



Postbus 17
 7480 AA Haaksbergen
 E-mail: ihb@ihbinternational.nl
 Web: www.ihbinternational.nl

Tel. + 31 (0)53 57 431 43
 Mob. + 31 (0)63 01 548 26
 Fax + 31 (0)84 87 266 72

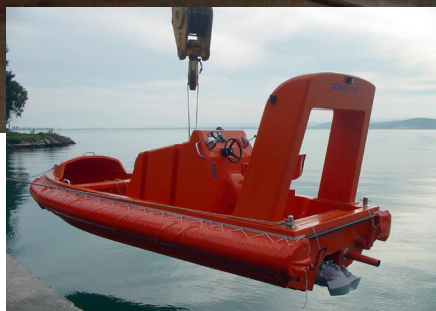
BTW nr. 1014.51.556.B.02

Fast Rescue Boat

bid request	prijs per stuk / each			
€ -	totaalprijs / total amount		prijs / price	
code 8014			excl.	TRANSPORT / BTW / VAT/as is where is
Omschrijving/description	CAT A	NH		

We have a Fast Rescue Boat available for immediate supply . The Boat is completely overhauled in 2008 and has never been used after that.

See the following pages of this document for some quick facts and figures. Complete technical requisition is available.



**WHFRB 6.50 DJ
FAST RESCUE BOAT
INBOARD JET VERSION**

LEADING DIMENSIONS	
LENGTH OVERALL	6.70m
MOULDED LENGTH	6.0 m
BREADTH OVERALL	2.40 m
MOULDED BREADTH	2.08 m
WEIGHT (FULL FUEL&EQUIPMENT)	1800 Kgs
CREW	3 PERSONS
SPEED (LIGHT)	Approx: 33 KNOTS
CAPACITY	10 PERSONS
FRB RECOVERY LOAD (6 PERSONS)	2250 kgs

CERTIFICATION

**APPROVED AS A FAST RESCUE BOAT IN ACCORDANCE WITH SOLAS
REQUIREMENTS FOR FAST RESCUE BOATS.**

SPECIFICATION SECTIONS

1	General
2	Approval/Certification
3	Layout
4	Function
5	Construction
6	Console
7	Fender System
8	Machinery
9	Fuel Tank
10	Bilge System
11	Steering System
12	Engine Controls
13	Electrical System
14	Electrical Equipment
15	Instrumentation
16	Equipment
17	Lifting Arrangements
18	Paint Scheme
19	Transportation

1. General

The craft is designed and built for use in rough water and to provide high, sustained speeds in the toughest offshore environments. The craft offers precise manoeuvrability at all speeds, ahead and astern, and affords seating for a crew of three.

The hull is a moderate deep 'V' that provides excellent handling and manoeuvrability and an exceptionally dry ride. The combination of a GRP hull and topsides, with a large heavy duty polyurethane fender results in an exceptionally stable and seaworthy craft, particularly suited to adverse weather conditions.

The method of construction gives an extremely strong hull, well suited to the environment that together with the fenders provides long-term inherent reliability.

The craft is self draining and inherently buoyant.

The layout to be in accordance with the General Arrangement drawing and this specification.

2. Approval/Certification

Fast Rescue Boat - Bureau Veritas in accordance with SOLAS.
Release Hook Certificate by hook manufacturer. (Henriksen A/S)
Engine by engine manufacturer. (BUKH-STEYR)

3. Layout

Arranged with a continuous main deck set at chine level with a two-man GRP console on the centre line, seating on GRP lockers is provided in the stem and a GRP cuddy forward. The engine case provides access to the engine.

4. Function

The craft is specifically built to fulfil a search and rescue function and to meet the SOLAS requirements for fast rescue boats carried on passenger vessels.

The craft is arranged such that servicing and effecting of repairs can be performed quickly in hostile conditions. The engine may run idle for limited periods out of the water if required.

5. Construction

The craft is manufactured with a combination of GRP mouldings, foam stiffeners and bulkheads. Longitudinal and transverse stringers laminated onto foam stiffeners, which are bonded to the hull, provide the hull stiffening.

The transom is additionally reinforced with 25mm ply.

The main deck is a one-piece GRP moulding.

Non-absorbent closed cell polyurethane foam is inserted within each frame.

6. Seating Console

The two-man seating console is moulded in GRP and has all the engine controls within easy reach and sight of the helmsman. It hinges up to allow access to the batteries and water jet.

7. Fender System

The fender system consists of a polyurethane foam fender system covered with a p.v.c. orange fabric, which is cladded to provide suitable protection. A bucketed lifeline is fitted to the gunwhale.

8. Machinery

Engine	BUKH – STEYR 236Turbo / MED 96/98 Approved
Water Jet	Alamarine Jet - 230
Speed (light)	over 33 knots
Speed (loaded)	30 knots
Endurance	4 hours.
Starting system	Dual 12 volt electric
Fuel Tank Capacity	Aluminium 160 litres

- The engine is designed to automatically stop in the case of inversion.
- The air intake to the engine compartment automatically shuts down in the case of inversion.
- The sea inlet to the jet system provides the cooling water for the engine.
- An intermediate shaft, complete with flexible couplings is fitted between the water jet and the gearbox.

9. Fuel System.

One fuel tank in aluminium alloy plate fitted complete with dipstick and deck filler. The tank is securely cushioned against shock loading inversion. Flexible fuel supply, vent and fuel returns are fitted.

10. Drainage System

The deck is arranged to drain aft. The engine compartment is provided with a bilge hand pump.

11. Steering System

- Steering is effected by directing the water jet nozzle, utilising a Morse type D290 rotary head, giving 3 turns hard over to hard over, and Morse heavy duty cable.
- One 13" steering wheel is provided.
- Disconnecting the steering cable from the engine and manually operating the jet unit provides emergency steering.

12. Engine Controls

- Single lever engine throttle/gear shift control to be sited on the port side
- Single lever jet control to be sited on the starboard.

13. Electrical System.

- The electrical system is 12 volt D.C. throughout the craft.
- Waterproof switches are provided on the console.
- All electrical items are independently fused in a fuse box located inside the console.
- Two heavy-duty 12 volt 90 amp. batteries are provided. These are located below the crew seat.

14. Electrical Equipment

- One set of port and starboard navigation lights.
- Position indication light according to MED rules.
- One illuminated compass Ritchie F50.
- One hand held searchlight type Bremen Aquasignal
- One battery charging socket - 42V A/C
- One battery charger 42V A/C – 12V DC
- One key to start switch.
- One battery selector switch.
- Hands free VHF radio communication set Ray 215(**offered as extra**)
- Fixed G.P.S . type Raynav 300 (**offered as extra**)
- Radio control. (**offered as extra**)

15. Instrumentation

As supplied with engine – Voltmeter, tachometer, temperature

16. Equipment Specification

- Buoyant bailer.
- One sea anchor and stowage.
- One painter.
- One buoyant towing line not less than 50m in length.
- One torch (waterproof) complete with spare set of batteries and bulb in a waterproof container.
- One whistle.
- One first aid kit.
- Two buoyant rescue quoits complete with 30m of buoyant line.
- One searchlight (12v).
- One radar reflector.
- Two thermal protective aids
- One fire extinguisher 2 kgs or 6 Kgs type Anaf FS6-EV (optional)
- One boat hook.
- One bucket.
- One knife.
- One boarding ladder
- One rescue net for the recovery of helpless person type Jason Cradle (**offered as extra**)
- Three immersion suits (**offered as extra**)
- Buoyant Stretcher, type Trelleborg (**offered as extra**)

- PVC cover, quick removable type (**offered as extra**)
- Steel cradle (painted) collapsible (**offered as extra**)

17. Lifting Arrangement

One single point-lifting frame is fitted over the engine casing. This frame is bolted to 2 off lifting points, which are bolted to the stringers of the keel of the craft. The lifting frame is fitted with an off load release hook of approved type 3.5T S.W.L..

18. Paint Scheme

- The hull and deck are orange.
- All stainless steel fittings are polished and aluminium fittings are painted black. All mild steel components are galvanised

19. Transportation

We supply a GRP cradle with wooden reinforcements, if requested

20 Extra equipment

Jason Cradle

STEYR MARINE ENGINES

■ MO196K35 ■ MO236K42

140 - 170 KW (190 - 230 HP)

6-Cylinder

The state-of-the-art STEYR Marine Diesel Engine with dual cooling circuit fulfilling the strengthened future marine emission regulation.



196 MARINE
TURBO DIESEL

236 MARINE
TURBO DIESEL

The STEYR Marine Engine is designed for high performance. The innovative fuel injection technology enables an excellent torque and speed range. Therefore adaptation to existing marine propulsion systems can be performed easily.

Remarkable features of the STEYR Marine Engines are the dynamic behaviour and immediate response as well as the impressive acceleration.

SERVICE LIFE

The STEYR Marine Engines are manufactured using high alloy materials to provide enduring longevity for all running components. Using corrosion resistant materials for the entire seawater system as a standard in the dual circuit cooling system. Consequently designed solutions to meet the criteria of marine environment guarantee the best corrosion protection for any auxiliaries and electronic components in marine ambience.

COMFORT

The patented 2-stage UNIT INJECTOR fuel injection technology provides for a worldwide approved and smooth operation noise (patented). Noise emission levels are over the most important operating range below the running noise of gasoline engines. The additional elastic separation of the Monoblock against the aluminum casted engine housing reduces the engine related vibration transmitted into the hull therefore the noise level on board is further reduced. Torque and speed range characteristic enable optimal matching to individual application while maintaining transmission, gear ratio and propeller dimensions. The big choice of matched accessories fulfills the highest level of quality and comfort for you on board of your vessel.

EXHAUST EMISSIONS

The trend-setting UNIT INJECTOR system already enables us today to conform with the valid emission regulations BSO II and SAV 2, respectively we can fulfill the announced EPA – Tier 2 and suchlike emission regulations.

TRANSMISSION

STEYR Marine Engines allow the installation with different driving system in your boat. Adaptation for Marine transmission with different output configuration (direct, horizontal down-angle 8°, V-drive 12°), to choose from as well as an intermediate housing for propeller shaft and Jet-Drives and kits for installation to MerCruiser Bravo I, Bravo II and Bravo III Stern-Drives.

TECHNICAL DESCRIPTION ENGINE MONOBLOCK

Our unique and robust monoblock design, engine block and cylinder head made from high grade alloy cast iron, without limitation in cooling and unrivaled roundness of the cylinder gives exceptional life time for the liner.

- Chrome-Molybdenum forged crankshaft, dynamically balanced
- Pistons are cast from high silicon aluminum, with oil cooling channel in 3-ring technology
- Hardened valve-seats high performance NIMONIC valve material
- Elastic coupling on flywheel, design matched depending on application

ENGINE MOUNTING

Adjustable front and rear silent blocks capable to take propeller thrust.

LUBRICATION SYSTEM

- Exchangeable oil filter cartridge
- Oil scavenger pipe through dipstick
- Closed crankcase breathing system

FUEL SYSTEM

- Integrated high pressure UNIT INJECTOR with dual stage fuel-injection technology, operated by overhead camshaft and rocker arms.
- Electric fuel pump (automatic bleeding capability)
- Exchangeable fuel filter cartridge

EXHAUST SYSTEM

Freshwater cooled exhaust manifold and seawater cooled exhaust elbow

COOLING SYSTEM

- Freshwater cooling system with thermostat control
- Heat exchanger with integrated expansion tank system
- Connection prepared for boiler/cabin heating system
- Sea water pump with impeller, integrated and replaceable wear plates

STEYR MARINE ENGINES

TECHNICAL DATA

Engine type	MO196K35	MO236K42
	4-stroke, turbocharged, intercooled direct-injection, fresh water cooling	
Output (crankshaft) kW [HP]*	140 [190]	170 [230]
Rpm at full load	3500	4300
Cylinders	6 in line	6 in line
Displacement [cm ³]	3200 (195 cid)	3200 (195 cid)
Bore [mm]	85 (3.35')	85 (3.35')
Stroke [mm]	94 (3.7')	94 (3.7')
Compression ratio	18 : 1	18 : 1
Max. torque [Nm]	430	450
at speed [rpm]	2800	2800
[lb-ft]	317	331
Injection system	two stage unit injectors	
Standard alternator [A]	90	90
Electronic engine diagnostic	yes	yes
Weight [kg]	305 (671 lbs)	305 (671 lbs)
Weight per unit of power [kg/HP]	1.44 (3.17 lbs/HP)	1.44 (3.17 lbs/HP)

MARINE GEAR BOX (optional)

Model	ZF 63 or similar
Clutch system	Hydraulic disc
Gear ratio	2.52 / 2.04 / 1.56 / 1.26 : 1
Output configuration	direct / horizontal / 8° down-angle / V-drive 12°
Dry weight [kg]	44 (97 lbs)

ELECTRICAL SYSTEM

- 12V system plug-in solution
- 14V/90 A marine suitable alternator
- 24V/80 A marine suitable alternator (optional)
- 2-Pole installation (optional)
- Voltage regulator in alternator cares for optimum charging conditions of the batteries
- Glow plugs for a trouble-free cold start
- Electric starter motor
- Extension cable with plug-in-connection available in various lengths and for fly bridge installations (optional)

INSTRUMENT PANEL

Standard panel includes:

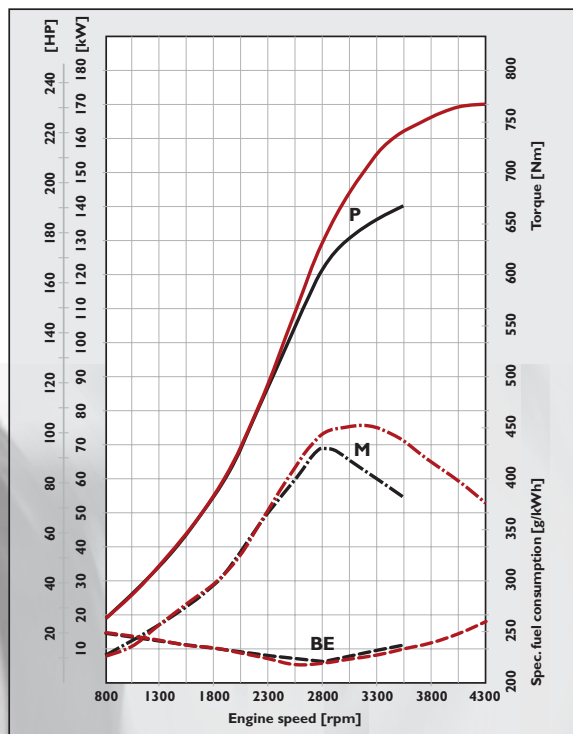
- Key switch – ignition and start function
- Control lamps for battery charging, oil pressure, glow plug indication and service code storage
- Revolution counter with hourmeter
- Temperature gauge for engine coolant temperature
- Instrument illumination
- Audible alarm

PROFESSIONAL PANEL includes

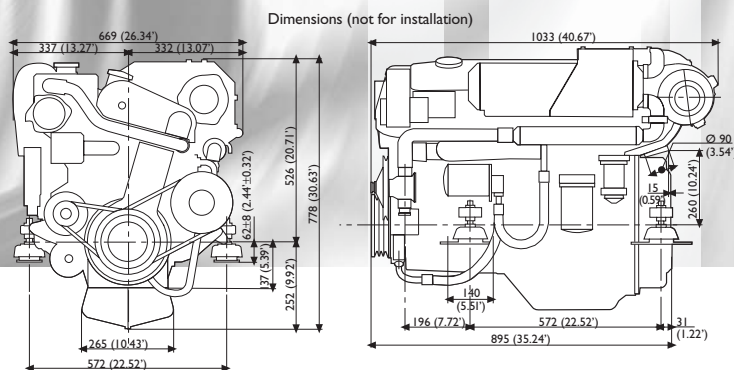
- Ignition by retained bush button switch
- Starting function by bush button
- Check lamps for battery charging, oil pressure, glow plug indication and service code memorization
- Revolution counter with hourmeter
- Instrument illumination
- Temperature gauge for engine coolant temperature
- Audible Alarm

NEW (optional): The STEYR Control Center is an integrated display unit including the functions of digital instruments, switch board, fuel management & driving range calculation, GPS-position, speed over ground, digital manual and diagnostic system.

* acc. ISO 8665 or ISO 3046-1



MO196K35 MO236K42



ADAPTATION

- for Jet-Drives & Surface Drives
- for Shaft and Transmissions
- for MerCruiser Sterndrive Bravo I, II, III
- Adaptation kits for most known Sterndrives

ACCESSORIES / OPTIONS

- Oil pressure gauge
- Additional key switch for governed speed
- Connecting cable for secondary helm
- Extra alternator kits
- Hot water systems
- Separate expansion tanks
- Sea water filters
- Front power take off
- Fuel pre-filter with water separator
- Chemical products – paints, oils, cleaners etc.

Water pick up, sea cock, siphon valve, cooling hose, exhaust system and transom exhaust, fuel filter and fuel pipes, pulleys, filler cap and brackets for auxiliaries - just contact your STEYR Marine Partner he will be delighted to serve you.

Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

Your partner

