130 Years

DRILLING TOOLS CATALOG

GEOMASH

About the company

Geomash today

The Geomash company is one of the leading producers in Russia on production of drilling rigs capable to provide different technologies of drilling.

Production of drilling equipment - is the traditional activity field of the company.
In 2015 "Geomash" celebrates 130 years. For the 130-year history of the company a lot of things changed, invariable was only one - our aspiration to create drilling equipment capable to provide effective drilling for our partners.

Today the company has more than 1000 employees, production sites are located in the cities of Shchigra and Zheleznogorsk of Kursk region, Vladimir, Nordkhauzen (Germany).

Quality of production is enhanced, new production technologies are implemented, production equipment is upgraded.

Own construction bureau, considerable experience in design, project development of drilling equipment and special-purpose machines, allows "Geomash" to create machinery which is most oriented on solution of customers production tasks.

In 2011 "Lutz Kurth" - German producer specializing on production of small-size boring machines and boring carriages became a part of the Geomash company.

In 2014 the company started release of offroad vehicles and machines for recultivation of petropolluted lands.

From history of the company

The first mention of the company was in the year 1885 when in the village of Snytkino, the Troitsk volost of the Shchigrovsky district the Shchigrovsky cast-iron, foundry and mechanical plant was created. The plant was engaged in release and repair of agricultural machinery.

In 1892, due to connection with the forthcoming construction of the railroad Kursk-Voronezh, the plant is moved to the Shchigra city.

Kursk magnetic anomaly, first drilling rigs

The plant history in the XX-th century is closely connected with exploration of Kursk magnetic anomaly fields. In the early twenties large-scale surveying works are carried out, for which reliable drilling equipment is required. In 1927 in shops of the Shchigrovsky mechanical plant the first KMA-300 drilling rigs are manufactured. In 1935 release of machines for shock drilling of the UA-75 type, and also pump winches begins.

Formation of the factory

After the Great Patriotic War a new period in the history of the factory begins. The plant quickly increases the rates of production. In 1953 full reconstruction of plant is carried out, advanced technologies in machining, forge and foundry production take root. In 1963 the output exceeded pre-war level by 39 times.

Towards the technical progress

An important stage of development of the enterprise is the creation in 1976 of the production association "Geomash." The Shchigrovsky plant of the prospecting equipment and special design office with pilot production are a part of the association. The main objective standing before "Geomash" - modernization of products. There are high-quality shifts in increase of the technological level of production.
In 1981 the UGB-50M drilling rig is replaced with the high-performance UGB-1VS drilling rig.
UGB-1VS will become the most popular drilling rig for carrying out of engineering researches, geological exploration and seismic exploration in the territory of the USSR and in near abroad Countries.

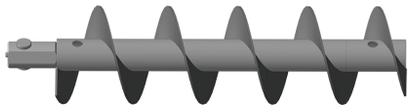
In 1992 the enterprise is incorporated and renamed into OJSC Geomash. Among the plants most known products are PBU-2, USh-2T4, AZA-3, LBU-50, and also the boring tools.

GEOMASH

Catalogue content

Drilling auger D=62-500 mm

Drilling augers are designed for seismic, technical and operational wells drilling, as well as for piles and grooves construction in rocks of the I-IV boring category.



Article number	Diameter, mm auger/bit	Auger length, mm in general/working	Connection type	Rib width, mm	Max torque, kgp*m	Actual weight, kg
BI16.28.00.000	62/75	1050/1000	thread SP-19	4	35	3,31
BI16.24.00.000	62/75	1067/1020	hexagon S17	4	35	3,27
BI11.01.00.000	108/112	870/800	hexagon S41	6	150	10
BI11.01.00.00-01	108/112	1670/1600	hexagonS41	6	150	14,7
BI16.20.00.000	113/120	1060/1000	thread SP-19	5	230	13
BI16.14.00.000-01[1]	135/148	1090/1000	hexagon S55	5	750	17,3
BI16.08.00.000-01[2]	135/148	1090/1000	hexagon S55	5	750	17,3
BI11.02.00.000	135/148	1090/1000	hexagon S55	5	500	16
BI16.14.00.000-02[1]	135/148	1490/1400	hexagon S55	5	750	22,6
BI16.08.00.000-02[2]	135/148	1490/1400	hexagon S55	5	750	22,6
BI229-90A-00	135/(148/151)	1590/1500	hexagon S55	5	500	22,4
BI7.01.00.000	135/(148/151)	1892/1800	hexagon S55	5	500	26,1
BI16.14.00.000[1]	135/148	1890/1800	hexagon S55	6	750	27,2
BI16.08.00.000[2]	135/148	1890/1800	hexagon S55	6	750	26,7
BI16.05.00.000[1]	135/148	2590/2500	hexagon S55	5	750	50,8
BI16.22.00.000	135/148	2590/2500	hexagon S60	5	750	50
SH1I.01.00A	150/165	2600/2500	hexagon S60	5	750	51,7
BI16.09.00.000-01[1]	180/198	930/840	hexagon S55	5	750	24
BI16.11.00.000-01[2]	180/198	930/840	hexagon S55	5	750	24
BI11.03.00.000	180/198	1052/960	hexagon S55	5	500	23,5
BI16.06.00.000[1]	180/198	1054/960	hexagon S55	8	750	26,7
BI16.09.00.000-02[2]	180/198	1530/1440	hexagon S55	5	750	38
BI16.11.00.000-02[1]	180/198	1530/1440	hexagon S55	5	750	38
BI16.03.00.000[1]	180/198	1590/1500	hexagon S55	5	750	37,4
BIL50-02A	180/198	1590/1500	hexagon S60	5	750	37,5
BIL50-32A	180/198	1590/1500	hexagon S60	5	750	38,5
BI229-91B-00	180/198	1590/1500	hexagon S55	5	500	33
BI16.09.00.000[2]	180/198	1890/1800	hexagon S55	5	750	42,4
BI16.11.00.000[1]	180/198	1890/1800	hexagon S55	5	750	42,4
BI7.02.00.000	180/198	1892/1800	hexagon S55	5	500	42,4
BI16.10.00.000-01[2]	230/250	923/833	hexagon S55	5	750	25,6
BI16.12.00.000-01[1]	230/250	923/833	hexagon S55	5	750	25,6
BI11.04.00.000	230/250	1090/1000	hexagon S55	6	500	28
BI16.10.00.000[2]	230/250	1590/1500	hexagon S55	5	750	42
BI16.12.00.000[1]	230/250	1590/1500	hexagon S55	5	750	42
BI7.43.00.000	230/250	1590/1500	hexagon S55	6	500	41
BI16.13.00.000	230/250	1740/1600	triangle T90	6	2000	71
SH1I.08.000	300/330	1554/1400	triangle T90	8	2000	66
SH1I.12.000	300/330	1553/1400	triangle T90	12	2000	75,6
BI4.14.00.000	330/360	1153/1000	triangle T90	6	2000	53
BI4.19.00.000	330/360	1153/1000	triangle T90	8	2000	67,4
SH1I.08.000-01	330/360	1554/1400	triangle T90	8	2000	75,3
SH1I.12.000-01	350/360	1553/1400	triangle T90	12	2000	87
SH1I08.000-02	400/420	1554/1400	triangle T90	8	2000	86,7
SH1I.12.000-02	400/420	1553/1400	triangle T90	12	2000	100
SH1I.08.000-03	500/530	1554/1400	triangle T90	8	2000	103
SH1I.12.000-03	500/530	1553/1400	triangle T90	12	2000	111,8
SH1I.17.000	500/530	1553/1400	triangle T90	6	2000	103

Blade drilling bits D=75-530 mm

Blade drilling bits are designed for rocks of I-VI boring category destroying by auger drilling method.

Article number	Diameter, mm auger/bit	Blades quantity	Connection type	Type of cutting side	Weight, kg
BI17.37.00.000	75/62	2	thread SP-19	hard alloy teeth	0,26
BI17.31.00.000	75/62	2	hexagon S55S17	hard alloy teeth	0,3
BI17.05.00.000	112/108	3	hexagon S55 S41	hard alloy blades and teeth	3,1
BI17.24.00.000	120/113	2	thread Z-50	cutter RP-3	3,9
DSHSH-140.00.000	140/135	2	hexagon S55	reinforced blades	3,5
BI7.67.00.000	148/135	3	hexagon S55	hard alloy blades and teeth	6,9
BI119-193-00B	148/135	3	hexagon S55	hard alloy blades and teeth	4,1
BI119-191-00B	148/135	3	hexagon S55	hard alloy blades and teeth	4,1
DSHSH-150.00.000	150/135	2	hexagon S55	hard alloy blades	5,9
1DRSH-151M.000	151/135	2	hexagon S55	elongated blades and teeth	5
1DRSH-151MS.000	151/135	2	hexagon S55	hard alloy teeth	5,2
BI17.27.00.000	152/135	2	hexagon S60	elongated blades and teeth	6,4
BI17.33.00.000	160/150	2	wedge	wedge tail	2,76
BI8.02.00.000	165/150	3	hexagon S60	hard alloy teeth	5,69
BI527.00.000	190/180	-	hexagon S55	trench replaceable cutters	12,5
1DRSH-198MS.000	198/180	2	hexagon S55	hard alloy teeth	6,8
1DRSH-198.00.000	198/180	2	hexagon S55	elongated blades and teeth	5,9
DLSH-198.00.000	198/180	2	hexagon S55	hard alloy blades	11,5
BI7.68.000	198/180	3	hexagon S55	hard alloy blades and teeth	9,4
BI119-192-00B	198/180	3	hexagon S55	hard alloy blades and teeth	5,5
BI119-190-00B	198/180	3	hexagon S55	hard alloy teeth	5,5
1DRSH-250MS.000	250/230	2	hexagon S55	hard alloy teeth	11,5
1DRSH-250M.000	250/230	2	hexagon S55	elongated blades and teeth	9,2
BI7.69.00.000	250/230	3	hexagon S55	hard alloy blades and teeth	9,7
BI119-206A-00B	250/230	3	hexagon S55	hard alloy blades and teeth	8,8
BI17.14.00.000	250/230	3	triangle T90	hard alloy blades and teeth	10,6
SH1I.14.000	330/300	3	triangle T90	hard alloy teeth	13
BI4.01A.00.000	360/350, 330	3	triangle T90	hard alloy teeth	14
BI17.13.00.000	360/350, 330	spiral	triangle T90	cutters and teeth	29,3
SH1I.15.000	420/400	2	triangle T90	changeable cutters	38
SH1I.16.000	530/500	2	triangle T90	changeable cutters	42,6
BI17.19.00.000	420/400	3	triangle T90	changeable flat cutter R-35 and teeth	28,63
BI17.20.00.000	530/500	3	triangle T90	changeable flat cutter R-35 and teeth	31,57

With elongated hard alloy blades D=151,198,205 mm

With hard alloy blades D=110,140,150 mm

With cylindrical teeth (octagon) D=151,198,250 mm

With changeable cutters D=420,530 mm

With hard alloy cutters (blades formed) and cylindrical teeth D=112,148,198,250,330,360 mm.

With changeable trench cutters D=190 mm.

With changeable flat cutters R-35, tops of the blades are reinforced by hard alloy teeth (octagon) D=420,530 mm.

With cutters and teeth D=360 mm.

Drilling rods

Drilling rods is designed for axle load/torque transmission from the drilling rig's rotary head to rock destroying instrument.

Article number	Description	Diameter, mm	Length, mm	Connection type	Weight, kg
BI8.31.00.000	Drilling rod	27	1000	hexagon S17	1,89
BI7.11.00.000	Drilling rod	73	1000	hexagon S55	12
BI229-87B-0	Drilling rod	73	1500	hexagonS55	16
BI7.04.00.00	Drilling rod	73	3000	hexagon S55	30
BI7.10.00.000	Drilling rod	89	1000	hexagon S55	18
BI229-92B-1	Drilling rod	89	1500	hexagon S55	29
BI7.22.00.000	Drilling rod	89	1800	hexagon S55	34
BI8.03.00.000	Drilling rod	89	1500	hexagon S60	24,6
BI2.22.00.000	Drilling rod	114	1000	triangle T90	40

Accessory instrument

Auger hook

Adjuster frame

Adapter T90/S55

Adapter S55/S60

Article number	Description	Length, mm	Weight, kg
PBU-1.11.08.000	Hexagon adapter (tail S55-bush T90)	268	8,05
PSN.01.000	Adapter (tail T90 – bush S55)	310	7,01
BI7.42.00.000	Adjuster frame (augers 135-230 mm)	550	7
SH1I.13.000	Adjuster frame (augers 300-500 mm)	740	12
BI7.24.00.000	Adjuster frame (augers 650 mm)	870	13
BI7.25.00.000	Adjuster frame (augers 850 mm)	1050	13,2
BI 189-23	Auger pullout hook	1000	3,5
BI249-108-00	Auger pullout clip	215	2,5
BI7.01A.01.004	Auger pin	85	0,3
BI7.02A.01.004	Auger pin	101	0,4
BISH-01-03	Auger pin	132	0,4
BI7.00.00.002	Pin out rod	250	0,8
BP69-00A	Clean up shovel	680	2
BISHM2.05.00.000	Drill bit clean device	1400	38,4
BISH-19-01	Socket T90 (for augers 300-500 mm)	180	5,2
BI229-87B-01B	Socket S55 (for augers 135 mm, tubes D=73 mm)	92	1
BI229-92B-02A	Socket S55 (for augers 180-230 mm, tubes D=89 mm)	85	2
BI4.13.00.003A	Tail T90 (for augers 300-500 mm, tubes D=114 mm)	-	7,4
BI7.01.01.001A	Tail S=55 (for augers 135 mm, tubes D=73 mm)	120	2,3
BI7.02.01.001	Tail S=55 (for augers 180-230 mm, tubes D=89 mm)	120	2,7
BI149-337-00	Adapter from hexagon auger S55 mm into locked thread 3-50	220	4,3
BI18.00.00.009	Lead adapter from S55 into S41	180	2
SH1I.22.000	Adapter from S55 into S60	225	5,7
SH1I.23.000	Adapter from S60 into S55	230	5,3
BI18.34.00.000	Adapter c D20 into thread SP-19	79	0,57
BI18.00.00.064	Adapter from CP -19 thread into 3-50	185	2,97

Full hole auger drilling emergency instrument

It is designed for extraction of drilling augers and rods which remained (torn) inside the well during the drilling process.

Auger catcher

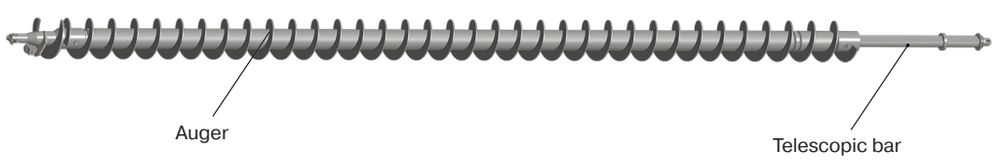
Catcher bush (left thread)

Catcher tap screw (left thread)

Article number	Description	Diameter, mm	Connection type	Weight, kg
BI279-125B-00	Auger catcher	135	hexagon S55	20,4
BI279-126A-00	Auger catcher	180	hexagon S55	29,7
BI279-127B-00	Auger catcher	230	hexagon S55	55
BI7.35.00.000	Catcher bush (left thread)	89	hexagon S55	8,5
BI7.36.00.000	Catcher tap screw (left thread)	80	hexagon S55	6,6

Auger telescopic drill bits d=190-500 mm

Drill bits are designed for well drilling in rocks of I-VI boring category and permanent frozen soil as well. The drills bits are used for pile fields over driling in civil and industrial construction. Telescopic auger drill bit is a two-section bar with an auger surface. Outer section is a ceaseless auger, inner section is a square shape bar, which transfers a torque and axial force from the rotary head of drilling rig. Construction provides a drilling column increase due to the extension of outer section over the inner one.
Drills bits are used on the drilling rig USG-002 "Atlant". As a rock-destroying tool an appropriate diameter auger bits are used.



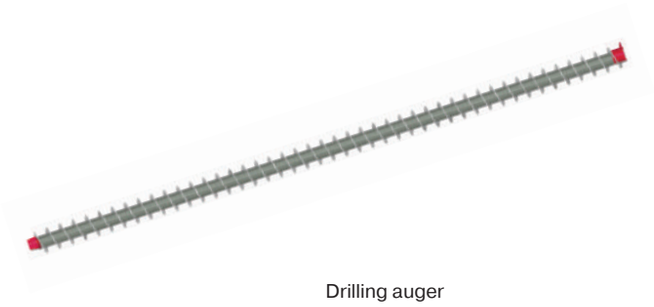
Article number	Description	Diameter, mm	Length, mm	Connection type	Weight, kg
USG000.19.00.000	Auger telescopic drill bit D=190	190	7817	square	530
USG000.21.00.000	Auger telescopic drill bit D=250	250	7893	square	584,2
USG000.03.00.000	Auger telescopic drill bit D=330	330	7105	square	754,3
BI01.00.00.000	Auger telescopic drill bit for ever-frost	500	8465	square	1406,3

Auger sets for explosive materials immersion

Intended for destroyed soil transportation (removal) from down-hole in a process of drilling and subsequent immersion of explosive materials during seismic exploration.

Hollow augers usage is guaranteed placement of explosives at a well bottom. That is especially important in unstable and water saturated soils. As a rock-destroying tool bladed auger bits with opened cover are used. Augers connected through thread.

Drilling tools kit for the rigs type BMG (by custom's request)



Drilling auger

Two blade bit

Article number	Description
Auger BI16.24.00.000	L=1000 mm, d=62 mm, hexagon S-17
Auger BI11.01.00.000	L=800 mm, d=108 mm
Bit BI17.31.00.000	d=75 mm, two blades
Tip 48	for explosives immersion, d=48 mm

Hollow auger kit d=95 mm. with ratchet connection (one way thread)

Hollow auger with ratchet connections

Opened two blade bit

Opened four blade bit

Clamp handle

Adjuster fork

Hal flock

Part name	Description
BI14.07.02.000-01 / Hollow auger with ratchet connection d=95 mm L=1500 mm	Coil step S+100, tube D=57x3,5 mm
BI14.07.02.000 / Hollow auger with ratchet connection d=95 mm L=1000 mm	Coil step S+100, tube D=57x3,5 mm
BI14.07.06.000 / Opened bit for auger	2 blades, opened, d=120/50 mm
BI14.07.01.000 / Opened bit for auger	4 blades, opened, d=105/50 mm
BI14.07.04.000 / Adjuster fork	
BI7.11.00.000 / Drilling rod d=73 mm L=1000 mm	extender S=55
BI14.07.05.000 / Clamp handle for drilling column rotation	

Hollow auger kit d=108 mm. with one support connection (one way thread)

Part name	Description
BI14.01.02.000-01 / Auger d=108 mm L=885 mm	coil step S=100, tube d=60 x5 mm
BI14.01.02.000-02 / Auger d=108 mm L=985 mm	coil step S=100, tube d=60 x5 mm
BI14.01.02.000 / Auger d=108 mm L=1500 mm	coil step S=100, tube d=60 x5 mm
BI14.01.01.000 / Bit	L=164 mm, 2 blades, opened, d=120/50 mm
BI14.01.03.000 / Hal flock	L=250 мм, S=55
BI14.05.04.000 / Adjuster fork	
BI7.11.00.000 / Drilling rod d=73 mm L=1000 mm	extender S=55
BI14.05.05.000 / Clamp handle for drilling column rotation	

Hollow auger kit d=108 mm. with ratchet connection (one way thread)

Part name	Description
BI14.05.02.000 / Hollow auger with ratchet connection d=108 mm	coil step S=100, L=1500mm., tube d=60x5 mm
BI14.05.01.000 / Bit opened for auger	L=216 mm, 4 blades, opened, d=120/50 mm
BI14.05.06.000 / Bit opened for auger	2 blades, opened, d=120/50 mm
BI14.05.03.000 / Hal-flock for auger	L=312 мм, S=55
BI14.05.04.000 / Adjuster fork	
BI7.11.00.000 / Drilling bar d=73 mm L=1000 mm	extender S=55
BI14.05.05.000 / Clamp handle for drilling column rotation	

Hollow auger kit d=108 mm. with ratchet connection (two way thread)

Part name	Description
BI14.08.02.000 / Auger d=108 mm	coil step S=100, l=1500 mm, tube d=60x5 mm
BI14.08.04.000 / Two blades bit d=120 mm	2 blades, opened, d=120/50 mm
BI14.08.01.000 / Two blades bit d=120 mm	4 blades, opened, d=120/50 mm
BI14.08.03.000 / Hal flock	S=55
BI14.05.04.000 / Adjuster fork	
BI7.11.00.000 / Drilling rod d=73 mm L=1000 mm	extender S=55
BI14.05.05.000 / Clamp handle for drilling column rotation	

Hollow auger kit d=150 mm. with ratchet connection (one way thread)

Part name	Description
BI14.04.02.000 / Auger d=150mm	coil step S=100, L=2500 mm, tube d=89x5 mm
BI14.04.02.000-03 / Auger d=150mm	coil step S=100, L=2300 mm, tube d=89x5 mm
BI14.04.02.000-02 / Auger d=150mm	coil step S=100, L=1500 mm, tube d=89x5 mm
BI14.04.02.000-01 / Auger d=150mm	coil step S=100, L=1000 mm, tube d=89x5 mm
BI14.04.01.000 / Bit d=175mm	L=252 mm, four blades, opened, d=175/80 mm
BI14.04.09.000 / Two blades bit d=165 mm	2 blades, opened, d=165/80 mm
BI14.04.03.000 / Hal flock	L=312 mm, S=55
BI14.04.07.000 / Adjuster fork	
BI18.23.00.000 / Extender (drilling pipe d=89 mm, L=500 mm)	S60/55
BI14.04.08.000/Clamp handle (with thread) for the auger column lifting and disassembling	clamping through a thread
BI14.04.06.000 / Clamp handle for drilling column rotation	clamping through a tube body
BI14.04.11.000 / Clamp handle assy	clamping through the first auger thread coil

Hollow auger kit d=168 mm. with ratchet connection (one way thread)

Part name	Description
BI14.06.02.000 / Auger d=160 mm	coil step S=100, l=1500 mm, tube d=108x 5 mm
BI14.06.01.000 / Bit d=180 mm	4 blades, opened, d=180/90 mm
BI14.06.03.000 / Hal flock	S=55
BI14.06.06.000 / Adjuster fork	
BI18.23.00.000 / Extender (drilling tube d=89 mm, L=500mm)	S60/55
BI14.06.04.000 / Clamp handle for the auger column lifting and disassembling	clamping through tube body
BI14.06.05.000 / Clamp handle for drilling column rotation	clamping through a tube body

Hollow auger kit d=170 mm. with one support connection (one way thread)

Article Number	Description
BI14.02.02.000 / Auger d=170 mm	coil step S=120, L=2500 mm, tube d=108x6 mm
BI14.02.01.000 / Bit d=175 mm	L=195 mm, 2 blades, opened, d=175/94 mm
BI14.02.03.000 / Hal flock	L=280 mm, S=55
BI14.02.04.000 / Adjuster fork	

Accessory instrument

Article Number	Description
BI18.16.00.000 / Tip 38	thread CpK24*3, L=1500 mm , explosives type - cylindrical, d=38 mm
BI18.15.00.000 / Tip 43	thread CpK24*3, L=1500 mm , explosives type - cylindrical, d=43 mm
BI18.17.00.000 / Tip 64	thread CpK24*3, L=1500 mm , explosives type - cylindrical, d=64 mm
BI18.18.00.000 / Tip 70	thread CpK24*3, L=1500 mm , explosives type - cylindrical, d=70 mm
BI18.19.00.000 / Tip 80	thread CpK24*3, L=1500 mm , explosives type - cylindrical, d=80 mm
BI18.14.00.000 / Rod	thread CpK 24*3, L=3000 mm

Blade drill bits for drilling-crane machines (BKM)

Blade drill bits are designed for rocks of I-IV boring category (inclusively), boreholes for filling and striking piles, power transmission lines being a part of drilling rigs. Drilling process is based on rotary, cyclic principle. Unique cutting tool for drill bits allows to work in a wide range of soils and highly degree resistant to abrasion.

Article Number	Description	Diameter, mm	Connection type
BI22.04.00.000	Blade drill bit for drilling-crane machine	250	quadrate 62,5 mm
BI22.01.00.000	Blade drill bit for drilling-crane machine	360	quadrate 62,5 mm
BI22.02.00.000	Blade drill bit for drilling-crane machine	500	quadrate 62,5 mm
BI22.03.00.000	Blade drill bit for drilling-crane machine	630	quadrate 62,5 mm
BI22.05.00.000	Blade drill bit for drilling-crane machine	800	quadrate 62,5 mm

Kits of hollow equally passer by augers (KShR-200, 250, 320)

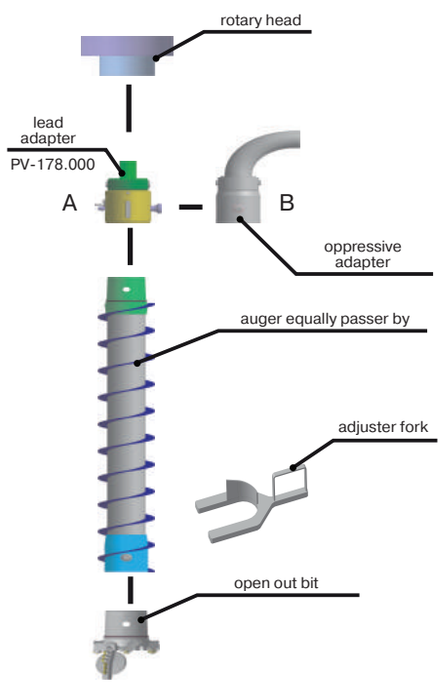
Kits are designed for boreholes drilling in rocks of I-V boring category for filling and injection piles construction It is possible to use kits for water wells drilling and for other purposes, when the augers serve as a temporary casing columns.

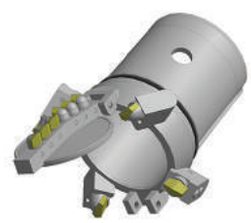
Device:

Kit is a column of equally passer by augers with a hermetic reversible connection. Complexes are equipped with a various design bits, providing the well filling by grout without an auger column lifting.

Article Number	Outer diameter, mm	Inner diameter, mm	Acceptable torque, kgf*m
KSHR-200.000	187	113	2000
KSHR-250.000	230	134	2000
KSHR-320.000	300	193	2000

KShR-200, 250, 320 complexes scheme





A - While drilling process
B - While of grout well filling

Part name	KShR-200	KShR-250	KShR-320
Equally passer by auger	SHR-187.000 (L=1,5 m)	SHR-230.000 (L=1,7 m)	SHR-300.000 (L=1,8 m)
Equally passer by auger	SHR-187.000-01 (L=1 m)	SHR-230.000-01 (L=1 m)	SHR-300.000-01 (L=1 m)
Open out bit	DO1-200.000	DO1-250.000	DO1-320.000
Lead adapter	PV-150.000	PV-178.000	PV-244.000
Oppressive adapter	PO-143.000	PO-166.000	PO-235.000
Adjuster fork	P-128.000	VP-150.000	VP-224.000
Knock out tool	V-4,5.000		
Drilling rod d=89 mm, L=1 m	BI7.10.00.000		
Slide frame	RR-220.000		
Hook	BI-189-23		
Pin	LBU 50.04.37.00.005		
Wrench	wrench 7811-26 1x9 GOST 16983-80 (spanners)		

Notes:

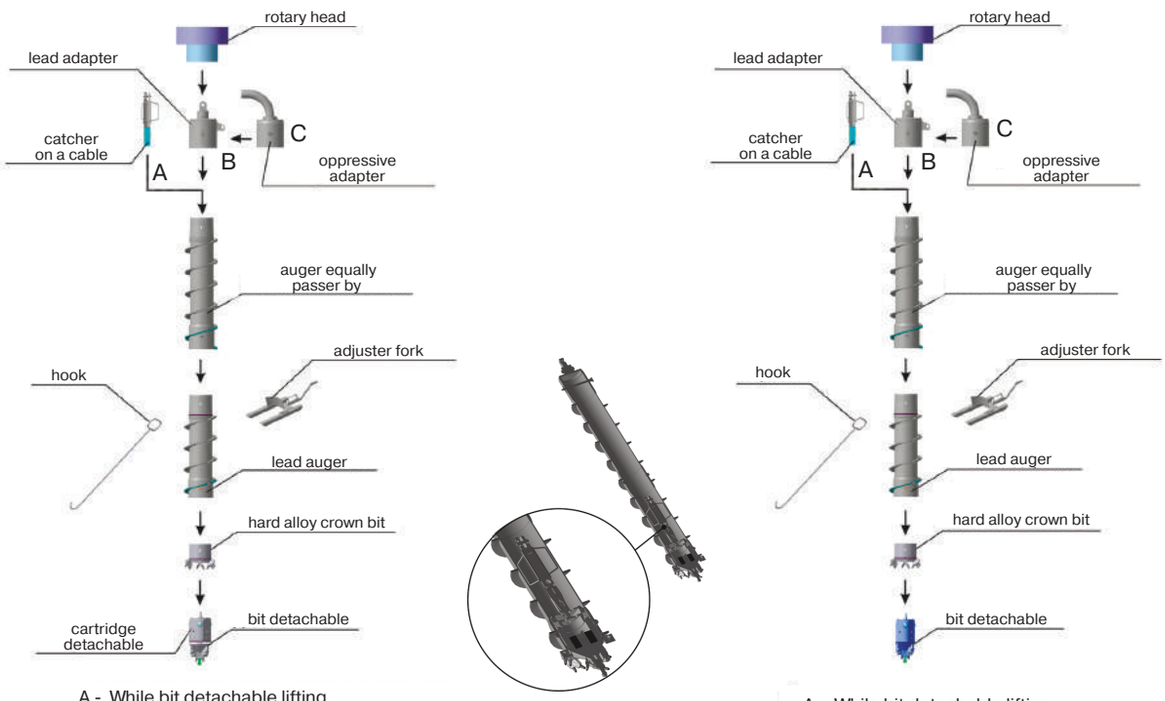
- Kit complexion defined by the client request
- Need to specify the lead adapter type

Kits of hollow equally passer by augers (KShR-470)
Auger kits with detachable bits (KShD-300)

Kits are equipped by cartridge with detachable bits, which are lifted by the catcher onto the surface. It is gets the opportunity of iron frame mounting inside the borehole for the grout filling.

Article name	Outer diameter, mm	Inner diameter, mm	Acceptable torque, kgf*m
KShR-470.000	450	302	2000
KShDS-300.000	300	199	2000

KShR-470 / KShDS-300 complexes scheme



A - While bit detachable lifting
B - While drilling process
C - While of grout well filling

A - While bit detachable lifting
B - While drilling process
C - While of grout well filling

Kit consist of

№	Description	Designation Part number KShR – 470 / KShDS – 300	Weight, kg KShR-470 / KShDS – 300
1	Equally passer by auger	SHR-450.000 / SHR-300.000	192,9 / 119
2	Lead auger	SHL-450.000 / SHL-303.000	158,7 / 91,9
3	Hard alloy crown bit	DK-470M.000 / DK-320.000	34,3 / 15,9
4	Cartridge detachable	SS-298.000 / -	115,7
5	Detachable bit	DS-290M.000 / DS-190.000	49,8 / 55,8
6	Catcher on a cable	LK-298.000 / LK-190.000	35,5 / 20,6
7	Lead adapter	PV-350.000 / PV-244.000	73,4 / 31,8
8	Oppressive adapter	PO-348.000 / PO-235.000	52,2 / 27,6
		Accessory and load lifting devices	
9	Adjuster fork	VP-340.000 / VP-230.000	22,5 / 22,1
10	Hook	K-330.000 / K-230.000	5,3 / 5,1
11	Knock out tool	V-4,5.000	0,05
12	Wrench	7811-0260 1x9 GOST 16983-80	0,3
13	Pin	-/ UBV21B.05.00.014	0,02

Notes:

- Kit complexion defined by the client request
- Need to specify the lead adapter type

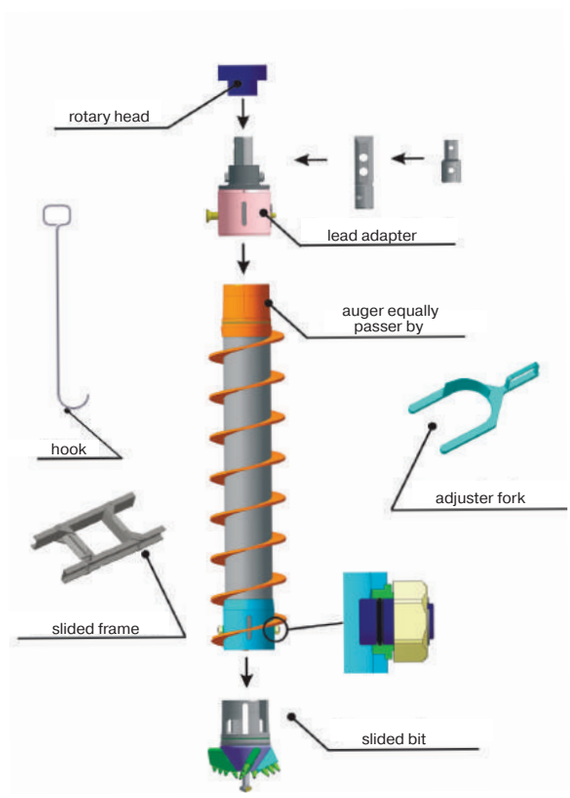
Auger kits with sliding bits (KShDR-350)

KShDR-350 is designed for boreholes drilling in sedimentary rocks up to IV boring category with subsequent well filling by grout through an auger column.
KShDR-350 is a column of equally passer by auger with sliding bit.

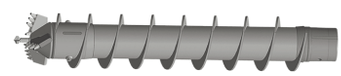
Bit is mounted on the first auger of the column and when the necessary well depth is reached, the column is lifted a little above the well bottom. Bit is opened (bit holes for the concrete supply)while the reverse rotation next.

Article number	Description	Outer diameter, mm	Inner diameter, mm	Acceptable torque, kgf*m
BI510.02.000	Hollow screw	350	198	2000
BI510.03.000	Sliding Bit	354	162	2000

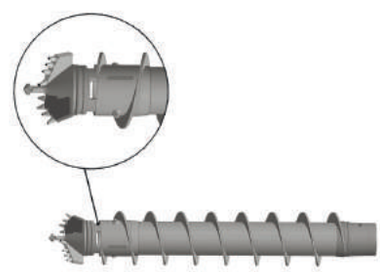
KShDR-350 complexes scheme



Concrete holes are opened



Concrete holes are closed



Kit consist of

№	Article number	Designation	Weight, kg
1	Lead adapter PV -243	BI510.01.000	40
2	Auger equally passer by SHR-350	BI510.02.000	138,6
3	Slide bit DP-354	BI510.03.000	44,3
		Accessory and load lifting devices	
4	Adjuster fork	VP-224.000	9,8
5	Hook	K-230.000	5,1
6	Slide frame	RR-350	18

Auger kits with detachable core barrel (KshGS-200 D)

KShGS-200D is designed for wells drilling in rocks of IV-VI boring category by equally passer by augers with undisturbed core samples extraction by detachable core barrel on the cable.

The complex provides:

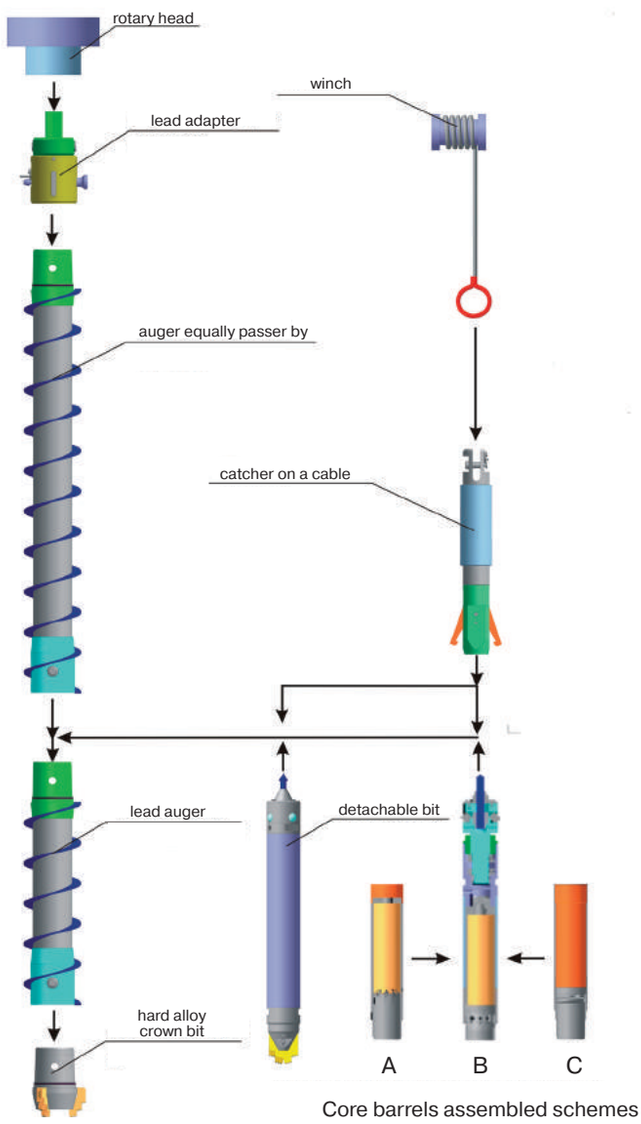
• soil sample extraction by drilling-off method from earth surface to necessary depth interval

• possibility of equally passer by auger column using as a temporary casing column for:

- Rotary core by hard alloy crown drilling and non core drilling with washing
- Free fall drilling by knocking core barrels, knock glasses and slugger
- Static and dynamic testing
- explosives transportation to/out of borehole

Features: the complex provides undisturbed soil samples extraction without column lifting.

KshGS-200D complexes scheme



Core barrels assembled schemes

A - tube, tip, barrel, core-cutter

B - tube, stamp, barrel, core barrel

C - tube, stamp, plate valve

KshGS -200D complexes scheme

Kit consist of

Article number	Description	Weight, kg
PV-150.000	Lead adapter PV-150	14,8
SHR-187.000	Auger equally passer by ShR-187	36
SHL-190D.00.00.000	Lead auger ShL-190D	35,6
KTS-121D.00.00.000	Special hard alloy crown KTS-121D	0,5
DK-200D.00.00.000	Hard alloy crown bit DK-200D	6,2
DS-93D.00.00.000	Detachable bit DS-93D	29,1
GS-108D.00.00.000	Core barrel detachable GS-108D	38,2
LK-102.000	Catcher on the cable LK-102	34,1
SG-95.000	Cartridge remover SG-95	2,1
VP-128.000	Adjuster fork VP-128	5,8
V-95.000	Fork	4
K-45.000	Cable hinge	0,5
RR-220.000	Slided frame	13,3
	Key (wrench)	0,3
KSHS-108/127	Joint key	7,8
LBU50-04.37.00.005	Pin	0,2

Technical characteristics

Parameter Description	Value design
Outer diameter, mm	
- Hard alloy crown bit DK-200D	200
- Auger ShR-187	187
- Detachable core barrel GS-108	108
- Detachable core barrel DS-93D	93
Inner diameter, mm	
- Special hard alloy crown KTS-121D	95
- Auger tube ShR-187	115
- Auger connection ShR-187	113
Core sample diameter, mm	95
Barrel length, mm	335
Acceptable torque, kgf*m	2000
Acceptable speed of cartridge by catcher pull down, m/sec	1
Drilling depth, m	30

Auger of core sampling tube (PShN-185)

PshN -185 is designed for core samples extraction from necessary depth while auger drilling in rocks of I - IV boring category.

PshN -185 is a double core pipe. Outer tube is auger type and the inner one (non-rotating) is splitting.

Features: core sample tube provides of sample extraction by drilling-off and suppressing method.

Article number	Crown diameter, mm (outer/ inner)	Auger diameter, mm	Core sample diameter, mm (while drilling-off and suppression)	Type of connection	Weight, kg
PshN-185	185/110	176	110/105	hexagon S55	60

Auger kits with detachable core barrel (KshGS-270)

KshGS -270 is designed for the drilling in rocks of I-IV boring category by equally passer by augers with soil samples extraction by detachable core barrel on cable.

The complex provides:

- Undisturbed soil samples extraction by drilling-off and suppression methods along the entire height of well without auger lifting
- Selective testing of well intervals due forwarding down; for the impossible to test wells - by full hole drilling with detachable bit usage
- Possibility of equally passer by augers column usage like a temporary casing column for:
- Layer-by-layer inside grout pumping and well cementation without any additional devices
- Observe well equipment installation: such as hydro-geological piezometers, soil resist measure's in unstable rocks with a tendency to collapse
- Labor costs minimization in engineering-geological, hydro-geological and special technical wells construction.

Sets for full hole drilling with subsequent auger column usage like the casing column while free fall drilling method.

№	Article number	Part name	Weight, kg
1	BI 523.07.00.000	Special hard alloy crown DKS -270	11,6
2	BI 523.06.00.000	Detachable bit DS-127	46
3	BI 523.06.04.000	Blade for DS-127	1,6
4	BI 523.02.00.000	Lead auger SHL -250	56
5	BI 523.03.00.000	Auger equally passer by SHR-250 length 1,5 m	60
6	BI 523.03.00.000-01	Auger equally passer by SHR-250 length 1 m	43
7	BI 523.04.00.000	Lead adapter PV-190	18,8
8	BI 523.08.00.000	Catcher on the cable LK-140	35,7
9	BI 522.09.00.000	Slide frame	15
10	BI 523.09.00.000	Adjuster fork VP-165	9,8
11	K 45.000	Cable hinge	0,5
12	K-156.000	Hook	-
13	LBU 50-04.3700.005	Pin	-
14	7811-0260 1X9 GOST 16083-80	Key (2 pieces)	0,3
15	BI 523.00.00.001	Key (2 pieces)	-
16	V-4.5 000	Knock out tool	-
17	KSHS 108/127 TU 34-2216-75	Joint key (2 pieces)	7,8

Sets for full hole drilling in combination with rotary core by hard alloy crown methods and soil sample extraction inside the detachable core barrel .

№	Article number	Part name	Weight, kg
1	BI 523.01.00.000	Hard alloy crown bit DKS-270	13
2	BI 523.10.00.000	Hard allow crown M6/158	1,6
3	BI 523.05.00.000	Rotary detachable core barrel GS-127-B	60
4	BI 523.11.00.000	Non rotary detachable core barrel GS-127-NV	53
5	BI 523.12.00.000	Cartridge remover SG-120	2,3
6	BI 523.06.00.000	Detachable bit DS-127	46
7	BI 523.06.01.000	Blade for DS-127	1,6
8	BI 523.02.00.000	Lead auger SHL-250	56
9	BI 523.03.00.000	Auger equally passer by SHR-250 length 1,5 m	60
10	BI 523.03.00.000-01	Auger equally passer by SHR-250 length 1 m	43
11	BI 523.04.00.000	Lead adapter PV-190	18,8
12	BI 523.08.00.000	Catcher on the cable ЛК-140	35,7
13	BI 522.09.00.000	Slide frame	15
14	BI 523.09.00.000	Adjuster fork VP-165	9,8
15	K 45.000	Cable hinge	0,5
16	K-156.000	Hook	-
17	LBU 50-04.3700.005	Pin	0,2
18	7811-0260 1X9 GOST16083-80	Key (2 pieces)	0,3
19	BI 523.00.00.001	Key (2 pieces)	-
20	V-4.5 000	Knock out tool	-
21	KSHS 108/127 TU 34-2216-75	Joint key (2 pieces)	7,8

Drive in glass D=89-325 mm

Drive in glass is designed for drilling by free fall drilling method in loose and plastic soils.

Article number	Part name	Diameter, mm	Length, mm	Connection type	Weight, kg
BI12.01.04.000	Drive in glass	89	800	Z-67	11,9
BI12.01.04.000-01	Drive in glass	89	600	Z-67	10,5
BI12.06.04.003	Curb	92	115	84x4	1,59
BI12.01.01.000	Drive in glass	108	800	Z-67	15,4
BI12.06.01.003	Curb	112	135	103x4	2,12
BI12.01.02.000	Drive in glass	127	800	Z-67	16,5
BI12.06.02.003	Curb	132	135	122x4	2,49
BI12.01.05.000	Drive in glass	146	800	Z-67	20
BI12.01.05.003	Curb	151	135	141x4	2,6
BI12.01.03.000	Drive in glass	168	800	Z-67	23,5
BI12.06.03.003	Curb	173	135	163x4	2,5
BI12.05.04.000-01	Drive in glass*	92	600	Z-67	11,12
BI12.05.04.000	Drive in glass*	92	800	Z-67	13,3
BI12.05.01.000	Drive in glass*	112	800	Z-67	14,1
BI12.05.02.000	Drive in glass*	132	800	Z-67	15,9
BI12.05.03.000	Drive in glass*	173	800	Z-67	23,1
BI12.05.05.000	Drive in glass*	146	800	Z-67	19,4
BI12.06 .05.003	Curb	151	135	141x4	2,6
BI12.06.01.000	Drive in glass with piston	108	1218	Z-67	23
BI12.06.02.000	Drive in glass with piston	127	1218	Z-67	29
BI12.06.03.000	Drive in glass with piston	146	1218	Z-67	37
BI12.06.04.000	Drive in glass with piston	168	1218	Z-67	45
BI12.07.04.000	Driving glass with a valve	168	700	Z-67	26
BI12.07.03.000	Driving glass with a valve	146	700	Z-67	21,4
BI12.07.02.000	Driving glass with a valve	127	700	Z-67	16,8
BI12.07.01.000	Driving glass with a valve	108	700	Z-67	14
BI12.08.04.000	Splitting drive in glass	168	885	Z-67	42
BI12.08.03.000	Splitting drive in glass	146	885	Z-67	33,5
BI12.08.02.000	Splitting drive in glass	127	885	Z-67	26,1
BI12.08.01.000	Splitting drive in glass	108	885	Z-67	21,3
BI12.07.05.000	Drive in glass	273	1172	Z-67	77,06
BI12.01.06.000	Drive in glass	273	1172	Z-67	73,08
BI12.01.06.003	Curb	273	135	260x4	7,02
BI12.01.07.000-01	Drive in glass	325	1202	Z-67	92,98
BI12.01.07.000	Drive in glass	325	1202	Z-67	87,10
BI12.01.07.003	Curb	325	135	315x4	8,42
BI12.07.06.000	Drive in glass	325	1202	Z-67	92,65

* - without curb

Shock cartridge d=89-127 mm

Shock cartridges are used for free fall drilling method by drive in glass and core barrel.

Article number	Part name	Length, mm	Diameter, mm	Connection type	Weight, kg
BI12.03.03.000	shock cartridge	2200	89	Z-67	79,1
BI12.03.03.000-01	shock cartridge	1900	89	Z-67	68,3
BI12.03.01.000	shock cartridge	2200	108	Z-67	119,7
BI12.03.02.000	shock cartridge	2200	127	Z-67	161,3

Load (shock bar) d=80-120 mm

Load (shock bar) is used to increase the mass of drive in glass and preservation of borehole vertical direction in free fall drilling process.

Article number	Part name	Length, mm	Diameter, mm	Connection type	Weight, kg
BI12.04.00.003	load	1000	80	Z-67	35,7
BI12.04.00.001	load	1000	100	Z-67	55,5
BI7.00.00.001	load	1800	110	Z-67	120
BI7.00.00.006	load	1800	120	Z-67	145

Mud barrel d=89-127 mm

Mud barrel is used in free fall drilling method especially in drowning soil.

Article number	Part name	Outer Diameter, mm	Length, mm	Connection type	Weight, kg
BI12.02.01.000	Mud barrel with flat valve	89	2250	Z-67	28,6
BI12.02.02.000	Mud barrel with flat valve	108	2250	Z-67	34,3
BI12.02.03.000	Mud barrel with flat valve	127	2250	Z-67	44,7
BI12.02.04.000	Mud barrel with flat valve	146	2257	Z-67	60,2
BI12.02.05.000	Mud barrel with flat valve	168	2257	Z-67	69,7
BI119-153-00	Mud barrel with ball valve	108	3380	Z-67	52
BI12.02.01.010	Curb with flat valve	112	70	84x4	2,1
BI12.02.02.010	Curb with flat valve	92	88	103x4	1,2
BI12.02.03.010	Curb with flat valve	132	87	122x4	2,6
BI12.02.04.010	Curb with flat valve	153	87	141x4	2,76

Shock core barrel d=92-121 mm

Shock core barrels are designed for undisturbed core samples extraction while free fall drilling method in dispersion soils of I-V boring category.

Article number	Part name	Core barrel diameter, mm	Curb diameter, mm	Soil sample diameter, mm	Length, mm	Connection type	Weight, kg
GZ-92.000	shock core barrel	92	93	78	735	Z-67	12,9
GZ-108.000	shock core barrel	108	110	90	667	Z-67	19,6
BI505.03.000	shock core barrel	121	125	105	750	Z-67	22,1

Accessory tools

1

2

3

№	Article number	Part name	Weight, kg	Connection type
1	GZ-92.000	Hook for mud barrel overturn	0,52	-
2	GZ-108.000	Mud barrel loop	5,66	Z-67
3	BI505.03.000	Ear-drop	2,97	Z-67

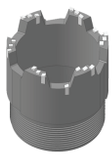
Pressing core barrel

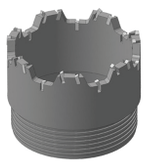
Pressing core barrel is used for soil sample extraction by dent in engineering researches before the construction.

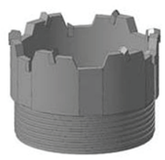
Article number	Crown diameter, mm (outer)	Soil sample diameter, mm	Length, mm	Connection type	Weight, kg
BI531.00.00.000	127	112	2200	Z-50	38,3

Hard alloy crowns d=59-171 mm

Crowns are designed for dry / air flush / mud rotary core by hard alloy crown drilling method
Crowns are divided into: CM – cutter for low abrasive rock boring, **CA** – for abrasive rock of medium hardness.
Crowns type CM-5 are designed for drilling low abrasive monolithic and slightly cracked rocks of V - VI boring categories for (dolomite's, limestone s, clay and sand shale's, etc.).
Crowns type CM-6 are designed for drilling low abrasive monolithic and fractured rocks of VI - VII boring categories (dolomite's, limestone s, serpentinites, peridotites, etc.).
Crowns type CM-9 are designed for rotary as well as shock and rotary sample extraction drilling in homogeneous and intermittent low abrasive monolithic and fractured rocks
V-VII, partly VIII boring categories.
Crowns type CA-5 and **CA-6** are designed for drilling mainly abrasive monolithic and intermittent rocks VI - VIII, partly IX boring categories (sandstone, diorites, gabbros, porphyrites, silicified l limestone, etc.).
Number of cutters groups in CA-5 8, in CA-6 10-12.


CM-5


CM-6


CM-9


CA - 5


CA - 6

Article number	Part name	Outer Diameter, mm	Inner Diameter, mm	Weight, kg
CM-5	Hard alloy crown CM-5	59	44	0,4
CM-5	Hard alloy crown CM-5	76	59	0,6
CM-5	Hard alloy crown CM-5	93	75	0,7
CM-5	Hard alloy crown CM-5	112	94	0,9
CM-5	Hard alloy crown CM-5	132	114	1
CM-5	Hard alloy crown CM-5	151	133	1,2
CM-6	Hard alloy crown CM-6	59	42	0,4
CM-6	Hard alloy crown CM-6	76	58	0,6
CM-6	Hard alloy crown CM-6	93	78	0,7
CM-6	Hard alloy crown CM-6	112	92	0,9
CM-6	Hard alloy crown CM-6	132	123	1
CM-6	Hard alloy crown CM-6	151	132	1,2
CM-9	Hard alloy crown CM-9	46	31	0,3
CM-9	Hard alloy crown CM-9	59	42	0,4
CM-9	Hard alloy crown CM-9	73	58	0,6
CM-9	Hard alloy crown CM-9	76	58	0,6
CM-9	Hard alloy crown CM-9	93	75	0,7
CM-9	Hard alloy crown CM-9	112	92	0,8
CM-9	Hard alloy crown CM-9	132	92	1
CM-9	Hard alloy crown CM-9	151	132	1,2
CM-9	Hard alloy crown CM-9	171	146	3,3
CA-5	Hard alloy self sharpened crown CA-5	59	42	0,4
CA-5	Hard alloy self sharpened crown CA-5	76	58	0,5
CA-6	Hard alloy self sharpened crown CA-6	93	73	0,8
CA-6	Hard alloy self sharpened crown CA-6	112	92	0,9
CA-6	Hard alloy self sharpened crown CA-6	132	112	1
CA-4	Hard alloy self sharpened crown CA-4	76	58	0,6
CA-4	Hard alloy self sharpened crown CA-4	93	73	0,7
CA-4	Hard alloy self sharpened crown CA-4	112	92	0,9
CA-4	Hard alloy self sharpened crown CA-4	132	112	1
CA-4	Hard alloy self sharpened crown CA-4	151	132	1,2
KT2-76	Hard alloy self sharpened crown KT2	76	59	0,6
KT2-93	Hard alloy self sharpened crown KT2	93	75	0,7
KT2-112	Hard alloy self sharpened crown KT2	112	94	0,8
KT2-132	Hard alloy self sharpened crown KT2	132	114	1
KT2-151	Hard alloy self sharpened crown KT2	151	133	1,2

Drilling pipes d=43-89 mm

Drilling pipes steel universal (TBSU) with welded locks are produced under the technical condition 3668-017-05743852-2011. Pipe's body mechanical characteristics are correspond with Russian standard GOST R 51245-99.
Drilling pipes are designed for lowering into the well and lifting back a rock-destroying tools, torque transmission and axial load onto the rock-cutting tool. Cleaning agent pumping to the bottom of the well.
Drill pipes are used for core sample and non-core wells drilling, by hard-alloyed and diamond crowns, all kind of bits, including the use of down-hole pneumatic hammers.

Article number	Part name	Tube length, mm	Thickness of the wall, mm	Type of connection	Weigh, kg
BI21.01.00.000-09	Drilling pipes P 43x4,5 N	1000	4,5	Z-34	5,7
BI21.01.00.000-10	Drilling pipes P 43x4,5 N	1500	4,5	Z-34	7,97
BI21.01.00.000-03	Drilling pipes P 43x4,5 N	1700	4,5	Z-34	8,7
BI21.01.00.000-04	Drilling pipes P 43x4,5 N	3200	4,5	Z-34	15,1
BI21.01.00.000-05	Drilling pipes P 43x4,5 N	4700	4,5	Z-34	21,5
BI21.01.00.000-06	Drilling pipes P 43x6 N	1700	6	Z-34	10,34
BI21.01.00.000-07	Drilling pipes P 43x6 N	3200	6	Z-34	18,52
BI21.01.00.000-08	Drilling pipes P 43x6 N	4700	6	Z-34	26,7
BI21.05.00.000-03	Drilling pipes P 55x4,5 N	1700	4,5	Z-45	12,5
BI21.05.00.000-04	Drilling pipes P 55x4,5 N	3200	4,5	Z-45	20,93
BI21.05.00.000-05	Drilling pipes P 55x4,5 N	4700	4,5	Z-45	29,3
BI21.05.00.000-06	Drilling pipes P 55x6 N	1700	6	Z-45	14,7
BI21.05.00.000-07	Drilling pipes P 55x6 N	3200	6	Z-45	25,6
BI21.05.00.000-08	Drilling pipes P 55x6 N	4700	6	Z-45	36,4
BI21.09.00.000-13	Drilling pipes P 63,5x4,5 N	1000	4,5	Z-53	11,1
BI21.09.00.000-14	Drilling pipes P 63,5x4,5 N	1500	4,5	Z-53	14,3
BI21.09.00.000-04	Drilling pipes P 63,5x4,5 N	1700	4,5	Z-53	15,6
BI21.09.00.000-12	Drilling pipes P 63,5x4,5 N	2590	4,5	Z-53	21,4
BI21.09.00.000-16	Drilling pipes P 63,5x4,5 N	3000	4,5	Z-53	24,1
BI21.09.00.000-05	Drilling pipes P 63,5x4,5 N	3200	4,5	Z-53	25,4
BI21.09.00.000-17	Drilling pipes P63,5x4,5 N	4500	4,5	Z-53	33,9
BI21.09.00.000-06	Drilling pipes P 63,5x4,5 N	4700	4,5	Z-53	35,2
BI21.09.00.000-07	Drilling pipes P 63,5x4,5 N	6200	4,5	Z-53	44,9
BI21.09.00.000-18	Drilling pipes P 63,5x6 N	1000	6	Z-53	12,9
BI21.09.00.000-19	Drilling pipes P 63,5x6 N	1500	6	Z-53	17
BI21.09.00.000-08	Drilling pipes P 63,5x6 N	1700	6	Z-53	18,7
BI21.09.00.000-15	Drilling pipes P 63,5x6 N	2590	6	Z-53	26,4
BI21.09.00.000-20	Drilling pipes P 63,5x6 N	3000	6	Z-53	29,9
BI21.09.00.000-09	Drilling pipes P 63,5x6 N	3200	6	Z-53	31,4
BI21.09.00.000-21	Drilling pipes P 63,5x6 N	4500	6	Z-53	42,6
BI21.09.00.000-10	Drilling pipes P 63,5x6 N	4700	6	Z-53	44,2
BI21.09.00.000-11	Drilling pipes P 63,5x6 N	6200	6	Z-53	56,9
BI21.13.00.000-04	Drilling pipes P 70x4,5 N	1700	4,5	Z-57	17,2
BI21.13.00.000-05	Drilling pipes P 70x4,5 N	3200	4,5	Z-57	28,11
BI21.13.00.000-06	Drilling pipes P 70x4,5 N	4700	4,5	Z-57	39,97
BI21.13.00.000-07	Drilling pipes P 70x4,5 N	6200	4,5	Z-57	49,83
BI21.13.00.000-08	Drilling pipes P 70x6 N	1700	6	Z-57	20,66
BI21.13.00.000-09	Drilling pipes P 70x6 N	3200	6	Z-57	34,81
BI21.13.00.000-10	Drilling pipes P 70x6 N	4700	6	Z-57	48,96
BI21.13.00.000-11	Drilling pipes P 70x6 N	6200	6	Z-57	63,12

Article number	Part name	Tube length, mm	Thickness of the wall, mm	Type of connection	Weigh, kg
BI21.17.00.000-04	Drilling pipes P 85x4,5 N	1700	4,5	Z-67	23,82
BI21.17.00.000-05	Drilling pipes P 85x4,5 N	3200	4,5	Z-67	37,17
BI21.17.00.000-06	Drilling pipes P 85x4,5 N	4700	4,5	Z-67	50,52
BI21.17.00.000-07	Drilling pipes P 85x4,5 N	6200	4,5	Z-67	63,87
BI21.17.00.000-08	Drilling pipes P 85x6 N	1700	6	Z-67	27,29
BI21.17.00.000-12	Drilling pipes P 85x6 N	2590	6	Z-67	37,65
BI21.17.00.000-09	Drilling pipes P 85x6 N	3200	6	Z-67	44,76
BI21.17.00.000-10	Drilling pipes P 85x6 N	4700	6	Z-67	62,23
BI21.17.00.000-11	Drilling pipes P 85x6 N	6200	6	Z-67	79,69
BI21.90.00.000	Drilling pipes P 89x4 N	1000	4	Z-73	18,83
BI21.90.00.000-01	Drilling pipes P 89x4 N	2000	4	Z-73	27,17
BI21.90.00.000-02	Drilling pipes P 89x4 N	3000	4	Z-73	35,51
BI21.90.00.000-03	Drilling pipes P 89x4 N	4000	4	Z-73	43,85
BI21.90.00.000-04	Drilling pipes P 89x4 N	6000	4	Z-73	60,54
BI21.90.00.000-05	Drilling pipes P 89x5,5 N	1000	5,5	Z-73	20,69
BI21.90.00.000-06	Drilling pipes P 89x5,5 N	2000	5,5	Z-73	31,95
BI21.90.00.000-07	Drilling pipes P 89x5,5 N	3000	5,5	Z-73	43,22
BI21.90.00.000-08	Drilling pipes P 89x5,5 N	4000	5,5	Z-73	54,49
BI21.90.00.000-09	Drilling pipes P 89x5,5 N	6000	5,5	Z-73	77,03
BI21.90.00.000-10	Drilling pipes P 89x6 N	1000	6	Z-73	21,3
BI21.90.00.000-11	Drilling pipes P 89x6 N	2000	6	Z-73	33,52
BI21.90.00.000-12	Drilling pipes P 89x6 N	3000	6	Z-73	45,74
BI21.90.00.000-13	Drilling pipes P 89x6 N	4000	6	Z-73	57,96
BI21.90.00.000-14	Drilling pipes P 89x6 N	6000	6	Z-73	84,2
BI21.90.00.000-15	Drilling pipes P 89x7 N	1000	7	Z-73	22,51
BI21.90.00.000-16	Drilling pipes P 89x7 N	2000	7	Z-73	36,59
BI21.90.00.000-17	Drilling pipes P 89x7 N	3000	7	Z-73	50,67
BI21.90.00.000-18	Drilling pipes P 89x7 N	4000	7	Z-73	64,76
BI21.90.00.000-19	Drilling pipes P 89x7 N	6000	7	Z-73	92,93
BI21.90.00.000-20	Drilling pipes P 89x9 N	1000	9	Z-73	24,82
BI21.90.00.000-21	Drilling pipes P 89x9 N	2000	9	Z-73	42,48
BI21.90.00.000-22	Drilling pipes P 89x9 N	3000	9	Z-73	60,15
BI21.90.00.000-23	Drilling pipes P 89x9 N	4000	9	Z-73	77,81
BI21.90.00.000-24	Drilling pipes P 89x9 N	6000	9	Z-73	113,15

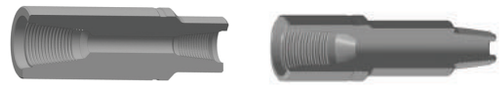
Tube materials: Steel 45
Lock material: Steel 40X

Adapters

Article number	Part name
BI149-337-00	Adapter (holder elevator of PBU-2 into drilling pipe 63,5)
P-34/53.001	Adapter (drilling pipe 43/63,5 into milling cutter adapter)
P-53/53.001	Adapter Z-53 into Z-53 (for casing pipes hoisting without drilling pipes)
P-53/67	Adapter Z-53 into Z-67 (holder elevator into drilling pipe 85)

Adapter

The adapters are designed to move from the column drill pipes on blade or rollers bits.



Article number	Part name	Outer Diameter, mm	Length, mm	Weight, kg
BI515.00.00.001	adapter M-53/53	70	200	4.2
BI515.00.00.002	adapter M-53/67	85	200	5.7
BI515.00.00.003	adapter M- 53/66	86	300	8.6
BI515.00.00.004	adapter M- 53/76	108	320	17.2
BI515.00.00.005	adapter M-53/88	113	320	17.1
BI515.00.00.006	adapter M-53/117	140	460	42.8
BI515.00.00.007	adapter M-53/121	146	480	50.7
BI515.00.00.008	adapter M-53/152	197	500	89.2
BI515.00.00.009	adapter M- 67/67	85,5	200	4.6
BI515.00.00.011	adapter M-67/66	86	300	7.2
BI515.00.00.012	adapter M- 67/76	108	320	14.6
BI515.00.00.013	adapter M- 67/88	113	320	15.2
BI515.00.00.014	adapter M-67/117	140	460	38.4
BI515.00.00.015	adapter M-67/121	146	480	45.4
BI515.00.00.016	Adapter M-67/152	197	500	88
BI515.00.00.017	adapter M- 67/171	203	500	88.6
BI515.00.00.018	adapter P -53/ 171	203	500	61.3
BI515.00.00.019	adapter P- 67/171	203	500	61.2

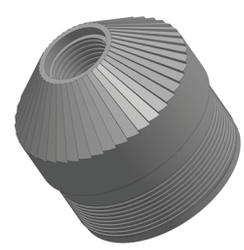
Milling adapters

Designed to move with the column of drill pipes to core pipes. Have at the bottom external thread under the column pipe and in the upper part of the internal thread under the drill pipe lock.

The upper part of the adapter is made in the form of a truncated cone with notches on the outer surface. That provides extraction of the column shell with its rotation in case of jamming.

Falling out of the walls of the hole pieces of rock and eliminates the possibility of touching the casing.

Article Number	Part name	Weight, Kg
BI18.00.00.003	Milling Adapter P1-50/73	1,6
BI198-01.00	Milling Adapter P1-50/89	3,7
BI198-02.00	Milling Adapter P1-50/108	5,8
BI198-03.00	Milling Adapter P1-50/127	7,9
BI18.00.00.014	Milling Adapter P1-50/146	10,2
BI18.00.00.015	Milling Adapter P1-50/168	17,7



Smooth Curbs for casing the pipes

The Curbs are used for destruction of rocks during crushing and clogging of casing pipes into the well.

Article Number	Part name	Curb Diameter, mm	Weight, kg	Diameter of pipes, mm
BI19.00.00.064	curb d=108 mm	112	2,71	108
BI19.00.00.064-01	curb d=127 mm	132	3,25	127
BI19.00.00.064-02	curb d=146 mm	151	3,46	146
BI19.00.00.064-03	curb d=168 mm	172	5,71	168

The casing and nipples for the coring pipes d=73-168 mm

Core pipes are used for core sampling in the process of core drilling of wells. Length of a thread for crown of 28 mm; length of a thread under milling adapter 60 mm.

Casing liners are used to maintain the stability of the walls when drilling in unstable soils.

Casing pipes are connected by means of nipples having external threads on both ends.

Core / casing pipes are manufactured:

- according to GOST 6238-77 strength grade "D" with a wall thickness of 5 mm,
- according to GOST 1050 of steel 45.

For each size of pipe nipples are produced with appropriate diameter.

Article number	Size of pipe, mm	Thickness of wall,mm	Weight 1 meter pipe, k	Length pipe, mm	Thread type
Core Pipe d=73 mm	73x5	5	8	1000-4500	68 x 4 GOST 6238-77
Core Pipe d=89 mm	89x5	5	10,4	1000-6000	84 x 4 GOST 6238-77
Core Pipe d=108 mm	108x5	5	12,7	1000-6000	103 x 4 GOST 6238-77
Core Pipe d=127 mm	127x5	5	15	1000-6000	122 x 4 GOST 6238-77
Core Pipe d=146 mm	146x5	6	17,4	1000-6000	141 x 4 GOST 6238-77

Article Number	Size of pipe, mm	Thickness of wall, mm	Weight 1 meter,kg	Weight nipple,kg	Length pipe,mm	Thread Type
Nipple casing pipe connections d=89 mm	89x5	5	10,4	1,7	1000-6000	84 x 4 GOST 6238-77
Nipple casing pipe connections d=108 mm	108x5	5	12,7	2,4	1000-6000	103 x 4 GOST 6238-77
Nipple casing pipe connections d=127 mm	127x5	5	15	2,6	1000-6000	122 x 4 GOST 6238-77
Nipple casing pipe connections d=146 mm	146x5	5	17,4	2,8	1000-6000	141 x 4 GOST 6238-77
Nipple casing pipe connections d=168 mm	168x6	6	22,5	3,1	1000-4500	163 x 4 GOST 6238-77

Drill bits, blade for drilling with flushing d= 112-295,3 mm

Bits for non-core drilling of wells with flushing/blowing in rocks of I-IV categories of drill-ability.

Bits are equipped with cutters reinforced with hard-alloy plates for drilling in rocks of different categories. To prevent the borehole from narrowing, the drill bits are equipped with a calibrating weapons in the form of carbide pins. The working surfaces of the blades are protected from abrasive-wear and hardening of the hard alloy surfacing.

Bit blade to provide mechanical drilling speed is 2.5 times higher than the rate drilling with roller bits with reduction of the required axial load on the rock-cutting tool more than 10 times; have high wear resistance due to the reinforcement hard-alloy pins and cladding; improved the maintainability due to possible-replacement of cutter directly in the field.




Article number	Bits diameter, mm	Number of blades	Connection type	Weight, kg
BI501.00.000	112	3	Z-67	4,7
BI506.00.000	132	3	Z-67	6,3
BI508.00.000	146	3	Z-67	9,6
DL-190.000	190	3	Z-117	13,9
BI509.00.000	215,9	3	Z-152	21,2
DL-244.000	244,5	4	Z-152	16,1
DL-295.000	295	6	Z-152	26,6

Drill bits roller cone d=76-490 mm

Roller cone bits for rotary drilling of geological prospecting, hydro-geological and other wells with bottom-hole cleaning by washing liquid or air. Characteristics of the bits are given in the legend, where:

- the first figure in (Roman) - the number of bits
- second (Arabic) - diameter
- letters (up to the sign "dash") - hardness of the drilled rock (M, C, Sz, T, TZ, TKZ, K, OK)
- letter (after "dash") - types of bottom hole cleaning (C, G, P)
- the letter (last) - the type of pedestal supports (A, B, H)

The hardness of drilled rocks:
M-soft; C-medium hardness
Sz - abrasive rocks of medium hardness
T - hard rocks
TK- abrasive hard rocks
TKZ - hard abrasive rocks with inter layers of strong
K- strong; OK-very strong.

Type of face cleaning:
C - central flushing; G - lateral (hydro-monitor) flushing
P - air blowing

Type of pedestal(roller) supports:
A - two or more sliding bearings; B - on bearings with rolling elements;
H – single sliding bearing (the rest of the bearings)

Article Number	Diameter, mm	Type of connection	Weight,kg
III 76 K-CB	76	Z-41,5	3,2
III 93 T-CB	93	Z-50	4,5
III 93 K-CA	93	Z-50	4,5
III 98,4 C-CA	98,4	Z-66	4,8
III 98,4 T-CA	98,4	Z-66	5
III 98,4 OK-CA	98,4	Z-66	5,2
III 112 T-CB	112	Z-63,5	5,7
III 112 K-CB	112	Z-63,5	5,7
III 120,6 C-CA	120,6	Z-76	7,5
III 120,6 T-CA	120,6	Z-76	7,1
III 120,6 TZ-CA	120,6	Z-76	7,4
III 120,6 OK-CA	120,6	Z-76	7,4
III 132 C-CB	132	Z-63,5	8,9
III 132 T-CB	132	Z-63,5	8,3
III 132 K-CB	132	Z-63,5	9,7
III 139,7 C-CB	139,7	Z-88	12,2
III 139,7 T-CB	139,7	Z-88	11,7
III 146 T-CB	146	Z-88	11,3
III 146 OK-CB	146	Z-88	12,5
III 146 OK-PB	146	Z-88	14,9
III 151 C-CB	151	Z-88	13,1
III 151 T-CB	151	Z-88	11,9
III 151 K-CB	151	Z-88	13,5
III 161 C-CB	161	Z-88	17,5
III 161 T-CB	161	Z-88	17
III 161 K-PB	161	Z-88	18,1
III 190,5 C-GB	190,5	Z-117	29,5
III 190,5 C-CB	190,5	Z-117	27,6
III 190,5 T-CB	190,5	Z-117	27,3
III 190,5 TKZ-CB	190,5	Z-117	28,7
III 215,9 C-GV	215,9	Z-117	36,1
III 215,9 CZ-GB	215,9	Z-117	38,2
III 215,9 T-PB	215,9	Z-117	28,4

Article Number	Diameter, mm	Type of connection	Weight,kg
III 215,9 TKZ-CB	215,9	Z-117	32
III 215,9 T-CB	215,9	Z-117	32
III 215,9 K-PB	215,9	Z-117	30,2
III 215,9 OK	215,9	Z-117	30
III 244,5 C-CB	244,5	Z-121	51
III 244,5 T-CB	244,5	Z-121	45
III 244,5 T-PB	244,5	Z-121	45,5
III 244,5 K-PB	244,5	Z-121	50,4
III 244,5 OK-PB	244,5	Z-121	44,8
III 269,9 C-GB	269,9	Z-152	67
III 269,9 CZ-GB	269,9	Z-152	73
III 269,9 T-CB	269,9	Z-152	62,5
III 269,9 TK-CB	269,9	Z-152	62,5
III 269,9 OK-PB	269,9	Z-152	70
III 295,3 C-GB	295,3	Z-152	77
III 295,3 CZ-GB	295,3	Z-152	80
III 295,3 TK-CB	295,3	Z-152	77
III 295,3 T-CB	295,3	Z-152	76,5
III 295,3 OK-PB	295,3	Z-152	77
III 295,3 C-CB	295,3	Z-152	74
III 320 C-GB	320	Z-152	83,5
III 349,2 C-CB	349,2	Z-152	103
III 349,2 T-CB	349,2	Z-152	99
III 349,2 C-GB	349,2	Z-152	115
III 349,2 M-CB	349,2	Z-152	104
III 349,2 M-GB	349,2	Z-152	114
III 393,7 T-CB	393,7	Z-117/Z-171	176
III 393,7 C-GB	393,7	Z-117/Z-171	171
III 393,7 M-CB	393,7	Z-117/Z-171	167
III 393,7 C-CB	393,7	Z-117/Z-171	176
III 444,5 C-CB	444,5	Z-171	252
III 490 C-CB	490	Z-171	316

Special core shell (SKS-108, SKS-127, SKS-146)

The SKS core shell is designed for sampling the soil disturbed formation in accordance with GOST 12071-2000 when carrying out an engineering geological survey by rotational method "dry" with using hard alloy crowns , by mechanical extraction of soil samples from the core tube. SKS can also be used for drilling exploration wells in prospecting for minerals.

Core Shell SKS is applied in installations with a movable rotatory:

- the stroke length of the carriage of the movable rotatory-not less than 2000 mm.

- the installation is completed with a work table and a clamp for core and casing, or pipe holder for working with pipes of diameter up to 108, 127, 146 mm.

General view Operational principle

Article number	Part name	Diameter, mm	Length, mm
BI517.00.000	Special core Shell SKS-108	108	1000
BI517.00.000-01	Special core Shell SKS-108	108	2000
BI513.00.00.000	Special core Shell SKS-127	127	1000
BI513.00.00.000-01	Special core Shell SKS-127	127	2000
BI518.00.00.000	Special core Shell SKS-127	146	1000

The core extraction device (UVK 1-3)

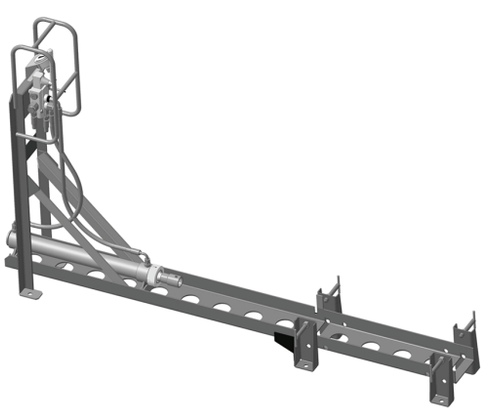
UVK 1-3 is designed to extract cores from core pipes with diameters of 108,127 and 146 mm

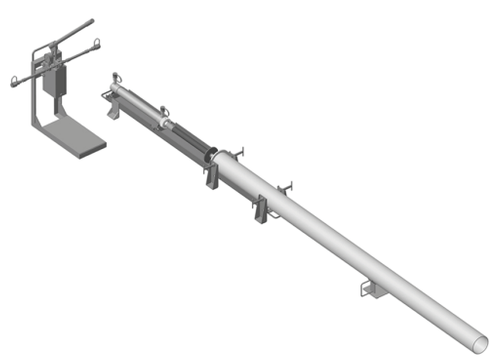
The application of UVK1-3 makes it possible to obtain rock monoliths with unbroken structure during engineering and geological surveys, as well as to mechanize the process of obtaining the core from a coring pipe.

Composition:

- Basis
- hydraulic cylinder and clamps mounted in one unit
- hydraulic pump manual.

When used in combination with a drilling rig, UVK 1-3 can be connected to the hydraulic system of the installation.





Article number	Maximum ejection force, kN	Maximum length core pipe,m	Diameter core pipe,mm	Stroke of the hydraulic cylinder,mm	Weight,kg
UVK 1-3	5	3	108,127, 146	500	60

Universal Crowns

The Crowns (head) is universal - it serves for descent-rise, crushing and extraction of casing pipes. While maintaining the internal diameter for simultaneous operation of the drilling tool when crushing.

Article number	Part name	Diameter, mm	Inner Diameter, mm	Weight, kg	Длина , мм
BI19.29.00.001	Universal Crown head d=108 mm	112	95	2,53	150
BI19.29.00.010	Stud	30	-	0,8	140
BI19.30.00.001	Universal Crown head d=127 mm	132	115	5,11	200
BI19.30.00.010	Stud	30	-	0,91	160
BI19.31.00.001	Universal Crown head d=146 mm	151	134	5,53	200
BI19.31.00.010	Stud	30	-	0,98	174
BI19.32.00.001	Universal Crown head d=168 mm	172	151	6,84	200
BI19.32.00.010	Stud	30	-	1,13	200

Emergency Tools

The fishing tap - is used for extraction of emergency coring, casing pipe for an internal thread on a pipe according to (GOST 8565-81).

Article number	Inner diameter extracted pipes, mm	Diameter borehole, mm	Length without crown, mm	Weight, kg
A1	13-28	36	250	0,8
A2	15-32	46	280	1,2
B1	29-37	46	160	0,9
B2	42-50	59	160	1,8
V1	20-57	76	430	9,4
V2	20-57	76	430	9,5
V3	20-57	76	430	9,6
D1	51-64	76	220	3,2
D2	71-82	93	190	4,9
D3	89-100	112	200	9,8
D4	108-120	132	200	11,5
D5	126-130	151	200	15
K	43-53	76	215	-

Cone Catch - It is used for extraction of emergency drill pipes for the external threads cut by it on a pipe or lock (according to GOST 8565-81).

Article number	Outer diameter of extraction pipe, mm	Diameter Borehole, not more than, mm	Diameter, mm	Weight, kg
A1	32-44	59	135	1,0
A2	41-66	76	240	2,8
B1	40-59	93	190	3,7
B2	40-59	93	190	3,7
B3	40-59	93	190	3,7
B4	48-85	112	330	14,5
B5	48-85	112	330	14,5

Accessory Tools

Hinged keys are designed for screwing and unscrewing of drilling, casing and coring pipes and their connections. The keys provide a reliable grip and torque transmission during screwing and unscrewing of the pipes, have a small mass.

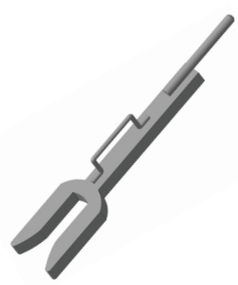
Article number	Diameter pipe, mm	Length, mm	Weight, kg
KSHS-50	50	600	6,3
KSHS-63,5	63,5	630	6,7
KSHS-73/89	73, 89	670	7
KSHS-108/127	108,127	680	7,8
KSHS-146	146	690	8
KSHS-168/188	168,188	740	10,9
KSHS-219/243	219, 243	800	12,1

Key bounce is designed for initial unscrewing (straining) of tightened threaded nipple and lock joints of the drill pipes.

Article number	Diameter pipe, mm	Length, mm	Weight, kg
MZ-34.001	43	600	9,9
MZ-50.001	63,5	600	3,7
MZ-67.001	85	605	7,6
MZ-73.001	89	605	7,6

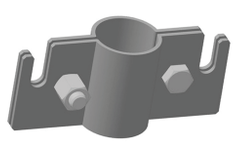
Plugs are designed to hold the string of drill pipes at the wellhead while the build-up and disassemble of the drill tools.

Article number	Diameter pipe, mm	Length, mm	Weight, kg
MZ-34.000	43	600	7,7
MZ-50.000	63,5	600	7,9
MZ-67.000	85	600	7,9
MZ-73.000	89	535	8,7
BI7.07.00.000	63	264	5,2
BI10.02.00.000	63	360	7,8
BI10.03.00.000	85	350	5,5



Clamps are designed for fixing casing pipes at the well head during the lifting operations and build-up.

Article number	Diameter pipe, mm	Weight, kg
BI19.01.00.000	89	13,4
BI199-81.000	108	15,7
BI199-82.000	127	16,8
BI199-83.000	146	17,9
BI99-84.000	168	24,2
BI199-86.000	219	28



Nipples are designed to connect the casing string to each other.

Article number	Diameter pipe, mm	Weight, kg
BI19.00.00.001	89	1,7
BI19.00.00.001-01	108	2,4
BI19.00.00.001-02	127	2,6
BI19.00.00.001-03	146	2,8
BI19.00.00.001-05	168	3,1

Pneumatic hammer d=85-155 mm

Pneumatic hammer P-320 is designed for the construction of special technical wells in building diameters d = 380 - 508 mm in rocks up to the XII category for drill-ability inclusive.

Submersible pneumatic hammer P-320 is used on drilling rigs with a lifting capacity of more than 3000 kgf rotatory and a feed stroke of at least 3.5 m.

Article number	Normal diameter drilling, mm	Shock power strike, kVt	Length air hammer, mm	Weight, mm
P-85, P-2,0	85	2,0	630	32,8
P-105PM	105	2,8	512	18,5
P-110, P-2,8	110	2,8	668	23,5
P-130, P-4,0	130	4	657	33,2
P-155-4,1	155	4,1	460	40
P-152S	155	6,2	705	62

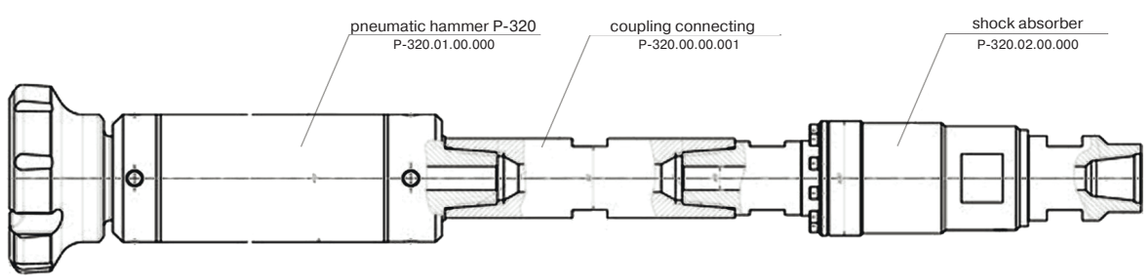
Pneumatic hammer d=380-508 mm

Pneumatic hammer P-320 is designed for the construction of special technical wells in the construction of diameters D=380 - 508 mm in the rocks to XII category drill-ability inclusive.

Submersible pneumatic hammer P-320 is used on drilling rigs with a lifting capacity of more than 3000 kg rotator and a feed stroke of not less than 3.5 m.

Composition P-320

№	Article number	Part Name
1	P-320.01.00.000	pneumatic hammer P-320
2	P-320.00.00.001	coupling connecting
3	P- 320.02.00.000	shock absorber



Technical Characteristics

Diameter of Bits used , MM	380-508
Normal compressed air pressure MPa	1.2
Weight of pneumatic hammer (without bit and shock absorber)kg	596
Type of connecting (pneumatic hammer/bit)	NUMA 125(Spline)

Drilling bit and crowns d=85-250 mm

Drill bits and crowns are designed for drilling with submersible pneumatic hammers in rocks of medium and high strength, including abrasive, destroyed and fractured. Bayonet or spline connection of the drill bit or the crown with a pneumatic hammer is reliability and durable, it provides a quick tool changes. The blades of drill bits and crowns are reinforced with hard alloy.

The drill bit has a rational shape of the body, channels for supplying exhaust air to the bottom of wells, x-shaped position of rock-cutting blades. According to the type of weaponry, drilling Crowns differ in pins (KNSH) and blade (K).

Article number	Part name	Model submersible hammer machine	Type of connecting air hammer	Diameter bit /crowns, mm	Diameter shank
DP.96.00.000	Pneumatic Bit	P-85R	bayonet	96	45
DP.113.00.000	Pneumatic Bit	P-110	bayonet	113	52
DP.132.00.000	Pneumatic Bit	P-130	bayonet	132	62
DRP.151.00.000	Pneumatic Bit	P-150	splin	151	96
DP.190.00.000	Pneumatic Bit	P-150	splin	190	96
DP.232.00.000	Pneumatic Bit	P-150	splin	232	96
DRP.250.00.000	Pneumatic Bit	P-150	splin	250	96
KNSH-85	Drill Bit	P-85R	bayonet	85	45
KNSH-105SHV	Drill Bit	P-105	splines with key	105	58
K-110П	Drill Bit	P-110	bayonet	110	52
K-110	Drill Bit	P-110	bayonet	110	52
KNSH-112П	Drill Bit	P-110	bayonet	112	52
K-130A	Drill Bit	P-130	bayonet	130	62
KNSH-130	Drill Bit	P-130	bayonet	130	62
KNSH-155	Drill Bit	P-155	bayonet	155	69
K-160	Drill Bit	P-130	bayonet	160	62
KNSH-165.00.000	Drill Bit	P-152	splin	165	
KNSH-250	Drill Bit	P-152	splin	250	87,5

Fender wells d= 200-250 mm

Pneumatic hammers fender are designed to increase the diameter of the well in medium and hard rocks of high strength according to the per-drilled beam by using pneumatic hammers. They consist of three parts: a guide (borehole) along the diameter of the drilled well, a fender well , shanks for fastening to the pneumatic hammer, which can be performed with a bayonet and a spline connection.

Article number	Applied pneumatic hammer	Type of connecting air hammer	Normal diameter, mm	Length, mm	Weight, kg
DP-200	P-150S	spline	200	400	31,7
DP-220	P-150S	spline	220	400	33,5
DP-250	P-150S	spline	250	400	35

Core Sets (KN)

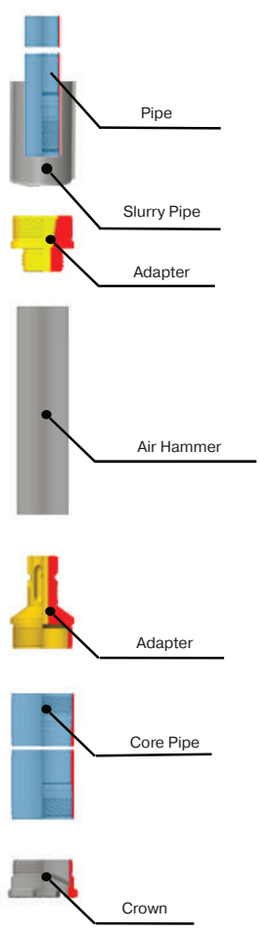
Core sets are designed for pneumatic impact drilling of wells in rocks VI-VII categories of drilling capacity with soil sampling.

Composition of Core Set

Article Number	Part name	Weight, kg	Length, mm
KPK-120.01.000	Crown KPK 120 (outer diameter/inner diameter=120/86mm	2	91.8
KN-120.00.00.002	Adapter P110/TK-108	4.9	220
KN-120.00.00.004	Adapter Z-50/TSH-108/72x10	6.5	133
KN-120.00.00.005	Slurry Pipe TSH-108	19.1	1250
BI19.00.00.025	Core Pipe d= 108 mm, Steel Grade 45	12.7	1000

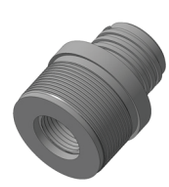
Article Number	Part name	Weight, kg	Length, mm
KPK-140.01.000	Crown KPK 140 (outer diameter/inner diameter=140/102 mm	3	91.8
KN-140.00.00.002	Adapter P130/TK-127	5,4	220
KN-140.00.00.004	Adapter Z-50/TSH-127/72x10	8,9	133
KN-140.00.00.005	Slurry Pipe TSH-127	12,6	1250
BI19.00.00.026-01	Core Pipe d= 127 mm, Steel Grade 45	15	1000

Article Number	Part name	Weight, kg	Length, mm
KPK-160.01.000	Crown KPK 160 (outer diameter/inner diameter=160/120 mm	3,57	105
KN-160.00.00.002	Adapter P130/TK-146	5,8	220
KN-160.00.00.004	Adapter Z-50/TSH-146/72x10	8,9	133
KN-160.00.00.005	Slurry Pipe TSH-146	17	1000
BI19.00.00.027	Core Pipe d= 146 mm, Steel Grade 45	17	1000

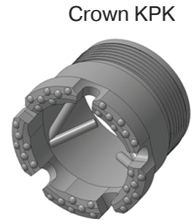


Adapter of the Pneumatic hammer on the core pipe

Adapter with drill pipe to the pneumatic hammer



Crown KPK



Tools Set for Pneumatic drilling with simultaneous casing

This Tools set is designed for horizontal, vertical and inclined drilling in rocks of any type, the depth of the well can exceed 100 m.

The system includes:

- Air hammer
- Pilot and ring bit
- Curbs of casing pipe and a retaining ring.

Unlike other models, the drill bit of the concentric system has a symmetrical structure and allows to minimize to zero the common problems with deviation from the given drilling axis and wedging. When assembling the curbs is fixed at the bottom of the casing pipe, then the installation of the ring bit and the locking ring. A pilot bit connected to the air hammer is inserted inside the ring bit. The air hammer is connected to the spindle of the drilling unit rotator by means of a pipe with a lock thread.

After reaching a layer of hard rock and a slight deepening in it, casing pipes is performed (if necessary). In the course of pneumatic impact drilling, the air pressure must be in the range of 10-24 bar. Once the required depth is reached, the hammer and pilot bit are extracted. If the depth of the well needs to be further increased (without casing), it is possible to continue drilling operations with a bit with a smaller diameter.

When ordering the elements of the concentric system, it is necessary to take into account that the casing pipe curb and the ring bit remain in the well in the event that casing pipes are not removed to the surface.

Kits Composition

Article number	Part name	Weight, kg
PBU-100.000.12.00.000	Air Horse L=18 m	20
BI28.28.00.000	Pipe Assembly D= 146 mm	65
BI28.25.01.000	Bit D=150 mm (for hard rocks)	14,5
DTH HAMMER TH4/DTH*	Pneumatic hammer	-
BI28.01.00.000	A check valve	18
BI28.15.00.000	Shock absorber	24
BI28.00.00.005	Adapter Z-67/Z-67	7,2
BI28.11.00.000	Drilling pipe TBS-85, L=0.75 m	16
BI28.03.00.000	Sealer (without replacement parts)	16
BIL50-12	Hook	-
LBU50-30V.21.29.010	Support for the thrust the demolition of the key when disassembling the columns	14
BI28.00.00.001	Key striker for TBS-85 (throat width 56 mm)	20,5
BI19.17.00.000	He casing pipe D=146 mm (wall thickness 8 mm) L=2.5 m	71
BI28.11.00.000-01	Drilling pipe TBS-85, L=2.5 m	37
BI28.21.00.000	Special plug for downhill Slopes, operations with pipes D=146 mm	4,6
BI28.08.00.000	Folding Plug backing for downhill Slopes, operations with pipes D=146 mm 5	5
KSHS 146	Hinged key	8
BI28.03.04.000	Main base seal	5,7
BI28.31.00.000	Three-bladed bit for soft soils (D = 110 mm)	15

The set of the dynamic Probing tool (KDZ-001)

KDZ-001 is designed for field testing of soils according to the GOST 19912-2001 "Soils. Methods of field tests by static and dynamic Probing".

Application KDZ-001: determination of the conditional dynamic resistance of sands and clay soils (except for soils containing coarse clastic inclusions more than 40% by weight).

The Set of KDZ-001 includes:

- hammer stroke counter (allows to count the number of hammer strokes);
- tilt indicator (used to determine the vertical of the axis of the probe installation, which meets the requirements of GOST 19912-2001 (vertical deviation of not more than 2 degrees));
- extractor for the extraction of dynamic sensing rods (can be used with small -size drilling rigs, which develop a small upward feed force, which makes it difficult to extract the probe rods from the well).

KDZ-001 is used with drilling rigs BBU 000 "Openok", BBU 001 "Openok", PBU-2, UGB .

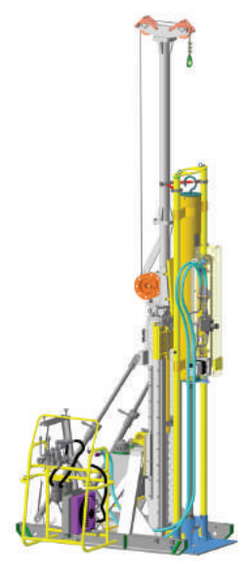
UDZ-001 used in the structure with drilling rigs MBU, UGB, PBU-2 as attachments.

Kits Composition

Article number	Part name	Number, Units	Remark
BI512.01.000	Shock mechanism	1	
BI512.02.000	Support-centering plate	1	
BI512.03.000	Probe	1	20 bar and 1 tip
BI512.04.000	Area	1	
BI512.05.000	hydraulic actuator	1	
BI512.06.000	set of tools and accessories	1	

KDZ-001

KDZ-001 as part of drilling rig



To use kdz-001 required drilling rig with the following characteristics:

Pressure in hydraulic system, not less, MPa	3.0
Hydraulic fluid flow rate not less than, MPa	20
Height to the crown block axis, no more, MPa	4000
Max lifting capacity,KG, not less	400
Upward force developed by the feed mechanism, not less, KGF	2000

Hydraulic device for static probing SZGU-000

SZGU-000 is designed for field testing of soils using the static probing method according (GOST 19912-2001) using sets of instruments «TEST-K2», «TEST-K4», «PIKA-17», «PIKA».

SZGU-000 is supplied as an option as a part of the self-propelled drilling rigs of the UGB type mounted on the KAMAZ and TGM chassis (Mtlbu) At the same time, due to the total weight of the drilling equipment, it is possible to conduct static probing without anchoring, and for the centralization of the sounding column and its protection from bending between the deck of the drilling rig and the earth's surface, the device includes a special centralizer, and to protect the instruments and the operator of static probing from precipitation and direct sunlight, additional equipment with a shelter is possible. The device is equipped with its own remote control. Working pressure in the hydraulic system - 12 MPa.

Composition of the tool for SZGU

Article number	Part name
BI7.00.00.018-01	Rod probing 36x8x1000 with flats
BI7.00.00.018	Rod probing 36x8x1000
BI7.00.00.019	Rod probing 36x8x800
BI7.00.00.008	Plug
BI7.00.00.011	Plug
BI7.00.00.012	Split head for crushing
BI7.00.00.013	Crown cutter threaded
PIKA-19	Set of measuring equipment
T17M	Probe
	Extension
PDU	Remote control
	Cable Assembly 25 m, control cable
	Set of headers

Probing Rods

Probing rods are designed for immersion of a probe strain gauge during static probing of the soils. Inside the probe rods is a cable, which provides signal transmission from the strain gauge probe to the measuring device.

Wall thickness = 8mm

Article umber	Part name	Diameter, mm	Length, mm	Thread
BI7.00.00.019	Probing Rod d= 36mm L=800 mm	36	800	cylindrical Tape 30x4
BI7.00.00.018-01	Probing Rod d= 36mm L=100 mm with flats	36	1000	cylindrical Tape 30x4
BI7.00.00.018-02	Rod probing d = 36 mm L = 1000 mm with two pairs of flats	36	1000	cylindrical Tape 30x4
BI7.00.00.018	Rod probing d = 36 mm L = 1000 mm without flats	36	1000	cylindrical Tape 30x4
BI18.00.00.035	Rod probing d = 36 mm L = 1000 mm with two pairs of flats	36	1000	conical 31x2, 5
BI18.00.00.047	Rod probing d = 36 mm L = 1000 mm with two pairs of flats	36	1000	conical 31x2, 6

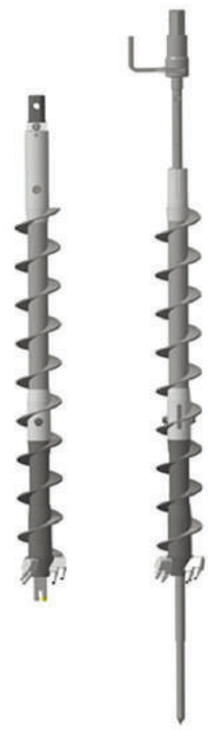
The tool set for static Probing (KIZ-000)

KIZ-000 is designed to provide field testing of soils by static sounding method with the use of drilling rigs, flow mechanisms that develop a flow force down from 1500 kgs compliance with the requirements according to GOST 19912-2001. KIZ-000 allows to carry out static probing with interval - drilling without extraction drilling tools from the well.

Kit KIZ-000 can be used with drilling rigs BBU 000 "Openok", BBU 001 "Openok-S", UGB, PBU-2, LBU-50 and others.

Composition of Set

Article Number	Part Name	Number /Unit	Weight, kg
BI511.01.000	Auger equal-pass SHR-165	20	16,6
BI511.02.000	Auger bit DSH-180	1	14,8
BI511.03.000	Bit removable	1	6,1
BI511.04.000	Lead Adapter S55	1	8,2
BI511.05.000	Rod	20	3,4
BI7.00.00.012	Split head for crushing	1	0,9
BI7.00.00.013	Crown cutter threaded	1	0,9
BI7.00.00.014	Adapter	1	6
BI7.00.00.018	Rod	20	5,21
	Auxiliary and load-lifting accessories		
BI7.00.00.008	Plug	2	0,8
BI7.00.00.011	Plug	1	1,2
BI7.02A.01.004	Pin	1	0,4
DO1-200.012	Planer	1	3
BI189-23	Hook	1	3,5
BI511.06.000	Set of tools and accessories	1	-



KIZ-000 Drilling composition

KIZ-000 Probing composition

Set of equipment Test-K2M

The TEST-K2M equipment set is designed for static probing of non-frozen sandy and clay soils TEST-K2M consists of:

- Set of tools and accessories (strain gauge, switching cable, cable control, probe rod, headrest for indentation and extraction of the probe, expander, controller TEST-K2M, measuring device TEST-AM, power supply 220/12 Volts).
- Means of indication and control of probing parameters (calibration device, calibration device), the tip of the plug for the probe of the probe, the sample dynamo -meter, the radio button to the controller, the outlet of a special 12 V power cable, communication cable with mini-printer, cable connection with PC (RS-232), a USB cable, the software processing of the results).
- Technical and operational documentation.
- Accessories (carrying case).

Set of Instrument PIKA-19

The PIKA-19 tool set is designed for field testing of soils using static probing.

The kit allows you to measure and record the specific resistance of the soil cone probe, the specific resistance of the soil the friction clutch, the probe immersion depth and to control the vertical position of probe immersion.

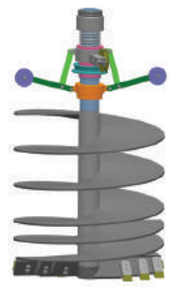
KIT PEAK-19 consists of: rods probing BI7.00.00.018-01, probe, connecting cable, measuring device (which allows in the process of static probing to obtain in digital form the specific resistance to the soil to the probe cone (fs , MPa), the ground resistivity on the probe friction clutch (fs, kPa)).

The kit includes accessories: a split head for crushing, a cut-off head for extraction, a depth gauge and vertical control position (supplied on request).

Auger drills sliding on bars d=650, 850, 1050 mm

Drilling augers are sliding on the rods designed for drilling of wells in rocks of the I-IV category for drilling with diameters 650, 850 and 1050 mm. Advantage of sliding auger drill is the reduction of the time, lowering -lifting operations by eliminating the connection and separation of pipes of the drill ring.

Drills are used on drilling rigs equipped with a winch.



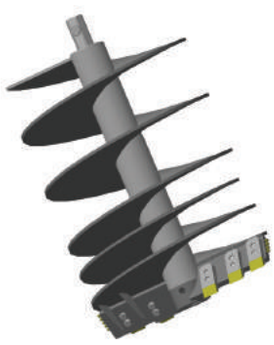
Article Number	Part name	Type of Connection
KSB-650 (PBU)	Set of Instruments for Slide drill d=650 mm (PBU)	hexagon S55
KSB-650 (LBU)	Set of Instruments for Slide drill d=650 mm (LBU)	triangle T90
KSB-850 (PBU)	Set with Drill d=850 mm sliding rod (PBU)	hexagon S55
KSB-850 (LBU-50-07)	Set with Drill d=850 mm sliding rod (LBU)	triangle T90
KSB-850 (LBU-50-10)	Set drill tool D=850 mm sliding on rods (LBU)	triangle T90
KSB-1050	Set of Instruments for Slide drill d=650 mm (LBU)	triangle T90

Auger drills d= 650, 850 mm

Auger drills are designed for drilling wells in the rocks of I-IV categories of drill ability.

The drills are made two-way to ensure a uniform load on the drill and complete removal of soil from the face. Cutters reinforced with hard-alloy plates are fixed on the working edges of the drill.

The groove during drilling is carried out by short flights of 0.5-0.6 m. Cleaning of the auger drill from the cuttings is performed above the wellhead by manually or by expansion at high speeds of rotation.



Auger drill

Bit

Article Number	Part name	Type of Connection
KB-650 (PBU)	Set with auger drill D=650 mm (PBU)	hexagon S55
KB-850 (PBU)	Set with auger drill D=850 mm (PBU)	hexagon S55
BI17.32.00.000	Set with auger drill D=650 mm (LBU)	triangle T90
KB-850 (LBU)	Set with auger drill D=850 mm (LBU)	triangle T90

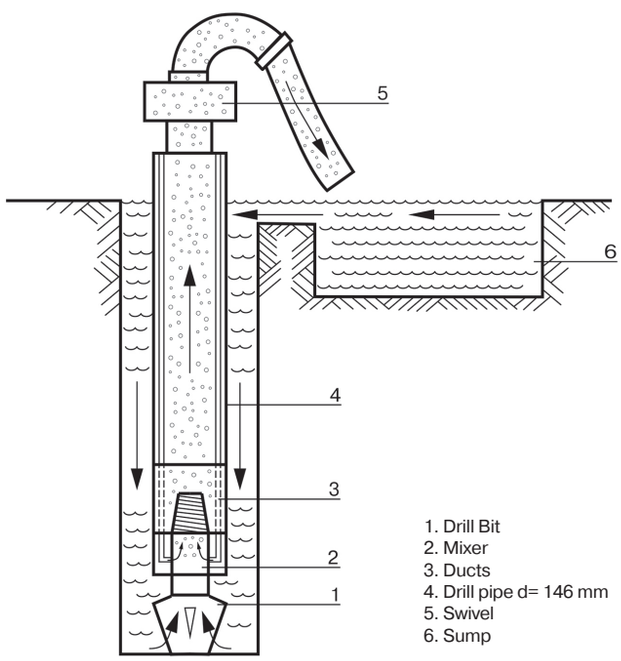
Tool Set with back washing (AIRLIFT)

Drilling technology with backwash (reverse circulation, AIRLIFT) is designed for the construction of industrial water wells with a diameter of up to 1 meter.

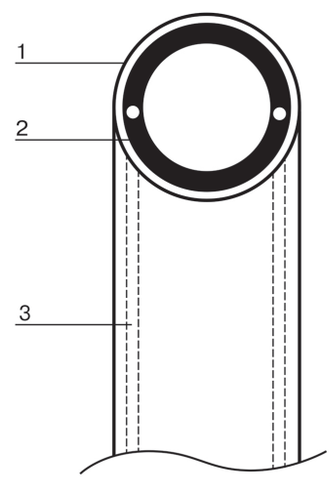
This technology is used in drilling rigs LBU-50-30, URB-5AG, UBV-318/320.

The well is washed by water, which is supplied to the bottom hole between the well walls and drill pipes. The drilled rock and water in the form of pulp rise from the bottom up the drill pipes and through the swivel and rubber hose get into the sump, where they are cleaned of sludge. From the sump (sump), the water flows into the well by gravity, it is washed by the bit and, mixed with the drilled rock, is absorbed through the bit and drill pipes with the help of an airlift. The walls of the well "hold" the hydro static pressure of water coming from the sump. A prerequisite is that the water level in the well is maintained 3 to 4 meters above the static level aquifer
When drilling water wells with backwash, suction of the pulp through the bit into the drill pipe is carried out in the following way:

The pulp is absorbed by the airlift. Compressed air is supplied from the compressor to the swivel, and then through the air pipes - into the well. Air, mixing with water and drilled rock, forms an aerated pulp that rises up the drill pipes and enters the sump.



The technology of backwashing drilling (AIRLIFT)



Drilling Pipe

Set Composition

Article Number	Part Name	Weight, kg
IOC 01.00.000	Drill Pipe d=250 mm (inner diameter=133 mm) L=3127 mm	136
IOC 01.00.000	Drill Pipe d=250 mm (inner diameter=133 mm) L=2627 mm	121
IOC 02.00.000	Bit 3-blade D=500 mm	100
IOC 03.00.000	Adapter with check valve	72
IOC 06.00.000	Double-grab chain Elevator	18
IOC 08.01.000	Key for drill pipes Assembly D=250 mm	64
IOC 08.02.000	Plug , lining, assy	23
IOC 08.00.001	Key	64
IOC 09.00.000	Installation of the table (drill table hydro-breaker)	351
IOC 10.00.000	Gland packing D = 310 mm	263

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