BRUNTON SUM360LA-LALU

Construction

BRUNTON Clino Master height meters/ clinomasters are extremely accurate and easy to use.
The accuracy of the instrument itself is better than 0,25° (0,45 %). The accuracy of measuring the height of the target depends, however, also on the accuracy in the distance measuring, so the accuracy as a whole is better than 1-1,5 %.
The scale in the side window has an accuracy of abt. 1° (2 %).
The card is pivoted between tow sapphire bearings of highest quality. Thanks to an ingenious bearing system the whole top scale is apparent without any metal axles or other parts to hamper the readability and brightness of the scale. The liquid, which will remain crystal-clear from year to year, dampens the movement of the card very effectively.

Illumination

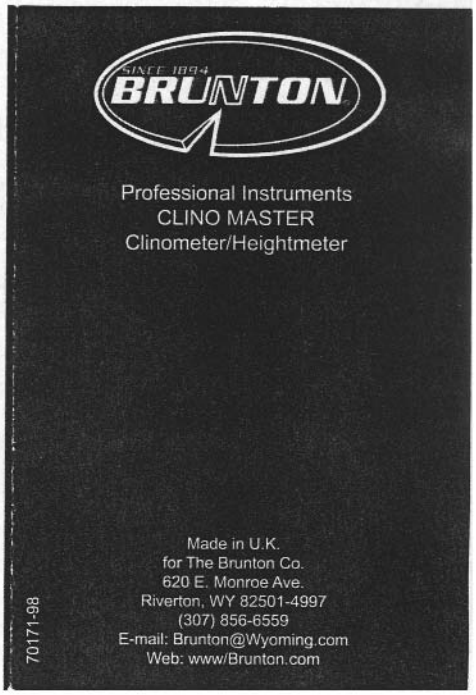
All BRUNTON Clino Master models are superior as to the readability of the card scales both illuminated and unilluminated.
For use in darkness and twilight the Clino Master instruments can be delivered with a built-in self powered light source. It has a useful life of abt. 15 years and needs no maintenance. It is also possible to order BRUNTON Clino Master Lensatic with a Lithium battery operated lighting unit.

Basic versions available of Clino Masters
1. Lensatic model
2. Prismatic model

Housing: Mat anodized aluminium

Rubber cover: The BRUNTON Clino Master is possible to equip with a shock absorbing, anit-slip, rubber cover. Available colours: Green, Blue and Yellow.

Instrument weight: 110g.



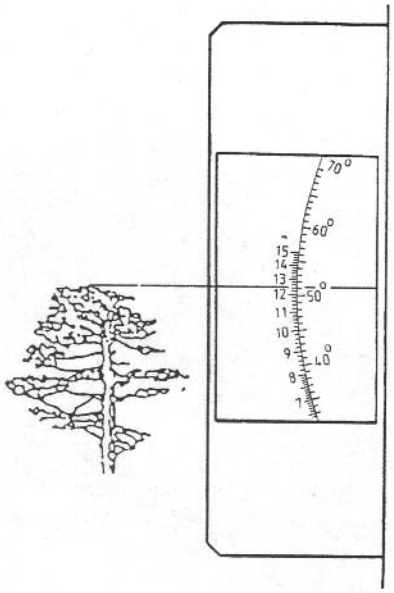
BRUNTON Clino Master*

*Patented and Model Patented

BRUNTON Clino Master Series represent the highest quality on the market in precision, sensitivity, durability and short settling time. This series has been designed for professionals, to whom superior quality is the most important argument. Such professionals are e.g. Foresters, geologists, surveyors, architects, engineers, speleologists, inspectors, builders contractors, explorers, defence forces etc.

Instruction for use

With both eyes open, sight through the optical system and aim the instrument so, that the center line of the lens is superimposed on the target and the side window faces to the left. On scale 1015/2025 alternative scales are shown when window faces to the right. Read the bearing directly under the hairline. When viewing through the lens with both eyes open,

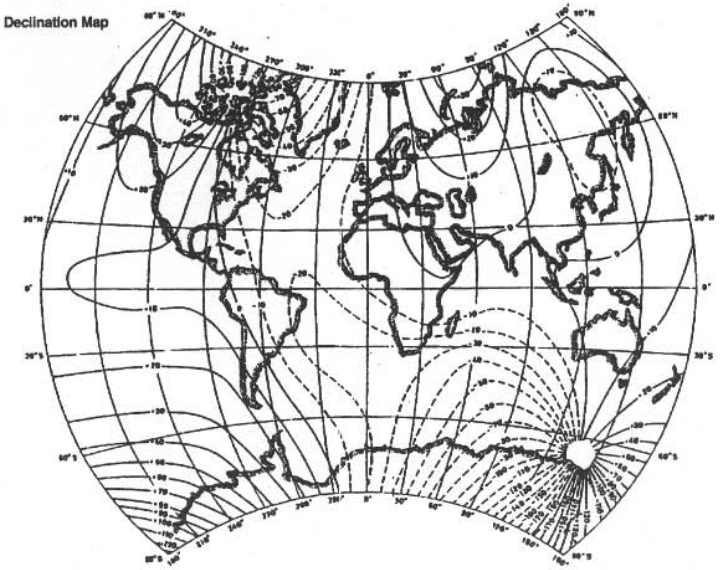


the hairline can be seen to continue aside the instrument housing on the object due to an optical illusion.

Some people who have an eye condition called heterophoria, that is disalignment of the eye axis, may get incorrect reading when reading the instrument with both eyes open. This can be checked as follows:
Take a reading to the object with both eyes open. Then close the other eye, and if the reading does not change significantly, there is no heterophoria and readings can thus be taken with both eyes open. In case there is a difference in the readings, then keep the other eye closed and sight partly aside the instrument housing.

The top scale in the window, furnished with red lubber line, is used by placing the long instrument side along the inclined plane to be measured. The slope angle is then read directly by the lubber line. This is the practice in measuring, where viewing through the lens is not possible because of lack of space.

Declination Map



Technical specifications

	SM Lensatic (LA)	SM Prismatic (PA)
Dimensions	75x53x16mm	75x53x22mm
Weight	110g	120g
Housing	Matt anodized aluminium furnished with mm or inch scale	Matt anodized aluminium furnished with mm or inch scale
Card Scales	Aluminium card with 0-360° and 360-0° precision scales, divided at 1° intervals. - Top scale 0-360° at 5° intervals, readable from above - Available also with 0-6400 mils scale for military use.	Plastic card with 0-360° and 360-0° precision scales, divided at 1° intervals. - Top scale 0-360° at 5° intervals, readable from above - Available also with 0-6400 mils scale for military use.
Sighting	Through a glass lens with 10 x magnification	Through a glass prism equipped with magnifying lens 10x
Reading accuracy	1/2°	1/2°
Bearing	Sapphire jewel	Sapphire jewel
Bearing illumination	Self-powered light source, useful life abt. 15 years or Lithium-battery operated illumination	Self-powered light source, useful life abt. 15 years or Lithium-battery operated illumination

SINCE 1894
BRUNTON

Professional Instruments
SIGHT MASTER
Sighting Compass

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(307) 856-6559
E-mail: Brunton@Wyoming.com
Web: www/Brunton.com

70170-98

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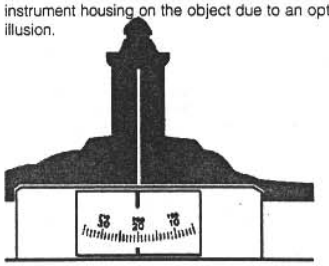
BRUNTON Sight Master

Instructions for use

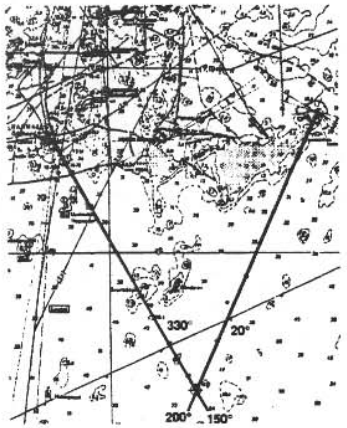
With both eyes open view through the optical system and aim at the object so, that the hairline is in the middle of the lens and superimposed on the target.
Read the bearing directly under the hairline. The bigger scale gives the bearing from your position to the object and the smaller one the reverse bearing from the object to your position. Reverse bearings are essential in accurate positioning tasks, particularly at sea.
When viewing through the lens with both eyes open the hairline can be seen to continue above the instrument housing on the object due to an optical illusion.



Some people who have an eye condition called heterophoria, that is disalignment of the eye axis, may get incorrect bearings when reading the compass with both eyes open. This can be checked as follows:
Take a bearing to the object with both eyes open. Then close the other eye, and if the bearing does not change significantly, there is no heterophoria and bearings can thus be taken with both eyes open. In case there is a difference in the bearings, then keep the other eye closed and sight partly over the instrument housing.
In the prismatic version the focal length of the lens has been adjusted for normal eye. The sharpness of the vision field varies, however, with different people, but by inclining the compass up or downwards you will easily find such a position, where both the scale and the hairline appear sharp to your eye.
The scale readable from above by the lubber line is used when following a certain direction in the terrain or when using the instrument as auxiliary compass in a boat .

Plotting locations

Aim at two fixed points appearing on the chart, for ex. lighthouse in direction 20° and landmark in 330°. Then draw straight lines along the reverse bearings of 20° and 330° (200° and 150°) from the lighthouse and landmark on the chart. The intersection point of these bearing lines indicate your location. Your distance from the above mentioned fixed points can be determined either by measuring on the chart or in very accurate positioning tasks with trigonometric calculations.



Construction

BRUNTON Sight Master sighting compasses are extremely accurate and easy to use. They have a very short settling time and due to their high shock-resistance they also suit for extremely demanding professional use.
The card is pivoted in a sapphire bearing and immersed in a liquid-filled capsule. The card construction and the dampening fluid give the card a smooth and vibrationless movement even in rough use. The liquid will remain crystal-clear and the viscosity correct in all conditions of use. All compasses will be given permanent antistatic treatment and therefore they are not affected by frictional electricity.

Illumination

All Sight Master models are superior as to the readability of the card scales, both illuminated and unilluminated.
For use in darkness and twilight the BRUNTON Sight Master can be delivered with a built-in self-powered light source. It has a useful life of abt. 15 years and needs no maintenance. It is also possible to order BRUNTON Sight Master compass with Lithium battery operated lighting unit.

Balancing - Inclination

The vertical component of the Earth's magnetic field has a tendency to incline the compass card and therefore the compasses are balanced against magnetic inclination for the locality of use so, that the card rests horizontally in the area of use. Since the balancing is done in connection with the production, the locality of use should always be mentioned in the order.

Declination

The compass card is adjusted at the factory to magnetic north with precision of 1/2°. The geographical north differs, however, from the magnetic north and this difference is called declination. Declination changes with location and local declination is printed on the maps. Bearing obtained with the compass should thus be corrected with the local declination.
Boating people call this magnetic declination "variation".

Deviation

The compass should be used as far as possible away from iron and steel objects, such as engines, electrical equipment, knives, tooling, etc. causing magnetic interference, that is, direction error. Even wrist watches and steel-framed spectacles may cause deviation in the bearings. 1,5 meters away from such disturbance fields is usually a safe distance. Eventual deviation can be checked by taking a reverse bearing from the opposite of the object line.