ADVISOR

What are binoculars

Binoculars are instruments that magnify images. A combination of lenses and prisms are used in order to ensure great image sharpness, brightness, precision and colour transmission. They are necessary for many activities such as boating, cruising, fishing, various water sports, hunting, bird watching and many others. The brightness and sharpness of the image seen through a binocular is determined by several factors, such as the magnification power, the objective lens diameter, the field of view, the design of the prisms, etc.

Magnification power & Objective lens

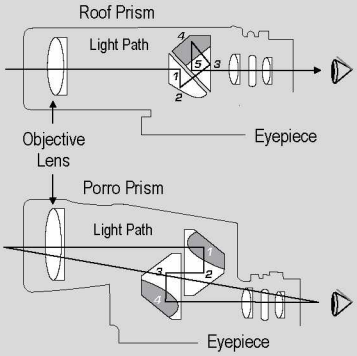
Binoculars are described by a set of numbers such as 7x50 or 8x42, the first of which indicates the magnification power: the degree to which the object being viewed is enlarged. The numbers 7 and 8 in the specific case indicate that the image will appear to be 7 and 8 times larger than what it would be with the naked eye. The second number indicates the diameter of the front lenses, widely known as objective lenses. They are measured in millimeters (50mm or 42mm) and they determine how much light will enter the binocular. For example, the higher their number, the larger the lens and the brighter the image.

Prisms categories

Prisms are located inside the binoculars and are used to invert the image. They are distinguished in two categories, depending on their design:

1. Porro prism binoculars are believed to provide greater depth perception and generally offer a wider field of view and brighter image. They come in two styles, BAK-4 and BK-7. The BAK-4 prism is made of a dense, fine barium crown glass, which produces sharp, well-defined images, eliminating internal light scattering. The BK-7 uses standard boro-silicate glass

2. Roof prism binoculars are lighter and more compact but more difficult and complex to manufacture. They provide a slim, streamlined shape in which the lenses and prisms that magnify and correct the image are in a straight line



Lens coatings

Lenses are coated in order to remove any glare and reduce internal light loss, resulting in greater image contrast and sharpness. Among the various types the most common are:

Coated: the simplest type, where there has been a single layer on at least one lens

Full-Coated: single layer on all air-to-glass surfaces. It gives improved brightness and higher contrast

Multi-Coated: multiple layers on at least one lens, resulting in clearer colours and UV-resistance

Lens coatings constitute a factor that should be considered when selecting a pair of binoculars. Choosing a binocular with good coatings will offer better optical performance and greater product satisfaction.

Field of view of binoculars

The field of view refers to the size of the area that can be seen while looking through a pair of binoculars from a distance of 1000m. It is measured either in meters or in feet. The field of view is strongly associated with the magnification, for example greater magnification results in a smaller field of view.

Eye relief

The eye relief, measured in millimeters, refers to the distance a binocular can be held away from the eye and still present the full field of view. Most quality binoculars have 25mm max eye relief. However, the eye relief can be reduced with the foldable eyecups, that most binoculars feature. Generally, eyeglass wearers find the binoculars with long eye relief easier to use.

Exit pupil

Exit pupil refers to the measurement of the circle of light that appears when you look through the binoculars, holding them at a short distance away from your eyes. It is the small bright circle that will appear in the middle of the eyepiece. It is easily measured by dividing the objective lens by the magnification power. For example, a pair of binoculars 7x50 will have an exit pupil of 7.1mm. Generally, the exit pupil of the binoculars should be similar to the eye pupils. During low light conditions pupils open to about 5-7mm to allow more light to pass through. Consequently, it is advantageous to have binoculars with large exit pupil at night or in low light conditions, as the larger the exit pupil the brighter the image. In brighter conditions the pupils contract to about 2-3mm, so binoculars with smaller exit pupils are required.

Types of focusing systems

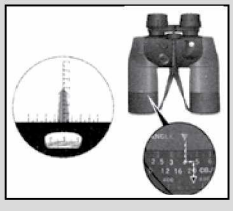
Generally, there are three types of focusing systems:

1. Binoculars with **auto focus** have been automatically focused during production and cannot be adjusted thereafter
2. The **central eye focus** binoculars feature a central roller to adjust the eye focus, allowing thereby a greater degree of fine tuning and offering sharper images
3. Some models also feature focusing systems on each eyepiece, where each focus can be adjusted according to the personal needs of each user. This kind of **separate focusing** is generally known as Diopter Control

Range finding reticule

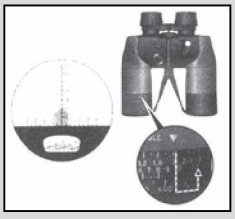
A range finding reticule in combination with a built-in compass converts a simple pair of binoculars to an extremely helpful navigation instrument. The illuminated inner compass gives you headings concerning the direction of the area you are looking. The reticule helps you calculate very easily the distance between you and a specific object or the height of an object. In most binoculars, you need to make calculations in order to find these data. However, there are models that offer you the data more easily.

More specifically:



To calculate distances

1. Focus on an object of which you know the height, e.g. 12m height. Count the number of lines the object covers on the scale, e.g. 4 full lines
2. Turn the upper ring, marked "ANGLE", of the range finder to 4
3. On the middle scale, marked "OBJECT SIZE", find the height of the object you know e.g. 12m height
4. The distance is clearly visible under the object's height at the lower scale "DISTANCE" e.g. 300m



To calculate height

1. Focus on an object, of which you know the distance, e.g. 600m. Count the number of lines the object covers on the scale, e.g.2 full lines.
2. Turn the upper ring, marked "ANGLE", of the range finder to 2.
3. On the lower scale, marked "DISTANCE", find the distance from the object you know, e.g. 600m
4. The height of the object is clearly visible at the middle scale "OBJECT SIZE", above the known distance, e.g. 12m

Cleaning & Maintenance

In order to extend the binoculars' life you are advised to follow some general rules that are listed below:

- Keep the lens covered when binoculars are not in use
- Wipe the lenses with the cloth that comes with the binocular or with another soft cloth
- To remove any remaining dirt or smudges, add one or two drops of isopropyl alcohol to the cloth
- Store your binoculars in a dry area

NEVER attempt to clean your binoculars internally or try to disassemble them.

Binoculars

Binoculars Waterproof with Compass Sea Nav WECR 7x50

These waterproof binoculars greatly assist in your navigation. It's features render them ideal for use in marine environments. In addition to the 7x magnification and the 132m@1000m field of view, the waterproof Binoculars 'Sea Nav' WECR 7x50 feature a rangefinder to pinpoint distances and an internal compass, thereby assisting in gathering navigational data while viewing. The increased light transmission through the Porro BAK4 prisms and the body filled with dry nitrogen offer reliable operation with very low glare or internal fog. Lenses focus individually and they have foldable eyecups so that the binoculars can be adjusted to the user's exact needs, and also minimize side light. The robust construction and the rubber armouring will protect this high quality instrument from shocks, and impacts. This model is light and floats in the water, when used in combination with the provided strap. The Binoculars Sea Nav WECR 7x50 are available with neck strap, carry case and built-in lenses' cover.

Technical Specifications
Magnification x Objective Lens Diametre: 7 x 50
Angle of Vision: 7,5°
Exit Pupil: 6,8mm
Eye Relief: 23mm
Focus: Individual Eye Focus (Diopter Control)
Waterproof: Yes
Fogproof: Yes
Floating: Yes
Prism Type: Porro BAK-4
Field of View: 132@1000m
Rangefinder Reticule: Yes
Lens Coating: Multi coated
Housing: Rubber
Compass: Yes
Weight: 890gr
Dimensions: 20x8x15cm

Code..... **31367**

Range finding reticule scale

Binoculars Auto Sea Nav SAF 7x50

This is a light and easy to use set of binoculars that will assist in your navigation during cruising. The Binoculars Auto Sea Nav SAF 7x50 combine perfectly 7x magnification power, ruby red coating of the objective lens filtering out red light and Porro K9 prisms for brighter images. Additionally, it offers the convenience of the auto-focus, with a wide field of view of 133m at 1000m. It also features foldable eyecups for those viewing with glasses. It's rugged construction with rubber armouring will protect the binoculars, and offer you a better grip, even with wet hands. The binoculars Sea Nav SAF 7x50 come complete with strap, pouch and covers for the lenses.

Technical Specifications
Magnification x Objective Lens Diametre: 7 x 50
Angle of Vision: 6.2°
Exit Pupil: 7,1mm
Eye Relief: 10mm
Focus: Auto-focus
Prism Type: Porro K9
Field of View: 133@1000m
Lens Coating: Fully coated
Housing: Rubber
Weight: 750gr
Dimensions: 6,5x19x20cm

Code..... **31317**

Binoculars Compact Sea Nav CFC 8x21

Being light and compact, the Sea Nav CFC 8x21 binoculars are a must for every sailor. The 128m@1000m field of view, the 2.6mm exit pupil, the centre focus and the roof prisms provide you with high quality, comfortable vision during the day. The housing is shock resistant, while the rubber armouring allows a better grip, and protects the binoculars from impacts. Additional features are the folding eyecups, ideal even for those wearing glasses. The Compact Sea Nav CFC 8x21 binoculars are supplied with a carry case, which can be attached to a belt.

Technical Specifications
Magnification x Objective Lens Diametre: 8 x 21
Angle of Vision: 7.1°
Exit Pupil: 2,6mm
Eye Relief: 10mm
Focus: Centre Focus
Prism Type: Roof
Field of View: 128@1000m
Lens Coating: Fully coated
Housing: Rubber
Weight: 176gr
Dimensions: 9.7x10.3x3cm

Code..... **31318**

Monoculars

Code..... **31414**

Code..... **31415**

Laser Range Finder, Monocular, 6x25, SeaNav

- Magnification x Objective Lens Diameter: 6x 25mm
- Measuring Range 15m to 600m
- Field of view 122m at 1000m (angle of view: 7o)
- Liquid Crystal Display indicator (LCD)
- Overall Dimensions: 40 x 107 x 67mm
- Weight: 160gr
- Powered by 1 CR2 Battery (not included)

Night-Vision Monocular, SeaNav

- Vision under low light intensity
- Built-in IR illuminator to view objects clearly in dark conditions
- Very low power consumption
- Provided with functions against strong light and voltage stabilization
- Overall Dimensions: 172x82x60mm
- Weight: 438gr
- Powered by CR1234 battery (not included)

The Features and Benefits of Selecting a Lalizas by Ritchie Compass

When properly sized, installed and compensated a marine compass is the most important instrument on any boat. It will provide accurate, trouble-free heading references under the most adverse conditions without relying on electricity, radio signals or satellite communications.
The most important criteria when selecting a compass are dial size and mounting style. Quality components aid accuracy, smooth response, stability and trouble free operation. Although the size and shape of Ritchie Compass models may vary, this cut-a-way engineering illustration is representative of the modern technology that makes Ritchie the World's Best Marine Compasses.

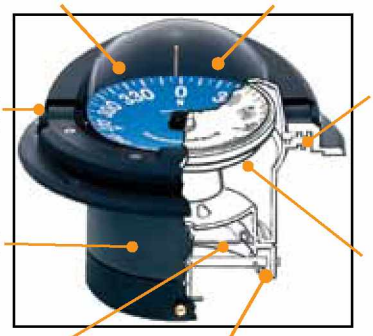
NiteVu Night Lighting Systems
Most compass models are available with Ritchie's exclusive NiteVu night lighting. Each provides the optimum illumination of the dial and lubber lines without hindering important night vision. All NiteVu lighting systems come standard for12V operation. Other voltages are available on special order.

Compass Dome
The compass dome allows the compass dial to rotate smoothly through heel, pitch and yaw motions. The dome also provides clear and accurate magnification of the dial. Our domes are made exclusively for Ritchie using a heavy-duty, optically clear polymer. It is formulated to prevent sun crazing and will stay stable throughout extreme temperature ranges.

Repair ability & Warranty
All Ritchie compasses are 100% repairable and are backed by Ritchie's exclusive 5-year Warranty. See "Warranty" on back cover for complete details.

Compass Bowls & Housings
Bowls and housings provide maximum protection and support for the internal compass components. They are made from brass or high-strength glass reinforced polymers.

Fluid Baffle & Roller Diaphragm
The steady performance of the Ritchie compass is enhanced by a baffle and roller diaphragm. Baffles reduce turbulence in the dampening fluid. Diaphragms allow the fluid to expand or contract with changes in temperature or pressure without forming bubbles.



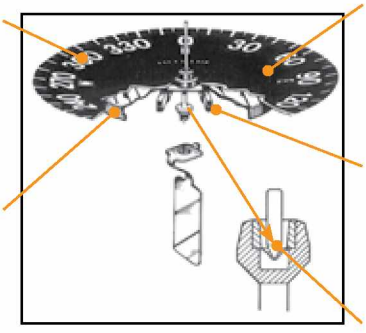
Bezels & O-Rings
Sealing the entire compass assembly is critical to prevent fluid leakage. The Ritchie O-Ring is a custom blend compound that is non reactive with the dampening fluid. Bezels are formed from high strength plastics, aluminum or machined bronze.

Gimbal Systems
All Ritchie Compasses are engineered to operate normally within their environment without bottoming out due to the pitch and roll or heel of the boat. An internal gimbaling system is most often applied to provide this important function. This illustration shows the bi-axes gimbal system used in many Ritchie models. This dial assembly is suspended by Gimbal Rings and Pans formed from ultra-light weight aluminum and held in place with spring loaded brass pins. A Brass Counter Balance keeps the entire system level.

Corrector Magnets
Deviation occurs when something on board such as masses of iron, engines, electric motors, electronics with speaker magnets, batteries, electronic instruments, tachometers with magnets, engine controls, steering wheels and electric appliances draw the compass magnets away from their attraction to the earth's magnetic field. All Ritchie compasses that are intended for use on boats that could have deviation problems, have built-in compensators. These compensators are non-interactive magnets that are balanced and optimally spaced for accurate correction. Compensation instructions are included.

Ritchie Dials
Dial measurements are given in the apparent visual size. Models are available in sizes from 2" (5.08cm) to 6" (15.24cm) in diameter. In many models you can select either a Traditional Flat Card or Direct Reading. The CombiDial, that is both flat card and direct reading dial in one, is also available in several Voyager, Helmsman and Navigator models.

PowerDamp Dial Performance
Each dial is engineered to provide the ultimate in steady, smooth performance and easy readability. Traditional Flat Dials are equipped with Ritchie's race proven PowerDamp® system, a light weight baffle that eliminates spinning and dial jumping at high speeds and in rough conditions. Direct Reading and CombiDial ™ dials are formed so that their shape also provides PowerDamp performance.



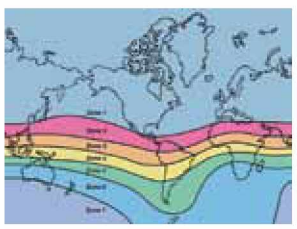
Dial Readability
Ritchie Dials have been individually designed with extra large 5 degree numerals and easy to see degree increments. Precision spacing of increments allows the helmsman to hold a steady course within one or two degrees of the intended heading. Globemaster dials are also available with two degree increments on special order.

DirectiveForce Magnets
Ritchie uses special High Gauss Magnets that are field balanced and matched to each compass model, dial style and size. They are attached to the underside of the dial in pairs matched to seek and lock-on to magnetic north. This provides superior accuracy and smooth, rapid response.

Pivot and Jewel Movement
All Ritchie Compasses use a Hardened Steel Pivot and Triple Cup Sapphire Jewel Movement . They are microscopically matched to provide smooth dial operation and fast lock-on, under the most severe conditions. There are no plastic pivots or jewels in Ritchie Compasses.

Cleaning
To keep your compass clean and looking like new simply remove salt spray deposits or dirt by rinsing with clean fresh water and wipe carefully with a clean damp cloth. NEVER use strong detergents, chemical or abrasive cleaners.

Balancing Compass Dials
For the ultimate in accuracy, the dials in magnetic compasses should be balanced to compensate for dip caused by the earth's magnetic field. All Ritchie Compasses come standard balanced for Zone 1 (essentially all of the Northern Hemisphere).
When requesting balancing for Zone 2-7, please indicate the zone most central to your boating area. Once balanced for a specific Zone, the compass will maintain accuracy for one Zone north or south.



The Wheelmark Symbol denotes conformance with Standard ISO 10316(E) and ISO 613:2000(E).

ADVISOR

The Regulations

Lalizas by Ritchie compasses come into the MED Directive 96/98 EC of the European Union, as it is amended, which refers to the obligatory marine equipment in EU vessels. They are approved under the standards ISO 10316:1990 (Class B Magnetic Compass Test and Certification) and ISO 613:2000 (Class B Ships and Marine Technology). All the Lalizas by Ritchie compasses bear the steering wheel mark, as a relevant certification.

Useful Terminology

Magnetic compass: A magnetic compass is a suitable guide for direction finding, reliable in most situations. It is the instrument that gives us the ability to accurately and consistently steer any boat on a desired course.

Deviation: All magnetic compasses are vulnerable to magnetic interference that will produce errors. The effect of this magnetism on the compass is called deviation. It is the Owner/Operator and/or Helmsman's responsibility to make sure the compass is properly installed and compensated.

Compensation: It is the act of correcting deviation. Magnets (speakers, microphones etc.), ferrous metals (steel, iron, etc.) and current carrying devices are common causes of deviation.

Variation: It is important to understand that magnetic compasses point towards Magnetic North. There is a difference between Magnetic North and True North and that difference is called variation. Variation differs depending on your geographical location and can be determined by referring to a local chart.

Installation

Selecting the proper location: The compass should be located in a flat and level surface (when the boat is on a level keel), close enough to the helmsman. Select a location that has no more than 20° deviation of any of the four cardinal points (N S E and W). Most compasses have a built-in compensator that will correct for fixed deviation up to 20 degrees. Please note that proper compensation is not possible when a compass is subjected to a variable magnetic field, such as the one caused by some shipboard devices.

Mounting the compass: Great care must be taken when mounting the compass, so that it is aligned with the keel of the boat. An alignment error is a constant error on all headings caused by the compass not being pointed in the same direction as the boat. One recommendation is to temporarily mount the compass using one fastener so if an alignment error is detected it is easily corrected.

Due to variations in bulkhead and deck materials, mounting screws are not supplied. Use hardware that is not magnetic and is suitable for your specific installation.

There are three different installation methods depending on the mounting style of the compass.

1. **Bracket Mount:** Only the bracket is permanently installed in the desired location, allowing you to remove the compass whenever you want
2. **Flush Mount:** Using the mounting template, you should do a cut out in the location, where the compass will be permanently installed. If you cannot access the compensation rods below, you need to allow for easy removal of the compass during compensation
3. **Surface Mount:** The compass can be permanently installed in the chosen location either with screws or with the mounting pads provided

Night light wiring: Lights should be wired to an appropriately fused 12V circuit in your electrical system. Connect the red wire (white on some models) to positive and black to ground. Some models have a second light assembly that should be connected to the same circuit.

Compensation: A built-in correcting magnet system consists of two sets of magnets fixed to the adjusting rods with slotted ends. Before starting compensation make sure you have a suitable location. You can compensate your compass either by just selecting a course on your chart and following certain instructions (preferred way) or with the use of GPS or Loran.

In case you have a steel boat or you have difficulty in compensating the compass, professionals Compass Adjusters may be required.

Maintenance / Service

Maintenance: Strong sunlight may decrease the life of your compass. Therefore, you must protect it from the sun with the special protective covers or with a lightly coloured cloth when you are not using your boat. In order to keep the compass clean, simply remove salt spray deposits or dirt by rinsing with clean fresh water and wipe carefully with a clean damp cloth. Never use strong detergents, chemical or abrasive cleaners.

Service: Lalizas by Ritchie compasses are designed to give many years of accurate heading information. However, in case you notice a bubble, cracks or the dome turning white, it is recommended that you have it serviced.

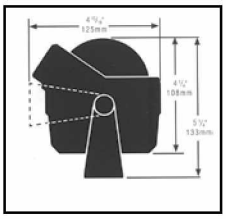
Warranty

All Lalizas by Ritchie compasses have a five-year guarantee. If within five years of purchase date, a compass fails to give satisfactory service, it will be repaired or replaced without charge. This warranty does not cover breakage through accident or misuse.

Note: For more specific instructions concerning installation and compensation, check your compass' manual.

Compass Voyager B-81, with bracket mount

Code	71156
Colour	Black



Specifications

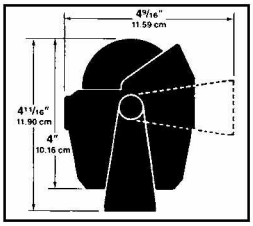
Boat Style/Size	Power
Dial Size/Design	3" (7.6cm)/Flat-Card or CombiDial
Night Lighting	12V Green
Compensators	Built-in
Warranty	5-Year
Approx. Shipping Wt.	1lb. 8oz. (680g)

The Wheelmark Symbol denotes conformance with Standard ISO 10316(E) and ISO 613:2000(E).

Compasses Explorer B-51

Ritchie accuracy and mounting versatility are the perfect combination with Explorer Bracket Mount Compasses.

Code	31240	31241	31242
Description	Explorer B-51	Explorer B-51W	Explorer B-51G
Colour	Black	White	Grey



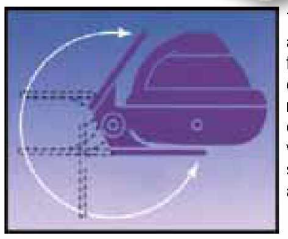
Specifications:

Boat Style/Size	Power/Up to 24 Feet (7.32m)
Dial Size/Design	2 3/4" (6.99cm)/Direct Read
Night Lighting	12V Green
Compensators	Built-in
Warranty	5-Year
Approx. Shipping Wt.	1 lb. (454g)

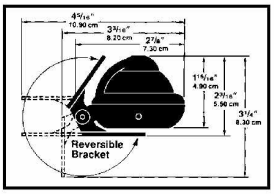
Compasses Sport X-10-M

Mount it on your deck. Mount it on your windshield. Mount it on your dash. Here's a compass that's just the right size for small boats or sport vehicles.

Code	31200	31201	31202
Description	Sport X-10-M	Sport X-10B-M	Sport X-10W-M
Colour	Grey	Black	White



The fully adjustable and reversible Bracket allows a mounting range of over 300° from over head, through angled and vertical mounts to horizontal surfaces. These mounting position options and your choice of mounting hardware permits mounting from windshield or supporting frame structures, to slanted dash boards and consoles to almost any flat, angled or vertical surface.



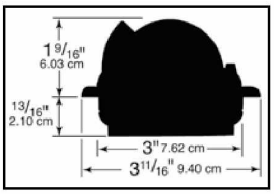
Specifications

Boat Style/Size	Power/Up to 16 Feet (4.88m)
Dial Size/Design	2" (5.08cm)/Direct Read
Night Lighting	12V Green
Compensators	Built-in
Warranty	5-Year
Approx. Shipping Wt.	5 oz. (142g)

Compasses Trek-35

The smallest of the flush mounts is big on performance.

Code	31230	31231	31232
Description	Trek - 35	Trek - 35W	Trek - 35G
Colour	Black	White	Grey



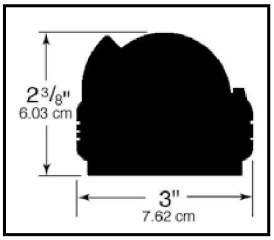
Specifications

Boat Style/Size	Power/Up to 20 Feet (6.10m)
Dial Size/Design	2 1/4" (5.72cm)/Direct Read
Night Lighting	12V Green
Compensators	Built-in
Mounting Hole	3" (7.62cm)/Direct Read
Warranty	5-Year
Approx. Shipping Wt.	9 oz. (256g)

Compasses Trek-33

The surface mounted Trek is perfect for permanent mounting on small decks, dashes or consoles.

Code	31220	31221	31222
Description	Trek - 33	Trek - 35W	Trek - 35G
Colour	Black	White	Grey



Specifications

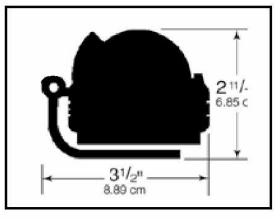
Boat Style/Size	Power/Up to 20 Feet (6.10m)
Dial Size/Design	2 1/4" (5.72cm)/Direct Read
Night Lighting	12V Green
Compensators	Built-in
Warranty	5-Year
Approx. Shipping Wt.	9 oz. (256g)

Compasses Trek-31

Versatile bracket mounting and three colour selections make these Treks the ideal choice for your boat and sporting vehicles.

Code	31210	31211	31212
Description	Trek - 31	Trek - 31W	Trek - 31G
Colour	Black	White	Grey

The fully adjustable and reversible Bracket allows a mounting range of over 300° from over head, through angled and vertical mounts to horizontal surfaces. These mounting position options and your choice of mounting hardware permits mounting from windshield or supporting frame structures, to slanted dash boards and consoles to almost any flat, angled or vertical surface.



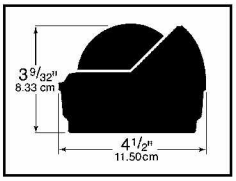
Specifications

Boat Style/Size	Power/Up to 20 Feet (6.10m)
Dial Size/Design	2 1/4" (5.72cm)/Direct Read
Night Lighting	12V Green
Compensators	Built-in
Warranty	5-Year
Approx. Shipping Wt.	9 oz. (256g)

Compasses Voyager S-87

Here's the low-profile look and the stability or permanent mounting.

Code	31260	31261
Description	Voyager S-87	Voyager S-87W
Colour	Black	White



Specifications

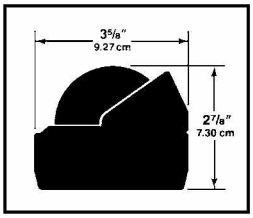
Boat Style/Size	Power/Up to 28 Feet (8.54m)
Dial Size/Design	3" (7.62cm)/Flat Card or Direct Read
Night Lighting	12V Green
Compensators	Built-in
Warranty	5-Year
Approx. Shipping Wt.	1 lb. 3 oz. (539g)

The Wheelmark Symbol denotes conformance with Standard ISO 10316(E) and ISO 613:2000(E).

Compasses Explorer S-53

The Explorer Surface Mount compasses combine size and accuracy with a push button system for easy-on mounting, easy-off storage and security.

Code	31250	31251	31252
Description	Explorer S-53	Explorer S-53W	Explorer S-53G
Colour	Black	White	Grey



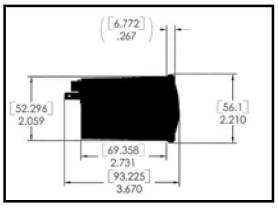
Specifications:

Boat Style/Size	Power/Up to 24 Feet (7.32m)
Dial Size/Design	2 3/4" (6.99cm)/Direct Read
Night Lighting	12V Green
Compensators	Built-in
Warranty	5-Year
Approx. Shipping Wt.	1 lb. (454g)

Compass Sport X-21 Bulkhead Mount

It is the ideal compass for a refined and discreet look of the boat's bulkhead. Its high quality construction enables it to operate even if the boat has a 30o angle of heel.

Code	31359	31360	31361
Description	Sport X-21	Sport X-21	Sport X-21
Card Colour	White	Black	Blue
Cover Colour	White	Black	Black



Specifications

Boat Style / Size	Power / Up to 16 Feet (4,88m)
Dial Size / Design	2" (5,08cm) / Direct Read
Night Lighting	12V Green
Viewing	Adjustable to 30o
Mounting Hole	2 1/16" (5,50cm)
Warranty	5-Year
Approx. Shipping Wt.	5oz. (142gr)

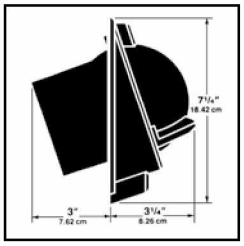
Compass Explorer V-537 Bulkhead Mount

Just another small wonder for your sailboat. Designed and constructed especially for sailboats up to 7m.

Code	31362	31363	31364
Description	V-537W	V-537	V-537B
Colour	White	Black	Blue

Specifications

Boat Style / Size	Sail / Up to 24 Feet (7.32m)
Dial Size / Design	2 3/4" (6.99cm) / Direct Read
Night Lighting	12V
Compensators	Built-in
Mounting Hole	3" (7,62cm)
Warranty	5-Year
Approx. Shipping Wt.	1lb. (454gr)



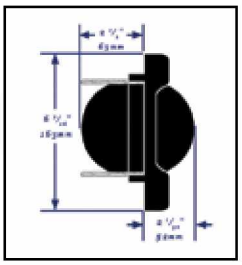
Compass Navigator BN-202 Bulkhead Mount

For those adventurous sailors, who seek perfection in every item and device on their boat, the Navigator BN-202 is ideal. Rugged construction, dynamic design, built-in clinometer and easy to read card are just a few of the features that this compass is equipped with.

Code	31366
Card Colour	Red
Cover Colour	Black

Specifications

Boat Style / Size	Sail / 28 to 45 Feet (9,15m to 13,73m)
Dial Size / Design	4 1/2" (11,43cm) / CombiDial
Night Lighting	12V Green
Compensators	Built-in
Mounting Hole	5 3/4" (14,61cm)
Warranty	5-Year
Approx. Shipping Wt.	2lb. 5oz. (1,05kg)



Compass Venture SR-2 Bulkhead Mount

Designed for sailboats from 4.90 to 10.70 meters.
Supplied with Clinometer (INC- 45)

Code	31199
Card Colour	Blue
Cover Colour	Black

Specifications

Boat Style / Size	Sail / 16 to 36 Feet (4.88m to10.68m)
Dial size	3 3/4" (9.35cm)
Design	CombiDial
Night Lighting	12V Green LED
Mounting Hole	4 5/8" – 4 13/16" (118 -122mm)
Warranty	5-Year

The Wheelmark Symbol denotes conformance with Standard ISO 10316(E) and ISO 613:2000(E).

Hand Bearing Compasses

Hand Bearing Compass SportAbout X-11 w/ Sialum Slot, Yellow

- Easy to Read 2" Direct-Reading Dial compass, with neck lanyard
- Hardened Steel Pivot and Sapphire Jewel Movement
- Built-in Roller Diaphragm for Extended Temperature Operating Range
- QuickSight V-Notch and Lubber Line for Easy Heading Alignment
- Non-Electric Chem Sticks Provide 18 Hours of Night Lighting
- International Safety yellow case, made of Impact-Resistant Silicon
- Compact Size for Easy Handling and Storage

Code.....**71207**

Hand bearing compass, non-magnetic alloy

- Compass rose with 360° scale
- North Line with north arrow
- Rotary dial with 360° scale
- Sighting window with sighting line
- Bubble Level
- Base table
- Stand thread
- Inch Scale
- Cm Scale
- Lens prism
- Lid
- Housing

Code.....**99984**

ADVISOR

Parallel Rulers

Parallel rulers are used to measure course bearing.

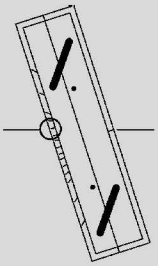
USING THE RULER WITH THE PROTRACTOR SCALE

The protractor scale in combination with the parallel rulers give you direction in degrees, using any meridian of longitude. Follow the steps below:

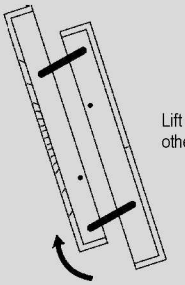
1. Align the ruler on the course line required
2. Walk the ruler until the center point 'S' at the rear is right on the nearest meridian of longitude
3. The direction is shown using the scale of degrees on the ruler's edge, which the same meridian crosses. The outer scale (smaller numbers-0o to 180º) is used if traveling in an easterly direction, while the inner scale (bigger numbers-180º to 360º) is used if the direction is westerly

This ruler can also be used as a plotter on badly creased charts that do not allow walking the ruler to the compass rose.

Read course here. Both directions of the ruler are calibrated, including 180 degrees apart

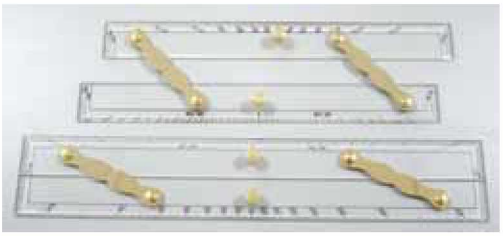


Line up the mark 'S' on the nearest meridian of longitude



Lift and swing one rule, while holding firmly in place the other. The rulers are moved in a walking action.

BEST VALUE



Parallel ruler

Code	94008	94009
Length	38cm (15")	30cm (12")

ADVISOR

Dividers

Dividers are mostly used in conjunction with the latitude scale to measure the distance between two chosen points on the nautical chart.

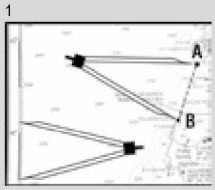
How to use the dividers

Place one pin of the dividers on the first point (A) and the other pin to the second point (B) as shown in Figure 1. Then, maintaining the spread, move the dividers to the latitude scale on the side of the chart (Figure 2). Always use the latitude scale situated in the same horizontal region you are measuring

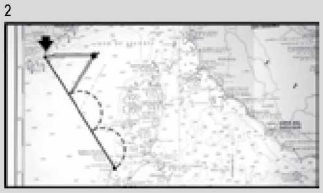
Occasionally the distance between the two points that you need to measure on the chart may be over the full spread of the dividers. In this case, you measure the distance following the steps below

1. Draw a straight line between the two points. The line will be your guide to walk the dividers. Alternatively you may use a straight edge to guide the dividers
2. Set the dividers to a whole number, using the latitude scale
3. Maintaining the span, place the dividers along the line with one pin on the first point
4. Walk the dividers along the line, by swinging one leg past the other, making sure that the pins are always set on the line, and that the span is not closed or opened. (See Figure 2)
5. Count the steps and multiply by the whole number that you set the dividers in the beginning
6. Adjust the span to the remainder of the distance and move the dividers to the latitude scale
7. Add the last number to the cumulative total of the previous steps. This is the distance you want to measure

1



2



BEST VALUE

Straight pattern brass dividers

Dividers are necessary tools in distance calculation and generally in navigating the boat. Lalizas dividers are constructed with bronze arms and tips with special metal alloy, for extra resistance. They are available in two sizes17,8cm (7") and 20,3cm (8")

Code	94003	94004
Length	17,8cm (7")	20,3cm (8")

BEST VALUE

Single handed dividers

These dividers can be opened and closed with one hand, while performing your chart work. The top curved part of the handle is brass and the tapered sides are bright finished marine alloy. They are considered to be the best nautical dividers available.

Code	93968	93969
Length	17,8cm (7")	20,3cm (8")