



Beans Series Console Gauge OPERATING MANUAL

Introduction

Thank you for purchase of our product.

This manual is the guidebook to provide instructions on how to use your console gauge for recreational diving.

We believe this manual is useful in mastering technology of a console gauge for people who have learned the right usage of a console gauge and obtained a C-card through proper training at a diving instruction organization as well as people who use it at C-card training. Please carefully read and digest the contents of this manual before use. We also suggest that you take this manual with you to refer to before diving.

Keep this manual in a safe place. If you lose it, contact your original dealer or authorized distributor of our company. A replacement manual will be reissued later.

The main contents consist of the check before use, usage, care after use, storage, and a periodic inspection.

This product is diving gear to use in combination with regulator for recreational diving. Therefore, the knowledge of the right handling of regulator is also necessary. Please use the operating manual of the combination equipment which you use as well as this manual.

In addition, depending on the model of regulator, it is considered not being suitable for the use by the combination with this product. We recommend you use by the combination with the equipment made by Bism.

We are constantly researching and improving our console gauge, and so the product you purchased may differ in certain details from the one described in this manual. If you have any queries regarding your console gauge or the information contained in this manual, please feel free to contact our company at the address below.



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IMPORTANT INFORMATION

Key to Symbols Used in this Manual

-  **Danger** Danger indicate a great risk of death or serious injury from improper use.
-  **Warning** Warning indicate a risk of death or serious injury from improper use.
-  **Caution** Caution indicate a risk of minor injury or damage to property from improper use.

【Note】 Useful Information to know.

Purpose of Use

This product is diving gear for recreational diving use.

The connection with the regulator allows the use and is a measuring instrument which provides general display of the air pressure in a tank and a direction at the time of recreational diving.

Before Use

It is vital to safety that you use and maintain your console gauge correctly and have it inspected periodically. Carefully read and understand the advice on safety given in the manuals of this product and also the regulator which you use before diving.

- Use only for recreational diving.

 **Warning**

- Do not use this product for any purpose other than recreational diving.

- Obtain C-card before use.

 **Warning**

- Use this product after having obtained a C-card and completing a proper training program at a recognized diving school, and be familiar with console gauge, or under the instruction of the diving school. Otherwise it may cause an accident resulting in injury or death.

- Please follow instructions about safety.

 **Warning**

- When you use this product, please follow all the instructions about the safety directed in this operating manual.

- Do not use if functioning abnormally.

 **Warning**

- Do not use the console gauge if it is not functioning normally.
- If the product starts to function abnormally, contact your original dealer or authorized distributor of our company. Using a faulty console gauge may cause an accident resulting in injury or death.

PRECAUTIONS

Follow the safety rules.

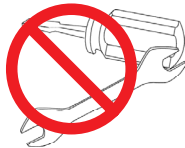
Only use under the direction of a recognized diving school or after obtaining a C-card having completing a proper training program at a recognized diving school and thoroughly familiarizing yourself with the correct use of a console gauge.

Have your buddy double check everything.

Avoid diving deeper than 30m/98ft. (This is the maximum safe depth for normal recreational diving.)

Do not modify the product.

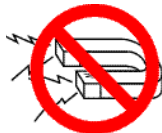
Since it may become a safety problem, please do not modify the product. Responsibility cannot be taken about the trouble after modification.



Please do not use this product at a place with magnetism.

If you use this product near what has strong influence to geomagnetism as listed below, error of the compass for direction reading may become large.

- Permanent magnet (Magnetic necklace etc.)
- Metal (Steel desk, Metal locker etc.)
- High-voltage line, Overhead wires
- Electrical home appliances, Personal computer



Accurate measurement cannot be performed in the following vehicles.

- Automobile
- Ship and Airplane
- Train

Accurate measurement cannot be performed in a room, especially in the building of reinforced concrete construction.

Avoid contact with chemicals.

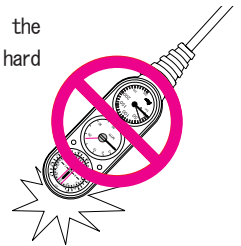
If mercury and chemicals (thinner, gasoline and various solvents or those cleaner, adhesives, paint, medicine and cosmetics which are containing them) adhere, discoloration and breakage may be occurred on the main body and hoses.



Gasoline

Avoid shocks.

Though the product can withstand the shock in the usual use, drops and hard knocks may damage it.



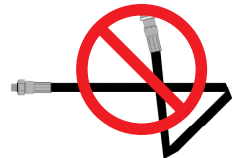
Please use the Bism made hose guard.

Please do not attach hose guards and hose protectors other than our products to a low-pressure hose. It may cause hose breakage.

Do not fold or pull a hose.

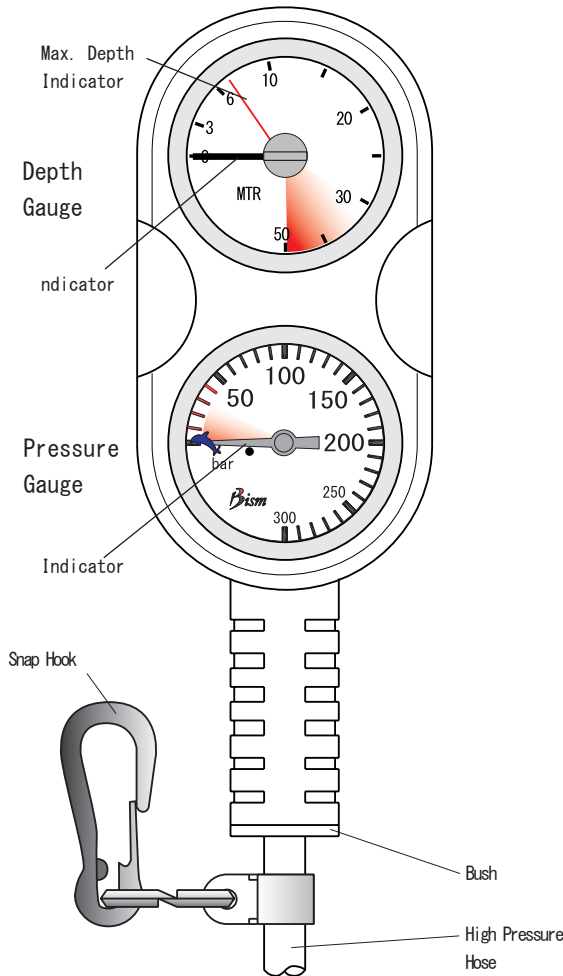
Warning

- Please do not fold or pull a hose. It not only breaks, but it may cause an accident resulting in injury or death.



NAMES OF PARTS & SPECIFICATIONS

GB2120 Names of Parts



GB2120 Specifications

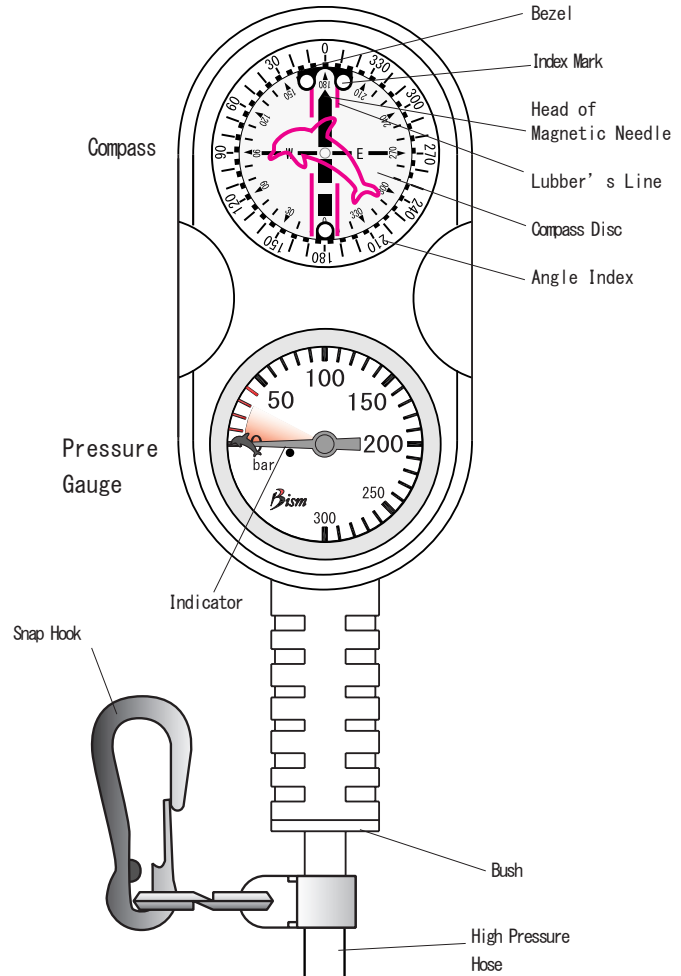
Console Body

Weight	250 g (Including Hose)
Pressure Measuring Range	0 ~ 300 bar
Pressure Measuring Precision	5N·m
Depth Measuring Range	0 ~ 50m
Depth Measuring Precision	± 0.5m
Temperature Range	-5 ~ 50°C
Pressure Gauge	Bourdon Tube
Method	Diaphragm Method
Material of Console Cover	Elastomer Plastic

Hose Portion

Hose Length	850mm
Outer Diameter	8mm
Material of Inner Tube	Nylon
Material of Outer Cover	Polyurethane
Nominal Size of Coupling Threads	7/16-20UNF
Hose Working Pressure	300N·m
Minimum Bending Radius (Inside of Hose)	115mm
Hose Guard	Regular Equipment for First Stage End

GB2121 Names of Parts



GB2121 Specifications

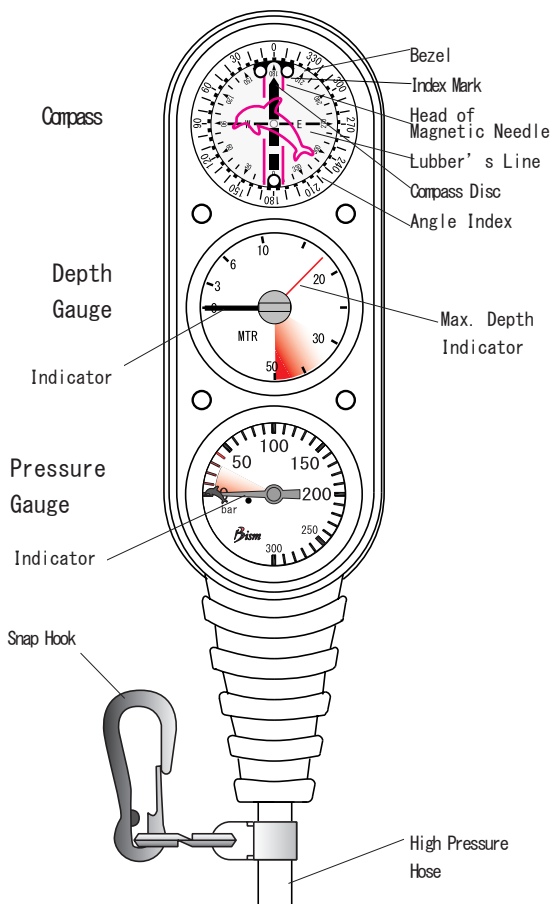
Console Body

Weight	250 g (Including Hose)
Pressure Measuring Range	0 ~ 300bar
Pressure Measuring Precision	5N·m
Direction Measuring Range	±5°
Temperature Range	-5 ~ 50°C
Pressure Gauge	Bourdon Tube Method
Compass	Indirect Method
Material of Console Cover	Elastomer Plastic

Hose Portion

Hose Length	850mm
Outer Diameter	8mm
Material of Inner Tube	Nylon
Material of Outer Cover	Polyurethane
Nominal Size of Coupling Threads	7/16-20UNF
Hose Working Pressure	300N·m
Minimum Bending Radius (Inside of Hose)	15mm
Hose Guard	Regular Equipment for First Stage End

GB2130 Names of Parts



GB2130 Specifications

Console Body

Weight	290g(Including Hose)
Pressure Measuring Range	0 ~ 300bar
Pressure Measuring Precision	5N·m
Direction Measuring Range	±5°
Depth Measuring Range	0 ~ 50m
Depth Measuring Precision	± 0.5m
Temperature Range	-5 ~ 50°C
Pressure Gauge	Bourdon Tube Method
Depth Gauge	Diaphragm Method
Compass	Indirect Method
Material of Console Cover	Elastomer Plastic

Hose Portion

Hose Length	850mm
Outer Diameter	8mm
Material of Inner Tube	Nylon
Material of Outer Cover	Polyurethane
Nominal Size of Coupling Threads	7/16-20UNF
Hose Working Pressure	300N·m
Minimum Bending Radius (Inside of Hose)	15mm
Hose Guard	Regular Equipment for First Stage End

The Features of this Product

The gauge incorporates various functions so that you can use it safely happily.

■ Tank Pressure Measuring Function. (Page 8)

Tank pressure in general on land and during diving is displayed in analog.

■ Direction Measuring Function. (Page 8)

Direction in general on land and during diving is displayed in analog.

■ Depth Measuring Function. (Page 8)

Depth in general during diving is displayed in analog. Also, you can confirm the maximum depth after ascent by maximum depth indicator.

Attachments

Please check the attachments before start use of this product. Please refer to the pages in () for detailed information.

■ Disc Face Protection Seal. (1 sheet)

Put it to the disc face of a pressure gauge and a depth gauge. (Page 6)

■ Operating Manual (1 copy)

Explosion Prevention Equipment

■ Explosion Proof Valve

When excessive pressure is accidentally applied to a pressure gauge by some kind of troubles, in order to prevent explosion, it has the structure that a valve opens full and air leaks.

When the explosion proof valve operates, do not use the product. Please consult with your original dealer or authorized distributor of our company.

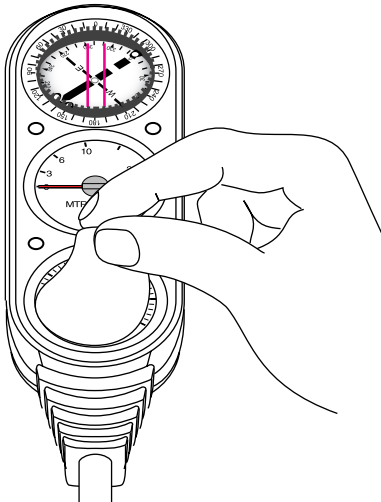
PREPARATIONS BEFORE USE

Put the Disc Face Protection Seal

[Note]

- Disc Face Protection Seal is for preventing the crack of the disc face of a pressure gauge and a depth gauge. There is no functional problem at all in the state that it is not put.
- After purchase, we recommend you to put the protection seal before the first use.
- We sell the protection seal separately. Those who wish to buy it please ask your original dealer or authorized distributor of our company

- 1 Wipe off the dust and dirt of the disc face of a pressure gauge and a depth gauge with soft cloth.
- 2 Remove a disc face protection seal from pasted board, and put it from one side so that air may not enter. When air enters, push the air out or put it again.



- 3 Push over the protection seal and stick it to the disc face.

INSTALL HIGH PRESSURE HOSES TO A REGULATOR

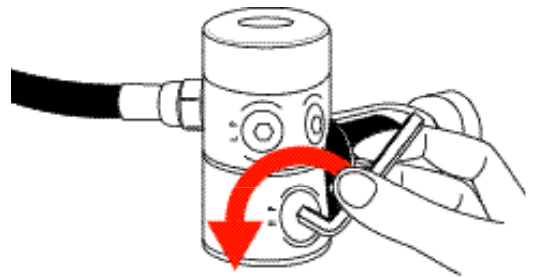
⚠ Warning

- Please attach a hose in the state that the first stage of a regulator is not connected to a tank. If the first stage is pressurized during work, a plug in the port flies and it is dangerous.
- Please install the high pressure hose to an H.P. port, and only the thread size of 7/16-20UNF of high pressure hose couplings should be connected. Otherwise, not only it causes the damage of equipment, but also a hose comes off and it may cause an accident resulting in injury or death.
- Please confirm that O-rings are set at the threads portion of each hose. When there are no O-rings, it causes the air leakage.

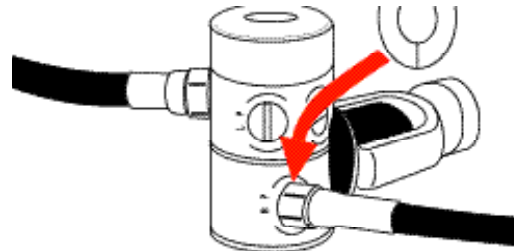
⚠ Caution

- When you tighten high pressure hose couplings with a spanner, please keep the tightening torque of $9.8\text{N}\cdot\text{m}$ ($100\text{kgf}\cdot\text{cm}$). Otherwise it may cause to damage the threads portion.
- Please do not attach the hose guard made in other company.

- 1 Please remove the plug from the H.P. (high pressure) port of the first stage of a regulator.



- 2 Please screw in the coupling of a high pressure hose to H.P. port and turn it clockwise with a spanner to tighten it. Tightening torque is $9.8\text{N}\cdot\text{m}$ ($100\text{kgf}\cdot\text{cm}$).



[Note]

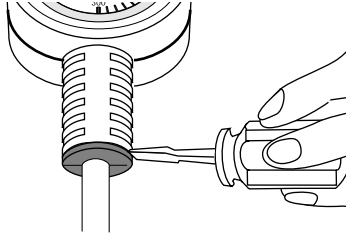
- Those who are not familiar with the hose installation work, please ask your original dealer or authorized distributor of our company for installation of high and low pressure hoses and plugs.

CHECK BEFORE USE & SETTING

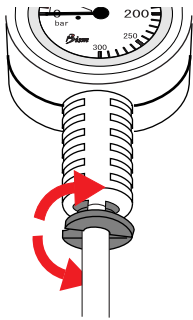
Installation and Removal of a Bush

How to Remove a Bush.

- 1 Plugging in a flat blade screwdriver between a console cover and a bush, and then pry it to extract the bush from the console cover.

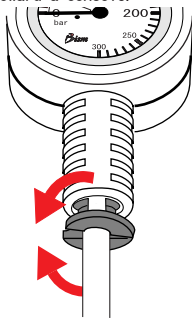


- 2 Open the bush and remove it from a high pressure hose.

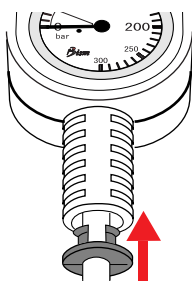


How to Install a Bush.

- 1 Select a bush in your favorite color.
- 2 Install the bush around a high pressure hose while catches of the bush facing toward a console.



- 3 Then insert the bush in the hole of the console cover.



Check Before Use & Setting

Warning

- If there is an abnormality in your gauge by following various checks, you must not use it.
- When there is an abnormality, contact your original dealer or authorized distributor of our company. Use of the gauge which is not normal may cause an accident resulting in injury or death.

- 1 Check of the high pressure hose.

Check whether the hose is damaged or has not broken.

- 2 Check of "0" display on the pressure gauge.

Check if the indicator of the pressure gauge indicates "0".

- 3 Setting to a tank.

Warning

- When you open a tank valve, keep away the disc face of a gauge from a person and your face, and open the valve slowly. When it goes off accidentally by a certain cause, it may cause an accident resulting in injury or death.

- 4 Check of the compass.

Caution

- If you check a compass near what has strong influence to geomagnetism (Refer to "Precautions") , error of the compass for direction reading may become large.

Keep a compass horizontally and change a direction of lubber's line in various ways.

At this time, check whether a head of magnetic needle on compass disc always points out the direction of north.

- 5 Check of the air leakage.

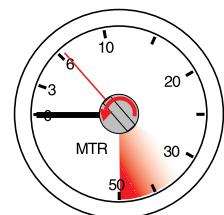
Warning

- When abnormality is found in check, please stop use and remove a regulator from a tank.

Check whether air is leaked at the connecting portion of a regulator first stage, a gauge and a hose.

- 6 Reset of a "max. depth indicator" of depth gauge.

Put a coin in the notch at center of a depth gauge and turn it to the direction of arrow to set the "max. depth indicator" to "0".



READING OF AN INDICATION OF GAUGE

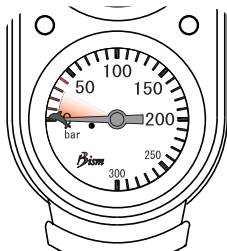
Pressure Gauge Reading

⚠ Caution

- At the end of a diving, please be sure to leave 30bars or more of air in a tank. If water goes into a tank, there is a possibility that water may go into the inside of pressure gauge at the next time of use.

The scale which indicator pointed out is a rough indication of the pressure of the air in a tank.

In addition, as for the air in a tank, it is the condition that the air of 30bars or more remains. Therefore, less than 30 bars does not have a scale.

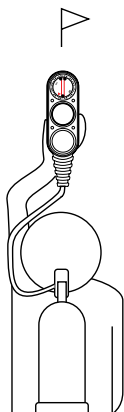


Right Usage of a Compass (GB2121/2130)

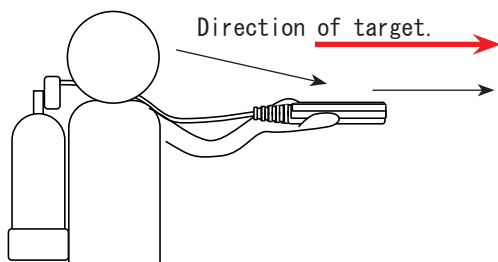
⚠ Caution

- When you see compass, please keep it so that disc face of compass becomes level. If you hold it aslant, it may not show correct angle

- 1 Keep compasses at the centerline of the body and adjust it so that lubber's line may match with a direction of target.



- 2 Making the disc face of a compass is leveled, keep the compass a little lower of your eye-level so that a target and the disc face may be seen simultaneously, and see a target and the disc face

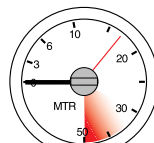
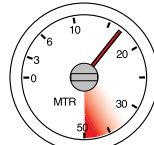
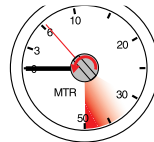


Depth Gauge Reading (GB2120/2130)

The scale which indicator in black pointed out is a rough indication of depth.

■ How to use a "max. depth indicator"

- 1 Before start diving, put a coin in the notch at center of a depth gauge and turn it in a counterclockwise to set the "max. depth indicator" (red needle) to "0".
- 2 The "max. depth indicator" moves to the same position which the black indicator has moved most rightward.
- 3 The depth which the "max. depth indicator" pointed out is the maximum depth.



Compass Reading (GB2121/2130)

■ Compass disc.

It is the disc which rotates centering on an axis, and a rough direction is given by the arrow and direction drawn on the disk.

■ Lubber's line.

When you read a direction, face this line toward the direction of your target.

■ Angle index.

When you match the lubber's line to the direction of target, the scale pointed out by a head of magnetic needle indicates the angle of the direction of target. (North: 0 degree, East: 90 degree, South: 180 degree, West: 270 degree)

■ Magnetic needle on a compass disc.

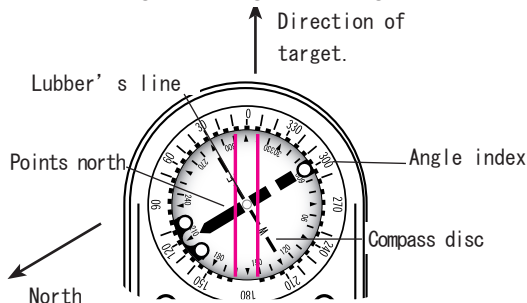
The head of magnetic needle is the north pole of the magnet, and it indicates the direction of north. Each abbreviation stands for: "W" : west, "E" : east and "S" : south.

■ Index mark.

It is a mark which leaves the rough direction needed on compass by turning a bezel.

Example of a display

A direction of target is an angle of 150 degrees.



USAGE OF A COMPASS

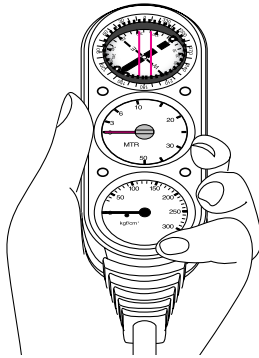
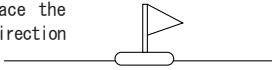
Basic Navigation (GB2121/2130)

⚠ Warning

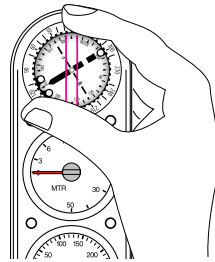
- When you perform compass navigation, please carry out after learning the knowledge and technology about the right navigation.
- Please do not move an index mark during navigation underwater. There is a possibility of missing a direction.

Move to the target

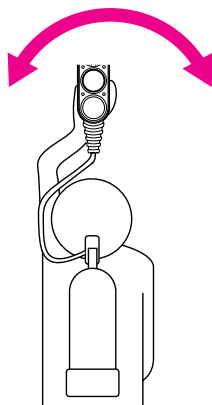
- 1 While being on land, face the lubber's line to the direction of a target.



- 2 Check the angle of a direction of target with an angle index, and memorize it. Also, match an index mark with the head of magnetic needle on a compass disc.



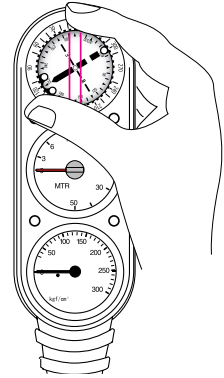
- 3 After an entry, hold the compass correctly, and turn your body to adjust direction so that the lubber's line may be maintained at the angle which is checked and memorized.



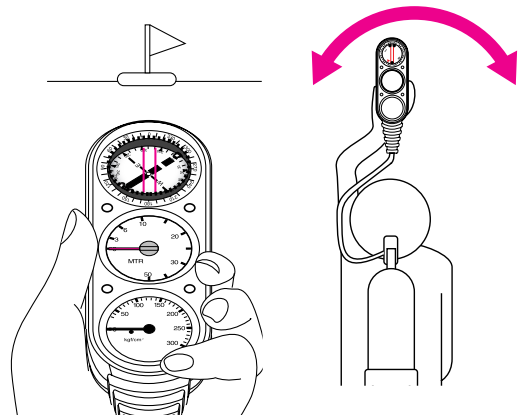
- 4 Swim and move. When moving, move after deciding a target, on extension of the lubber's line, within the range you can see it in underwater.

Move toward the angle decided.

- 1 Memorize the angle decided, match the index mark to the angle.



- 2 After an entry, hold the compass correctly, and turn your body to adjust direction so that the head of magnetic needle may be maintained at the position of the index mark.



- 3 Swim and move. When moving, move after deciding a target, on extension of the lubber's line, within the range you can see it in underwater.

【Note】

- There are various techniques besides the methods explained above in navigation. Please learn them under the instruction of the diving school.

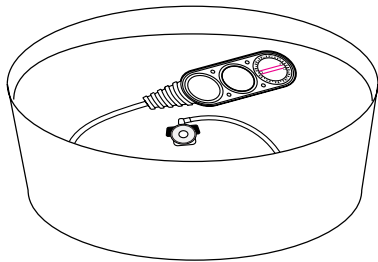
CARE AFTER USE

Wash.

⚠ Caution

- Equipment may be damaged if soaked in hot water of 50°C or more.
- Please do not wash a console gauge with water in the state that it is not connected with a regulator. Water comes in a hose and a gauge, and may cause the trouble.
- Please be sure to put the dust cap of the regulator first stage firmly. Otherwise water comes in the hose and the gauge, and it causes failure.

- 1 Soak the whole equipment to fresh water for about 15 minutes in the state of being set with the regulator. Then, rinse the whole in water to wash the salt away.



- 2 Pour water on the hole portion in the back side of console, and rinse it.
- 3 Turn the bezel of compass in fresh water and take the dirt and salt in opening.

Drying-Out

- Avoid direct rays, dry a console gauge fully in the shade with the dry, cool and sufficient ventilation.

The Way of Storage

⚠ Caution

- Please keep the hose in a natural form. Forced bending causes kinking of a hose and shorten a hose life remarkably.
- If you leave a console gauge in the state of high temperature, such as in a car or on a beach, air bubbles are formed in compass case and may reduce visibility.



- Wash and dry a gauge fully.

- Avoid direct rays, and store a gauge in the state being set with a regulator in the place with the dry, cool and sufficient ventilation.

PERIODIC INSPECTION & SERVICE AFTER THE SALES

Periodic Inspection

Warning

- Please ask your original dealer or authorized distributor of our company for a periodic inspection per once in a year.
- Regardless whether or not you use it, gauge may not function normally when you ignore a periodic inspection.

[Note]

- Some parts carry out natural deterioration. Exchange of such parts is also performed by periodic check.

■ Please ask your original dealer or authorized distributor of our company for a periodic inspection per once in a year. (Pay Service)

Service after the Sales

When your gauge is out of condition, check it first.

Please refer to the clause of "Troubleshooting" (Page 12) and check whether it is failure.

When it is still out of order;

Please contact your original dealer or authorized distributor of our company.

Reserving period of parts.

Our company reserves the performance parts (the parts required to maintain the function of the product) for repairing a console gauge for at least 8 years after the production is discontinued. Since repair may be possible depending on a problem even after this reserving period passes, please consult with your original dealer or authorized distributor of our company.

TROUBLESHOOTING

Please check it once again before sending it to repair. When still not operating normally, please consult with your original dealer or authorized distributor of our company for repair.

Trouble	Major Cause	Measure	Page
It is hard to see a pressure gauge and a depth gauge as they shine.	○ There is air between protection seal and disc face.	○ Put the protection seal again while pushing the air out so that air may not enter.	6
A pressure gauge does not operate.	○ A tank is empty. ○ A tank valve is closed.	○ Change to the tank with full of air. ○ Open the tank valve.	7 7
Air leakage from the connecting portion of a first stage.	○ Connecting portion of the first stage loosen.	○ Tighten the connecting portion with a spanner.	6
Compass disc does not move or operate normally.	○ Geomagnetism is disturbed by reinforcing steel rods in pool. ○ There are the magnetic bodies such as stainless steel knives near. ○ Compass inclines.	○ Compass cannot be used under this environment. ○ Please separate the magnetic body from the compass. ○ Hold the compass in a horizontal position	3 3 8
Bezel of a compass does not move.	○ The bezel portion is blocked up with sand and salt.	○ After soaking in fresh water half a day, turn the bezel with reasonable power while rinsing it.	10

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