

Guidi System

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GuidiLAB



GUIDI SYSTEM "C-PIN"

AN ASSORTMENT OF GUIDI PRODUCTS DESIGNED TO ENSURE MAXIMUM SAFETY OF THE BOAT'S HYDRODYNAMIC SYSTEMS, NOW IN A "CONNECTED" VERSION.



Application

The Guidi System has been designed to improve the performance of the hydrodynamic water flow:

- it reduces pressure drops
- it avoids air bubbles and cavitation
- it provides an ideal system with maximum safety features.

The Guidi System continues to guarantee its efficiency even with a slight accumulation of dirt. However, proper maintenance and regular cleaning is essential.

The Guidi System is therefore an essential system for the boat.



The assortment of Guidi products in detail

Here are the main components of the system and their characteristics:

The water intake

Usually installed on the hull, it is the point where seawater enters the boat and allows the required flow of water to be directed into the hydrodynamic channel (through a hull passage).

It is important that it is always able to convey the correct flow of water, without reducing it and without creating turbulence in the system.

There are two main types of water intakes, either the "inlet" only or with an integrated thru-hull connection.

Items 1261, 1112B, 1113B, 1262 (NEW - coming soon)

The thru-hull connection

This is a key element that runs through the hull and **provides a point of connection between the inside and outside of the boat**.

It is generally composed of:

• **the body**, which has an external threaded part to allow the connection of traditional valves or non-stick valves, flanges or, in some cases, directly to the bronze pipe fittings

• **the flanged lock nut**, which secures the body to the inside of the hull, giving good strength both structurally and against accidental impacts.

Items <u>1260</u>, <u>1260A</u>

The non-stick valve

The non-stick value is connected to the water intake or the thru-hull connection and opens and closes the passage of water. **They are therefore devices that allow to control the flow of water in the system**.

They are usually installed directly at the water intake or the thru-hull connection for safety reasons. In fact, closing these valves isolates the entire system and ensures that no water is taken on board in the event of a leak.

These models are not operated by a lever that sets a ball in motion: in fact, the lever is often difficult (or inconvenient) to operate and is more prone to blockage, breakage or frozen and unable to move.

Non-stick values have a screw-type rotary mechanism that is activated by a swivel head to move a very smooth and easy-to-handle opening and closing component. Due to the function of this system and its very delicate position, **this internal mechanism is covered with a membrane to protect it from fouling**. In fact, the main problem with safety values is the formation of fouling, which prevents their proper operation (to the point of blockage of the maneuver).

The non-stick values designed and patented by Guidi guarantee the maneuver even after several months without being operated.

The 2260, Alex, in particular is a straight way valve instead of a slanted one, with total water passage, without pressure drop: this prevents blockage or fouling. Because of its small size, it can be easily installed even in tight spaces and is very easy to handle and operate.

Unlike the *manual* Guidi System, the non-stick valve is equipped and operated by a *step motor* powered by 24 Volt (alternatively 12 Volt).

The use of a step motor makes it possible to:

- operate the valve remotely,
- know its position at all times,
- partialize the opening as needed,
- perform programmed opening and closing cycles according to the needs and status of the system itself,
- operate the valve manually at any time as required by regulations.

Another special feature is the <u>2240 and 2250 models</u> because they have an emergency position: in case of flooding, they can draw water directly from the bilge and make use of the main pump of the hydrodynamic system, allowing a large flow of water to be drawn from inside the hull.

Items <u>2200</u>, <u>2210</u>, <u>2220</u>, <u>2230</u>, <u>2240</u>, <u>2250</u>, <u>2260</u> Alex, <u>2261</u>, <u>2275</u>





The water strainer

It is an essential component to ensure the quality of the water withdrawn and protect the noble parts of the hydrodynamic system, such as the pumps.

The function of the strainer is to retain impurities, sediments, algae and other contaminants in seawater.

Water strainers have airtight closures, and some allow a view from above through a transparent polycarbonate cover: it is therefore very easy to check the conditions inside them.

The main problems related to water strainers are:

- the need to know when to carry out routine and/or extraordinary maintenance: if the water strainer becomes clogged, the pump will work harder, and the system will lose efficiency
- determining a loss of system efficiency due to the presence of air in the strainer.

To solve the first problem, the Guidi system, in addition to the installation of transparent covers, has been equipped with **pressure and temperature sensors** upstream and downstream of the strainer.

These sensors allow diagnostics to be made of the system, evaluate its efficiency, and send the collected information to the boat's system, where it can be processed and analyzed in the most effective way.

For example, if the *delta pressure* before and after the strainer is out of the standard values, a warning can be sent to the cockpit indicating the need for a basket cleaning. Or a warning signal can be sent if there is no or reduced flow due to an obstruction in the water inlet, such us a plastic bag.

To solve the second issue, the Guidi System includes a **level sensor** inside the water strainer itself.

This sensor determines the amount of water and consequently the amount of air trapped in the strainer itself.

Finally, thanks to the presence of a **vent valve** installed on the strainer cover, it is possible to let the air escape and restore the hydraulic system to its maximum efficiency.

Items 1162, 1163, 1164, 1166, 1281, 1283



The fittings and pipes

Fittings and pipes are the conduits that allow water to be transported from one point to another and must be sized to ensure adequate water flow.

They must also be able to withstand the operating pressures of the systems and the pressures required by regulations, with large safety margins.

Fittings Items (LINK)



Insights

Link to Guidi LAB

Features and advantages of the Guidi components

The common features of the items in the system are:

- have been **patented**, at different times, confirming our engineering innovation
- being made of Italian bronze, for greater resistance to corrosion

The **advantages** of the Guidi System (water inlet, non-stick valve, and water strainer, connection fittings, also made of bronze) are many:

- functionality
- ease of operation
- durability
- attractive design
- reliability
- practically 100% recyclable
- made in Italy
- safety
- connection to on-board digital systems



The Longer Life Option - Durability & Recyclability

Product design aims at an increasingly accurate and sustainable life cycle analysis. Each product has an extremely long life, with guarantees of quality and operation, maintaining the physical and mechanical characteristics of its constituent materials over time, with very little need for routine maintenance during the period of use and operation.

The easy separation of parts during disassembly makes it possible to extend the life of the materials beyond the life of the components. In fact, after decommissioning, each product is almost completely recyclable through processes that allow the realization of secondary raw materials.



Installation

Indicative diagrams for the installation of the Guidi System:

- indicative assembly plant
- Guidi System installation with non-stick valve 2210
- Guidi System installation with non-stick valve 2260 Alex





DIREZIONE DI NAVIGAZIONE

Indicative assembly diagram of the Guidi System (water inlet, non-stick valve, water strainer)



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Guidi System with Mediterraneo water strainer 1163 and non-stick Valve 2210



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Guidi System with Mediterraneo water strainer 1163 and non-stick Valve 2260 Alex



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Guidi System with Ionio water strainer 1164 and non-stick Valve 2210





Guidi System with Ionio water strainer 1164 and non-stick Valve 2260 Alex



Read more...

Water inlet, non-stick value and water strainer are the hidden parts that **keep the** engine healthy and more.

They regulate the passage of seawater from the outside of the boat to the inside, where it is piped into a circuit and used to keep the engine properly cooled. Water intakes and valves basically let in the water needed to keep the engine

Water intakes and valves basically let in the water needed to keep the engine properly thermoregulated and then drain it back out.

In addition to **the cooling system**, other systems that require a constant exchange of water between the inside and outside of the boat, and which must always be in perfect working order, are **the toilets and their drainage**, as well as **the air conditioning and the watermaker**.

Once the importance is understood, one must ask what **critical issues** a boat's plumbing systems may encounter and what should be done **to prevent them**.

The salty water from the sea puts a strain on valves and water inlets, as it tends **to corrode them** over time. This phenomenon is even more pronounced in the higher salinity seawater around the world. In addition, seawater can contribute to fouling by carrying microorganisms, algae, waste, etc., which reduces the flow rate of the systems.

It should be added that in modern boating, as we know, the use of electronics on boats is becoming more and more massive: **currents** emitted by the many devices on board contribute to corrosion problems.

The first help for the boater can come from materials, even before technology. **To avoid problems** with these accessories with such a delicate function, it is always recommended **to use parts made of bronze**, an alloy that contains a low percentage of zinc (around 5 percent), a material easily prone to corrosion.

Bronze is therefore much more resistant to corrosion than brass, for example, where the percentage of zinc rises instead to around 35 percent, making it easier for parts to deteriorate.

Another good rule to remember is **to handle valves often**, to prevent them from sticking. Not many boaters do this, perhaps out of simple forgetfulness. Also to avoid problems like these, **Guidi has created the non-stick valves**.

Finally, it would also be useful and wise to regularly check **the sacrificial anodes**: **these must "wear out,"** otherwise other elements of the system would be damaged, going to compromise safety on board.



Don't forget to share your ideas with us!

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