs is far more than triple so we have a group of yachties out there that want their vacht to light up and fly but are either forced to go heavy and slow to have any chance under IRC, or go to a different rule/ handicap system all together.

There is talk from the RORC that they are going to review this anomaly, but in the meantime we have to work with what we have.

Recently we were commissioned to do some Preliminary work on a new IRC 42-footer. We needed to find out where to draw the line in the sand without having to go heavy displacement, but not so light that we ended up with a great design that could never race to her rating. It had to perform well on the wind, as well as light up on reaching conditions which most of our Coastal races are down here in Australia and New Zealand.

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## DIBLEY MARINE SERVICES

Naval Architecture

Design Reviews

Navai Alcilitecture	
Yacht Design	
Design Modifications	
Stability & Trim Analysis	
Keel and Rudder Design	
VPP & Performance Analysis	
Racing & Cruising Yachts	
Planing & Displacement	

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### LATEST FROM THE DRAWING BOARD

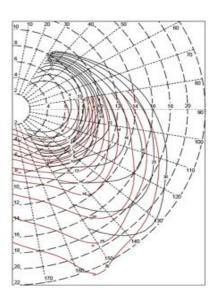
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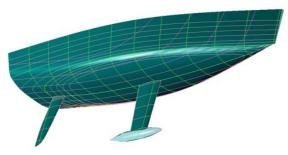
The first item on the job list was to review what was currently racing out there in this size range. We looked at designs that have had decent success in this size range. Designers such as Christian Stimson, Mills, Corby, Farr, Ker, as well as some of the production boats such as Beneteau.

We then started looking at sail plans until we picked one that we thought was about right for the type of racing she will be doing, as well as for general comparison.

Now the real work began with hull modeling. Using our Maxsurf modeling software, we tried out different scenarios on weight, volume distribution, prismatic's, measurement trim, and even looked outside the square with soft-chines and other configurations. We ended up going through 16 different models.

We then put the designs through our Wins-VPP software to work out where the strengths and weaknesses were in each. It is important at this stage to keep the same sail plan on each as we were only checking hull shapes at this stage. We are able to race all the models in a section of the software called 'Regatta' and from this we can see which yachts were coming out ahead of the others in various courses such as Windward/Leeward, Olympic, Offshore, and Circular Random. Four stood out and from those, we started looking at appendage and sail plan changes and how the





VPP's changed accordingly. Our goal from the beginning was for a fast reaching yacht that could hold her own on the wind with similar racing yachts of her size. So as we analyzed the data, we kept these stronger angles in mind.

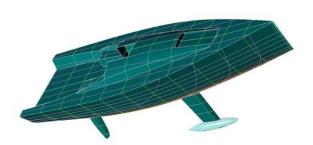
We were now able to pick the top two yachts and from this we started looking at the IRC Rating. IRC is a rating rule that is administered by the RORC Rating Office in England. It is used world wide. Though the rule is published and guidelines can be followed to ensure you keep within the spirit of the rule, the actual calculations of IRC ratings is kept secret and contains subjective elements that change annually. The only way a designer can 'crack' it as such, is to study the trends of previous and current yachts and to then guess

where the rule may be heading the following year.

The spirit of the rule requires that designers and owners not seek means of artificially reducing the rating of a boat. In other words, increasing performance without a corresponding increase in rating. In general, the RORC have done a great job in this, but of course it is the designers job to make the yacht as fast as possible within the rating.

RORC allow designers to get a fixed number of trial certificates per boat per year so we can see how various changes affect the rating. We went through that exercise to see how the two yachts rated against each other and from there we were able to see how our VPP's were able to deal with the rating given.

It sounds like a lot of work to reach a goal, but that is our job. And though we come up with our own results and opinions on where the client should go, another design firm may came up with something completely different based on their own interpretations. This is what makes yacht designing so interesting. Every yacht has their day and every designer has their particular way and style.









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# **Sailing Links and News**

Sailing Anarchy

www.sailinganarchy.com

Crew.org.nz— NZ Yacht forum

www.crew.org.nz

2-Illustrate.

www.2illustrate.com

**Yachting New Zealand** 

www.yachtingnz.org.nz

**Westlawn Institute of Marine Technology** 

www.westlawn.edu

YachtForums

www.YachtForums.com

Yacht Y akka

www.yachtyakka.co.nz

**Royal New Zealand Yacht Squadron** 

www.rnzys.org.nz

**New Zealand Marine Industry Association** 

www.nzmarine.com



Design Studio, Westhaven Marina, Auckland, NZ , 2010

### From the Design Office:

Winter is well and truly upon us in the Southern Hemisphere and though some have put their yachts and launches either out of mind, or in storage, others are using them as much as ever. Great to see.

We recently opened a Facebook Page to compliment our Website and encourage people to visit as we are putting articles and news releases on there that the Newsletters and Website don't cover. It also allows our owners to put their own press releases and pictures into a forum that can be shared.

Lastly, we encourage all readers to pass on the newsletter to friends and aquaintenances who you think would find it of interest. If you didn't receive this Newsletter directly from us, but would like to in future, email us your contact details and we will put you on the email list.

Happy Boating. Kevin Dibley

#### **NEWS & RACING RESULTS:**

March' saw the 2010 NZ IOM [International One Metre] National Championships take place in Tauranga. 42 boats on the start line. 4 Dibley designed boats in the fleet. Final finish: 2nd overall - Graham Cross - in the Dibley Mk2 design; 4th overall—Paul Goddard - in the Dibley Mk2 design; 6th overall - Mike McLachlan - in the Dibley Mk1 design; 8th overall - Roddy Booth - in the Dibley Mk1 design. All Top 10.

May' saw the 2010 Auckland IOM [International One Metre] Championships where Paul Goddard, in our DM2 design, won convincingly. 23 boats on the start line; 16 races. 3 Dibley designed boats in fleet. Final finish: 1st overall—Paul Goddard - in the Dibley Mk2 design; 2nd overall - 2009 National Champion, Graham Cross - with his own design; 4th Roddy Booth - in the Dibley Mk1 design; 12th Des Hendry in the Dibley Mk1 design.

A new 2010 high performance bulb has been designed for the Dibley 50 Performance Cruiser, 'Marnico' in Australia. Originally designed ten years ago for offshore cruising, the original, and still current Owner wanted a shape that reduced drag further and allowed for a slight increase in Righting Moment, thus performance.

A new 2010 performance lifting keel/bulb is being designed for Graeme Woodroffe's well campaigned Davidson 55, 'Emotional Rescue' which has been cruising the Pacific Islands as of late. Working alongside us is Nina Heatley who is sorting through the structural engineering side of the design spiral.





