



MAGNETIC COMPASS

Reliable navigation





With over 35 years at the forefront in the design and manufacture,
our trade is to combine accuracy, solidness and best craftsmanship.

The product range of Autonautic Instrumental includes all type of marine compasses,
innovative systems for navigation, precise clocks, barometers and weather instruments
well balanced up to the detail.

All our marine compasses are in compliance with Directive
MED 96/98 EC on Marine equipment to provide you with a compass that
guarantees maximum safety in Navigation.



MAGNETIC COMPASS REPAIR SERVICE

With routine maintenance, we can ensure that your vessels will have a standard magnetic compass on which they can rely, in any situation.

Autonautic provides ships compass surveys, compass adjusting services, replacement and installation on-board your vessel. Within the shortest time, no matter where you are.

Autonautic is the only company worldwide with the ISO 9001:2000 for magnetic compass repair services.

RINA certifies our compass repair process with the ISO 9001:2000 quality certification and RINA service supplier for magnetic compass servicing.

Over 4.000 Repairs and a profound knowledge of compass manufacturing provide us with the required experience to repair any type of compass with total confidence.



SERVICE SUPPLIER

RINA

Autonautic are recognized by RINA services for magnetic compass servicing.

Our service and repair centre in Barcelona is fully equipped to carry out the 4 or 2 years overhaul to issue RINA certificates for Italian flag vessels.

Over 4.000 Repairs and a profound knowledge of compass manufacturing provide us with the required experience to repair any type of compass with total confidence.



YOUR COMPASS QUESTIONS

ANSWERED

In a world that is filled with all kinds of electrical aids the magnetic compass is still holding its ground.

Why does the deviation differ from the last deviation table?

The magnetic field of a vessel is always changing in small amounts. Some can cause the deviation to change from the present deviation table. This can create problems in navigation when using the magnetic compass, as the enlarged deviation causes the magnetic compass to behave erratically and also cause the compass card to move excessively when the vessel is rolling.

The cause of the increase and changes in deviation can have different origins. There are multitudes of influences which can cause a magnetic compass to become unreliable. Not only the cargo can have influence on the ships deviation also changes in the ships steel, lightning strikes and installation of nearby electronic devices can have an effect.

How/where does the compass adjustment take place?

Depending on the port and port stay of the vessel, the compass adjuster will usually make a pre-inspection to check the magnetic compass, last deviations table, compass logbook and check if all the needed data and correctors (spare) are available. If during this pre-inspection the compass adjuster finds something wrong our fully certified compass service department can overhaul, repair or replace your damaged compass or binnacle in time for the vessel to leave without any delay. This pre-inspection is dependant on your schedule and availability.

If any correctors are missing or damaged we have the most common types in stock for fast delivery. Also we have spare magnets of all types of magnetic compass manufacturers in stock, so there is no need to cancel the compass adjustment due to the non-availability of the correct magnets.

If all is found in good working order the compass adjuster will keep in close contact with the vessels Port Agent and will board the vessel prior to departure where he will sail with the vessel out to sea. There the compass adjuster will perform the compass adjustment during a compass swing(s) and remove/decrease the deviation close to zero. The deviation that is left will be noted on the deviations table and handed over to the master prior debarkation. Depending on ships size the compass adjustment can also be completed inside port limits to minimise costs.

How long does the compass adjustment take and what delays are there for the ship?

Usually the actual compass adjustment itself takes 1 hour 30 minutes of swinging the ship. After the compass adjustment the compass adjuster leaves along with the pilot.

What has influence on the validity of the deviation table?

The main reason for compass adjustment and issue of new deviation table is an increase in deviations. However, inspections by Port State Control, Vetting inspectors and Flag State Audits can also trigger the need for adjustment of the compass.

YOUR COMPASS QUESTIONS

CONTINUED

How can I check that the compass is working properly?

The only way to check that a magnetic compass is working correctly before magnetic compass adjustment is to use a small screwdriver to deviate the magnetic compass heading 2 degrees.

After the screwdriver has been moved away, the magnetic must return back to the starting heading within 5 to 10 seconds.

What causes the deviation change at certain latitudes and in different hemispheres?

One of the most common causes of deviation is caused by an incorrect placed amount of Flinders bar during a previous compass adjustment. This is indicated by increasing and decreasing deviation when a vessel is sailing on Easterly (SE-NE) and/or Westerly (SW-NW) headings in a large difference in latitudes.

A certified compass adjusters can remove these deviations.

Because the compass adjuster needs the data from the compass logbook to decrease these changes in deviation it is of the utmost importance that all data in the compass logbook is true and accurate to be sure the compass adjustment is successful.

Also the last deviation table which was handed to the master during the last compass adjustment should be available.

How long do I wait before readjusting the on-board compass of a new build vessel?

Depending on the length of the vessel, it can take a period of time for the magnetic field in a new build vessel to settle. For vessels 100 meters in length 5 to 6 months and typically 8 to 9 months for vessels greater than 180 meters.

Why does the compass binnacle only have 1 or no globes?

Due to the influence of the ships magnetic field on the magnetic compass it may be the case that on some headings the deviation is over compensated and then there is no need to remove 1 or even both Globes (D-correctors) during the compass adjustment.

An inspector found that there is a significant difference in the lifeboat(s) compass heading, why?

Lifeboats have their own magnetic field which is usually too small to affect their magnetic compass.

However, because this lifeboat is on-board the ship, the ships magnetic field has large influences on the lifeboat(s) magnetic compass as this compass has not been adjusted for this extra influence.

After all if the lifeboat is used it will no longer have the influence from ships magnetic field and magnetic compass will show the correct heading.

COMPASS SERVICES AND RECERTIFICATION

How long does a magnetic compass service take?

The repair and testing of a magnetic compass usually takes 1 full working day. However, if this time is too long, we have the most common brands of magnetic compasses available that we can provide on an exchange basis.

We usually have in stock all the parts needed to repair all brands of magnetic compasses.

One of our technicians will collect the magnetic compass from your vessel and after servicing the compass we can return it back on board and arrange the compass adjustment.

What if the magnetic compass is not working properly and the vessel is only able to be in port for a short time?

Our service and repair centre has the most common brands of magnetic compasses available that we can provide on an exchange basis.

These compasses are fully certified and ready for installation.

Autonautic therefore is perfectly equipped to solve any magnetic compass issues on-board even when time is limited or if the ship is detained by Port State Control for this deficiency.

There is normally no need for compass adjustment for the exchange magnetic compass.

What if the vessel is in port in another country and I need an exchange compass?

Our workshop has the most

common brands of magnetic compasses available on exchange basis and are ready of shipment to other countries.

Install the received exchange unit and send your damaged magnetic compass back to our Barcelona office and you will be charged for the repair and shipping/customs costs.

Because the exchange magnetic compass is of the same maker and type as the vessels magnetic compass, there is normally no need for compass adjustment and the deviation will be the same as the original compass.

The magnetic compass has an air bubble, what can I do about this?

If there is an air bubble in the magnetic compass this indicates a leak. This can be a gasket, broken diaphragm or leaking float. If your magnetic compass is leaking it should be serviced, as the air bubble allows the liquid inside to slosh/move and this will damage the pivot and sapphire stone which causing the magnetic compass to show a false heading.

In case of emergency you can remove the air bubble through the filler screw. The correct liquid must be used. Some magnetic compasses have oil instead of Alcohol inside and mixing these liquids can cause the magnetic compass to become inoperative or even damaged beyond repair.

The Compass card inside the bowl is tilted?

Sometimes the float can create a leak and liquid will seep in which creates a tilted float. This will cause the card to hit the glass and prevent the magnetic compass from functioning properly. We can collect the damaged magnetic compass and exchange the broken parts.





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