



Technical proposal No.

Cementing head for drill pipes GCU-BT-127R3

The cementing head for drilling pipes is intended for connection of the cementing units pressure manifold to the drilling pipes. The head is specially designed for the top drive and cementing with axial and rotational pacing.

Work brief description

The head is screwed with the upper drive stem and with a drill string by the locking thread, that is suspended together with the string on the upper drive stem.

Apart from retaining the string hanging and vertically reciprocating, the head allows the string reciprocating operation with rotation, which significantly improves the well casing quality.

In cementing, the cement slurry is pumped into the well through the ball valve and the cementing head, while the upper drive provides smooth rotational and reciprocating movement of the string.

The body 1 is kept from rotating by means of the torque rod 8.

After the cement slurry has been pumped, the ball valve of the head 7 is shut off; the dislocated plug stopper opens 5. Upon that, the drilling fluid of the required density is fed through the upper drive; the solution presses the dislocated plug until it joins the lower plug located in the disconnecter, the pins of which are cut off and the assembled plug is pushed down to the bottom of the string. In the future, if necessary, the ball 10, which opens the washing windows in the disconnecter, is discarded.

Technical characteristics.

Table 1.

No	Parameter name	GCU-BT-127R3
1	Nominal diameter, mm	127
2	The maximal working pressure, MPa (kgf/cm ²), min.	35 (350)
3	Test pressure, MPa (kgf/cm ²), min.	49 (490)
4	The maximal length of the plugs mounted in the head, max.	550
5	Internal diameter of the head, mm, min.	95
6	Number of coupling lateral outlets, pcs.	2
7	Head height, mm, max.	3170
8	Handling medium	Cementing and drilling fluids
9	Cargo capacity, tonnes	200
10	Coupling thread	3-133 GOST 28487-90
11	Operating temperatures, °C	-40...+60
12	Outer diameter of the housing, mm, min.	155
13	Head weigh, kg, ±3%	725
14	Item material: steel 40X GOST 4543-71	$\sigma_{\text{тек.}} = 650 \text{ MPa}$

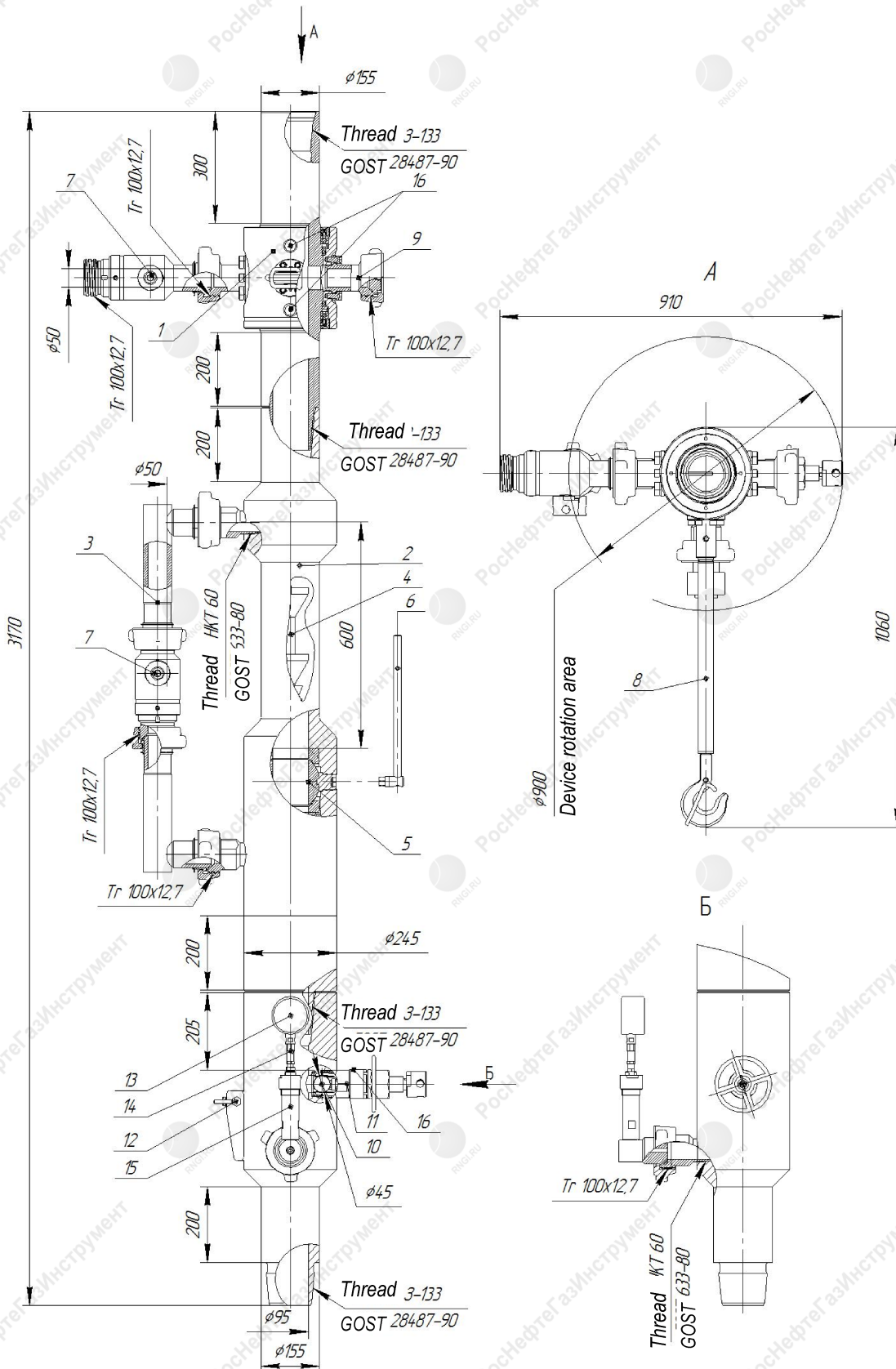


Fig. 1

1- Housing with free rotation of the inlet around the head axis; 2- Casing for the plug, 3-Bypass line; 4 displacement plug (not included in the kit); 5- ball plug stopper; 6-stopper selector handle; 7-ball valve; 8- removable clamp for retention of the swivel from rotating while rotating the drilling tool; 9-additional tap with a stop plug; 10-Ball Ø45 (not included in the set); 11- Ball locking and pushing out device; 12 - Indicator; 13 - Removable manometer; 14 - Nipple valve for the manometer with a removable stop plug; 15 - Media separator; 16 - Oil cups.



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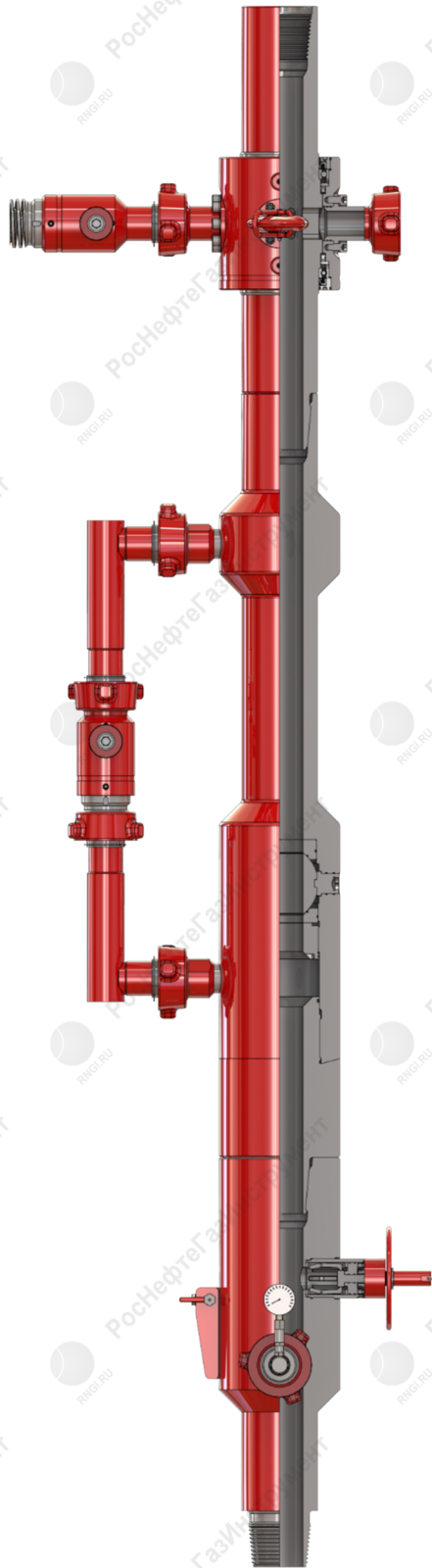


Fig.2 - GCU-BT-127R3.