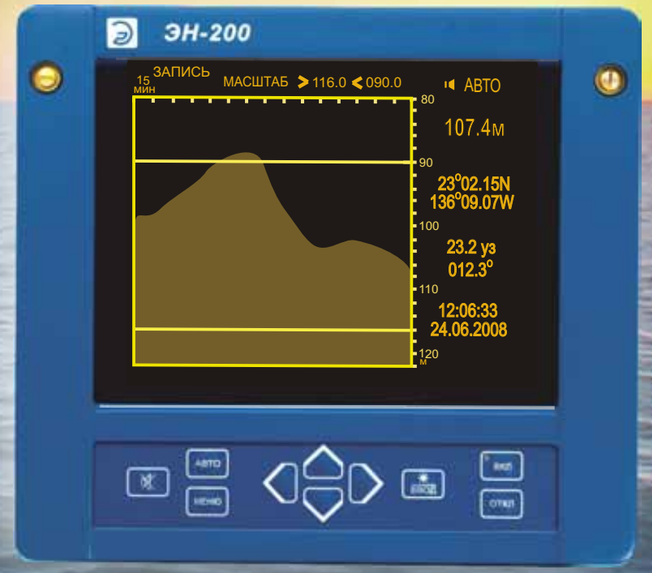
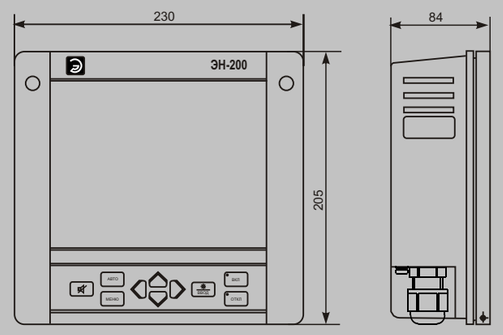
NAVIGATIONAL ECHO SOUNDER

EN-200

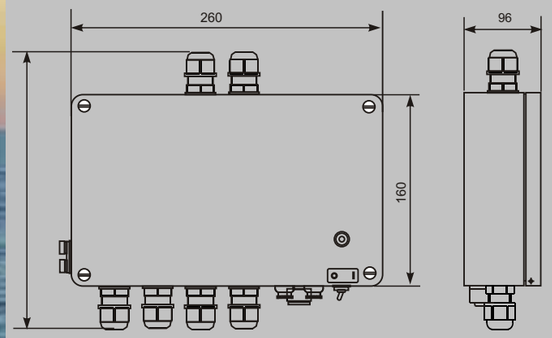


Прибор РГ масса 3,0 кг IP22



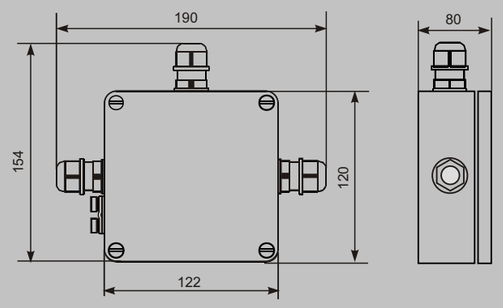
Primary device

Прибор ПК-Э масса 2,4 кг IP22



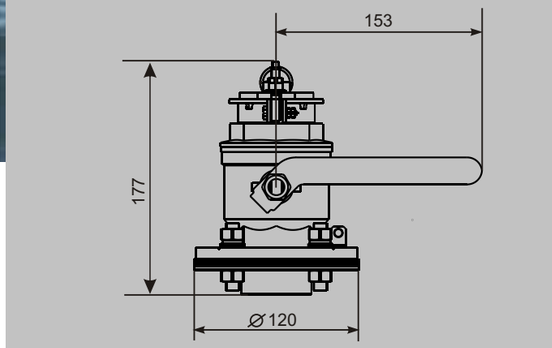
Switch box

Прибор ЯС масса 1,5 кг IP68



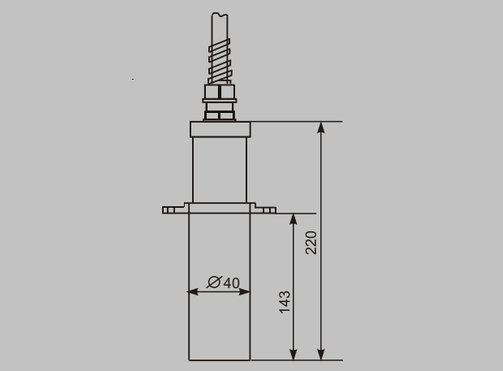
Junction box

Прибор КЛ-Н масса 2,5 кг IP68



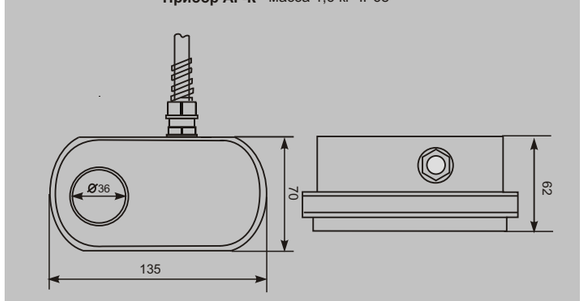
Gate valve

Прибор АГ-Н масса 1,2 кг IP68



Sonar array

Прибор АГ-К масса 1,6 кг IP68



Антенна

- Depth measurement range 0.4 – 200 m
- Primary device installation in the steersman console and on the bulkhead
- Data display on high-contrast electroluminescent display VGA 8.1 with 160 viewing angle
- Two types of miniature sonar arrays for displacement-type and hydrofoil vessels
- Cable routing between the array and the primary device up to 110 m long
- Automatic selection of depth measurement range and graphic display scale for bottom profile
- Electronic 12-hour recording of depth data with time and coordinate referencing (if GLONASS/GPS data are available)
- Sound and light signaling of ship reaching the prescribed depth
- Digital interface for communication with shipborne systems

The article satisfies the requirements of the Russian Maritime Register of Shipping and the Russian River Register

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The echo sounder is intended for measuring an under-keel clearance of displacement-type and hydrofoil vessels.
Two basic modifications are available: EN-200 and EN-200K

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In echo sounder EN-200 the sonar array is installed on the ship's bottom in the gate valve. The small diameter and the way of installing the array in the gate valve ensure high level of its protection against mechanical damage when sailing in shallow water and in broken ice.

In echo sounder EN-200K the sonar array is fixed on the stationary part of the hydrofoil vessel wing. Such mounting ensures depth measurement both under displacement condition and during takeoff.

The echo sounder has automatic mode of depth measurement and selection of graphic display scale for bottom profile. This mode makes it possible to set an optimal frequency of bottom sounding and receiver sensitivity depending on the depth. Filtering of re-reflected echo signals is provided when sailing in shallow waters.

Besides the basic mode the system provides for:
- manual selection of depth measurement range;
- monitoring of the ship reaching the prescribed depth, with light and sound signaling;
- scaling-up of depth display at the selected area;
- change of depth display time;
- recording and scanning of depth data with time and coordinate referencing (if GLONASS/GPS data are available);
- input of correction for a height of the array installation with respect to the most deepened part of the ship.

***The echo sounder is equipped with** a semiautomatic fault monitoring system.*

Data reception and output in IEC 61162-1 standard are provided for communication with shipborne systems.

*Digital depth repeaters installed in enclosed service spaces and on the open deck can be **supplied in addition to the echo sounder**.*

SPECIFICATIONS

1. Depth measurement range .....0.4 – 200 m
2. Measurement error.....0.1 m or 2% (which one is greater) (at sound speed in water 1500 m/s)
3. Operating frequency.....240 kHz
4. Monochrome display VGA 8,1, viewing angle 160
5. Scales of graphic depth display.....8, 20, 40, 80, 160, 200 m
6. Time of continuous recording of data, time, coordinates and depth.....12 h
7. Interface (IEC61162-1):
   - input GGA, GLL, RMC,
   - output SDDPT.
8. Power consumption (W)
   mains ~ 50 Hz 220 V.....no more than 20 W
   mains = 24/27 V.....no more than 20 W
9. Range of operating temperatures .....from - 15 to +55C

Basic modifications (complete sets):

EN-200N		EN-200K	
Device РГ	1	Device РГ	1
Device ПК-Э	1	Device ПК-Э	1
Device ЯС	1	Device ЯС	1
Device АГ-Н	1	Device АГ-К	1
Device КЛ-Н	1		

Devices supplied in addition:
1. Device РГЦ – digital depth repeater for installation in enclosed service spaces.
2. Device РГЦП - digital depth repeater for installation on the open deck.

BLOCK DIAGRAM