Search and Rescue, Patrol and Freefall offshore monohulls



The pre orange era











Crew / Support: Svein Are & Anne Lotveit, Jan Muren, Peter Hauff, Espen & Jostein Aker, Martin Hellum, Espen Sandsdalen, Ola Often, Jon Olav Bondevik, Ina, Carl-Erik & Birger Kullmann, Alexandra Demarichalar, Jacob Undrum, Jorgen Smith Meier / Annelise & Haakon Kullmann, Kai Abrahamsen, Per, Truls & Stein Osen, Thomas & Sigurd Eide, Terje Wang, Kjell-Arne Myrann



Fast Rescue Boats a.o.





Hull Design - note

- Maximum effective waterline length both at low and high speed
- Double curvature V-bottom with chine, normally full length spray rails, bow "knuckle"
- Curved transom with cut-in for waterjet(s)
- Long and slender immersed canoe body with narrow waterline beam at high speed
- Well distributed volume for less sensitivity to trim and loading
- Well aft placed centre of buoyancy
- Reduced planing hump and level planing at high speed
- Medium displacement with proven load carrying capability and lots of reserve buoyancy
- Optimal seakeeping and handling at speed
- No flooding of cockpit/ deck on a crash stop
- More volume in console for better RM curve and better self-righting capability
- · Better weight concentration, engine & tankage close to COG if possible



FRB General Arrangement - note

- Layout and arrangement for multirole operation
- Single point off load release hook FRB system
- Self-draining aft sloping cockpit, mid-engine and console
- Saddle seat arrangement aft of console.
- Seat(s) integrated into fwd part of console.
- Sprayhood and boarding platform fwd. Place for stretcher on floor below
- A-Frame for self-righting, navigation lights a.o. and crew protection aft
- · Single inboard diesel, water-jet and universal joint shaft.
- Engine and tank close to LCG for optimum weight distribution and trim.
- Batteries a.o. to be placed in aft compartment
- Towing on-load release cleat on centreline, top of coaming aft
- Foam cored fender with PUR skin glued on (or cover strapped to hull/deck)
- Foam fille between hull and deck/ liner

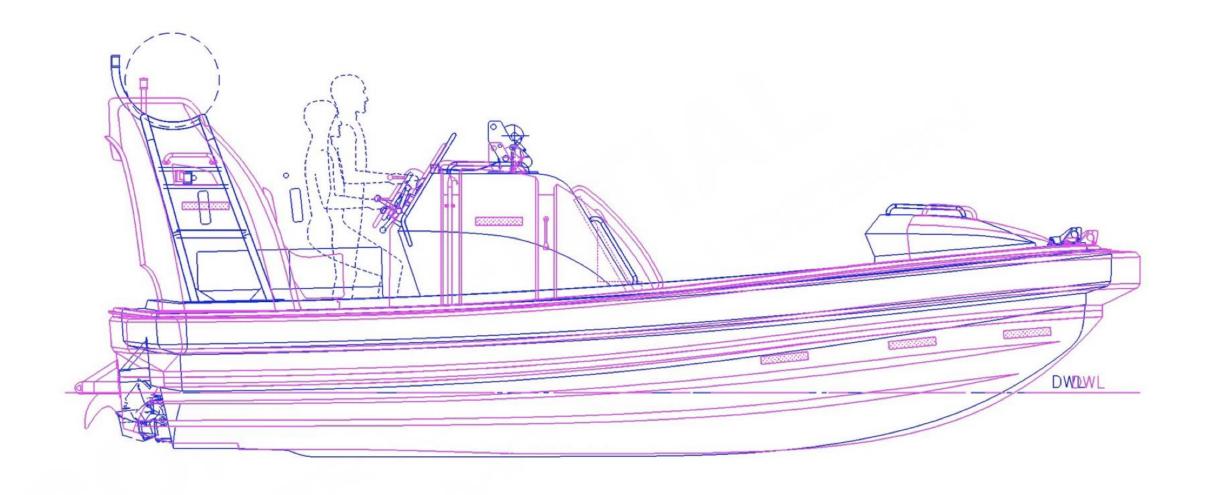


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STINGER 630; vs Mako (BKD K655 design) (overlapping LCG)

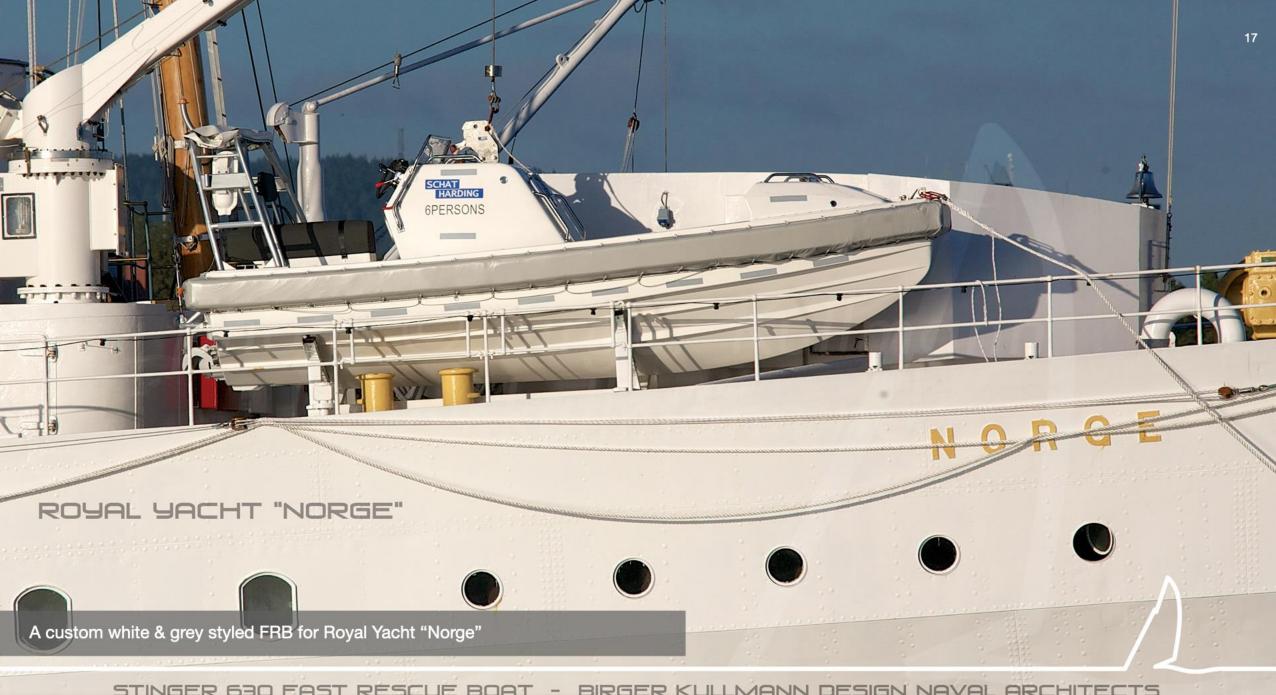




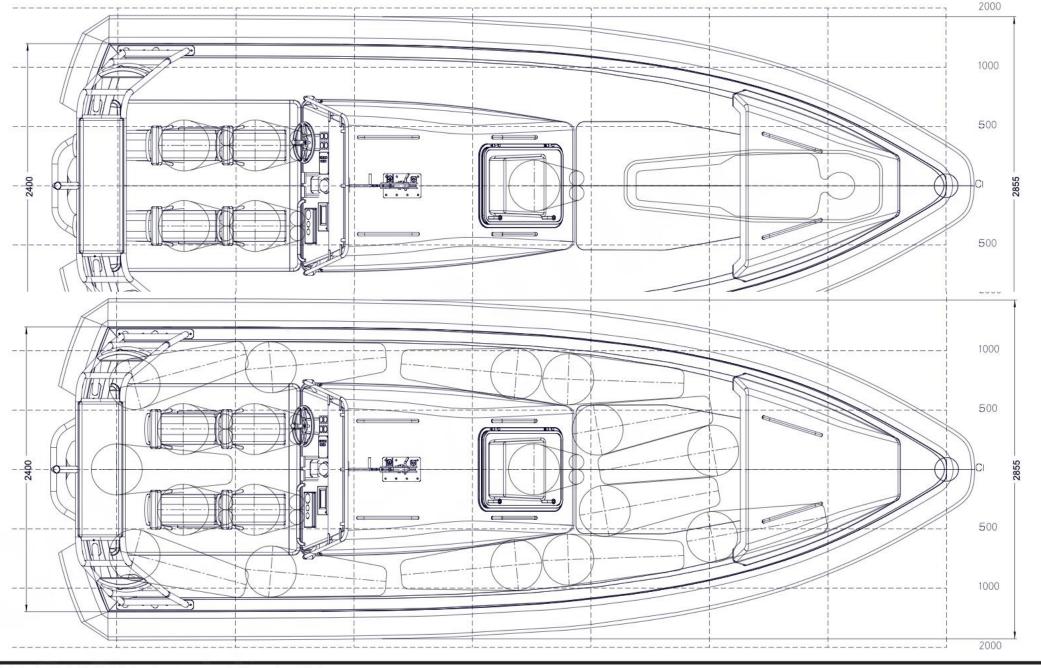


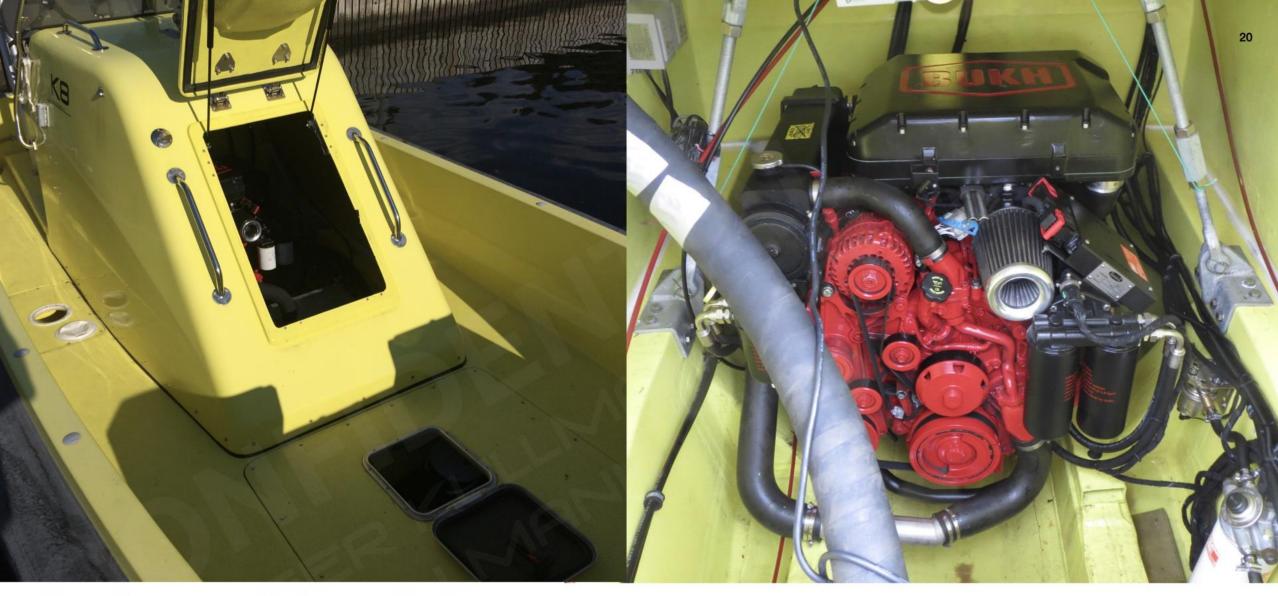


Sequence of 8 pictures per second at 38 knots speed in moderate chop and approx 5m/s wind









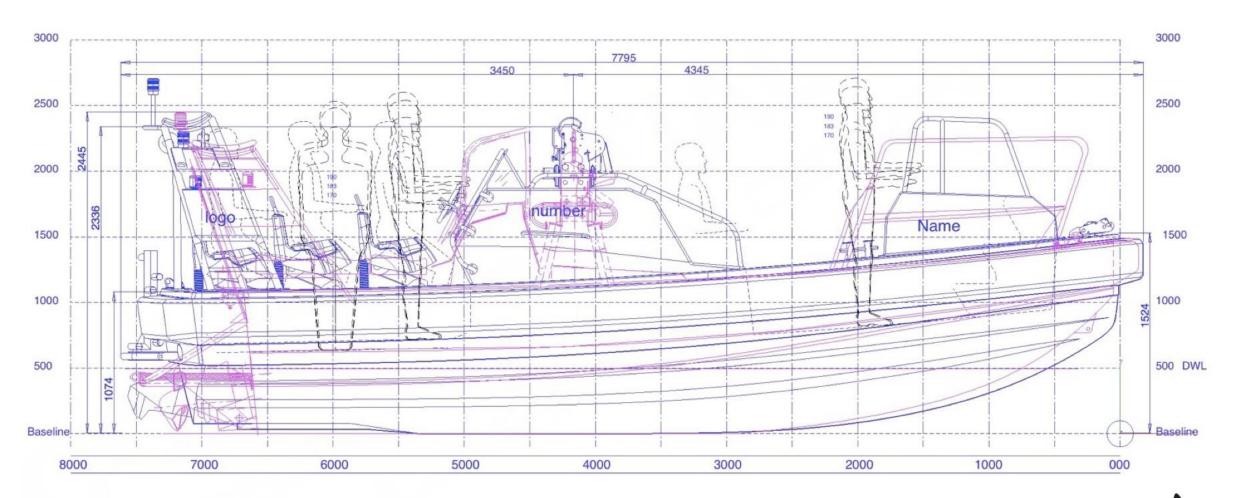
Console bolted to deck coaming. Hatch for access to engine room and tank compartment. Air intake in seat base. Engine and tank longitudinally close to Centre of Gravity

Engine: Bukh VGT450



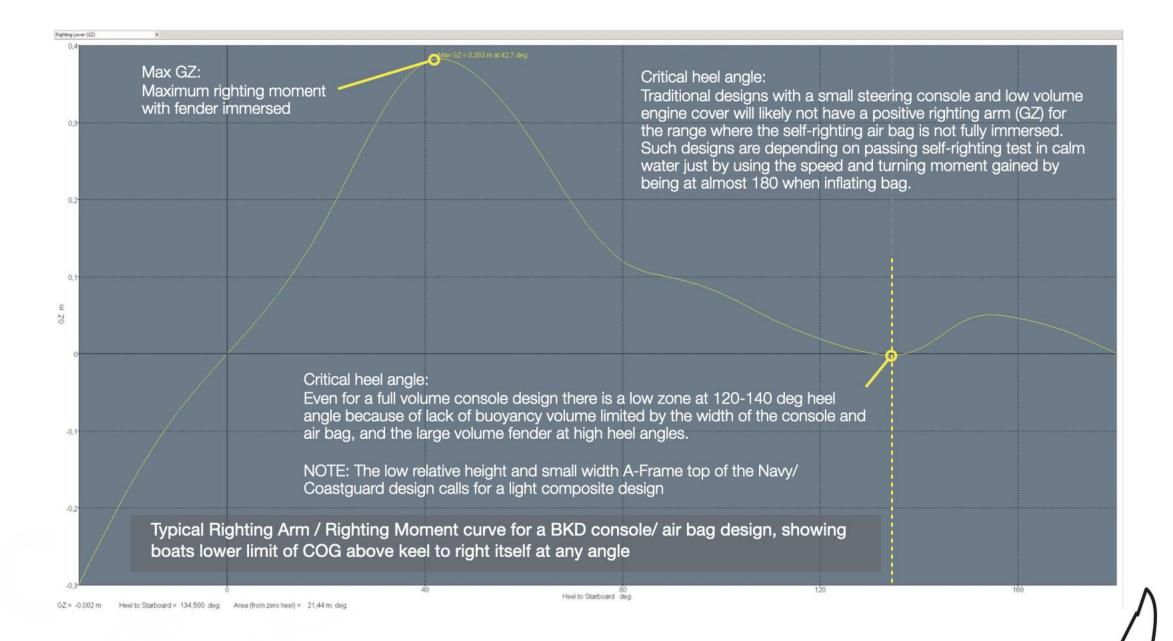
Seats bolted to aft hatch. Hatch raised above deck. Hatch hinged aft, opens to 95 degrees. Access to waterjet, steering, batteries, filters, shaft and so on.





Kxx (black) vs typical aluminium boat (magenta) (for illustration only)





Daughter Craft, Commuters, Crew Tenders, a.o.



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MUNIN DAUGHTER CRAF

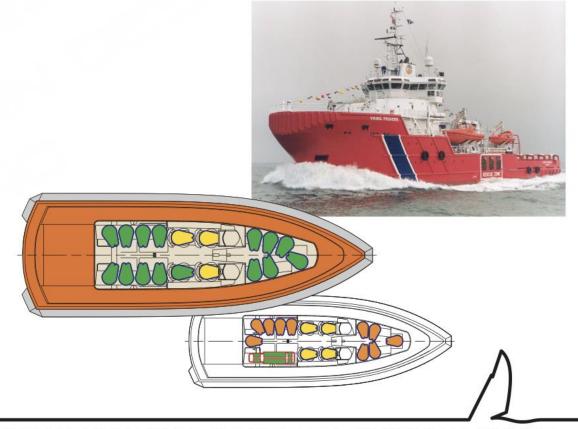
The trendsetter and benchmark since 1989. ...the worlds first epoxy/SAN foam sandwich Daughter Craft series build designs Munin1000/ 1200/ S1200 series later developed on the basis of the first two one off's...

RESCUE











Original K11 design: Commuter with top speed 51knots (twin sterndrive)

KII-CI - COMMUTER



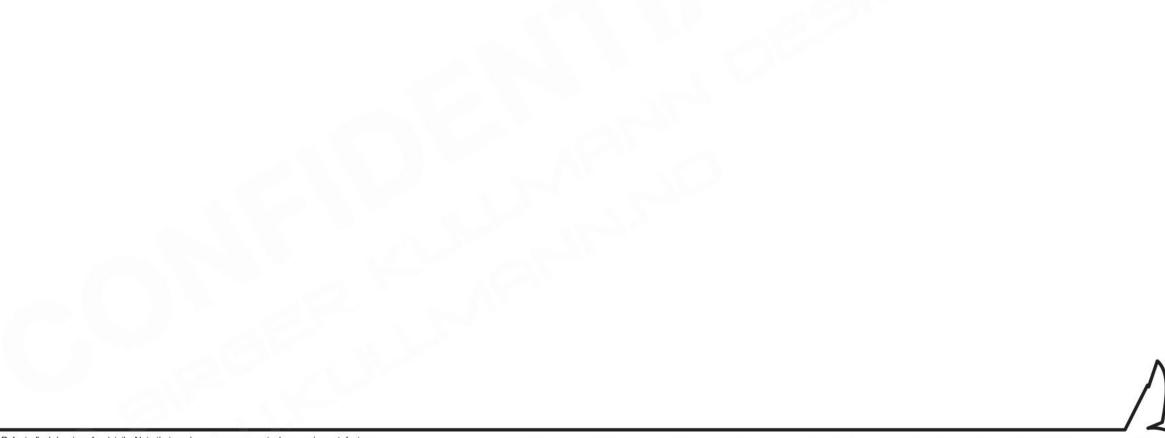








Patrol - Fast Interceptor a.o.























Tenders & Tender Lifeboats









2X LIMOUSINE TENDER & 50 PAX LIFEBOAT FOR "ECLIPSE"
- THE 163M SUPERYACHT WAS WHEN LAUNCHED THE WORLDS FIRST WITH TLBS & 100PAX TOTAL





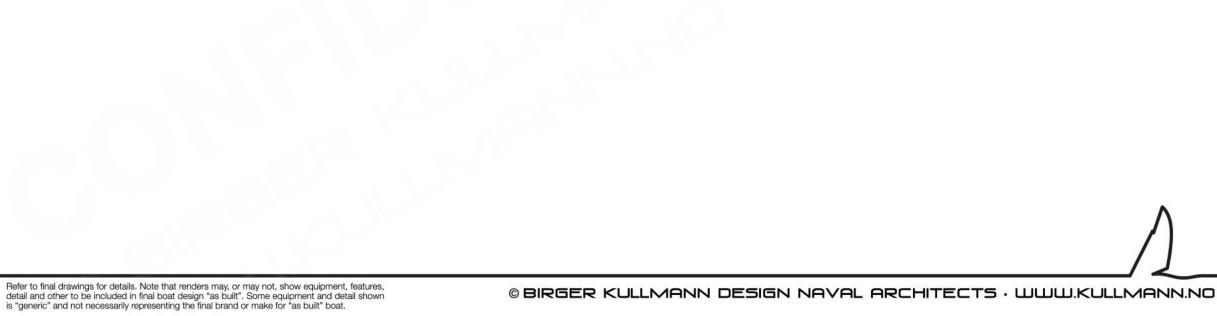


2X LIMOUSINE TENDER & 50 PAX LIFEBOAT FOR "ECLIPSE"
- THE 163M SUPERYACHT WAS WHEN LAUNCHED THE WORLDS FIRST WITH TLBS & 100PAX TOTAL



TWIN 13,2M LIMOUSINE TENDER/LIFEBOATS EACH 50 PAX FOR SUPERYACT "LUNA"

Refer to final drawings for details. Note that renders may, or may not, show equipment, features, detail and other to be included in final boat design "as built". Some equipment and detail shown is "generic" and not necessarily representing the final brand or make for "as built" boat.



SSRS K9, K12, K14 ongoing



K12 CONCEPT SCETCH



And now for something different





FF1200

FF1200 (Rig type) / FF1200S (Ship type)

- World's largest freefall lifeboat
- Radical new type double curvature hull, canopy and steering tower design
- Significant positive headway and minimum accelerations (g-forces) in extreme conditions
- Superior space and comfort compared to previous generation boats
- First boat with a 100kg per person weight basis, 70 persons capacity
- Seats with 5-point seatbelts providing excellent comfort, (1,4-2,1m height restriction)
- High power engine for positive headway in extreme conditions
- Structural design giving lifeboat max strength and safety, injection moulded composites
- Dimensions: (L=16,2, B=3,9, H=4,9, Weight empty 21500kg, Weight loaded 28500kg)















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55M WORLD RECORD - 090703 65M WORLD RECORD - 190206

> SCHAT HARDING

Jury's verdict:

The FF1200 and FF1200S represent a major advancement of free-fall lifeboats. It is the largest free-fall lifeboat ever produced and has the world record for lifeboats with a free fall of 55 meters.

The solution provides a clear signal that a design process is about much more than just what is on the outside. In spite of all the restrictions and requirements, the design has taken a major step forward, benefitting the user greatly. As well as fast evacuation, the comfort of users has been extraordinarily well provided for. New rear-facing seats, more room for bigger passengers and a better placement of the seats makes it easier to fill the boat.

The boats new form reduces the strain for the passengers when the boat hits the water. The boat's shape gives an impression of a solid and robust structure, which evokes confidence. We can see here that if the relationship between product and user remains at a high level and new solutions are found, we achieve successful, innovative design.

Company: Umoe Schat-Harding AS

Project group: Kjell Ove Underhaug, Per Einar Gjerding, Arvid Skogseide, Tormod Abelsen, Arild Lokøy, Per Einar Gjerding

Design: Birger Kullmann Design Naval Architects, DDC Marine Safety &Design

Project group: Design/ Concept/ Lines - Birger Kullmann, - Design/ Concept/ Hydrostatics - Dag Ellingsen



AWARD FOR DESIGN EXCELLENCE

NORWEGIAN DESIGN COUNCIL

FF1200 / FF1200S

Umoe Schat-Harding AS

Birger Kullmann Design Naval Architects
DDC Marine Safety & Design

