Rolf Thunecke







Yacht & Small Craft Surveyor Diploma Yacht and Small Craft Surveying (IBTC) Full Member - British Marine Surveyors Europe (BMSE) Affiliate Member - Yacht Designers and Surveyor Association - (YDSA) Affiliate Member - International Institute Marine Surveying (IIMS) Associate Member - Royal Institute Naval Architects (RINA)



Pre-Purchase Survey

Report Date: 4th April 2022 Survey Date: 30th & 31st March 2022 Place of Survey: Vliho Boat Yard, Lefkada, Greece Vessel name: Breezer Vessel Type: Sailing Yacht Builder: Sweden Yachts

<u>Client</u>

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<u>Breezer</u>

Length Overall: 38' 1" (11.88m) Beam: 12' 7" (3.87m) Draft: 6.39" (1.95m)

Built year: 2000 Builder: Sweden Yachts Yachts

HIN no: SSR: Not seen

Engine Make: Volvo Penta Engine Model: MD2040-C Fuel Type: Diesel

*Above taken from various sources, not checked.

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1. About the Survey and this Report

Terms & Conditions

• This Survey was carried out under the Yacht Designers and Surveyors Association current Terms of business which were e-mailed to the client prior to the survey.

Limitations

- We have not inspected woodwork or any other parts of the structure which are covered, unexposed or inaccessible and we are, therefore, unable to report that any such part of the structure is free from defect.
- In some cases it is not possible to detect latent and hidden defects without destructive testing, not possible without the Owner's consent.
- Where repairs, further opening up or dismantling is required, additional decay, damage or necessary work may be uncovered.
- The engine, tanks and other normally installed mechanical equipment were in situ which limited inspection and examination in these areas.
- A Sovereign Quantum marine moisture meter, a capacitance-type moisture meter was used. The calibration of the meter was checked on the day of the survey, prior to readings being taken. Readings are taken in the relative mode, which ranges from 0-100. The values are regarded as an index and do not represent moisture content as a percentage of the dry weight. Where appropriate, both shallow and deep modes were employed. Direct comparisons with other meters, be they Sovereign or others are not valid.
- The vessel was not surveyed with respect to any particular code or standard or navigation body's rules or bylaws unless specifically stated. No documentation or compliance with any regulations has been checked as part of this survey. No guarantees or warrantees are given or implied with respect to the vessels suitability or fitness for purpose.
- The vessel was inspected on the hard at Vliho Boat Yard, Lefkada, Greece. Access to the hull was generally good as the vessel was on the hard standing at the time of survey. It was possible to comment on the exterior except for where she rested on metal supports.
- The vessel had been UHP washed to remove any fouling to the hull prior to survey.
- This report carries no warranties regarding ownership of the vessel or any outstanding mortgage, charges or debts which there may be on the vessel.
- This report has been prepared for the use of the commissioning client ---- and no liability is extended to others who may see it.

Scope of Survey

• This is a pre-purchase survey. Its purpose is to establish the structural and general condition of the vessel. Where items of equipment have been tested this will be stated in the text.

- The survey is not a parts and labour guarantee and it should be noted that defects may exist in the vessel that the survey could not detect due to limitations of time, vessel presentation and the range of tests acceptable to the owner.
- Please note that where reference is made to condition in all cases this must be considered in relation to the vessels's age, for example: very good condition should not be taken to mean new condition.
- A general inspection of the engine, installation and systems will be made, but this is a visual inspection only and an item has only been operated if stated. It should be appreciated that some components may appear serviceable but be found defective when run under load and for a prolonged period.

Recommendations

Recommendations will be restricted to those defects which should be rectified before the vessel is used, (or within a given time span if specified, and items which may affect insurability).

Recommendations are listed at the end of each section, labelled with priorities listed below:

- **Dangerous:** Items which must be repaired prior to the vessel being re-floated or used for habitation/navigation. Vessel deemed uninsurable with this issue.
- **Urgent:** Items which are not classed as dangerous, however, should be repaired preferably prior to the vessel being re-floated or used for habitation/navigation. Vessel deemed an increased risk for insurers with this issue.
- **Priority:** Items of repair should be carried out as soon as possible. Repair should be carried out no later than within six months. Vessel only insurable with restrictions or safety precautions.
- **Caution:** Items would require monitoring and further investigation. Repair may be required within the next twelve months.
- Advisory: Items are advised for safety or maintenance. These do not pose an insurance risk to the vessel.
- Recommendations will be printed in blue, for quick reference. The recommendations are contained in the body of the report in order that they may be read in context.
- Suggestions will be printed in italics as they do not constitute a requirement. Suggestions are this surveyors opinion only and can be looked on as 'helpful advice' to preserve the craft for the long term or improve handling and comfort.

Legislation & Ownership

Note: The inspection is not undertaken with any intention to ascertain that the vessel would comply with any rule or code of practice as may be required by any authority under whose jurisdiction the vessel may be operated. It carries no warranty regarding ownership of the vessel or any warranty regarding outstanding mortgages, charges or other debt there may be on the vessel.

V.A.T Status & Proof of Ownership

The original invoice for the vessel was not seen and therefore there was no evidence that UK/EU V.A.T has been paid. There was no proof of ownership found on the vessel.

Vessels built after July 1998 do have to adhere to the requirements of the Recreational Craft Directive. A 'CE' plate was seen affixed in the cockpit, aside the engine control. A watercraft HIN number: ————— was seen affixed on a small plate affixed to the port aft transom of the vessel. She was reported as having been built in 2000 and does need to adhere to the requirements of the Recreational Craft Directive.

• Recommendation - Advisory: Obtaining all underlying documentation relating to the vessel, including proof of ownership.

Surveying conditions

The conditions on the day the survey was conducted on were good. The conditions on the day of survey were good for obtaining moisture readings within structural components of the vessel. The conditions measured were as follows.

- Air Temperature: 15.9°C
- Surface Temperature: 15.1°C
- Humidity: 54.7%
- Dew Point: 8.5°C

2. General Description

'--- was reported as being built in 2000 by Sweden Yachts. The vessel which was a successful production vessel of the cruising class was built in Sweden. She was an aft cockpit, displacement cruising yacht with a lead keel. The vessel had a sloop rig with alloy mast and boom. The auxiliary engine was a Volvo diesel, with sail drive and single propeller. The hull was of moulded GRP finished in off white gel coat.



The general condition of this particular vessel indicates that she has been moderately intensively sailed, and she was known to have been run as a sail training vessel which had been coded. The original build quality was to a high standard. She is of a known, tried and tested design and her owner have maintained her well. There is a significant area of concern and a number of recommendations, as noted in the body of this report.

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3. Keel

The vessel had a lead keel. The keel had been coated with the same blue anti-fouling as the rest of the underwater hull which was in serviceable condition.

- The keel was visually inspected and found to be fair.
- Light hammer sounding revealed any area of thick filler on the leading edge of the keel. This area was more vigorously tested and a significant amount of filler noted to fall out of the leading edge of the keel exposing a significant void in the keel, where the vessel had come into contact with a hard object.
- A limited visual inspection of the surface of the bottom of the keel found it to be reasonably fair, however, filler was also noted to the bottom of the keel indicating a grounding of some kind.
- Externally, the curved section around the keel root was visually inspected and hammer tested with particular attention paid to the sections of the hull just forward and aft of the keel where damage from groundings can be sustained.
- Soundings were mostly consistent, however, two areas port and starboard of the forward side of the hull, in line with the forward leading edge of the keel, returned hollow returns, which were not crisp and robust returns as found on the rest of the underwater hull.
- A large area of anti fouling was removed, with the consent of the current owner, in this area of the hull, and no signs of a repair were noted.
- Moisture readings in this area were elevated from those of the rest of the underwater hull.
- Externally there was no evidence of corrosion or staining at the hull to keel join.
- The keel was through bolted into place and set within the matrix.
- Ten keel bolts were sighted, except for the area beneath the mast shoe and mast which limited inspection of the forward most bolts.
- The non magnetic keel bolts were visibly inspected and hammer sounded and found to be robust and secure.
- Three 20mm keel bolts were all found to be set in the matrix, two forward, one aft, on backing washers and plates and had double nuts.
- Five 24mm keel bolts were all found to be set in the centre of matrix, on backing washers and plates and had double nuts.
- Two 27mm keel bolts were all found to be set in the centre of matrix, on backing washers and plates and had double nuts.
- Inspection of the laminate close to the keel bolts in the longitudinal or transverse members, was visually inspected where possible and no signs of delamination or de-bonding noted, however, significant cracking in the matrix was noted in particular in the lower matrix running adjacent to the keel bolts.
- It would appear that a repair may have been carried out in the mid section of the matrix. This was not corroborated by the owner.
- Recommendation Dangerous/Urgent: The impact damage to the keels leading edge and base have left significant visible indentations to the lead keel. The evidence would suggest that the damage sustained from the impact to the keel has carried through to the laminate surrounding the forward leading side of the hull, which one would expect. What cannot be ascertained without further investigation is the damage which may have been sustained to the hull in the area which cannot be inspected beneath the keel, and the area of the fastenings. Given the findings of not only in the form of damage to the keel, but also to the forward area of the hull, and the cracks noted to the internal matrix of the vessel, further

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investigation should be carried which would involve the keel being dropped. This should be carried out out prior to purchase.

4. Hull below Waterline

The hull was of a GRP sandwich construction, made from a combination of chopped strand mat and woven rovings, with end grain balsa core. (*Note: this could not be proven without further destructive testing.*)

- A visual inspection of the hull found her to be true, with no obvious unfairness of the hull noted.
- Visual inspection revealed no significant evidence of crazing or deflections.
- The hull was percussion tested, with areas of significant stress where one might expect the hull to flex given additional attention.
- Soundings were mostly consistent, however, two areas, one port and one starboard of the forward side of the hull in line with the forward leading edge of the keel returned hollow returns, and not the crisp robust returns of the rest of the underwater hull.
- A large area of anti fouling was removed, with the consent of the current owner, in this area of the hull, and no signs of a repair were noted.
- Moisture readings in this area were significantly elevated from those of the rest of the underwater hull.
- Access internally was limited, however, where access to the below waterline hull allowed via the anchor locker and cockpit lockers the construction was solid laminate with longitudinal strengthening, (*Note: potentially end grain balsa, however, this cannot be confirmed without further destructive testing*) for lightweight and increased stiffness.

Over 60 moisture readings were taken over the underbody of the vessel. Coupons of antifouling were not removed, except for the area inline with the keel, where hollow soundings were noted. The table below shows the range of moisture readings taken.

Mode	Range Below Waterline	Range Above Waterline
Shallow Mode	14 - 20	13 - 15
Deep Mode	11 - 19	12 - 16

Mode	Area to port of the keel	Area ro stbd of the keel
Shallow Mode	16 - 28	30 - 52
Deep Mode	15 - 17	23 - 30

- Moisture levels across the underbody of the hull were considered to be low-medium, except for in the area of the forward part of the hull adjacent to the keel where suspected damage appears to have been sustained.
- Readings should be read in the context of the vessel having been out of water for some extended time on the hard standing in Greece.
- There were no visible signs of osmosis or wicking noted.

- An additional set of readings were taken from within the vessel and these were also considered to be low-medium.
- Recommendation Dangerous/Urgent: Given the damaged noted to the forward leading edge of the keel and the base of the keel; the hollow percussion testing returns; the elevated moisture readings; and cracking noted to the inner matrix; it would appear the hull may have suffered delamination inline with the forward part of the keel. Often damage sustained from impact, as noted to the leading part of keel can also manifest itself in delamination in the area around the keel bolt fastenings in the area where the keel sits flush to the hull which is not available for inspection. Given the evidence it is recommended that all antifouling on the hull in the surrounding area of the keel be removed and the keel dropped so that a further inspection may be carried out. This should be carried out out prior to purchase.

*For reference, readings of 0-17 are considered low, 18-25 are considered medium and at the top of this range to be approaching the point where the risk of moisture related defects developing becomes significant. Readings beyond 25 are considered high and at a level where the risk of moisture related defects is considerable, but not yet physically detectable. Readings above 30 indicate high levels of moisture within the GRP laminate and will usually accompany physically detectable defects.

5. Topsides above Waterline

Topsides above the waterline were visually inspected and percussion tested.

- The visual inspection found the hull to be fair. A visual inspection for hard spots in bright daylight did not reveal any hard spots.
- Percussion testing revealed a small area of potential light delamination on the starboard topside 300mm down from the toe rail.
- Topsides and gel coat was visually inspected and were in a serviceable condition with only a small number of small scratches to the gel coat noted, in particular on the starboard side.
- Approximately a dozen areas of gelcoat repair were identified with a difference in the colour of the gel coat noted on both port and starboard, with a whiter tone of gel coat used to repair damage.
- In addition a section, an area of ~1.0M forward of the mast, on the Portside, was also noted to have had a repair carried out from the waterline to the gunwale. Gel coat was again noted to be a whiter shade than the rest of the hull.
- The gun-whale with alloy toe rail was visually inspected and hammer tested and the toe rail was noted to be well affixed and in serviceable condition.
- Access internally was limited, however, where access to the hull topsides allowed via the anchor locker and cockpit lockers, the construction was a combination of solid laminate with a longitudinal core for additional light weight strengthening and increased stiffness. (Note: The cored strengthening potentially end grain balsa, however, this cannot be confirmed without further destructive testing)
- Suggestion: The purchaser may wish to have the areas of whiter gelcoat removed, and repaired professionally with the correct colour match gel coat used.

6. Deck Moulding

The deck was visually inspected and hammer sounded and tested under the weight of the surveyor.

• The decks were of moulded GRP which were integral with the coach roof and cockpit.

- The deck areas where seen were of a cored sandwich construction to increase the strength and insulation (*Note: The core material could not be determined without destructive testing, however, most probably end grain balsa.*)
- Backing washers to fittings were noted in the anchor locker and lazarette area. (note: headliners limited inspection of the underside of the deck in the accommodation)
- Decks were covered in teak decking which did not allow for moisture readings to be taken.
- Teak decking was visually inspected and noted to still be in serviceable condition and was measured to still be ~8.0mm even in high traffic areas.
- The teak had been screwed and bonded to the deck and was still adhering well, with no planks noted to raised, or bounce noted under the weight of the surveyor.
- Numerous wooden plugs were noted to be missing at screw fastenings.
- Wooden plugs had been replaced in the area of the anchor locker, however, these had not been sanded off and stood proud of the deck.
- Caulking was noted to have been replaced in a number of areas, however, this was also noted to be failing, with many areas noted where caulking was noted to be missing, or lifting out.
- Hammer sounding did not reveal any significant voids when percussion tested.
- Testing under the weight of the surveyor did not detect any sagging or creaking of the deck under foot.
- Recommendation Advisory: Where teak deck plugs were noted to be missing these should be replugged as soon as practically possible.
- Recommendation Advisory: Where caulking was noted to be missing or lifting, these areas should be re caulked as soon as practically possible.
- Suggestion: Teak decks should not be UHP washed or too aggressively scrubbed. Cleaning should be with a soft brush across the grain, and preferable employing salt water.

7. Hull to Deck Join

The visual inspection of the hull to deck join was severely limited, however, where partially possible within the anchor locker and cockpit lockers this was visually inspected and hammer sounded.

- The deck edge rested on the top of the hull topsides with an inboard flange which was visually serviceable.
- Where seen via the anchor locker and aft lazarette lockers, the join was serviceable with no movement or cracking noted.
- Bonding paste was sighted, with the toe rail also through bolted through the deck and hull flange, and noted to be in a serviceable condition with no signs of leaking noted within the cockpit lockers.

8. Coachroof

The coachroof was visually inspected, hammer sounded and tested under the weight of the surveyor and found to be firm.

- This was covered in the same teak decking as the side decks and was visually serviceable.
- No areas of crazing were noted to the side sections of the cabin top.
- No chips to the gel coat were noted to the side sections of the cabin top.

- Where possible moisture meter readings were taken and noted to be inline with those taken of the topsides which were satisfactory.
- A straight edge was used and no deflections or undulations were detected to the coach roof, including around the mast.

9. Cockpit

The cockpit was visually inspected and hammer sounded. The cockpit was of moulded GRP and integral with the decks and cabin moulding. The cockpit gave way to the main accommodation companionway.

- The cockpit seats were covered with teak decking, which did not allow for moisture readings to be taken. These were visually inspected and hammer sounded and tested under the weight of the surveyor and no areas of delamination noted. (Note: It cannot be guaranteed that such voids do not exist).
- The teak was noted to be in serviceable condition with no missing teak plugs noted.
- The cockpit sole was also covered in teak decking and was also found to be firm under the weight of the surveyor. The teak was noted to be in serviceable condition with no missing teak plugs noted.
- There were no signs of crazing or other damage noted, with moisture meter readings satisfactory.
- Cockpit drainage was by means of two large GRP spigots at the aft end of the cockpit which drained over the aft of the vessel.
- The alloy wheel pedestal was securely fastened to the cockpit sole with stainless steel grab rail securely affixed over the top of the pedestal.
- The pedestal was secure when tested under the weight of the surveyor.
- No cockpit table was affixed to the pedestal or seen at the cockpit at the time of survey.
- The cockpit led out onto the side decks and aft onto the transom.

10. Hull Interior and Structural Stiffening

The structural stiffening of the vessel was visually inspected and hammer sounded, and moisture readings taken.

- Internal stiffening was by means of cored longitudinal stiffening. (Note: only visible in certain lockers and locations under the sole boards in the bilge).
- The floor boards were all unscrewed and removed within the saloon and a longitudinal and transverse matrix was noted within the vessel.
- Significant cracking was noted within the lower sections of the matrix adjacent to the keel bolt backing plates and fastenings.
- Significant cracking was also noted throughout the central section of the main matrix at every corner section of the matrix and lower aft sections.
- Numerous plywood bulkheads and structures were well tabbed to the hull giving further stiffening.
- Where seen GRP tabbing was substantial and remained intact (note: access was limited by coverings and sole boards, furniture and fittings).
- Where internally accessible the hull and stiffening members were hammer sounded and gauged for moisture content.
- Hammer soundings were consistent and indicated no delamination at the time of survey.

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- Moisture meter readings of the structural stiffening were noted to be at the same level as those taken of the undersides of the vessel, which were satisfactory.
- Recommendation Dangerous/Urgent: Given the damaged noted to the forward leading edge of the keel and the base of the keel; the hollow percussion testing returns; the elevated moisture readings; and cracking noted to the inner matrix; it would appear the hull and matrix have suffered significant movement and delamination. The keel should be removed and the keel dropped so that a further inspection may be carried out. In the area of the matrix the mast should also be removed so that the area currently not available for inspection may also be inspected for delamination and damage. This should be carried out out prior to purchase.

11. Rudder & Steering

The rudder and steering mechanism were visually inspected, hammer sounded and moisture readings taken.

- No areas of delamination were detected to the rudder, and while moisture levels were elevated they were still at an acceptable level.
- A small repair was noted to the lower trailing edge of the rudder blade. This was visually serviceable.
- The rudder was physically tested to port and starboard under the weight of the surveyor and did not yield.
- No significant movement in horizontal or vertical plane was noted when tested under the weight of the surveyor.
- Fastenings onto the quadrant were visually inspected and hammer sounded and found to be secure.
- The quadrant was visually inspected and found to be serviceable.
- Steering cables were visually inspected where accessible and found to be secure with no signs of significant wear noted to the cables.
- A Raymarine head unit and remote control was seen and tested. The autopilot was seen to be serviceable at the time of survey.
- An emergency tiller wad noted in the starboard aft lazarette locker and was serviceable when tested.

12. Stern Gear

A three bladed metal propeller was visually and physically inspected and hammer sounded.

- No excess movement in the propeller was noted with the propellor moving readily.
- The sail drive leg was visually and physically tested under the weight of the surveyor and no movement noted.
- The propellor anode was securely affixed forward of the propeller on the leg and showed minimal signs of wastage.
- Blades were lightly hammered and rang true. Blades were not scraped to test for signs of dezincification as they were coated in a protective black coating.
- No damage to the blades was noted.
- The sail drive gaiter was visually inspected and was visually serviceable.
- The sail drive seal was visually inspected and was visually serviceable.

• Recommendation - Priority: The age of the sail drive seal must be ascertained and should be replaced in accordance with the manufacturers recommendations, usually 3-5yrs. If found to be older than the manufactures warranty the responsibility for failure of the seal falls upon the owner of the vessel.

13. Skin Fittings and Through Hull Apertures

The following through hull fittings were inspected. Those situated below the water line were moderately accessible in the bilge through the lifting of sole boards. Those in the topsides at and above the waterline were easily accessible within cabinets or behind furnishings. Where accessible the through hulls were hammer sounded internally and externally to check for movement and corrosion, valves were checked for smooth operation and hoses and clips checked for security.

Port moving aft

a. Fwd: 0.90M - Anchor locker drain. Above waterline. 23mm open drain hole with external stainless 'eyebrow cover'

b. Fwd: 3.80M - Transducer. Below waterline. Serviceable. Wooden bung seen aside in accordance with best practise.

c. Fwd: 4.00M - Log. Below waterline. Plastic skin fitting. Serviceable. Wooden bung seen aside in accordance with best practise.

d. Aft: 10.90M - Cockpit drain. Below waterline. 35mm GRP spigot. It was not possible to inspect the spigot, hose attachments onto the spigot.

Starboard moving aft

a. Fwd: 0.90M - Anchor locker drain. Above waterline. 23mm open drain hole with external stainless 'eyebrow cover'.

b. Fwd: 3.40M - Heads inlet. Below waterline. 19mm yellow metal skin fitting, ball valve seacock. Ball valve functioned when turned by hand. Double jubilee clipped. Wooden bung seen aside in accordance with best practise.

c. Fwd: 3.50M - Heads sink and shower outlet. Below waterline. 23mm yellow metal skin fitting, ball valve seacock. Ball valve functioned when turned by hand. Double jubilee clipped. Wooden bung seen aside in accordance with best practise.

d. Fwd: 3.70M - Heads & holding tank outlet. Below waterline. 35mm yellow metal skin fitting, ball valve seacock. Ball valve functioned when turned by hand. Double jubilee clipped. Wooden bung seen aside in accordance with best practise.

e. Fwd: 3.70M - Holding tank breather. Above waterline. 19mm yellow metal skin fitting. Single jubilee clipped.

f. Mid: 6.90M - Galley sink outlet. Below waterline. 19mm yellow metal skin fitting, ball valve seacock. Ball valve functioned when turned by hand. Double jubilee clipped. Wooden bung seen aside in accordance with best practise.

g. Mid: 7.00M - Galley salt water in. Below waterline. 12mm yellow metal skin fitting, ball valve seacock. Ball valve functioned when turned by hand. Double jubilee clipped. Wooden bung seen aside in accordance with best practise.

h. Aft: 10.80M - Exhaust. Above waterline. 50mm metal skin fitting, no ball valve seacock. Double jubilee clipped.

i. Aft: 10.90M - Cockpit drain. Below waterline. 35mm GRP spigot. It was not possible to inspect the hose attachments onto the spigot.

Through hulls skin fittings were in serviceable condition with skin fittings bedded flush to the hull, and no signs of de-zincification noted. All valves where tested and all found to open and close easily.

- Recommendation Advisory: Through hulls should be regularly checked and serviced in accordance with a regular maintenance program.
- Recommendation Advisory: Hose fastenings onto the cockpit drain GRP spigots should be inspected.

14. Cathodic Protection

- An anode was securely affixed to the sail drive leg and exhibited minimal signs of wastage.
- Recommendation Advisory: Inspecting the anode when the vessel is next hauled out and replaced as necessary.

15. Access to Accommodation

There were three ways of access down below: via the main companionway, which had an acrylic washboard and acrylic sliding hatch; Via one Lewmar ~600mm sq, alloy framed, acrylic hatch on the forward deck over the forward cabin; Via one Lewmar ~600mm sq, alloy framed, acrylic hatch on the coachroof over the saloon. (*Note – none of the hatches or port lights were hose tested for water tightness.*)

- The acrylic washboard and sliding hatch were in good serviceable condition with limited crazing marks noted, and limited signs of UV degradation and scratches noted.
- Together they had a latch locking mechanism which was found to be serviceable.
- The top sliding hatch moved with ease on its sliding rails.
- Both Lewmar acrylic hatches opened and closed freely with seals seen to be serviceable. No signs of leaks were noted below.
- Both hatches were noted to be suffering from signifiant signs of crazing, UV degradation and scratches.
- Recommendation Advisory: Hose testing portholes & hatches to determine water tightness, and change seals as necessary.

16. Ports, Windows and Ventilation

On the cabin top the following hatches were visually inspected.

- One ~600mm sq Lewmar opening hatch over the forward cabin. The acrylic and seals were inspected and were in good order. Significant crazing, UV degradation and scratches noted.
- One ~600mm sq Lewmar opening hatch over the saloon. The acrylic and seals were inspected and were in good order. Significant crazing, UV degradation and scratches noted.
- One ~350mm x ~200mm Lewmar opening hatches over the fwd heads. The acrylic and seals were inspected and were in good order. Significant crazing, UV degradation and scratches noted.

• Recommendation - Advisory: Hose testing portholes & hatches to determine water tightness and change seals as necessary.

Along both sides of the cabin a number of opening and fixed ports were noted.

- Two ~700mm x ~100mm acrylic fixed ports in the sides of the coachroof over the saloon. The acrylic and seals were in serviceable condition. No significant signs of crazing noted to the acrylic, and no signs of leaks noted below.
- Two ~600mm x ~150mm acrylic fixed ports in the sides of the coachroof over the chart table and galley. The acrylic and seals were in serviceable condition. No significant signs of crazing noted to the acrylic, and no signs of leaks noted below.
- Two ~300mm x ~150mm acrylic fixed ports in the sides of the coachroof over the aft cabins. The acrylic and seals were in serviceable condition. Significant signs of crazing noted to the acrylic, and no signs of leaks noted below.
- Two ~300mm x ~150mm acrylic opening ports in the sides of the cockpit in the aft cabins. The acrylic and seals were in serviceable condition. Minor signs of crazing noted to the acrylic, and no signs of leaks noted below.
- Recommendation Advisory: Complete a general hose testing of all the hatches and port lights, and replace the seals where noted to be failing.
- Recommendation Advisory: Consideration be given to changing crazed acrylics.

17. Stanchions

There was a two-rail pulpit and pushpit at the bow and the stern quarters and four stainless steel stanchions each side all in 25mm stainless steel tubing.

- The pulpit and pushpit were visually inspected and weight tested and were found to be robustly attached with neither exhibiting significant movement.
- Stanchions and structures were visually inspected and weight tested and were found to be robustly attached to the alloy toe rail and were securely attached.
- The port aft most stanchion post was noted to be slightly bent aft.
- There were two runs of 4mm stainless steel guard wires. These were inspected and found to be in serviceable condition, with no kinks or bends noted.
- Split pins were visually inspected and all found to be in place.
- Recommendation Advisory: Straighten or replace the port aft most stanchion post.

18. Rigging Attachment Points

Rigging attachment points were visually inspected and hammer sounded and by loading the stays sideways under the weight of the surveyor, checked for movement.

- There was one shroud attachment point port and starboard in the form of stainless steel through deck chain plates.
- Examination above deck indicated the chain plate arrangement to be well made and secure. No deformation or cracking of the teak deck was noted around the immediate area where the chain plates were mounted.
- It was not possible to inspect GRP which was obscured by the teak deck which was laid over the top.
- No deformation or indentation or stress on or around the decking was noted.

- It was not possible to take moisture meter readings in the area of the chain plates due to the teak decking.
- Examination below deck was severely limited by way of fixtures and fittings. It was not possible to inspect any of the chain plate arrangements below deck due to fixtures and fittings which covered any visual inspection of the chain plates.
- No below deck chain plates and attachments were seen.
- The forestay was secured to the combination, stainless anchor roller which was securely attached to the stem with fastenings visually inspected and hammer tested and found to be secure.
- Inspection internally via the chain locker was possible and fastening visually inspected and hammer tested and found to be secure.
- The baby stay was secured to a stainless steel plate secured forward of the mast. The fastening was visually inspected and hammer tested and found to be secure.
- The single backstay was securely attached to the stern chain plate and through bolted to the transom. Fastenings externally were hammer tested and noted to be secure.

19. Mooring Arrangements

- A Lofrans 12v electric anchor windlass was noted securely affixed on the forward deck with a remote control housed within the anchor locker and a second at the helm. The windlass and remote control were tested and found to be serviceable.
- A ~20Kg Rocna anchor was noted resting below the vessel at the time of survey and was visually serviceable.
- The anchor was affixed to the chain by means of a stainless shackle which was serviceable.
- A ~60M length of 8mm galvanised chain was noted running from the anchor locker, with the majority of the chain hanging below the vessel at the time of survey. The chain was visually inspected and seen to be serviceable with no signs of corrosion noted.
- The bitter end of the chain was secured within the anchor locker at the time of survey, by means of rope, in accordance with best practise.
- There were paired, 270mm alloy cleats at the bow, midships and stern. These were hammer sounded and found to be secure.
- Multiple mooring lines and fenders were seen onboard.
- Recommendation Advisory: Laying the bow anchor chain out on the dock for a full inspection.

20. Deck Gear and other Fittings

- No dodger was seen affixed to the frame at the forward side of the cockpit. The frame was visually inspected and noted to be serviceable with attachments secure and in serviceable condition.
- What appears to be the dodger was folded up, and stowed beneath the forward berth. No accurate comment can be made on the condition of the dodger, which should be seen affixed on its frame.
- No bimini was seen affixed to the frame at the aft of cockpit. The frame was visually inspected and noted to be serviceable with attachments secure and in serviceable condition.

- What appears to be the bimini cover was folded up, and stowed beneath the forward berth. No accurate comment can be made on the condition of the bimini, which should be seen affixed on its frame.
- A stainless steel swimming / boarding ladder was noted securely attached to the transom. When physically tested this was found to be secure.
- Recommendation Advisory: Seeing dodger and bimini covers affixed to their frames, and seeing them to be serviceable.

21. Mast & Spars

The mast was rigged in a Bermudian sloop fashion, with a masthead forestay, backstay and keel stepped mast.

- Above deck the mast was visually inspected and found to be in serviceable condition with no signs of compression or distortion noted.
- Sighting up the mast, found the mast to be in column.
- The mast had two sets of spreaders. The spars, boom and rigging were visually inspected from the deck level only and observations much above eye level were distant and could not be supported by any testing.
- The shoe was securely through bolted at the keel. Through bolting could be visually inspected within the vessel and was noted to be securely fastened set within the matrix.
- The fastenings at the shoe were hammer tested and noted to be secure.
- A visual inspection of the mast below deck found the mast to be in serviceable condition with no signs of compression or distortion noted within the cabin.
- Wiring for the mast-head electronics exited from the side of the mast within the accommodation.
- The air-foil shaped spreaders attached to the mast with cast alloy fittings, no undue movement was seen when the rigging was loaded from side to side under the weight of the surveyor, but as with other fittings at height, detailed attachment points were not visible from deck level.
- The alloy gooseneck was visually inspected, however, swinging of the boom was not possible at the time of survey. The boom was not tested for undue movement.
- Halyards were led to the base of the mast to clutches and cleats which were serviceable.
- The boom was straight and in good order.
- The vang was disconnected from the boom at the time of the survey, however, was visually serviceable.

22. Standing Rigging

The vessel had a single forestay, baby stay, single backstay, upper cap shroud and lowers, and running back stays all in 1x19. Shrouds were visually inspected from deck level only. Seen at a distance the mast attachment points aloft could not be observed.

- Standing rigging was in 6mm, 7mm, 8mm and 10mm 1x19 with swaged fittings to turn buckles.
- Deck fittings lay in a straight line up to their mast terminals with no bending or distortion noted, and were able to articulate smoothly.
- General visual inspection from deck level only, indicated the shrouds to be in serviceable condition for coastal cruising in normal conditions.

- The condition of the forestay could not be fully inspected as it was covered by the roller reefing foil.
- The backstay was properly toggled to the stainless steel attachment point securely through bolted to the transom.
- A jib furler was installed and the forestay properly toggled and pinned to its chain plate.
- Recommendation Advisory: The exact age of the standing rigging should be ascertained prior to purchase.

Note: Many insurers will not cover standing rigging older than a certain age (normally 7 to 10 years) and put the onus on the owner to prove age. No documentation was seen to verify standing rigging age.

23. Running Rigging

Running rigging was visually inspected and fittings were tested manually. These were not tested as part of a sea trial or under load.

- Sheets and halyards were mostly 8mm, 10mm, 12mm braided polyester. All were, where visible, worn but serviceable, however only seen from deck level.
- Blocks and clutches were seen to be serviceable.
- The mainsail halyard was inspected and seen to be serviceable.
- Paired Andersen 46 two speed manual winches were mounted at the forward cockpit coaming and were serviceable.
- Paired Andersen 46 two speed manual winches were mounted at the mid cockpit coaming and were serviceable.
- Paired Andersen 52 two speed manual winches were mounted at the aft cockpit coaming and were serviceable.
- Alloy tracks with cars were through bolted on the side decks. These were hammer sounded and inspected. No signs of stress or movement were noted. (*Note: headliners limited inspection of fittings below decks*)
- Alloy traveller track was through bolted onto the aft coachroof coaming. This was visually inspected and hammer sounded and no signs of stress or movement were noted. (*Note: headliners limited inspection of fittings below decks*)
- Various sail control lines (mainsail outhaul, mainsail furler, kicker, topping lift) were lead to the base of the mast. These were visually inspected and were serviceable but worn.
- Multiple turning blocks and running rigging fittings were visually serviceable.
- Lines could be led back to the cockpit via deck organisers which were secure and serviceable.
- Spinlock clutches were all noted to be securely mounted at the cockpit and were serviceable.
- Recommendation Advisory: Check the state of halyards where they pass over turning blocks and mast sleeves.

24. Sails and Covers

Inspection of the sails was not possible. No sails were seen bent on at the time on at the time of survey. (Note: No sails were seen bent on or unfurled and set as part of a sea trial).

- No head sail was bent on or unfurled as part of the survey.
- No main sail was bent on or hoisted as part of the survey.
- No soft dodger was seen on its frame as part of the survey.
- No soft dodger was seen on its frame as part of the survey.

- Recommendation Advisory: All sails should be seen bent on, hoisted and set as part of a sea trial.
- Recommendation Advisory: All covers should be seen affixed on their frames.

25. Navigation Lights

- The masthead light was not seen to be serviceable in bright daylight.
- The mast mounted steaming light was serviceable.
- The stern light was noted to flicker. Semi serviceable.
- The port and starboard navigation lights were seen to be serviceable.
- The deck light was seen to be serviceable.
- Recommendation Advisory: Replace the stern light bulb and recheck.
- · Recommendation Advisory: Regularly checking navigation lights for serviceability.

26. Bilge Pumping Arrangement

One electric bilge pump was installed beneath the saloon cabin sole with float switch located at the lowest part of the bilge.

- The bilge pump was heard to switch on by lifting the float switch and was heard to be serviceable.
- There was some minimal water in the bilge to test the pump. No water was seen expelled over the side.
- A manual bilge pump was installed at the cockpit, the handle was noted at the time of survey. This was visually serviceable, however, there was no water in the bilge to test the pump, and no water was seen expelled over the side.
- Recommendation Priority: Prove all bilge pumps on manual and automatic are working as appropriate with water being seen to be expelled over the side prior to leaving harbour.

27. Firefighting Equipment

- One 2kg ABC powder fire extinguisher was noted at the forward cabin. Green sector marker showing. Out of serviceable date Not serviceable.
- One 2kg ABC powder fire extinguisher noted at the chart table. Green sector marker showing. Out of serviceable date Not serviceable.
- One 1kg ABC powder fire extinguisher noted in the port aft cabin. Green sector marker showing. Out of serviceable date Not serviceable.
- One 1kg ABC powder fire extinguisher noted in the starboard aft cabin. Green sector marker showing. Out of serviceable date Not serviceable.
- No smoke alarm was noted.
- A fire blanket was located at the chart table marked EN1869. Serviceable.
- Gas alarm noted in the galley and heard to be serviceable.
- Recommendation Priority: All Fire extinguishers must be serviced or replaced and should be checked annually and replaced if found to be no longer serviceable or out of date.
- Recommendation Priority: A smoke alarm should be procured and fitted to the saloon cabin ceiling.

28. Lifesaving, Emergency and other Equipment

The lifesaving, emergency and additional equipment onboard were as follows:

• Two horse shoe buoys were noted beneath the forward cabin berth.

- A grab bag was noted in the starboard aft lazarette locker.
- An out of date 1/2010 EPIRB was noted at the chart table. Not serviceable.
- A set of out of date emergency flares were noted in a dedicated box. Not serviceable.
- An Ocean Safety 6 person life raft was seen affixed to cabin top and was visually serviceable. Next service date April 2022. Service now due.
- An emergency tiller was noted onboard the vessel and was serviceable.
- Recommendation Advisory: RYA or RNLI can advise on appropriate safety equipment. Recommend checking the websites below and adding additional equipment as appropriate.
- The Royal National Lifeboat Institute <u>www.rnli.org.uk</u>
- The Boat Safety Scheme www.boatsafetyscheme.org
- The Royal Yachting Association www.rya.org.uk

29. Engine Installation

The vessels auxiliary engine was a MD2040-C 3 cylinder diesel. The engine was visually inspected, however, not seen running as the vessel was on the hard standing at the time of survey.

- Engine hours were not shown on the engine display.
- Engine was installed in the engine compartment below the cockpit, with reasonable access from the front and back.
- The engine was flexibly mounted, bolted onto GRP bearers.
- All mounts were visually inspected and hammer tested and found to be serviceable.
- The flexible exhaust system ran from a lift box to the side of the vessel with no leaks noted.
- Exhaust was noted to be sound externally with no evidence of leaks noted.
- No signs of oil leaks beneath the engine sump were noted and the bilge was clean.
- The sail drive seal was visually and physical inspected where possible and no signs of wear or deterioration of the gasket noted.
- No signs of leaks were noted surrounding the seal, however, this could not be proven as the vessel was on the hard standing, and the engine not run.
- The oil was up to the correct level and was a visibly clear golden honey colour.
- The alternator was visibly inspected and visually serviceable.
- External surfaces were clean with painted coatings in good condition.
- The sail drive oil was up to the correct level and was a visibly clear colour.
- Recommendation Priority: The sail drive seals' age must be established beyond doubt and replaced in accordance with the manufacturers warranty.
- Recommendation Advisory: The engine should be seen running under load for an extended period of time as part of a sea trial.

30. Engine Controls and Running Checks

Engine controls and running checks were limited as the vessel was on the hard at the time of survey and the engine was not seen or heard running as part of a sea trial.

- Ignition controls and indicators were installed on a Volvo control board at the helm. The ignition control panel was serviceable.
- The ignition controls included ignition, stop and alarm. The alarm was not heard to sound.
- A Morse type gear shift and throttle actuator were seen to function properly. Connection onto the engine and gear box were visually inspected and found to be serviceable.

- Vibrations on the shaft were not seen, as the engine was not run.
- · Battery charging was not tested, as the engine was not run.
- Revs and climb was not tested, as the engine was not run.
- No oil, water, fuel or exhaust leaks were not seen, as the engine was not run.
- Recommendation Advisory: The engine controls and running checks should seen as part of a sea trial.

31. Fuel System

A stainless steel diesel tank was noted beneath the port aft berth.

- Visual inspection of the diesel tank was limited, however, the top and side of the tank were visible for inspection.
- The tank was visually serviceable and no leaks were noted coming from the tank at the time of survey.
- A fuel line delivery cut off valve was noted at the top of the tank and was physically serviceable.
- The fuel line was seen travelling through a pre filter prior to the engine mounted filter. All hoses were appropriately marked, well clipped in place and in good condition. No signs of leaks from the fuel system were noted.

32. General Accommodation

The vessel was laid out with V berth forward, with ensuite heads. Aft lay the saloon with table and seating either side. Aft again, and the galley to starboard and navigation station to port. Aft of the companionway lay the two aft cabins.

- Doors, draws and lockers all opened smoothly with catches noted to be serviceable.
- Varnished surfaces had been well maintained with only a few marks, bumps, scratches noted to the varnished surfaces, in keeping with the age of the vessel.
- Soft furnishings were upholstered in quality fabrics and all in serviceable condition, however, some evidence of wear was noted.
- The headliners and topside liners were noted to be in serviceable condition with no signs of staining noted.
- The veneered sole boards retained an unblemished varnished finish, with minimal chips or dents noted.

33. Gas Installation

A full gas installation inspection can only be carried out by a suitably qualified gas operative registered with Gas Safe or EU equivalent. Please note this survey is not any kind of gas safety certificate. This is only obtainable in the UK/EU after comprehensive pressure testing and assessment by a qualified person listed on the relevant Gas Register.

- A dedicated gas bottle storage locker was found in the centre aft cockpit locker. The hinged locker closed fully and overboard drainage was noted over the aft of the vessel.
- A visually serviceable regulator was noted with two 3.5kg gas cylinders noted. The regulator was attached to a rubber gas line, via a gas grade hose.
- The bottles were securely held in place and considered well housed.
- The hose was visually serviceable with no cracks in the hose noted and serviceable till 2023. (Note: In the UK these must be replaced every 5 years)

- Minimal copper delivery pipe was seen at the locker. (Note: There was no access to the pipe which was behind liners, fixtures and fittings).
- Down stream copper gas pipe was noted beneath the hob/oven and was well supported and serviceable.
- The gas supplied a two burner gas hob and oven situated in the galley.
- An inline gas shut off valve was located beneath the hob/oven and was serviceable when tested.
- A gas sensor alarm was noted at the galley and was heard to be serviceable.

34. Fresh Water System

Two stainless steel water tank(s) were noted beneath the port and starboard saloon seats.

- Visual inspection was not possible where they lay beneath fastened boards within the saloon
- Fresh water pressure pump and accumulator tank were located beneath the starboard saloon seating and was heard to be serviceable.
- The water pressure pump was heard priming, however, there was no water in the tanks and water was not seen delivered to the galley and head taps.
- The shower drained into the sump and was pumped out by the shower sump pump. This was heard to be serviceable at the time of survey.
- A hot water calorifier was noted beneath the starboard aft berth and was securely affixed, and was visually serviceable. This was not tested at the time of survey, as there was not water in the vessel at the time of survey.
- Recommendation Advisory: Ensuring the hot water calorifier is serviceable with the tanks full, and the vessel plugged into shore power and following the engine having been run.

35. Heads

One standard manual Jabsco type sea toilet was installed in the heads compartment.

- The heads were not tested for serviceability as the vessel was out of the water at the time of survey, however, was visually serviceable.
- The plumbing hoses were of a sanitary odour resistant type and attached with double hose clamps.
- The head was seen to flush either overboard, or into a holding tank.
- The holding tank was not visually sighted behind fixtures and fittings. No holding tank pump out deck fitting was noted.
- The head sinks drained overboard.
- Recommendation Advisory: Thorough regular servicing of heads rubber gaskets, valves, and seals.

36. Electrical Installation

The electric installation was found to have been done to the high standard of a reputable boat builder with a number of post manufacturer add ons having been made over time.

• Two sets of batteries were identified securely fastened beneath the chart table.

- 3 x 74Ah 12v sealed lead acid batteries for domestic circuits were noted. These were located within dedicated housing beneath the chart table. Webbed strapping was noted to prevent movement, and batteries were tight together and well housed. These were tested with a multimeter and found not to be serviceable at 11.5v. Batteries were drop tested with an electronic tester for serviceability and found to be still be 'good'. Batteries should be fully recharged before retesting. Cables were of an adequate thickness and runs neatly laid. (Note: the service history of batteries is not known and no guarantee can be given on the extended serviceability of batteries).
- 1 x 74Ah 12v sealed lead acid battery for engine starting was noted. This were located within dedicated housing beneath the chart table. Webbed strapping was noted to prevent movement and the batteries were all tight together and well housed. This was tested with a multimeter and found not to be serviceable at 12.07v. The battery was drop tested with an electronic tester for serviceability and found to be still be 'good'. The battery should be fully recharged before retesting. Cables were of an adequate thickness and runs neatly laid. (Note: the service history of batteries is not known and no guarantee can be given on the extended serviceability of batteries).
- Battery connecting leads were of proper quality and appropriate gauge wire.
- The isolation switches for the domestic and engine starting circuits, and windlass were located beneath the chart table and were serviceable.
- A CTEK M300 battery charger was noted within the port saloon locker and was seen to be serviceable with the vessel plugged into shore power.
- An engine mounted 12 volt alternator, was visually inspected, and found secure.
- A small solar panel was noted lying on the cabin top and was not securely affixed. Wiring was noted to not be permanently connected up. Winter charging only.
- A solar controller was noted securely affixed within the electrical cabinet at the chart table and was visually serviceable.
- The AC/DC distribution panel at the chart table was well positioned and laid out. Access behind the panel was possible and wires and fuses were visually serviceable.
- An appropriate three prong 16amp 230v shore power plug was situated in the cockpit lazarette locker and was serviceable.
- A 230v RCD switch was noted installed within the chart table cabinet and was seen to be serviceable with the vessel plugged into shore power.
- Recommendation Advisory: Batteries should fully charged and re-tested for serviceability.
- Recommendation Priority: All the batteries should have covers over the terminals to protect against accidental shorting.

Note: No guarantee can be given regarding the service history of the batteries as this is unknown to the surveyor.

37. Electronic and Navigation Equipment

The following equipment was switch tested. (Note: Switch testing is not a test of full operational functionality)

- 12 volt cabin lights seen to switch on.
- 12 volt cabin fans seen to switch on.
- A Raymarine VHF seen to switch on.
- A Raytheon chart plotter at the chart table seen to switch on.
- A Raytheon chart plotter at the helm seen to switch on.
- A Raytheon Radar not seen to switch on.
- Raymarine ST60 multi functional display at the chart table seen to switch on.

- 2 x Raymarine ST60 multi functional displays above the companionway seen to switch on.
- 1 x Raymarine wind display above the companionway seen to switch on.
- 1 x Raymarine autohelm seen to switch on.
- Navtex seen to switch on.
- Iridium satellite phone not seen to switch on.
- Clipper battery monitor seen to switch on.
- Sony Radio not seen to switch on.
- Recommendation Advisory: Seeing navigation equipment to be serviceable as part of a sea trial.

38. Heating and Refrigeration

- An Isotherm top loading fridge/freezer was installed at the galley counter top and noted to be serviceable, being heard to switch on and cool to touch, when the compressor was turned on.
- A diesel heater was noted in the port aft lazarette locker. This was noted within a screwed down wooden housing and was not visually inspected or seen to be serviceable at the time of survey.
- Recommendation Advisory: Seeing the diesel heater to the serviceable.

39. Dingy and other Equipment

- A Quicksilver inflatable tender was noted semi inflated on the fore deck. The condition was used, however, still visually serviceable.
- A Tohatsu 3.5hp, four stoke outboard engine was noted securely fastened to the pushpit. This was visually serviceable.
- A boarding ladder on the transom was visually inspected and tested and found to be serviceable.
- A passarelle was noted on the deck and was visually serviceable.

40. Conclusion

'Breezer' was found on the hard at Vliho Boat Yard, Lefkada, Greece. An out of the water pre-purchase survey was conducted at the request of the purchaser Mr. Nick Lacey.

The vessel had been built in 2000 by Sweden Yachts and was a successful production vessel of the cruising class. She was an aft cockpit, displacement cruising yacht with a lead keel, sloop rig with alloy mast and boom. The auxiliary engine was a Volvo diesel, with sail drive and single propeller and the hull was of moulded GRP finished in off white gel coat.

Overall the vessel had been maintained to a high standard, and the list of recommendations was not extensive and mostly advisory in nature. The overall impression of the vessel was one which had been well maintained and it appears the vessel had most probably been coded for commercial purposes. There were a number of repairs which had been carried out to the above waterline hull gel coat which had not been colour matched to the hulls original colour and these areas were clearly visible. The decks also exhibited some signs of neglect with plugs missing and screws exposed. The age of the standing rigging was not ascertained and should be sought as the insurers may also request this information. The greatest concern, however, is the damage noted to the keel which is considered significant based on the findings of the survey. The impact damage has carried through to the hull and internal structural matrix of the vessel as noted in the delamination, high moisture readings, and

cracking noted within the vessel. This must to be further investigated prior to the vessel being used and prior to purchase. The keel should be dropped and the mast removed and a further full inspection carried out internally and externally to assess the full extent of there damage. This should be carried out prior to purchase and quotations sought for carrying out the investigative work and to remediate areas of damage as the costs maybe significant depending on the findings.

Rolf Thunecke

DipMarSur, MBMSE, AffilYDSA, AffilIIMS, AssocRINA

Ionian Marine Surveys 4/4/2022

Appendix - Photographs





Ionian Marine Surveys - Hansa Marine Ltd. Telephone: 07963 050459 / Rolf@IonianMarineSurveys.com











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