

## TECHNICAL BASE FOR ONSHORE WORKS

For performance of onshore engineering surveys the Company has such drilling units as URB-2A-2, URB-2A-2D and URB-2D3 on the basis of off-highway vehicles for geotechnical surveys in different natural and geological conditions, equipment for cone penetration testing (CPT), transportable accommodation campers and sufficient motor park.



**“URB 2A-2D” Exploration Drilling Rig on basis of “Kamaz-43114”**



Specifications	
Conditional drilling depth, m - w/washing - by augers	100 50
Drilling diameter, mm	not more 190
Nominal stand length (diameter 60, 3 mm)	4.5 m
Overall dimensions(over-the-road position), not more: Length Width Height	7850 mm 2450 mm 3400 mm

## URB-2-D3 Exploration Drilling Rig on basis of Ural-4320



Specifications	
Drilling diameter, mm	
- initial diameter for engineering-geological, geophysical and structural boreholes	190
- final diameter for engineering-geological and geophysical boreholes	118
- final screw diameter	150
Conventional drilling depth, m	
- depth of engineering-geological and geophysical boreholes with washing	100
- hydro geological wells	150
- structural wells	300
- by screw	30
Allowable load at the elevator, kN (kgs)	63 (6300)
Speed of the boring head lifting, m/s	0...1.25
Maximum length of the drill pipe string, mm	4700
Rotator pass, not less than, mm	5150
Greatest force moment at the rotator spindle, not less than	4000
Overall dimensions in the transportation position, mm	8330 x 2500 x 3980
Overall dimensions in the working position, mm	8530 x 2500 x 8380
Weight of the drilling rig, not more than, kg	13830

## Drilling rig «URB-2A-2» on basis of «KAMAZ-4310»



Specifications	
Conditional drilling depth, m:	
- w/washing	100
- by augers	50
- by screws	30
- structural wells with washing	300
Drilling diameter	not more 190 mm
Nominal stand length (Diameter 60,3 mm)	4.5 m
Allowable load at the elevator, kN, kgs	not more 46 (4600) $\pm$ 10%
Operating pressure in hydraulic system, MPa, kgs/cm <sup>2</sup>	10(100) $\pm$ 5%
Lifting speed of drilling tool, m/s	0...1,2
Weight of the drilling rig, kg	17500
Overall dimensions (in the transit position), mm	7850 x 2750 x 3980
Overall dimensions in the operational position, mm	6920 x 2750 x 8325

## “URB 2A-2” Exploration Drilling Rig on basis of “TT-4”



Specifications	
Conditional drilling depth, m:	
- w/washing	100
- by augers	50
- by screws	30
- structural wells with washing	300
Drilling diameter	not more 190 mm
Nominal stand length (Diameter 60,3 mm)	4.5 m
Allowable load at the elevator, kN, kgs	not more 46 (4600) ± 10%
Operating pressure in hydraulic system, MPa, kgs/cm <sup>2</sup>	10(100) ± 5%
Lifting speed of drilling tool, m/s	0...1,2
Weight of the drilling rig, kg	17500
Overall dimensions (in the transit position), mm	7850 x 2750 x 3980
Overall dimensions in the operational position, mm	6920 x 2750 x 8325

**Tracked self-propelled Drilling Rig “CORVET-05”**  
with drilling unit hydraulic system drive



Specifications	
Diameter of drilling, mm	Initial 180, final 140
Force for hoisting / for downfeed, kg	4200 / 3600
Speed of hoisting, m/sec	0.1 – 0.8
Rotator, type	Two-engine with the thru shaft
Rotation torque, Nm	3600
Rotation frequency, rpm	0 — 100
Speed number	2
Hydraulic tank heating	available
Engine case heating	available
Winch loading capacity, kg	2800
Hydraulic throwing of the winch ridge	available
Force engine, type	Kubotta V3800 DI-T (Japan) Vertical, water-cooled, 4-cycle diesel engine
Unit capacity, kW	82
Width of the rubberized Track, mm	350
Track rollers of the “floating” type	available
Hydraulic track adjuster	available
Travel speed, km/hour	8
Mud pump	Zysko NB-Opposit 560/35
Air Compressor	4VU1-5/9
Final excessive pressure, kgf/cm <sup>2</sup>	8
Capacity, m <sup>3</sup> /min: suction capacity / discharge capacity	5 / 0,56
Shaft rotational speed, rpm	735
Drilling table	available
Drilling tool rack	available
Drive radio control with the duplicate hand control	available
Overall dimensions, mm: (length, weight, height)	4400 x 1800 x 1780
Weight of the unit, kg	4150

## «HONDA» Powered Auger



Specifications	
Manufacture	Japan
Type of engine	GX160 four-stroke one-cylinder
Engine weight, kg	15
Length x width x height, mm	304 x 3602 x 335
Cooling system	air
Engine output, hp	5
Engine volume, cm <sup>3</sup>	163
Turning moment, kg m	1.1
Set of screws (made in the USA)	Diameter – 55 mm, link length – 0.9 m, finger connection Diameter – 115 mm, link length – 0.9 m, finger connection
Samplers	57.5 mm, 76 mm length 0.5 m
Core barrels with boring heads	57.5 mm, 76 mm, length 0.5-0.7 m
Sets of hand drilling	59 mm, length – 5.4 m (made in the USA)

## CPT Unit on basis of “KRAZ-260”

The unit serves for performance of the cone penetration testing of soils by pushing of the sounding cone fastened at the rods into the soil at the constant speed (2 cm/sec) with continuous measuring and recording of the cone tip resistance readings, sleeve friction, pore pressure and cone deflection angle. A special device records the depth and speed of the cone penetration.



Specifications	
Transport base	KRAZ 260 (dimensions 9650x2800x3760) with a canopy body
Hydraulic press for pushing and recovery of the rods	Force 200 kN
Signal registration unit	
Transformer for working from the scum net	42V-220V
Gasoline generator	2.2 kW
Computer for signals recording	
Sounding rods	36 x 18 mm 1 m long
Casing	56 x 38 mm 1 m long
Cable for connection of the cone with the recorder	
All equipment is located in the canopy body of KRAZ. There is a heating system in the canopy body.	



## Manipulator Crane on basis of “URAL”



Specifications	
Tonnage	
- max	7.0 t
- max spread	0.45 t
Spread, max	18.0 m
Max lift	18.0 m
Turn angle	360°
Operation	Hydraulic
Brake system	ABS
The following devices are installed on the motor vehicles	- tachographs, - devices of “Platon” system.

## Transportable Accommodation Campers

There are 6 campers (total capacity is 48 persons) for organization of the field camp. They are used for the organization of field geophysical and geotechnical works as well as for field laboratory testing.



Specifications	
Transportable Accommodation Camper includes the following	Q-ty
<b>Trailer chassis</b> , length – 6m	1
<b>Mounting base</b> Heat-insulated container body, length – 6 m, width – 2.5 m; made of 50 mm thick sandwich panels with side single-leafed door, 2 partitions w/door between compartments, 5 windows made of double pane unit, with electric light and socket power wiring, side flap folding ladder, floor is covered by linoleum, compartments are finished by plastic or lining.	1
Upper berth	3
Lower berth w/folding table	4
Electric heater	1
Wardrobes	3
<b>Equipment of Dining Compartment</b>	
Table lamp	1
Built-in fan	1
Dining table	1
Sink w/tank	1
Electric oven	1
Electric heater	2
Fire extinguisher	1
Electric shield	1

## All-terrain bus 6634a1-00 on basis of KAMAZ 43625



Specifications	
Body-van of sandwich panels, 60 mm thick	1
Entrance door with window	1
Emergency door with a window	1
Windows in a van with double glazing and and trauma-safe glass	7
Double seat with seat belts	11
Number of seats	22+1
Intercom system	1
Cabin	All-metal, twin seat equipped with a ventilation system and heating
Heating of the internal combustion engine system (toslnaya stove)	2
Stand-alone heater Planar 4 kW	1
Luke emergency ventilation	1