

JSC "Stroydormash" (Alapayevsk)

Nowadays JSC Stroydormash is one of the leading machines building enterprise with more than half a century drilling machines production background which are applicable in various industries.

Drilling machines are widely and traditionally being used during the construction and maintenance of Power Transmission Lines, communication, pile foundation installation, as well as construction of commercial and civil public works.

As JSC Stroydormash has all high tech and state-of-the-art equipment in its possession, therefore that company manufactures the products with quality and reliability impeccably proved its efficiency during long term service experience of drilling machinery in the Power Utilities of Russia and CIS countries and also at construction, oil-gas industry enterprises along with road facilities and municipal engineering.

The fully developed relationships with consumers serve the basis for the enterprise partnership expansion that allows overcoming the challenges in development of new tendencies and enlargement of machinery production scope.









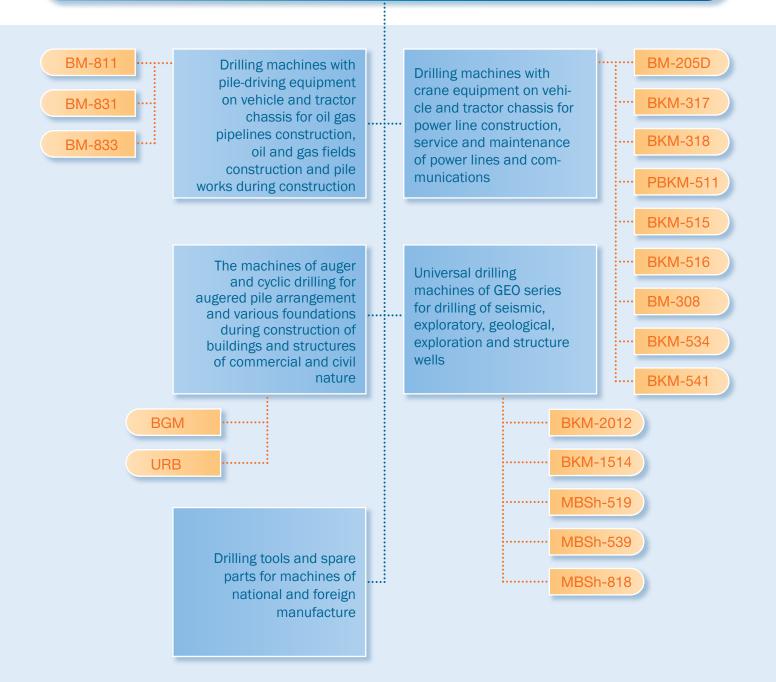
JSC Stroydormash consists of qualified specialists with long term practical experience in the Road construction machine building and who are able to fix a various technical problems with conditions of clients' demands rapidly growing. All the drilling machines manufactured are of original company engineering. Professional staff of constructors along with technological background allow to design, to adopt and to start the serial production of new outputs meanwhile sustaining competition.

Experience and energy harmony, traditions and innovational potential with dedication to provide a quality service for consumers and to solve their individual goals — these are special features of the Enterprise, which is deemed to be a reliable partner and manufacturer of high efficient, contemporary and comfortable machines which meet all clients' requirements.

The enterprise is keep on developing in dynamic manner, and refer to basic market tendencies paying attention at demands of each client which accordingly proves an authoritative business reputation and support an efficient and long term cooperation.



Stroydormash products





The Activity priorities of JSC "Stroydormash"



- Long term cooperation
- Individual approach to client
- Reasonable prices for consumer
- Flexible price policy
- Delivery terms optimization
- Simple and comfortable machinery operation
- Qualified service and maintenance



Crane-drilling machines

Crane-drilling machines are used for borehole drilling in soil of I-IV categories according to construction norms and specifications IV-2-82 and inside support installation during construction and maintenance of Power transmission lines and communication. These machines are also might be utilized in commercial and civil construction for boreholes drilling as pile foundation, barricade columns and road signs, and also installation of oil-gas lines, tree planting and other works.

Crane-drilling machines are distinguished by their reliability and construction solutions plus the modern design. Crane-drilling machines are compactly and easily to be mounted on undercarriage. The functional features of machines are upgrading by extra equipment configuration.





BKM 317/318 — is manufactured with hydraulic and mechanical drilling tool rotation drive upon client's request.

Crane-drilling machine BM-205D has the wide functional features using an auxiliary equipment. There are two basic auxiliary equipment configuration of BM-205D — with logging blade and front loader bucket.

BM-205D is produced with drilling tool hydraulic rotation drive.

Auxiliary attached implements:

- Auxiliary setting tool DRU-01
- Auxiliary lifting equipment DPO-01
- Double-leaf bucket, forklift, detachable ladder, deep well diesel hammer DM-240 (BM-205D)

Specifications	BM-205D	BKM-317/318
Carrier vehicle	Wheeled tractor MTZ-82.1, MTZ-82P (with modular cab)	GAZ-3308, GAZ-33081 (Double cab)
Drilling depth, m	3	3
Drilling diameter, m	0,36; 0,50; 0,63; 0,80	0,36; 0,50; 0,63; 0,80
Drilling angle, degrees	60102	6095
Drilling tool maximum torque, N-m	4900	4900
Drilling tool rotation speed, c ⁻¹ (rpm)	0,661,5 (4090)	0,872,17 (52130)
Cranage hoist capacity, kg	1250; 1400	1500
Maximum lifting height of hoist hook, m, minimum	7	6,5
Technical capacity (while drilling the boreholes with diameter 0,5 m and support inside installation), piece/h	5	5
Total weight, kg, maximum	6500	6220

Crane-drilling machines

In basic configuration the machines are equipped with special crane equipment and hoisting winch, which perform load-lifting and load-lowering procedures. In the upper part of crane equipment a swivel block is installed which allows lifting of load from any side of drilling rig.

For comfortable service of crane-drilling machine there is a ladder on mast to be mounted, and also it is equipped with barricade for basic undercarriage preservation and for operator safety.

An application of high quality components and steel constructions increases the duration between maintenance periods and decreases the spare parts expenses, repair process and maintenance.

8









Crane-drilling machine BKM-515 is designed specially for meeting the requirements of energy, oil and gas companies of Russian northern regions for operations in hard and adverse edaphic-climatic conditions.

Crane-drilling machine BKM-515 is manufactured on undercarriage of Ural vehicle, there is possible consideration to perform equipment mounting on undercarriage of abroad vehicles. For now the modification of BKM-515 is being performed on Ural vehicle undercarriage with 7 seats cab that enables an arrangement of integrated team transportation without extra transport to be involved.

Rotating crane drilling machine PBKM-511 is equipped with rotating platform that enables an increasing of working zone and getting several boreholes from one position without necessity to change it. The longitudinal displacement of drilling equipment provides maximum accuracy while moving on drilling point.

The use of diesel hammer DM-240 as a supplementary equipment permits to ram timber piles and metal pipes into the soil.

Specification	PBKM-511	BKM-515	BKM-516
Carrier vehicle	Ural-43206	Ural-4320/Ural-43206	KAMAZ-4326
Drilling depth, m	5	5	5
Drilling diameter, m	0,36; 0,50; 0,63; 0,80	0,36; 0,50; 0,63; 0,80	0,36; 0,50; 0,63; 0,80
Drilling angle, degrees	6095	6095	6095
Drilling tool maximum torque, N·m	4900	4900	4900
Drilling tool rotation speed, c-1 (rpm)	0,872,17 (52 130)	0,872,17 (52130)	0,872,17 (52130)
Cranage hoist capacity, kg	2000	2000	2000
Maximum lifting height of hoist hook, m, minimum	8	8	8
Technical capacity (while drilling the boreholes with diameter 0,5 m and support inside installation), piece/h	15	15	15
Total weight, kg, maximum	13300	13300	11375

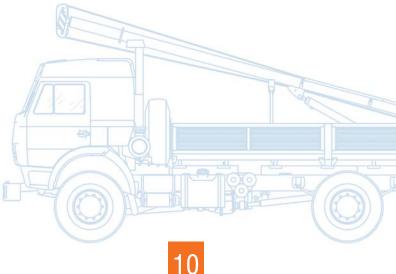
Crane-drilling machines

The construction of cranedrilling machines hydro system includes an ability to select rational drilling mode depending on rigidity and structure of soil and an infinite control of drilling tool traveling involvement.

Location of remote control on drilling rig frame provides a good working zone overlook. There are some gages installed on remote control that provides the BKM operator with all necessary information for correct machine operation.

The rotating device installed under operator seat gives an advantage to rotate under 180 degrees which provides a visibility and convenience of attached drilling implements operation.







Crane drilling machines with drilling depth 3-5 meters on crawler tractor undercarriage are mostly applicable in an adverse terrain and meant to serve for borehole drilling and inside support installation during construction of Power transmission lines and communications.

Crane-drilling machines BM-308 and BKM-534 are being equipped with bulldozing kit for construction site scheduling, trench and holes infilling.

Crane-drilling machine BKM-541 is meant to be mounted on tracked cross-country vehicle undercarriage TM-120 (TM-130) and allows performing the procedures in hard flotation ability conditions, on distorted surface with slopes and uphills, as well as to make borehole drilling on wet soils and to move over the small stank. Crane-drilling equipment is mounted on sliding platform that makes the machine more comfortable in operation.

BM-308 is equipped with hydraulic rotation drive of drilling tool, **BKM-534** with mechanical rotation drive of drilling tool, **BKM-541** is being produced with both hydraulic and mechanical rotation drives of drilling tool.



Specification	BM-308	BKM-534	BKM-541
Carrier vehicle	DT-75	TT-4M	TM-120/TM-130
Drilling depth, m	3	5	3; 5
Drilling diameter, m	0,25; 0,36; 0,50; 0,63; 0,80	0,36; 0,50; 0,63; 0,80	0,36; 0,50; 0,63; 0,80
Drilling angle, degrees	60100	8095	60100
Drilling tool maximum torque, N·m	5690	4900	6036
Cranage hoist capacity, kg	1400	2000	1400
Maximum lifting height of hoist hook, m, minimum	7	8	7
Technical capacity (while drilling the boreholes with diameter 0,5 m and support inside installation), piece/h	5	10	5
Total weight, kg, maximum	9300	17600	12245

Crane-drilling machines

Crane-drilling machines BKM-2012 and BKM-1514 are supposed to be used in commercial and civil construction for performance of an initial construction works, mounting of pile foundations, the nondisplacement piles arrangement and other borehole drilling related works.

Crane-drilling machine BKM-1514 is utilized in capacity of the rock destruction tool named short screw conveyer also might be equipped with special reamer. It gives an opportunity to significantly enforce the pile capacity. It is especially of high priority to increase the strength property during construction in wet soil and while mounting of tower building pile foundations.









Crane-drilling machine BKM-2012 is equipped with rotating platform which enables an increasing of working zone and getting several boreholes form one set position of machine without necessity of changing it. The longitudinal displacement of drilling equipment makes a proper accuracy while moving on drilling point.

The floating spindle (original design) with enhanced torque up to 4.5 ton force per meter allows to drill boreholes of 1200 mm diameter.

Construction of frame and new outriggers provides maximum rigidity which allows to run the works in space-limited environment.

▲ BKM-2012

Optimal relative position of mast and cab provides maximum overlook of working zone. Servomotor control provides simplicity and convenience of operation. On-board computer provides an operator with all necessary information for correct machine operation.

Crane-drilling machine BKM-1514 is equipped with rotating platform with such advantage as longitudinal displacement of drilling equipment to 0,8 meters.

Specification	BKM-2012	BKM-1514
Carrier vehicle	KAMAZ-53228 (6x6)	KAMAZ-53228 (6x6)
Drilling depth, m	Up to 20	Up to 15
Drilling diameter, m	Up to 1,2	0,36; 0,63; 0,80
Drilling angle, degrees	90±5	90
Drilling tool maximum torque, N-m	44100	29600
Truck steering angle, degrees	180	180
Longitudinal displacement of drilling tool, m	0,8	0,8
Cranage hoist capacity, kg	3000	3000
Lifting height of hoist hook, m	10	10
Total weight, kg, maximum	23500	24000

Drilling and pile-driving machines

The engineered mobile drilling and pile-driving machines are used for pile foundation mounting during on site construction in poor infrastructure conditions. Drilling equipment of modular structure shall be mounted on chassis of vehicles and crawler tractors. These machines are widely utilized during oil and gas field construction, oil and gas lines construction.

Rotating platform gives an opportunity to increase the working zone and to get several boreholes from one machine set point without necessity to change it. Longitudinal displacement of drilling equipment up to 0,8 meters provides a maximum accuracy of moving over to drilling point and pile advance to driving point.

Load-lifting and load-lowering procedures are performed by special crane equipment and planetary reverse winch.

The hydraulic jacks ensure an alignment of machine and carrier unloading of basic vehicle or crawler tractor during the course of work.





BM-833

Drilling and pile-driving machines are used for drilling of boreholes in soil conditions of Far North (capable of drilling of soils up to IV category including permanently frozen soil, and also moisture high-saturated with soil temperature approximately 0 Celsius degrees, pile driving during construction of building and structure pile foundations as well as installation of timber and reinforced concrete supports, steel pipes at the time of power transmission lines and communications.

There are three possible variations of machine configuration: drilling machine, drilling machine with diesel hammer, pile driver. An auxiliary pile-driving equipment includes pipe diesel hammers SP-74, SP-75A, (striking part weight — 600, 1250 kg).

High mobility and versatility of drilling machine **BM-811** based on vehicle chassis allows using it at scattered sites which have a small volume of pile works. Machine is folding up in transport position without usage of hoisting devices and removal of diesel.

High throughput and reliability in conjunction with rigidity and powerful engine of **drilling and pile-driving machines BM-831 and BM-833** based on chassis of crawler tractors allow to perform the procedures in remote places with difficult terrain. As BM-833 has the straight hammer logging blade B4 (weight – 2870 kg) operates as counterweight which enables transfer of machine without placing a mast in transport position. Drilling and pile-driving machines are being manufactured with hydraulic rotation drive of drilling tool.

The basic drilling tool type is continuous screw conveyer.

Specification	BM-811	BM-831	BM-833	
Carrier vehicle	Ural-4320 (6x6)	TT-4M	B-10B (T-170)	
Drilling depth (telescopic screw conveyer), m	8 (15)	8 (15)	8 (15)	
Drilling diameter, m	0,15*; 0	0,15*; 0,20*; 0,25*; 0,36; 0,40; 0,45; 0,50		
Drilling angle, degrees	8095	8095	8095	
Length of driving pile, m	8(12**)	8(12**)	8(12**)	
Maximum torque of drilling tool, N·m	14700	14700	14700	
Angle of platform rotation, degrees	180	180	-	
Longitudinal displacement of drilling tool, m	0,8	0,8	-	
Winch draft force, kg - work winch (diesel hammer) - auxiliary winch (pile lifting)	3000 3000	3000 3000	3000 3000	
Height of hook assembly lifting, m	10	10	10	
Total weight, kg, maximum	22000	25000	29550	

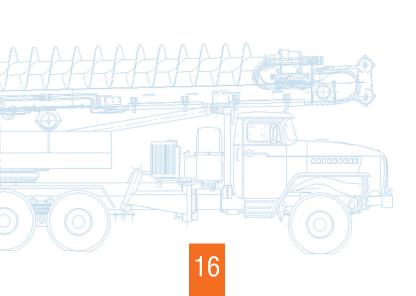
^{*} production on order

^{**} with pilot hole

Auger drilling machines

The main advantage of auger drilling type is the fact, that considering specific operation of auger column — automatic walls consolidation by ground waste in them. Besides, auger drilling machines are implementing the technology of augered and fondedile piles which allow to utilize them in general construction works, pile foundation installation, for reinforcement or reconstruction of foundations because of operational load changes.

MBSh-519 and MBSh-539 are considered to be new product category especially demanded in power-line construction for borehole drilling for electric power pylons. An application of these machines in commercial and civil construction for pile foundations completion is opportunity for consumer to expand the scope and to successfully implement the required works.







Auger drilling machine MBSh-519 (alternative to MRK-750A4) is designed for drilling wells with a diameter of 800 mm in soils I-IV categories for electric power pylons. MBSh-519 can also be used in industrial and civil construction industry for drilling under the pile foundations. Protective socket protects the wellhead of filling (during drills) and cleanses from the ground (after drilling) when changing the mast in the transport position.

displacement on 0,8 meters is increasing the working

zone without changing of position.

Auger drilling machine MBSh-539 (alternative to MRK-750T). Off-highway chassis usage TT-4M allows to operate the machine in areas with adverse soil climatic conditions.

Specification	MBSh-519	MBSh-539	MBSh-818
Carrier vehicle	Ural-4320 (6x6)	TT-4M	Ural-4320 (6x6)*
Drilling depth - screws - full screws	5 -	5 -	20 25
Drilling diameter, m - screws - full screws	Up to 0,80	Up to 0,80	0,80 0,46
Drilling angle, degrees	4595	4595	8095
Torque of drilling tool, N·m	14700	14700	40950
Angle of platform rotation, degrees	-	-	180
Longitudinal displacement of drilling tool, m	-	-	0,8
Winch draft force, kg	2000	2000	3000
Height of hook assembly lifting, m	7	7	10
Total weight, kg, maximum	12380	19050	21300

^{*} possible drilling equipment installation on other wheel and crawler bases of appropriate hoist capacity

Exploration drilling machines

Drilling machines of exploration type are the new product line of plant. The project had started in 2003 and nowadays is successfully implemented into series of universal drilling rigs which represent a wide system of drilling technologies during the course of exploration and construction works.

The machines are installed on the chassis of vehicles and tracked carriers which emphasize the mobility and reliability. A versatility gives an amazing opportunity for consumer to expand a range of works.

Exploration drilling machines are designed for exploration drilling (hydro-and engineering-geological, geophysical, structural search, etc.) and other wells or pits for various purposes rotational method with ability to enforce a well shaft using casing columns and other related works during exploration procedure as well as commercial and civil construction.



18









BG	M-1M	
on	TM-130	crawler
tra	nenorto	

Specification	BGM-1M	BGM-11-01	BGM-12	BGM-13
Carrier vehicle	TM-130, MT-LB, MT-LBu, HTZ-N, GAZ-34039, GT-TB, MTCh-4	GAZ-33081	Ural-43206	KAMAZ-4326
Type of feed drive and the rotation of the drilling tool		Hydr	aulic	
Conditional depth of drilling augers, m		5	0	
Diameter of auger drilling, mm		100	-300	
Drilling depth of hollow augers, m		5	0	
Drilling depth with washing, mm		19	90	
Drilling depth with washing, m	200	100	200	200
Drilling depth with air hammer, mm	110; 130			
Drilling depth with air hammer, m	100			
Rated speed of drilling tool, min ⁻¹ : - 1 transfer - 2 transfer		0 0	.65 130	
Maximum torque of the drilling tool, N·m (kgf * m), at least: - 1 transfer - 2 transfer			40 20	
Estimated maximum axle load on the drilling tool, kN (lbs): - when deepening - when shank out			0	
Stroke length of rotator feed, mm	3300-2300	3300	3300	3300
Combustion stroke of traveling clamp feed, mm	200	-	200	200
Hydraulic system operating pressure, MPa	22	22	22	22
Overall dimensions of machine in transport position, mm, maximum: - length - width - height	Depending on transport base	6940 2500 3700	7565 2500 3900	7615 2500 3940
Service staff, number of people	2	2	2	2

Exploration rigs

Exploration rigs URB-2M are used for drilling of expendable (water wells, engineering site wells, geophysical, cored well etc.) wells or pit-holes of different application using rotating or combined method with augers, rock drill bits, air hammers, casing and core tubes or other tools and equipment. The drilling process might be performed with purging or washing involvement.

Carrier vehicle – vehicle KAMAZ-43114. Chassis suitable for installation – Ural-4320, KAMAZ-43118, MT-LBu, HTZ-26N, MTCh-4.





Specification		
Carrier vehicle (basic one)	KAMAZ-43114	
Chassis suitable for installation	Ural-4320, KAMAZ-43118, MT-LBu, HTZ-26N, MTCh-4	
The main parameters of drilling methods Rock drill bits with washing Augers in dry mode Exploratory drilling with core recovery Drilling with air hammer Borehole tilt angle, degrees	Drilling depth, m Up to 300 50 150 100 60-90	Drilling diameter, mm 190 Up to 300 151 130
Feed mechanism Feed travel, mm Feed strength, kN Lifting strength, kN	Rope polyspa 5200 50 50	ast
Rotator Type (basic set options) Drive Moment/rotation frequency (N·m/rpm)	Floating spindle, changeable with dev axle during roun Wave pattern 6000 (Hydraulic 60/0-110	d-trip
Winch Type Hook lifting height, m Hoist capacity, kg Wire rope spooling speed, m/min Drum capacity	Hydraulic plane 8 2000 40 24	etary
* possible installation of winch with free gravity		
Hydraulic retaining band	For gripping and retaining, forced sq and removal of cas	
Flushing pump Drive	NB-32 or NB-160/6, Hydraulic or mecl	
Compressed air station Operational pressure, Mpa Throughput, m³/min	KV 10/10 1 10	
* possible utilization of air compressors with other parameters including more is up to 2.5 Mpa)	powerful (e.g. Atlas Copco XRV-10 with throughput	up to 25 m³ while pressure

Throughput, m³/min	10	
* possible utilization of air compressors with other parameters including more powerful (e.g. Atlas Copco XRV-10 with throughput up to 25 m³ while pressure is up to 2,5 Mpa)		
Oil station Hydraulic reservoir capacity, liters Hydraulic pump Throughput	Modular 200 Tandem, gear-type Depends on parameters of installation, need to be approved with client	
Hydraulic system Maximum operational pressure in hydraulic system, Mpa Oil brand Distributors used	Dual-channel system or three-channel system 20 VMGZ Italian	
Auxiliary equipment used	It is possible to install the clutches for quick connection of auxiliary hydraulic equipment (welding generators and 220 V, manual hydraulic tools etc.)	

Drilling tools

Blade bits

Designed for drilling in dry soil. Drilling diameter – from 250 to 800 mm. Applicable for machines BM-205D, BKM-317 BKM-515 (BK-01202, BK-01203, BK-01204, BK-01205, BK-01207) along with auger set on machines BKM-1514, BM-811, BM-831, BM-833, MBSh-519, MBSh-539, MBSh-818 (G-01701).

We are manufacturing the drilling tools with connectors to drilling machines of any manufacturers including foreign companies.



BK-01202

Designed for soil drilling of III–VI categories. Equipped with round indexable inserts.



BK-01205

Designed for soil drilling of I–IV categories. Equipped with inserts RP-3 from bar machines.



BK-01203

Designed for soil drilling of I-IV categories. Might be equipped with inserts RBM-35 or RBT-35. The case can be molded or welded.



BK-01207

Designed for soil drilling of I–III categories. Equipped with flat inserts



BK-01204

Designed for soil drilling of I–IV categories. Equipped with inserts RBM-35 and starting bit for hard rock destruction.



B-01701

Designed for soil drilling of I–IV categories. Equipped with inserts RBM-35.



Cone bits are designed for hard rock drilling of IV–VII categories. Drilling diameter — from 300 to 800 mm.



B-02702

Designed for soil drilling IV-VII categories. Equipped with round indexable inserts S27E-12,3. Applicable along with auger on machines BM-811, BM-831, BM-833, MBSh-519, MBSh-539.



BK-02801

Designed for soil drilling IV-VII categories. Equipped with round indexable inserts S27E-12,3. Applicable along with auger on machines indexable inserts BKM-1514, BM-811, BM-831, BM-833, MBSh-519, MBSh-539, MBSh-818.



B-02703

Designed for soil drilling IV–VII categories. Equipped with round indexable inserts R50-ES-19,5. Applicable with auger on machines BKM-1514, BKM-2012. MBSh-818.



Drill buckets

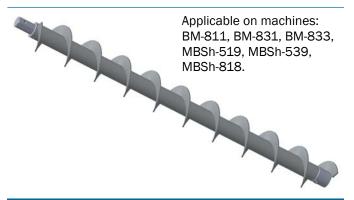
Designed for drilling in all types of soil Below groundwater level. Might be equipped with Various teeth and starting bits types. Drilling diameter From 360 to 1200 mm. Applicable on machines BKM-1514, BKM-2012

Augers

Designed for elevation of broken soil during drilling. They have different length, diameter, thread thickness and section gap.



BK-03401



Core drills

Namenjene su za prvobitno bušenje kamenitih naslaga. Prečnik bušenja - od 360 do 1200 mm.

Telescopic augers

Designed for drilling depth increase without extra auger sections. Applicable on machines: BM-811, BM-831, BM-833, MBSh-519, MBSh-539,



B-04402 Equipped with cylindrical cutters. Applicable on machines BKM-1514, BKM-2012.

Reamers



Designed for reaming of augered pile foundation for enhancement of Its holding power in weak and unstable soils. Applicable on machines: BKM-1514, BKM-2012.

Auger drills

Drilling diameter — from 800 to 1200 mm. Applicable on machines: BKM-1514, BKM-2012.



B-02401

Designed for hard rock drilling. Equipped with cutters R50EC-19,5.



"Stroydormash" JSC

Russia, 624600 Sverdlovskaya region, Alapaevsk town, Serova street, 1 Phone: +7(343) 372-71-24 Fax: +7 (343) 372-71-21 E-mail: sdm@sdm.ur.ru www.zavod-sdm.ru

Moscow representative office

Russia, 107564, Moscow city Krasnobogatyrskaya street, 2, building 73, office 5 Phone/Fax +7 (495) 663-33-07, 225-75-60 E-mail: sdm moscow@mail.ru

Saint-Petersburg representative office

Russia, 194292, Saint-Petersburg, Domostroitelnaya street, 4, office 301, 304 Phone/Fax: +7 (812) 448-13-56, 702-15-90 E-mail: sdm_spb@mail.ru

Ural representative office

Russia, 620010, Yekaterinburg city, Torgovaya street, 2, office 125 Phone/Fax: +7 (343) 270-88-54, 270-88-57, 217-84-90 E-mail: sdm_ural@mail.ru