

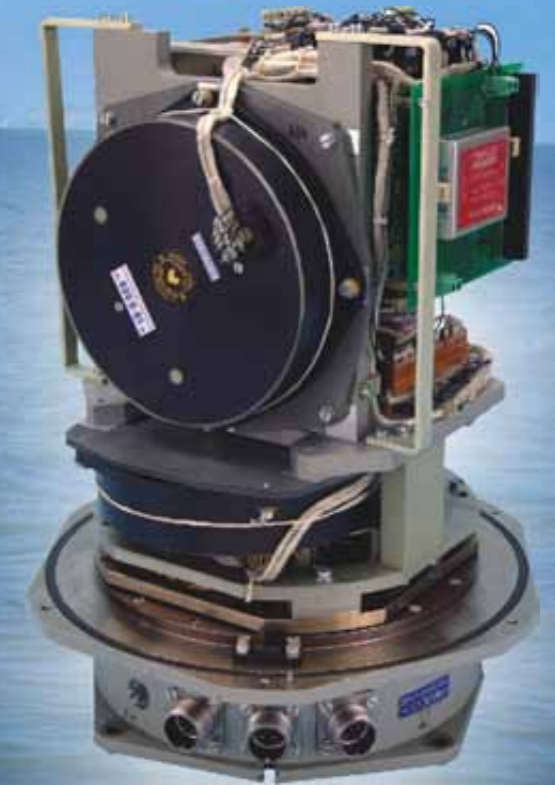
STABILIZER GYROCOMPASS OMEGA

COMPLETE SET OF THE ARTICLE:

Device ВИИМ-2 (central device)..... 1 pcs
 Power supply unit..... 1 pcs
 Control and monitoring unit1 pcs

ADDITIONAL DELIVERY:

Transmission devices
 Information display devices (repeaters)



The stabilizer gyrocompass structure provides for:

- visual monitoring of the stabilizer gyrocompass and communication lines working state;
- control of operation modes;
- display of main generated parameters;
- data interfacing of the article with external data sources (GLONASS/GPS receiver, log, navigation system) and with users of generated data;
- light and sound signaling equipment

The article continuous watch is not required.

Serviceability is maintained by periodical inspections and maintenance

Time of continuous operation is not limited within the total mean life (120000 h).

Service life of the stabilizer gyrocompass is 25 years.

- Wide range of navigational and dynamic parameters generated with high accuracy
- Continuous watch is not required
- Small dimensions and weight (25-30 kg), which allows the stabilizer gyrocompass to be installed onboard small-tonnage ships
- Automatic start mode
- Digital interface for communication with data users
- Visual and sound monitoring of the stabilizer gyrocompass and communication lines working state
- Output of generated parameters in 90 s after start
- Indefinite time of continuous operation
- Long-life performance

The system generates a complete set of navigational and dynamic parameters:

- Geographical heading
- Roll angles measured in the transverse sectional plane
- Pitch angles measured in the longitudinal center plane
- Angular rates of roll/pitch and heading change
- Speed components caused by ship oscillations and orbital motion
- Total deck inclination
- Position latitude and longitude (in observation mode)
- Heave displacements

Two modes of the article operation are provided:

- **basic mode – observation** (using GLONASS/GPS data)
- **autonomous mode** – input of external information about speed (from the log, the navigation system or manually) and about latitude (manually or from the navigation system)

The article serviceability is provided under the following conditions:

- Ship speed upto 70 kt
- Sailing in latitudes from60S to 85N
- Rolling with amplitude upto 30°, acceleration up to 1.96 m/s² (0.2g) and period from 6 to 16 s
- Pitching with amplitude upto 10°, acceleration up to 1.96 m/s² (0.2g) and period from 5 to 16 s
- Yawing with amplitude upto 5° and period from 3 to 15 s
- Circulation rate upto 20 °/s
- Heave displacements upto 4 m
- Vibrations upto 2 g
- Ambient temperature from- 40°C to +50°C
- Relative humidity98% at temperature 40°C
- Mechanical shocks upto 15 g

PARAMETER GENERATION ERROR (P=0.997), maximum

Geographical heading.....	0.4•secφ
Roll/pitch angles	6
Position coordinates (in observation mode).....	0.15 км
Angular rates of roll/pitch and heading change.....	0.3 /c
Speed components on constant heading.....	0.3 m/c
Horizontal components of speed on circle.....	0.6 m/c
Total deck inclination	0.2
Heave displacement.....	0.5 m

Exchange with users is realized by serial interface channel RS232 (RS-422)

Communication lines using USB, CAN and ETHERNET are applied

Power supply of the stabilizer gyrocompass can be carried out:

- from AC mains 110/220 V, 50 Hz (power consumption no more than 300 V·A)
- from DC mains 24 V

Readiness time in all operating conditions for output of:

- parameters generated after start.....in 90 s
- heading with error within ±1°•secφ.....no more than 30 min
- heading with error within ±0.4°•secφ.....no more than 1 h
- dynamic parameters (oscillations, roll/pitch and heading change rate)...no more than 3 min
- position coordinates in observation mode (with prescribed accuracy).....no more than 3 min

The article is started automatically

The stabilizer gyrocompass is started from the local control post or remotely by applying power supply voltage

The article generates parameters in 90 s after start