Equipment for mining processing, fuel-power, and metallurgical complexes

ДОНБАССКАЯ
ИНДУСТРИАЛЬНАЯ
КОМПАНИЯ

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DONBAS INDUSTRIAL COMPANY

ДИК

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LLC Donbas Industrial Company (DIC) –

is a machine building entrerprise aiming at manufacturing and mastering new equipment of mining processing, fuel and energy, and metallurgical complexes. We constantly work on widening of inventory coverage and quality improvements of producing equipment, able to fully satisfy demands and expectations of customers.

LLC DIC's products are widely used in many enterprises in countries-members of NIS. Our equipment gained a reputation of being highly qualitative, relatively cheap, both easy and reliable in operation, which results in keen demand and a large amount of customers' positive feedback.

Developed tool and technological infrastructure, high-performance technological processes and modern equipment make for the manufacturing products in full compliance with technical specifications and customer's wishes.

The production of new equipment which becomes demanded by customers is being developed recently. Highly customized approach for every enterprise favours more qualitative technical issues solutions and reinforces our companies' cooperation.

We hope sincerely that our company's products will interest you, and the given catalogue will help you to orientate in the variety of our equipment and find lucrative for your business solutions!

SAMPLE CONDITIONERS

Laboratory Sample Conditioners LSC-150M1U, LSC-150M2, LC-300

Stationary conditioners are designed for grinding hard coal and lignite, anthracite, bituminous shale and their washed products of 150 and 300 mm in size accordingly, and the allocation of laboratory samples, as well as grinding and selection of samples of materials with similar characteristics of the above mentioned (particle size, abrasivity, hardness etc .).

Sample conditioners are stationary installations, including a belt feeder, an impact mill, a bucket riffle, drives, a control cabinet. All machine components are frame mounted. Control cabinets are manufactured of IP20 version for non-hazardous rooms.

Sphere of application: coal washing plants, mines and other enterprises.

The main advantages of LSC-150M2:

- *modified and improved grinder casing, increased factor of safety;*
- *modified technology of shutter grates production, which led to their quality improvement;*
- *added chute on the side end of the machine for easy feeder cleaning in case of clogging;*
- *control cabinet is designed in accordance with the latest techniques and has all kinds of shields that provide maximum protection for all of the machine components;*
- *elimination of the need to open an electric cabinet for adjusting production process;*
- *fundamentally new mechanism of buckets (boats) movement provides more reliable riffle operation. The possibility of buckets jamming resulting from chains skewing is excluded. Maintenance and repair of the equipment are simplified;*
- *LSC-150M2 has high-level gear-motor drives by SEW-EURODRIVE.*

Technical information

Name of the parameter and size	LSC-150M1U	LSC-150M2	LC-300
Performance , t/h, no more than	2,2	2,5	6…10
Starting material size, mm, no more than	150	150	300
Size of drawn product for samples, mm	0…3	0…3	10
Number of samples produced by the machine, pcs	3	3	3
Humidity, %, no more than			
lignite	60	60	60
hard coal and anthracite	18	18	18
bituminous shale	17	17	17
Installed capacity, kWh, no more than	18 (15/1,5/1,5)	16,5 (15/0,75/0,75)	21,5 (18,5/1,5/1,5)
Dimensions, mm, no more than			
length	2000	2000	2600
width	1100	1100	1415
height	1800	1800	2600
Operative environmrent	Room of B-IIa class		
Operational mode	Manual/automatic with sampler		
Circuit voltage, V	380	380	380
Current frequency, hz	50	50	50
Weight, kg, no more than	1750	1750	3567
Weight incl. electrical equipment and spare parts kit, kg	2120	2120	3887

Laboratory Sample Conditioner LSC-300M1

Sample Conditioner LSC-300M1 is a complex of equipment from LSC-150M1U and LC-300, which allows to get size of the drawn product of 0 ... 3 mm, the starting material being 300 mm.

Technical information

Name of the parameter and size	LSC-300M1
Performance , t/h, no more than	13...15
starting material size, mm, no more than	300
size of drawn product for samples, mm	0...3
Number of samples produced by the machine, pcs	3
Humidity, %, no more than	
lignite	52
hard coal and anthracite	18
bituminous shale	17
installed capacity, kWh, no more than	37,75
Overall dimensions, mm, no more than	
length	3940
width	2400
height	3320
operative environment	Room of B-IIa class
operational mode	manual/automatic with sampler
circuit voltage, V	380
current frequency, hz	50
weight, kg, no more than	6410

Analytical Sample Conditioner AC-10M

Analytical Sample Conditioner AC-10M is designed for grinding hard coal and lignite, anthracite, bituminous shale and their washed products of no more than 10 mm in size, as well as for preparing analytical samples and grinding other materials with similar characteristics of the above mentioned (particle size, abrasivity, hardness etc.).

The machine is a stationary installation including the crusher with a proportioning vibrating feeder, an electrical drive, a receiving bunker for ground product and a control module. All components are stand mounted. Sphere of application: coal washing plants, mines and other enterprises.

Technical information

Name of the parameter and size	AC-10M
Performance, t/h, no more than	0,0085
Starting material size, mm, no more than	10
Size of drawn product for samples, mm	0...0,2
Number of samples produced by the machine, pcs	1
Humidity of starting material	Air-dry state
Storage capacity for starting sample, cc	1000
Installed capacity, kWh, no more than	4
Overall dimensions, mm, no more than	
length	500
width	560
height	1400
Rectified sound-power level, dBA, no more than	103
Operative environment	Room of B-IIa class
Operational mode	manual
Circuit voltage, V	380
Current frequency, hz	50
Weigh, kg, no more than	130

SAMPLE CONDITIONERS

Analytical Sample Conditioner ASC-3M

Analytical Sample Conditioner ASC-3M is designed for grinding hard coal and lignite, anthracite, bituminous shale and their washed products of no more than 3 mm in size, as well as for preparing analytical samples and grinding other materials with similar characteristics of the above mentioned (particle size, abrasivity, hardness etc .).

Sphere of application: coal washing plants, mines and other enterprises.

The main advantages:

- *easy maintainance*
- *operating reliability and fail-safety*
- *stationary installation*
- *low noise level if operating*
- *case tightness*
- *dust-free*
- *3 pieces of produced samples*
- *automative operational mode*
- *low cost of spare parts*

Technical information

Name of the parameter and size	ASC-3M
Performance , t/h, no more than	0,0055…0,0075
Starting material size, mm, no more than	3
Size of drawn product for samples, mm	0…0,2
Number of samples produced by the machine, pcs	3
Humidity of starting material	Air-dry state
Installed capacity, kWh, no more than	3,75
Operative environment	Room of B-IIa class
Overall dimensions, mm, no more than	
length	1400
width	800
height	650
Weight, kg, no more than	390

CAMSSCP

CAMSSCP – Complex of automated management system of samples collection and processing

Designed for automatic start and stop of machines, a s well as for implementing different kinds of protection, blocking, warning, outlined by safety system and machine depletion normative-technical documents.

The standard scheme of CAMSSCP presupposes the control of sample conditioner LSC-150M1U, sampler PSM-12, delivering and carrying off material transporter (elevator, conveyor for allocation of used material).

It receives control signals from the main conveyor, quard magnet, sliding device, and other mechanisms according to TS. It gives signals in the main conveyor drive circuit, provides sound and light warning of the imminent start of every mechanism of the complex.

It can be adapted to any concrete TS with the possibility of management of up to 20 equipment items if needed (sample conditioner, sampler, conveyor, residues deletion elevators, quard magnet, sliding gate etc.)

Distinctive features:

- it consists of starting equipment, automatization and management of asynchronous squirrel-cage motor;
- it is metal cabinet-mounted with IP54 protection level
- control mode:
  a. fully automatic (time between sampling and level of samples in cans can be set up)
  b. partially automatic (correction of operational modes is possible)
  c. manual (manual start of complex mechnizms, for use during repair and adjustment work)
- top position of the sample conditioner bucket is controlled, preventing breakdowns connected with the bucket stop in the main conveyor material flow;
- protection of all the mechanisms of the complex is improved;
- automatic adjustment of the speed of sample conditioner's feeder belt is presupposed for grinder's staedy load;
- complex' scheme can be standard as well as adjusted to customer's TS
- according to customer's TS, GSM/GPRS modem installation is possible for remote notification about accidental situations through wireless GSM communication systems, Ethernet interface for monitoring the process in internal network or Internet (for Internet connection IAP is needed)

Control cabinet of automated management system AMS

Designed for automatic control of processes.

standard model of control cabinet allows to undertake the control of the chain of facilities involved in the process of sampling and processing (controlling sampler, loader's belt, sample conditioner, facility for allocation of sample residues).

Intuitive interface of the cabinet, real time demonstrated process of sampling and processing allows the operator to control the whole technological process on a single screen.

The main advantages of AMS:

- adjustment of automatic mode is simplified;
- new convenient adjustment of samples level in cans is added;
- it possesses IP54 protection level (dustproof, spreading in any direction splashes protection);
- electrical network is assembled on the basis of programming logical controller;
- productivity of the machine is increased to 20% on the whole at the cost of automated speed pass of an empty area of the feeder belt and automated regulation of the speed of the infeed;
- digital display allows visualization of overall number of samples, sample number received from the sampler, technological process information, and all kinds of accidental situations with the machine components;
- new kinds of protection are added: electronic overheat protection relay of grinder's and feeder's drive, maximum protection of grinder's electrical drive. Protection from accidental situation connected with presence of uncrushing material in the grinder with the speed of 0.1 seconds for detection and stopping is also available;
- intellectual tracking system of sampler operation, which detects and informs about sampler's running failures;
- energy consumption in automatic mode is reduced for 30% at the expense of absence of non-operating period and steady load of the grinder;
- automatic adjustment of feeder belt speed depending on hardness and humidity level of the grinding material;
- installation of touch control panel is possible as well as online or GSM control.

SAMPLERS

Pendular samplers of PSM-type

Designed for sampling hard coal and lignite, anthracite, bituminous shale, their washed products, and other bulk materials with properties similar to coal, shale and their washing products from through belts in order to control the quality of the transported material by belt-type conveyors.

Checking material's working moisture level must not exceed: 60% for lignite, 18% for hard coal and anthracite, 17% for bituminous shale.

Samplers can be used in quality assurance systems of products on mining, mining and processing enterprises and loading points.

Technical information

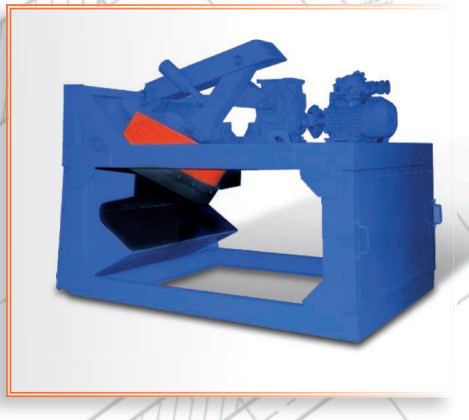
Name of the parameter and size	SPP-12U	SPP-16U	SPP-20U	SPP-25U
Performance of testing stream, t/h, no more than	1100	2000	4000	6400
Size of testing material, mm	0…300	0…300	0…300	0…300
Opening width of sampling device, mm	100, 200, 300, 400, 600.			
Belt width of testing stream, mm	1000…1300	1300…1600	1800…2000	2250…2500
Speed of sampling device, m/s, no less than	1…2	1,5…3	3,0± 1,0	3,0± 1,0
Indicated engine capacity, kW	3	7,5	11	18,5
Interval between sampling (cycles), s	18…1200	18…1200	18…1200	18…1200
Overall dimensions, mm, no more than				
length	1900	2500	3100	3600
width	1400	1500	1700	2400
height above the frame	1900	2200	2800	3600
Weight incl. electrical cabinet, kg	1035	1465	1900	2950
Specific energy consumption, J/cycle, no more than	$2,5\times10^4$	$4,95\times10^4$	$8,8\times10^4$	12×10^4

Pendular sampler PS-12 and PS-14

Designed for sampling hard coal and lignite, anthracite, bituminous shale, their washed products, and other bulk materials with properties similar to coal, shale and their washing products from through belts in order to control the quality of the transported material by belt-type conveyors.

Checking material's working moisture level must not exceed: 60% for lignite, 18% for hard coal and anthracite, 17% for bituminous shale.

Samplers can be used in quality assurance systems of products on mining, mining and processing enterprises and loading points.

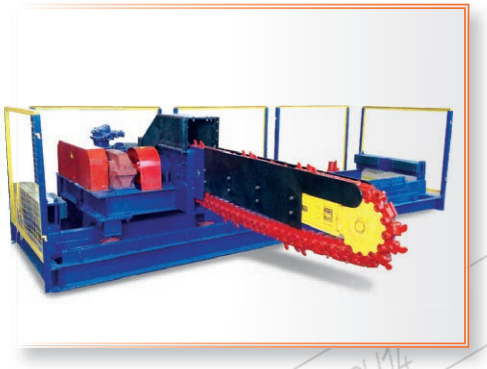


Technical information

Name of the parameter and size	PS-12	PS-14
Size of testing material, mm	0…150	0…150
Belt width of testing stream, mm	1000	1400
Speed of sampling device, m/s, no less than	1,0	1,0
Indicated engine capacity, kW, no more than	0,75	0,75
Interval between sampling (cycles), s	18…1200	18…1200
Overall dimensions, mm, no more than		
length	1800	2200
width	320	320
height above the frame	1260	1395
Weight without electrical cabinet, kg	350	450

Bar sampler of BS-2M-type

Designed for samples collection on coal stream drops from a stationary belt conveyor.



Technical information

Name of the parameter and size	BS-2M
Performance of testing stream, t/h, no more than	5000
Size of testing material, mm	0…300
Belt width of testing stream, mm	2500
Speed of sampling device, m/s, no less than	0,5
Indicated engine capacity of sampling device, kW	22
Indicated engine capacity of car motion drive, kW	4
Overall dimensions, mm, no more than	
length	5950
width	3750
height above the frame	1420
Weight, kg, no more than	3900

Slot sampler SS

Designed for sampling pulp assays of lignite and hard coal, anthracite, bituminous shale and their washing products from vertical run of gravity flow pipes with solid particles size of not more than 6 mm.

Technical information

Name of the parameter and size	SS-15	SS-25	SS-35
Indicated bottom diameter of pipe branch, mm	150	250	350
Size of solid particles in testing stream, mm, no more than	6	6	6
Opening width of sampling device, mm, no more	460	480	480
Electrical drive			
type	PB	PB	PB
capacity, kW	0,75	0,75	0,75
Overall dimensions, mm, no more than			
length	585	637	736
width	620	725	852
height above the frame	824	824	824
Weight of standard equipment, kg, no more than	225	259	285
Volume of collected sample, l, no more than	20	20	20

SAMPLERS

Horizontal chain-bucket sampler at overturning HSO

Designed for sampling hard coal and lignite, anthracite, bituminous shale, their washed products, and other bulk materials with properties similar to coal, shale and their washing products from through belts in order to control the quality of the transported material by belt-type conveyors.

Mounted on overturning of belt conveyors

Technical information

Name of the parameter and size	Performance								
	00	01	02	03	04	11	12	13	14
Performance of testing stream, t/h, no more than	1500					1500			
Length of sampling device, mm	1000					1000			
Distance btw axis of driving and idler sprocket, mm, no less than	3600					1800			
Size of testing material, mm	300	200	150	100	50	200	150	100	50
Opening width of sampling device, mm, no more	750	500	375	250	125	500	375	250	125
Speed of sampling device, m/s, no less than	1,5					1,5			
Overall dimensions, mm, no more than									
length	6150					4350			
width	3075					3075			
height	1200					1200			
Weight with electrical equipment and spare parts kit, kg, no more than	2800	2870	2860	2860	2850	1900	1885	1885	1875

Sampler of PRO-type

Designed for sampling pulp assays on processing plants and non-ferrous metals industry enterprises. Can be used in automized samples collection and transportation to express-laboratories system. Samples collection is carried out due to independent technological flows from conveyor through, in the places of flow gap and drop. This sampler is designed for exploiting in moderate climate, e.g. in the rooms with temperature ranging from +1 to +45 degrees Celsius.

When working in local mode it is delivered with control device. When working as a component of automized system it is delivered with switching unit. Technical characteristics can be changed in accordance with customer's demands.

Technical information

Name of the parameter and size	ПРО
Amount of testing technological pulp flow used, m3/s, no more than	0,72
Amount of solid phase in pulp, %, no more than	60
Cross section of pulp testing streams, mm, no more than	
width	700
height	200
Speed of pulp testing stream, m/s, no more than	2
Blade's cutting stroke, mm	800
The rate of movement of the knife, m/s	1…35
Moving the knife speed m/s	0,3
Blade position angle in vertical plane, deg.	0…90
Overall dimensions, mm, no more than	
length	1250
width	425
height	292
Weight, kg, no more than	95

Mobile worm-tube sampler MWTS and SWTS

Designed for quality control of coal delivered to processing plants and power plants, for collecting samples of coal out of railway cars, and for partition, grinding and reducing samples, suitable for analysis.

Stationary warm-tube samplers SWTS are installed stationary on a foundation, while manipulator allows to conduct sample collection from any position without moving the car.

Sampler MWTS has mobile wheels-based construction, which serves for its transportation and servicing a number of railway flows positioned far away from each other. Construction doesn't require any foundation building.

Technical information

Name of the parameter and size	MWTS	SWTS
Sampling depth, m	2,4	2,4
Type of drive (electrical)	Electrical	Electrical
Drive power, kW	63	63
Manipulator outreach, m		
minimal	7,56	7,56
maximum	1,83	1,83
Overall dimensions, mm, no more than		
length	6,48	6,2
width	3,62	2,85
height	8,92	8,8
Weight, kg, no more than	17500	8000 (without foundation)

FEEDERS

Worm feeders of WF-type

Are designed for handling bulk products (with bulk density from 0,4 to 4,5 t/min) to weight batcher, mixing machines and other devices.

Are transporters where loads move by dragging on fixed chute (pipe) with swiveling rotor blades.

Worm feeder consists of a chute, a screw auger with lead-in and transporting parts and a head section. Feeder's drive is carried out with the help of electric motor and worm reducer (or geared motor). Feeder's lead-in part is equipped with variable vanes (with variable pitch). Auger's transporting part is built as closed screwed surface with 120, 200, 250, 400 mm pitch. Diameter of a pipe or a chute can vary between 89 and 1000 mm.

Worm feeders of more than 8m in length are constructed out of a number of transporting sections. The feeders can be produced with right and left (upper/lower) wire section layout with relation to the auger axis.

Technical information

Name of the parameter and size	WF-160	WF-200	WF-250	WF-320	WF-400	WF-500
Electrical motor power capacity, kW	0,75…7,5	1,1…18,0	2,2…22,0	3,0…30,0	4,0…45,0	5,5…90,0
The number of auger revolutions, rpm	from 40 to 147					
Performance , m^3/h	1,0…6,5	3,0…11,0	6,5…22,8	13,5…46,8	25,0…88,0	52,0…104,0
Thickness of rotor blade, mm	2, 3, 4, 5, 6, 7, 8					
Thickness of case blade, mm	2, 3, 4, 5, 6, 7					
Type of screw (blind, paddle, spiral without pipe)	Blind / paddle / spiral without pipe					

FEEDERS

Swinging feeder

Is designed for the uniform delivery of inadhesive bulk materials with the size less than half the width of the tray from bunkers, cones and other storage capacities to technological cars or transporting devices.

Feeders are characterized by high reliability and service durability at the expense of strengthening of the construction elements and installation of sheets for lining made of wear-resistant steel.

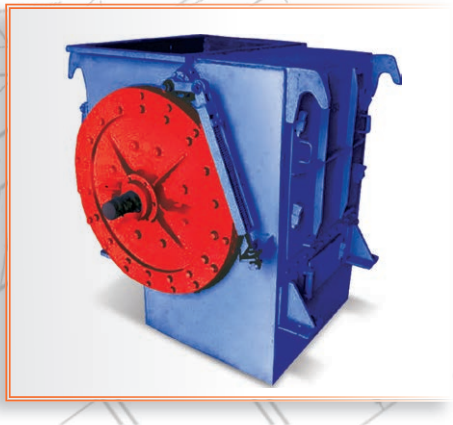
The main advantages:

- high performance;
- simplicity of design;
- ease of maintenance and repair;
- reliability of operation;
- low specific power consumption.

Sphere of application: enterprises of coal, power, metallurgy, building materials and other industries.

Technical information

Name of the parameter and size	SW-1,2-8-0U	SW-1,2-8U	SW-1,2-10U	SW-1,2-12U	SW-2,6-10U	SW-2,6-12U	SW-2,6-14U
Specific weight of bulk load, kg/cubic meter	up to 1200				up to 2600		
Performance , m^3/h	210	320	420	630	265	350	650
(t/h)	(250)	(385)	(500)	(755)	(585)	(900)	(1170)
Through width, mm	800	800	1000	1250	1000	1250	1380
Through length, mm	1450	1800	2060	2500	1900	2240	2640
Trogh movement, mm	0…200	0…200	0…200	0…200	0…180	0…180	0…300
Indicated power of electrical motor, kW	3	4	7,5	15	15	18,5	30
Overall dimensions, mm							
length	3100	3300	3600	4400	4000	4300	5100
width	1600	1400	1500	1950	1700	2200	2300
height	1100	1350	1370	1750	1600	1800	1800
Weight, kg	1100	1500	1900	2220	3200	4500	6000



Scraper-pulley feeder SPF-350

Designed to prevent the escape of gases through the lower window of unloading units of drying and dust collecting installations with material's moisture level varying from 5% to 12%, and with the fractional composition of the material of 0 … 40 mm.

Technical information

Name of the parameter and size	SPF-350
Performance , cubic meter/h, no more than	350
Pieces maximum size, mm, no more than	40
Air leak under load of not more than %	1
Overall dimensions, mm	
length	1510
width	1393
height without funnel	1560
height with funnel	1395
Weight without drive, kg	2922

Plate feeder of PF-type

Designed for uniform supply of bulk materials with bulk weight of no more than 1200 kg/m³, with the size of feeding pieces of no more than 0.4 of end effector's blade width and the piece weight of no more than 125 kg out of bins, cones and other containers to working vehicles or transporting devices.

High strength and rigidity of the plate, increased hardness of the friction surfaces ensure reliability and durability of feeders during their exploitation.

Used in coal and other industries.

Technical information

Name of the parameter and size	PF-8M	PF-10M	PF-12M
Plate's width, mm	800	1000	1200
Space between drive and take-up shaft axes (transportation length), m	3, 0; 4, 5; 6, 0; 9,0; 12; 15		
Web speed m/s	0,16; 0,4		
Plate's movement speed, t/h	185; 500	270; 720	410; 1100
Overall dimensions, mm			
length	16800	16940	17120
width	1350	3660	3900
height	2100	2200	2400
Weight without drive, kg	9250	11450	12600

Vibrating feeder with inertia-type vibrator VF

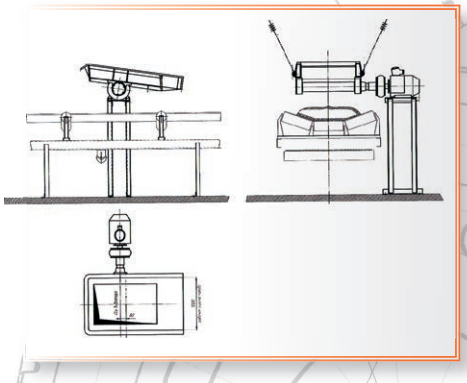
Vibrating feeders with inertial-type vibrators are available in a support or suspendable version with right or left-hand engine positioning.

Delivery of vibrating feeders with control systems which provide smooth control performance is possible. These feeders are easily run under load, which enables them to be used as a bin gate. They are effectively used for unloading coke, coal, limestone, ore, roasted pellets from the bins, as well as in loading complexes of mentioned bulk materials into railway cars.

Technical characteristics of vibrating feeders are assorted individually basing on agreement with customers.

Technical information

Name of the parameter and size	VF-1,2×2	VF-1,0×2,2
Performance , t/h, no more than	100…300	250…500
Through width, mm	1200	1000
Through length, mm	2100	2240
Indicated power of electrical motor, kW	5,5	7, 5
Overall dimensions, mm		
length	2200	2365
width	1600	1350
height	560	605
Weight, kg, no more than	900	1200



Double screw type conveyor

Designed for coal dust transportation to dust feeders and is used on thermal electric power stations.

FEEDERS

Paddle pulverized coal feeder PPCF

Designed for uniform supply of coal dust of needed quantity from the bin into dust pipes to burners, as well as for bin rooffing to avoid own-accord leakage of dust into the dust pipe the smoke damper machine is used.

Technical information

Name of the parameter and size	PPCF-1	PPCF-2
Maximum performance with coal dust specific bulk weight of 0.63 and cell filling ratio of 0.8, t/h		
one-celled	5	5
two-celled	-	10
Dust feeder drive:		
power, kW, no less than	2	2
reducer	worm-type	worm-type
transfer ratio	49	49
Overall dimensions, mm		
length	1480	1950
width	980	1000
height	1330	1330
Weight without drive, kg	1100	1200

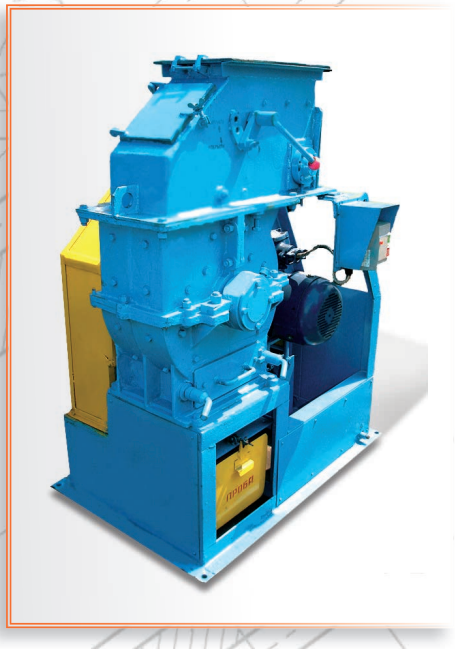
BREAKER MACHINERY

Impact mill IM-90

Designed to prepare laboratory samples of hard coal and lignite, anthracite, bituminous shale and their washing products, as well as for sample preparation of other mineral products with similar characteristics to coal (size, hardness, etc).

The machine is set by a customer individually in mine's sample conditioning room and mining and processing plants.

Explosion-proof machine assembling allows to run it according to «The safety regulations at mining and processing and coal (shale) briquetting enterprises».



Technical information

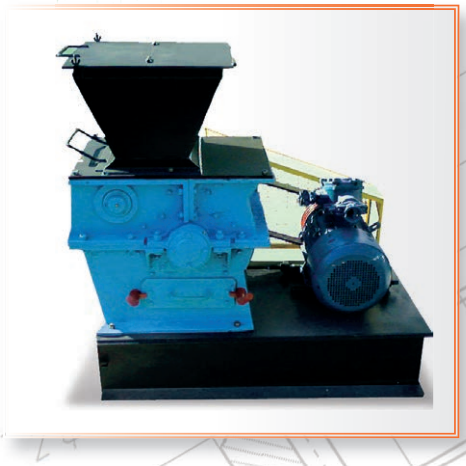
Name of the parameter and size	IM-90
Performance , t/h, no more than	1,2
Size of starting material, mm, no more than	90
Size of delivering product for samples, mm	3
Holding capacity of sample collector, c^3 no less than	15000
Humidity level, %, no more than:	
lignite	60
hard coal and anthracite	18
bituminous shale	17
Indicated power capacity, kW, no more than	5,5
Overall dimensions, mm	
length	1250
width	900
height	1550
Operative environment	Room of B-IIa class
Circuit voltage, V	380
Current frequency, hz	50
Weight, kg, no more than	500

Crushing machine CM-150U1, CM-300U1

Designed for crushing hard coal and lignite, anthracite, bituminous shale with hardness degree of 2...5 according to the Mohs scale. Its main characteristic is high productivity.

Technical information

Name of the parameter and size	CM-150U1	CM-300U1
Performance , t/h, no more than	2,2	6...10
Size of starting material, mm, no more than	150	300
Size of delivering product for samples, mm	0...3	10
Holding capacity of sample collector, c^3 no less than	1	1
Humidity level, %, no more than:		
lignite	60	60
hard coal and anthracite	18	18
bituminous shale	17	17
Indicated power capacity, kW, no more than	15	15
Overall dimensions, mm		
length	1400	1600
width	1000	1200
height	1500	1605
Operative environment	Room of B-IIa class	
Circuit voltage, V	380	380
Current frequency, hz	50	50
Weight, kg, no more than	982	1385

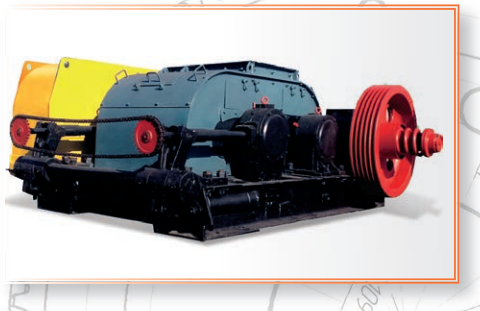


Two-roll pick breaker TPB-M.01

Designed for crushing hard coal and lignite, anthracite and bituminous shale using associated rocks with tensile strength of 80 MPa. They are installed in the fuel-handling systems of worksite boiler stations, equipped with furnaces for grate firing of fuel.

Technical information

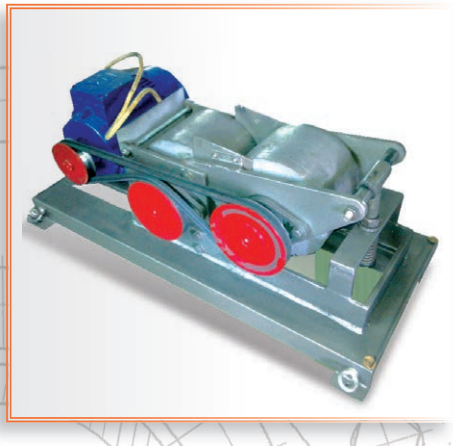
Name of the parameter and size	TPB-4M.01	TPB-6M.01	TPB-8M.01
Performance, t/h, no more than	20...100	60...150	10..28
Power capacity of electrical motor, kW	11	22	22
Overall dimensions, mm			
length	2400	3250	3300
width	2550	3450	3450
height	925	1200	1250
Circuit voltage, V	380	380	380
Current frequency, hz	50	50	50
Weight, kg, no more than	4020	8360	8930



BREAKER MACHINERY

Geologival roll breaker GRB 200x125

Is designed for grinding of individual samples of rocks and minerals weighting from 0.1 to 10 kg, of 10 mm of initial size to a final size of 0.25 mm when conducting analytical and technological research of mineral raw materials.



Technical information

Name of the parameter and size	GRB 200×125
Performance , kg/h, no more than	200
Indicated width of crusher opener, mm	0...8
Size of starting material, mm, no more than	12
Size of delivering product for samples, mm	0,25
Power capacity of electrical motor, kW	1,1
Overall dimensions, mm	
length	750
width	365
height	370
Rolls rotation frequency, s^{-1}, (rpm)	16,67 (1000)
Rectified sound-power level, dBA, no more than	96
Rolls size, mm:	
diameter	200
length	125
Weight, kg, no more than	260

Laboratory jaw breaker LJB-80x150A

Designed for fine grinding of rocks and other materials in laboratory environment, with compressive strength of less than 2,500 kgf / cm^2.

Technical information

Name of the parameter and size	LJB-80×150A
Size of receiving opening, mm	200
length	150
width	80
Maximum size of loading material, mm	70
Width of output slit, mm	1,1
minimum	4
maximum	20
Power capacity of electrical motor, kw	1,5
Performance , kg/h, no less than	370
with 6 mm output slit	500
with 10 mm output slit	660
with 20 mm output slit	1000
Overall dimensions, mm, no more than	200
length	950
width	430
height	540
Weight, kg, no more than	165

Reverse impact mills

Reverse impact mills (electrical) RIME 10x10, RIME 14.5x13, IM 1500x1500 are designed for fine grinding of coal of any rank before carbonization and other materials.
Reverse impact mills RIME 14.5x13 is designed for grinding of limestone and other materials.
The capacity of the mills is clarified when being exploited and depends on size and physical properties of loading material.

Technical information

Name of the parameter and size	RIME 10×10	RIME 14,5×13	RIMEU 14,5×13	IM 1500×1500
Size of rotor, mm:				
diameter	1000	1450	1450	1500
length	1000	1300	1300	1500
Maximum crusher size, mm	80	80	80	120
Size of crushed material, mm	0…3	0…3	0…3	0…3
Power capacity of electrical motor, kW	200	630	630	630
Overall dimensions, mm, no more than				
length	4200	5400	5200	5600
width	2670	3250	3245	3425
height	1820	2300	2285	2500
Weight without components of electrical equipment, spare parts, tools, t, no more than	8,72	17,07	18,30	20,08

Industrial rotary impact mills IRIM

Impact mill IRIM is designed for crushing the middlings of processing plants of 0…300 mm in size with any humidity level.

Technical information

Name of the parameter and size	IRIM2M	IRIM4M
Performance , t/h, no more than	60	60
Size of incoming material, mm, no more than	300	300
Size of crushing product, mm	3…13	3…6
Rotor diameter,mm	650	650
Rotor length, mm	500	500
Number of crushing hammers, pcs	2	4
Power capacity of electrical motor, kW	55	55
Number equi in min.	1000	1000
Overall dimensions, mm, no more than		
length	1400	1400
width	1250	1250
height	1150	1150
Weight without electrical drive, kg, no more than	1920	2060
*Overall dimensions of model with electrical drive APMM 250M6U2,5 (IM-1081), mm, no more than		
length	2450	2450
width	1250	1250
height	1370	1370
*Impact mill weight (incl. electrical drive and frame), kg, no more than	3068	3210

QUARD MAGNETS

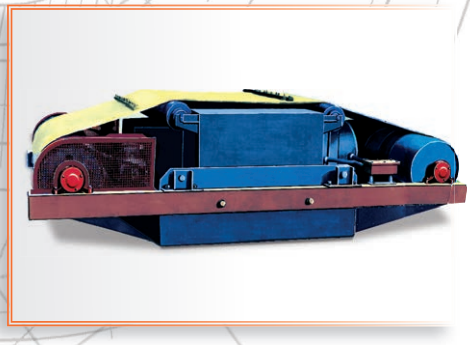
Suspended quard magnets of S-type

Designed for recovery ferromagnetic objects from the bulk non-magnetic materials transported by belt conveyors.

Are used at processing plants, thermal electric power stations, coking plants and other enterprises.

Technical information

Name of the parameter and size	S-80M	S-100M	S-120M	S-160M
Width of conveyor belt, mm	800	1000	1200	1600
Recovering capacity, cm kg	630	1000	1040	1080
Weight of recovering ferromagnetic objects, kg	0,1…30	0,1…35	0,1…40	0,1…40
Depth of recovering point, mm	210	230	240	270
Overall dimensions, mm, no more than				
length	720	942	1080	1330
width	420	530	500	542
height	380	795	624	875
Weight, kg, no more than	830	1180	1820	1820



Self-discharging suspended quard magnets of SDS-type

Designed for automatic recovery of ferromagnetic objects from coal or other bulk materials transported by belt conveyors. They are assembled possessing high explosion-proof criterion and can be used in hazardous locations of coal preparation plants, sorting rooms, coking plants and other companies.

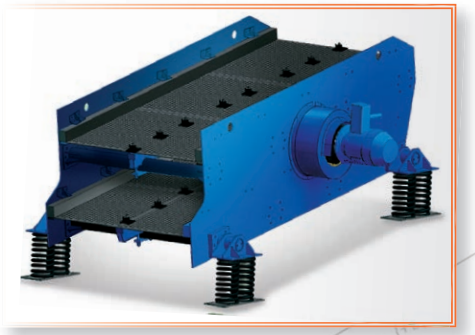
They're mounted on the dump hopper along the conveyor at an angle with it (preferred method of installation) or above the conveyor belt.

Technical information

Name of the parameter and size	SDS-80M	SDS-100M	SDS-120M	SDS-160M	SDS-200M
Width of conveyor belt, mm	500, 800	1000	1200	1600	2000
Recovering capacity, cm kg	630	1080	2000	2200	2800
Weight of recovering ferromagnetic objects, kg	0,1…30	0,1…40	0,1…40	0,1…40	0,5…40
Depth of recovering point, mm	210	270	500	550	700
Overall dimensions, mm, no more than					
length	2500	2800	2880	3480	3400
width	1310	1770	1770	2005	2000
height	880	950	950	980	950
Weight, kg, no more than	1635	2630	5400	8686	7200

SCREENINGS

Unbalanced throw screens of high-duty type



Are designed for size classification of bulk materials with bulk weight of not more than 2.8 t/m³, an inclination angle of the screening surface being 100...30° at dry screening operations with the material surface moisture of not more than 5%, and pieces of starting material of not more than 300 mm in size.

Mounting and suspension models are produced.

Technical information

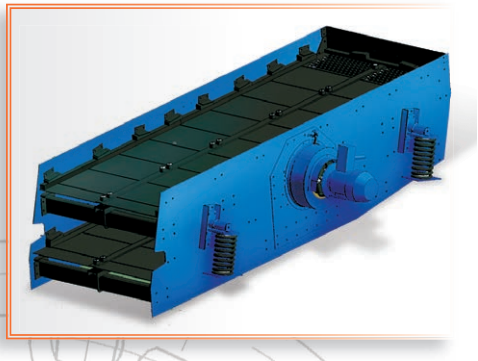
One Screen Layer

Name of the parameter and size / SV- 3,3*1 (UTSH-31) / SV-5.1M (UTSH-41)/...	SV-3,3×1 (UTSH-31)	SV-5,1M (UTSH-41M)	SV-7×1 (UTSH-51M)	SV-13-1 (UTSH-71M)	SV-7,4×1 (UTSH-51-1,1)	SV-9×1M (UTSH-61)
Performance by starting material, t/h	40...120	400	350...1000	1400	400	1000
Number of layers, pcs	1	1	1	1	1	1
Size of screening media, mm, no more than						
length	1250	1500	1670	2500	1750	2000
width	2700	3450	3600	5300	4270	4800
Angle of screening media, degree	10...20	10...25	15...25	15...30	10...30	15...25
Surface area of screening media, m²	3,3	5,2±0,2	7±0,2	13,3±0,2	7,47±0,2	9,0±0,2
Deck vibration amplitude, mm	2,5...4,5	3,0±0,3... 5,0+0,7	4,5±0,2 6±0,2	4,5±0,2... 7±0,3	3,0±0,2... 7,0±0,3	4,2±0, 2
Vibration frequency, s-1	16	16±0,2	12,25±0,25 16,2±0,25	12,25±0,25	16,2±0,25	16±0,2
Indicated power capacity of electrical motor, kW	5,5	11	18,5	30	18,5	30
Overall dimensions of vibrating part of the screen, mm, no more than						
length	3200	3500	4100	5420	4270	5500
width	2000	1980	2467	3100	2460	4042
height	1100	1160	1500	1700	1450	1800
Weight of the screen, kg no more than	2400	2300	5000	9155	5200	8800

Two, Three, Four Screen Layers

Name of the parameter and size	SV-3,75×2 (UTSH-32)	SV-3,6×4 (UTSH-34)	SV-4,5×2 (UTSH-42)	SV-8×2 (UTSH-52 LM)	BSk-8,0×2 (UTSH-52 MU)	SV-8×3 (UTSH-53)
Performance by starting material, t/h	100...200	250	300	600	450	600
Number of layers, pcs	2	4	2	2	2	3
Size of screening media, mm, no more than						
length	1250	1200	1500	1750	1750	1750
width	3000	2995	3300	4475	4480	4600
Angle of screening media, degree	10...25	0...15	15...25	20...25	10...25	15...25
Surface area of screening media, m²	3,75±0,2	3,6±0,2	4,5±0,2	8,0±0,2	8,0±0,2	8
Deck vibration amplitude, mm	1,6±0,3... 3,7+0,7	1,2±0,3... 3,0+0,7	2,0...4,0	4,6±0,2... 5,5±0,3	2,2...4,7	5...7
Vibration frequency, s-1	16±0,2	16,7±0,2	16±0,2	12,25±0,25	12, 25±0,25	12,25
Indicated power capacity of electrical motor, kW	11	11	11	22	22	30
Overall dimensions of vibrating part of the screen, mm, no more than						
length	3485	3400	3680	4885	4820	5200
width	1900	2500	2220	2470	2470	2500
height	1160	3000	1700	1550	1460	2000
Weight of the screen, kg no more than	2900	4580	4520	6290	6680	8000

SCREENINGS



Unbalanced throw screens of low-duty type

Are designed for size classification of bulk materials with bulk weight (depending on modification) of not more than 1,4 t/min³ … 2.8 t/m³ at dry screening of coal, anthracite and bituminous shale with pieces of starting material of not more than 300 mm in size (with the material surface moisture of not more than 5%).
Mounting and suspension models of screens are produced.
At the request of the customer the equipment is supplied with a vibrator on the liquid lubrication or heavy grease.
We can manufacture screens according to the customer's technical specifications.

Technical information

One Screen Layer / SV-2,2*1 (UTSL-21)

Name of the parameter and size	SV-2,2×1 (UTSL-21)	SV-3,75×1 (UTSL-31)	SV-6,8×1 (UTSL-41)	SV-8,3×1 (UTSL-51)
Performance by starting material, t/h	10	50	100	120
Number of layers, pcs	1	1	1	1
Size of screening media, mm, no more than				
length	1000	1250	1500	1750
width	2285	3000	4530	4775
Angle of screening media, degree	10…25	10…25	10…25	10…25
Surface area of screening media, m²	2,2±0,1	3,75±0,2	6,8±0,2	8,3±0,2
Deck vibration amplitude, mm	4,3±0,2		3,2±0,2	3,0±0,2
Vibration frequency, s^{-1}	16,2±0,2	16,2±0,2	16,2±0,2	16,2±0,2
Indicated power capacity of electrical motor, kW	2,2	5,5	7,5	7,5
Overall dimensions of vibrating part of the screen, mm, no more than				
length	2311	3200	4565	5050
width	1550	2351	2170	2550
height	670	700	1280	850
Weight of the screen, kg no more than	1240	850	2890	2600

Two Screen Layers

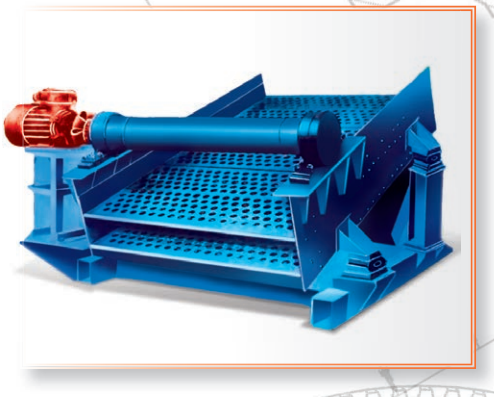
Name of the parameter and size	SV-3,75×2 (UTSL-32)	SV-6,5×2 (UTSL-42)	SV-8,3×2 (UTSL-52)	SV-8×2 (UTSL-52A)	SV-8×2M (UTSL-52M)	SV-7,8×2U (UTSL-121)
Performance by starting material, t/h	100	100	100	100	80…400	300
Number of layers, pcs	2	2	2	2	2	2
Size of screening media, mm, no more than						
length	1250	1500	1750	1750	1750	1750
width	3000	4500	4775	4654	4700	4500
Angle of screening media, degree	10…25	10…25	10…25	10…25	15…25	10…25
Surface area of screening media, m²	3,75±0,2	6,5±0,2	8,3±0,2	8,14±0,2	8,14±0,2	7,8±0,2
Deck vibration amplitude, mm	3,7±0,2	3,2±0,2	3,0±0,2	3,2±0,2	3,0…4,5	3,2±0,2
Vibration frequency, s^{-1}	16,0±0, 2	16,2±0,2	16,2±0,2	16,2±0,2	16,2±0,2	16,2±0,2
Indicated power capacity of electrical motor, kW	5,5	7,5	7,5	7,5	11	15
Overall dimensions of vibrating part of the screen, mm, no more than						
length	3200	4580	5050	4880	5058	5186
width	1900	2170	2550	2480	2480	3400
height	1250	1200	1140	1200	1200	1230
Weight of the screen, kg no more than	1990	3502	3240	3195	4100	4000

Three Screen Layers

Name of the parameter and size	SV-3,7×3 (UTSL-33)	SV-6×3 (UTSL-43)	SV 8×3(UTSL-53)
Performance by starting material, t/h	40	100	80...300
Number of layers, pcs	3	3	3
Size of screening media, mm, no more than			
length	1250	1500	1750
width	3000	4000	4745
Angle of screening media, degree	10...25	10...25	10...25
Surface area of screening media, m^2	3,75±0,2	6,0±0,2	8,3±0,2
Deck vibration amplitude, mm	4,3±0,2	3,2±0,2	3,0...4,5
Vibration frequency, s^{-1}	16,2±0,2	16,2±0,2	16,2±0,2
Indicated power capacity of electrical motor, kW	5,5	7,5(15)	15
Overall dimensions of vibrating part of the screen, mm, no more than			
length	3200	4580	5065
width	2351	2800	2500
height	1500	1580	1750
Weight of the screen, kg no more than	1950	3420	3900

Coke unbalanced throw screen SV-5,2x2-K (CUTS-52A)

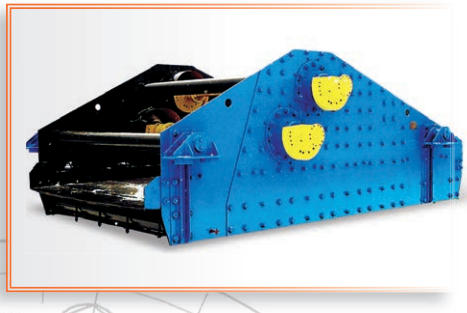
Designed for screening of low-mesh coke before loading coke into the blast furnace with the feeding lump size of not more than 80 mm.



Technical information

Name of the parameter and size	SV-3,7×3(UTSL-33)
Performance by starting material, t/h	225
Number of layers, pcs	2
Size of screening media, mm, no more than	
length	1750
width	3000
Angle of screening media, degree	18
Surface area of screening media, m^2	5,25±0,2
Deck vibration amplitude, mm	4,5±0,2
Vibration frequency, s^{-1}	15±0,2
Indicated power capacity of electrical motor, kW	17
Overall dimensions of vibrating part of the screen, mm, no more than	
length	3000
width	2500
height	650
Weight of the screen, kg no more than	3400

SCREENINGS



High-frequency screen

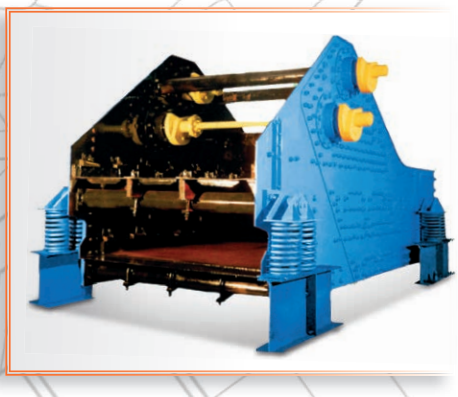
Designed for wet or dry screening of bulk materials with bulk weight of not more than 2.8 t/m³, and for dehydration, deshaling and washing the suspension excluding washing products.

Increased vibrodynamic screening mode and high opperating efficiency due to the possibility of adjusting the mode is a distinctive feature of the given screens.

Technical information

One Screen Layer

Name of the parameter and size	HFS-10	HFS-20	HFS-30	HFS-41	HFS-61	HFS-61M	HFS-71-1
Number of layers, pcs	1	1	1	1	1	1	1
Size of screening media, mm, no more than							
length	1250	1400	1510	1600	1920	2120	2400
width	2400	2500	3600	3750	4200	4200	6250
Surface area of screening media, m^2	3,0	3,5	5,5	6,0	8,0	9,0	15,0
Vibration frequency, s^{-1}	24,5…38,0	24,5…38,0	24,5…38,0	24,5…35,0	16, 2…24,5	16,2…24,5	16,2…24,5
Indicated power capacity of electrical motor, kW	4,4 (2×2, 2)	8 (2×4,0)	11 (2×5,5)	15 (2×7,5)	15 (2×7,5)	22 (2×11,0)	37 (2×18,5)
Overall dimensions of vibrating part of the screen, mm, no more than							
length	2860	3300	4200	4200	4430	4430	6330
width	2270	2500	2700	2900	3470	3670	4070
height	1410	1550	1800	1800	1550	1550	2050
Weight of the screen, kg no more than	1800	3000	3700	3800	5400	6000	9600



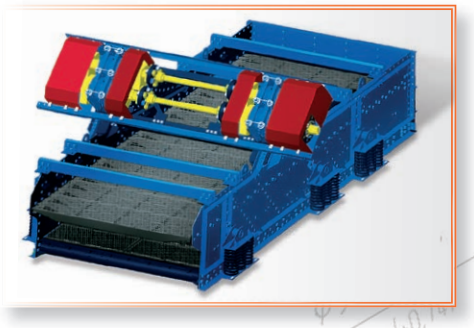
Two Screen Layers

Name of the parameter and size	HFS-42	HFS-52	HFS-62	HFS-72
Number of layers, pcs	2	2	2	2
Size of screening media, mm, no more than				
length	1510	1750	1920	2400
width	5300	5200	5500	6250
Surface area of screening media, m^2	8,0	9,0	10,5	15,0
Vibration frequency, s^{-1}	16,2…24,5	16,2…24,5	16,2…24,5	16,2…24,5
Indicated power capacity of electrical motor, kW	30 (2×15,0)	30 (2×15,0)	30 (2×15,0)	37 (2×18,5)
Overall dimensions of vibrating part of the screen, mm, no more than				
length	5550	5550	5550	6250
width	3150	3380	3550	4100
height	2200	2200	2200	2280
Weight of the screen, kg no more than	7800	8500	9200	13400

Unbalanced-throw double-impact screens

Are designed for screening of bulk materials with bulk weight of 1.4...2.8 t/m³ (1.4 t/m³.- light double-impact screen, 2.8 t/m³ - heavy double-impact screen) at an inclination of 0.. 25 degrees, and used in operations of dehydration, wet and dry deshaling, hard coal, anthracite and shale screening, as well as washing the suspension excluding washing products.

Mounting and suspension models driven by an elastic clutch are produced.



Technical information

One Screen Layer

Name of the parameter and size	UTDISM - 7×1 (MUTDIS-41)	UTDISM - 10,5×1 (MUTDIS-61)	UTDISM - 8,4×1 (MUTDIS-61M)
Performance by starting material, t/h	125	100…400	125
Number of layers, pcs	1	1	1
Size of screening media, mm, no more than			
length	1500	2000	1920
width	4400	5250	4400
Surface area of screening media, m²	0…10	0…10	0…10
Vibration frequency, s⁻¹	6,6	10,5	8,4
Indicated power capacity of electrical motor, kW	2×7,5	2×15	2×7,5
Overall dimensions of vibrating part of the screen, mm, no more than			
length	4400	5765	4400
width	2270	2530	2604
height	1735	2060	1733
Weight of the screen, kg no more than	4430	9000	4950

Two Screen Layers

Name of the parameter and size	UTDIS-5,8×2	UTDIS-8×2	UTDIS-9,45×2	UTDIS-10×2	UTDIS-11-×2	UTDIS-17×2	UTDIS-16,6×2	UTDIS-22,5×2)
Performance by starting material, t/h	120	260	450	450	400…700	450	500	900
Number of layers, pcs	2	2	2	2	2	2	2	2
Size of screening media, mm, no more than								
length	1200	1500	1750	1750	2000	2500	2500	3040
width	4900	5605	5400	6450	5600	6890	6675	7990
Surface area of screening media, m²	0…25	0…25	0…10	0…10	0…25	0…25	0…10	0.25
Vibration frequency, s⁻¹	5,8	8,4±0,3	9,45	10,2	10,9	16,6	16,6	22,5
Indicated power capacity of electrical motor, kW	30 (2×15)	30(2×15)		2×15	2×15	2×22	2×22	2×37
Overall dimensions of vibrating part of the screen, mm, no more than								
length	5700	5700	5700	6400	5700	6970	6810	8200
width	2330	2530	2450	2170	2700	3760	3487	4250
height	2460	2461	2570	2180	2650	2500	2420	2700
Weight of the screen, kg no more than	6920	7680	9300	7500	9445	13980	14900	20150

SCREENINGS

Double-impact screens DIS

DOUBLE-IMPACT SCREEN DIS72

Is designed for size classification of bulk materials with bulk weight of not more than 2.8 t/m³ size of 200 mm at operations:

- *dry size classification of bulk materials with humidity level of 5% and temperature of 120 °C;*
- *wet size classification dehydration, deshaling and washing the suspension excluding washing products.*

The screen is MUTDIS72-sized.

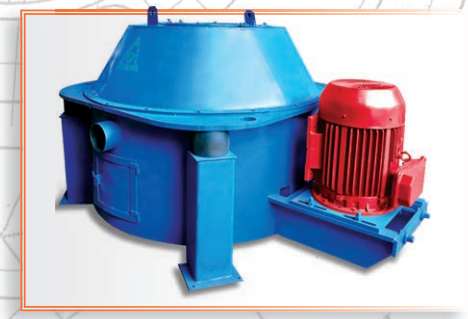
DOUBLE-IMPACT SCREEN DIS82

Designed for bulk materials screening into three classes with bulk weight of not more than 2.8 t/m³ . It is used at ferrous and non-ferrous metal industry enterprises, as well as in building industry as a technological equipment.

Technical information

Name of the parameter and size	DIS-72	DIS-82
Size of screening media, mm, no more than		
length	6768	6160
width	2500	3020
Number of layers, pcs	1; 2	2
Angle of screening media, degree	0…8	10
Vibration amplitude, mm	4…8	6…12
Indicated power capacity of electrical motor, kW	2×18,5	2×37
Deck vibration frequency, s^{-1}	735	740
Performance by feeding, max, t/h	570	1700
Feeding lumps size, mm, no more than	200	200
Weight of the vibrating part	9000	14150

CENTRIFUGES



Vertical screw centrifuges VSC-1, 00VM-02Em

Is designed for dehydration of coal concentrate and other fine-grained materials of 0…13 mm class.

Main advantages:

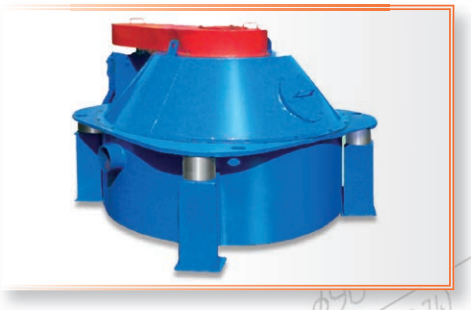
- *cake moisture reduction by 1…1.5% is achieved due to changes in the dehydration dynamic mode;*
- *easy maintainance and exploitation;*
- *improved design of the feed end;*
- *the possibility of using different frame's lining.*

Technical information

Name of the parameter and size	VSC-1,00-VM-02Em
Performance by starting material, t/h	80…100
Humidity of starting material, %	25
Humidity of dehydrated material, %	6…8
Angular velocity of rotor rotation, s^{-1} (rpm)	58,3±0,2 (566±5)
Angular velocity of auger rotation, s^{-1} (rpm)	57,1±0,8 (555±5)
Power capacity of electrical motor, kW	37
Power capacity of oil equipment, kW	0,21
Overall dimensions, mm	
length	2765±15
width	2010±12
height	1500±10
Weight (without spare parts), kg	3655±65
Weight of spare parts kit, kg	497,6

Vertical filtering screw centrifuges VFS-950m (VFS 1,00C-1), VFS-1320

Designed for dehydration of fine coal, quartz sand, rare-metal ores washery refuses, foundry sand and other fine-grained materials of 0 ... 13 mm class.



Technical information

Name of the parameter and size	VFS-950m (VFS 1,00C-1)	VFS-1320	
		Performance by starting material, t/h	got out of quartz and moulding sand
Performance by starting material, t/h	80...100	130...140	180...200
Performance by sediment, t/h		100...110	150...180
Humidity of starting material, %	20...25	25...30	25...30
Humidity of sediment, %	7...10	9...12	7...10
Maximum internal diameter of rotor, mm	1000	1320±3	1320±3
Angular velocity of rotor rotation, s-1 (rpm)	62±0,8 (594±5)	490	490
Angular velocity of auger rotation, s-1 (rpm)	60,9±0,8 (585±5)	480	480
Indicated power capacity of electrical motor, kW	37	55	55
Overall dimensions, mm			
length	2950	3505	3505
width	2300	2220	2220
height	1400	1795	1795
Weight (without spare parts kit), kg	3655	4650	4650

Horizontal screw centrifuges HSC-1,00-VM-U

Designed for dehydration of primary and washed coal slime of 3-0 mm in size. It can be used in processing plants and plants with wet-washing method of coals and anthracites in operational environment of MCC4 (moderately cold climate) according to NST 15150-69, B-production category, the room of IIa class with ambient air temperature from +5 to +40 °C.

Main advantages:

- *Reduced sediment humidity compared to vacuum filters by 10-13%.*
- *Reduced power consumption compared to vacuum filters by 3-5 times;*
- *Reduced exploitation expenditures and improved maintainability.*

Technical information

Name of the parameter and size	YSC-1,00-VM-U
Performance by starting material, t/h	100...120
Performance by sediment, t/h	25...30
Humidity of starting material, %	45...500
Humidity of sediment, %	10...15
Maximum internal diameter of rotor, mm	1000+3
Width of rotor's filtering surface gap, mm	0,4+0,1
Rotation frequency of auger, s^{-1} (rpm)	10+0,08
Rotation frequency of rotor, s^{-1} (rpm)	9,8+0,08
Indicated power capacity of electrical motor, kW	37
Overall dimensions, mm	
length	2620,00
width	2330,00
height	1990,00
Weight (without spare parts kit), kg	4350,0+240,0

CENTRIFUGES

Vertical vibrating filtering screw centrifuges VVF-1121

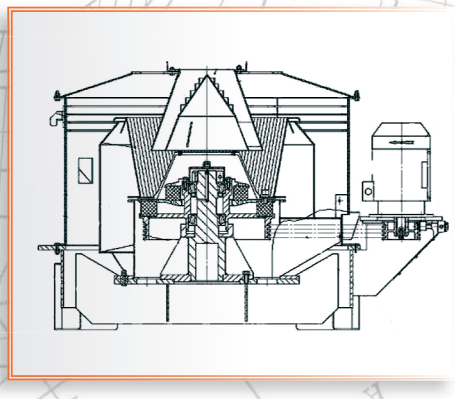
Designed for dehydration of anthracite concentrate of 0-6 (13) mm class with content of particles in the starting material of 0-0.5 mm in size up to 10% of concentrate and hard coal middlings of 0...03 (25) mm class with the content of particles in the starting material of 0...0.5 mm in size up to 5%, and other fine-grained materials.

Technical information

Name of the parameter and size	VVF-1121
Performance by starting material, t/h	100
Humidity of starting material, %	17...20
Humidity of sediment, %	8...9
Maximum internal diameter of rotor, mm	1120
Rotor inclination angle, degrees	15
Power capacity of rotor's electrical motor, kW	22
Power capacity of vibrator's electrical motor, kW	3
Overall dimensions, mm	
length	3000
width	2200
height	1800
Weight, kg	3200

Vertical filtering unbalanced-throw centrifuges VFUT-1001K-02

Designed for dehydration of antricite fine concentrate of 0-13 mm in size, dabbled while being processed.



Technical information

Name of the parameter and size	VFUT-1001K-02
Performance by initial coal, t/h	80
Humidity of initial coal, %	28
Humidity of dehydrated anthracite with content of fines in starting material of 0,5 mm class up to 5%, no more	7,5
Dehydrated anthracite output, %, no more	97
anthracite carryover with centrate, %, no more	3
Separation factor by maximum diameter of rotor	98 or 126
Rotor diameter, mm:	
max.	1000
min.	820
Length of rotor generator, mm	500
Inclination angle of rotor side to vertical axis, degrees	10
Rotor filtering surface, m^2	1,45
Width of rotor opening, mm	0,4+0,1 or 0,25+0,05
Rotation frequency of rotor, s^{-1} (rpm)	7(420) or 7,83(470)
Power capacity of rotor's electrical drive:	
type	4AMУ180S4У2
power capacity, kW	22
rotation frequency, s^{-1} (rpm)	24,5(1470)
assemblance	1M2081
service voltage	380/660
Centrifuge setting weight without mounting frame, kg (no more than 3500)	не более 3500
Overall dimensions, mm	
length	2550
width	2060
height	1665
Mounting frame weight, kg, no more than	322
Working area for centrifuge, m^2	6

ELEVATORS

Bucket elevators

Designed for inclined transportation with simultaneous dehydration of different washing roducts, hard coal, anthracite with bulk weight of up to 1,6 t/min3.

Sphere of application: mining and processing plants, coking plants.

Elevators are the most widespread at coal processing plants which use saddling machines and sluice boxes where those are the parts of technological chain of equipment functioning as preliminary washing products dehydration means. Elevators construction allows it to be installed at the angle of 65 -5 degrees +10.

Technical information

Name of the parameter and size	DH4	DH6	DH8	DH10	DH12	DH4E	DH6E	DH8E	DH10E
Max. performance , t/h	80	130	160	300	400	80	130	160	300
Max. transportation length, m	30	30	25	25	25	30	30	25	25
Elevator inclination angle, degree	60…82	60…75	60…75	60…75	60…75	60…82	60…75	60…75	60…75
Power intake, kW, no more	13	22	30	40	50	22	30	30	65
Weight, kg, no more	30	32	38	40	50	30	32	38	40
Bucket belt velocity, m/s	(0,17; 0,25; 0,38)*±10 %								
Bucket width, mm (+/-10)	400	650	800	1000	1250	400	650	800	1000
Bucket pitch, mm (+/-10)	640	800	800	800	800	320	400	400	400
Bucket storage capacity, m^3, no less than	0,018	0,045	0,08	0,1	0,2	0,018	0,045	0,08	0,1
Specific energy consumption, kJ/t-m, no more than	27	31	27	27	22	27	31	30	27
Specific weight, kg/t-m, no more than	$3,82\times10^{-4}$	$3,76\times10^{-4}$	$3,3\times10^{-4}$	$2,24\times10^{-4}$	$2,0\times10^{-4}$	$3,82\times10^{-4}$	$3,76\times10^{-4}$	$3,3\times10^{-4}$	$2,24\times10^{-4}$

Technical information

Name of the parameter and size	DH12E	DH6 (DHB-6)	DB6	DB10 (DHB-10);	DB10 (DHEB-10)	DB12 (DHEB-12)
Max. performance , t/h	400	130	130	300	300	400
Max. transportation length, m	25	30	30	25	25	25
Elevator inclination angle, degree	60…75	60…75	60…75	60…75	60…75	60…75
Power intake, kW, no more	75	30	30	40	40	55
Weight, kg, no more	50	30,8	31	35	40	50
Bucket belt velocity, m/s	(0,17; 0,25; 0,38)*±10 %		0,25±10 %			
Bucket width, mm (+/-10)	1250	650	650	1000	1000	1250
Bucket pitch, mm (+/-10)	500	400	400	400	400	500
Bucket storage capacity, m^3, no less than	0,2	0,07	0,04	0,1	0,1	0,19
Specific energy consumption, kJ/t-m, no more than	22	31	31	27	27	22
Specific weight, kg/t-m, no more than	$2,0\times10^{-4}$	$3,76\times10^{-4}$	$3,76\times10^{-4}$	$2,24\times10^{-4}$	$2,24\times10^{-4}$	$2,0\times10^{-4}$

**- specific value of bucket belt velocity is set in accordance with the customer's order*

ELEVATORS

Belt elevators BE

Designed for vertical transportation of bulk fine-grinded (up to 40 mm) and powder-type materials, chemically non-aggresive with bulk density of no more than 2,5 t/min³ and temperature of no more than 150 °C (up to 200 °C).

Elevators are completed with the belt of general use for transportation of materials with the temperature of no more than 60 °C, but if transporting materials with higher temperature elevators are completed with heat-resistant belt (up to 200 °C). Elevators can be produced out of rustless steel.

Elevators have self-supporting shaft. It is fixed with special frames to prevent side displacement. Elevator can be assembled with left or right drive positioning.

Technical information

Name of the parameter and size	BE-160	BE-200	BE-250	BE-320	BE-400	BE-500	BE-650
Performance, m³/h	5,6	10,0	21,8	32,0	58,0	62,0	102,0
Buckets:							
bucket type	small	small	small	small	small	small	small
width, mm	160	200	250	320	400	500	650
storage capacity, l	0,5	0,75	1,9	3,8	4.2	6,8	11,5
pitch, mm	320	400	400	500	500	630	630
Bucket velocity, m/s	1,5	1,5-2,0	1,85	1,85	1,5-2,0	1,5-2,0	1,5-2,0
Transportation height, mm	from 5830 to 55630						
Drum diameter, mm							
driving	400	400	500	500	630	630	630
tension	320	320	400	400	500	500	500
Drive power capacity, kW	from 1,5 to 45						
Pulling instrument	fabric-ply belt according to NSS						

CROSS-OVER CAR VIBRATORS

Cross-over car vibrators CCV-2M

Is designed for cleaning of open railway cars with bottom unloading from coal, anthracite and other bulk materials remains on elevated tracks and receiving mechanism with bins or trenches.

Vibrator should be run in M1 (mild macroclimate area) environment according to NSS 15150-69.

Technical information

Name of the parameter and size	CCV-2M
Performance, m³/h	210
Frequency of disturbing force, N	88000±200
Vibrator fluctation amplitude, mm	0,9±0,1
Drive rotation frequency, rpm, no less than	1460
Bearing surface length, mm	3000±100
Engine power rating, kW, no more than	15
Overall dimensions, mm	
length	3700
width	3100
height	1300
Specific energy consumption (provided max. performance), MJ/t, no more than	0,1
Vibrator weight (without spare parts), kg, no more than	5000

CONVEYORS

Mobile belt conveyor "Retractable" MBC

Mobile belt conveyor is designed for transportation of piece and lump loads (boxes, sacks, containers) and can be used in stores, warehouses, depots etc. For transporting bulk loads trogh type roller carriage can be implemented. Mobile belt conveyor is a continuous self-propelled machine mounted on the tram road. The conveyor belt is driven by a driving drum. The conveyor is designed for transportation bulk and lump (lump size should be up to 300 mm) materials, thus depending on the temperature of transported material, the conveyor is equipped with the appropriate kind of conveyor belt.

To ensure the technological distinctive features of production, our company offers twelve typical sizes of conveyors, enabling the direction of movement of the conveyor as well as the belt to change to the opposite, i, e. to be reverse. Conveyor can be equipped with the loading device for ensuring belt safety (if the conveyor is 30 m long) at the request of the customer.

Depending on the length of the conveyor, it can be equipped with one, two or three drives. Location of the drive can be left-sided or right-sided. The speed of the conveyor is 0.3 m/s.

Drag bar conveyor 1D-50m

Designed for delivering coal, mined rock and bulk materials over district mine workings with the freight traffic of up to 250 t/h in the working faces with wide-web or drilling-and-blasting type of continuous mining on seams of not less than 0.8 m.

Technical information

Name of the parameter and size	1D-50m	1D-50m-01	1D-50m-02
Flight length, mm		335	
Flight pitch, mm	640…800	640	640…800
Chain type (round-link, dismountable)	round-link	dismountable	round-link
Caliber and pitch of chain loops	18×80	P2×80	18×80
Breaking tension of loops, t	38,41	29	38,41
Performance, t/h with flight velocity:			
0,8 m/s		180	
1,07 m/s		250	
Operating voltage, V		380, 660	
Engine power rating, kW		55	
Weight of conveyor, kg	9 450	9 400	11 390

Drag bar shaft reverse conveyor DR70M (2DR70M)

Conveyor is designed for delivering coal and mined rock in the working faces on the seams of not less than 0.8 m and mine workings, as well as for conducting subsidiary work (forest or equipment delivery).

Drag bar shaft conveyor is designed for delivery of coal, mined rock and materials through mine workings with the freight traffic of up to 700 t/h in working faces with wide-web or drilling-and-blasting type of continuous mining on the seams of not less than 0.9 m. Conveyors can also be used in boiler houses, agriculture, building and other industries.

Technical information

Name of the parameter and size	DR70M	2DR70M
Length in delivery, m	100	100, 150, 200
Performance if V= 1,0 m/s, t/min, t/h, no less than	5,8 (350)	8,7 (525)
Flight chain velocity, m/s	0,77±0,05	1,00±0,05
Number of engines	1	2
Drive blocks positioning	single-sided	two-sided
Engine voltage, V	380, 660, 1140	380, 660, 1140
Engine power rating, kW	45, 55	55
Number and positioning of chains	two in slideways	two in slideways
Chain type (caliber, pitch, strength class)	round-link, 18×64 class C	round-link, 18×64 class C
Through side height, mm	230	230 1536
Through length by sides, mm	1536	595
Through width by sides, mm	460	525 260
Delivery set weight of 100 m lengthm, t	16,7	30.8

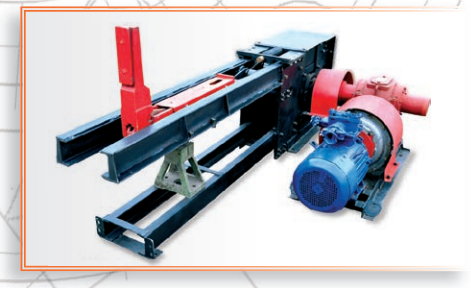
SHUNTER CONTROLLERS

Shunter controller SC-12M2A-CS

Designed for shunting by moving railway cars under the loading point and other purposes at the temperature of -20 ... + 35 °C, in conditions not requiring special protection from dust, as well as in non-aggressive and explosive environments.

Technical information

Name of the parameter and size	SC-12M2A-CS
Maximum traction force, N (kgf)	98066 (10000)
Linear speed of the rope, m/s	0,12
Haul length, m, no more than	200
Diameter of friction pulley of winch, mm	520
Angle of friction pulley contact, rad.	8П
Installed capability of winch drive, kW	30
Engine synchronous frequency, m^{-1}	750
Circuit voltage, V	380
Overall dimensions, mm	
length	7000
width	2000
height	1350
Weight, kg, no more than	7000
Number of relocated cars, pcs.	10...12



Chain puller with open circuit CCOCM-U

Designed for single cars exchange of ... type in the cages, tippers, conveyors and on exchanging platforms in technological chains with forced transposition on deckheads and in unwatered shaft insets. Six models are produced for 600, 750 and 900 mm gauges. Puller's drive type is electrical.

Technical information

Name of the parameter and size	Track, mm	Lift of pulling (stretching) cam, mm	Pulling velocity, m/s, no more than	Engine power capacity, kW	Weight
Puller for cars substitution or extrusion without automatic coupling	600	13000	0,8	7,5	2,785
Puller for cars substitution or extrusion without automatic coupling with cage jump set	600	13000	0,8	7,5	2,8
Puller for cars extractions	750	13000	0,8	7,5	2,965
Puller for cars extractions with cage jump set	750	13000	0,8	7,5	2,982
Puller for cars interchange with or without automatic coupling	900	13000	0,8	7,5	2,83
Puller for cars interchange with or without automatic coupling with cage jump set	900	13000	0,8	7,5	2,845

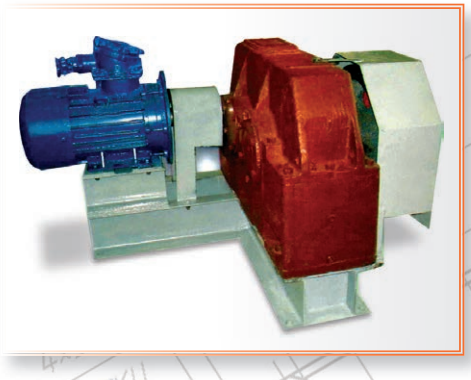
Rope cager 16-80U, 16-80-01U

Rope cager RCT 16-80 is designed for pushing through the single cars and trains on haulage-road as well as for cars exchange in cages, on exchanging platforms and rotary dumpers in coal and ore mining industry.

Rope cager RCH 16-80 is designed for cars exchange in cages.

Technical information

Name of the parameter and size	RC-16-80,0U	RC-16-80, 0-01U
Pushing action (difference of rope's branches static charge on pulley), N, no less than	1600	
Lift of cam, mm		
from	10400	
to	80000	
Pushing speed, m/s, no more than	0,5	
Electric drive:		
type	ВРП 160 S6	
power capacity, kW	11	
number of revolutions, rpm	1000	
Reducer:		
type	Ц2У-315Н	
speed ratio	50	
Friction pulley diameter, mm	450	
Pulling part (rope)	канат	
Rope diameter	16,5Г-I-Ж-О-Н-1568(160) ГОСТ 3077-80	
Weight, kg	3890	4190



Shaft chain cagers SCC

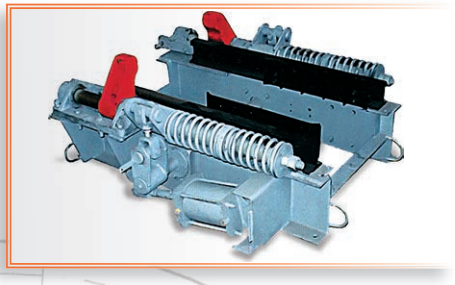
Designed for load-carrying cars exchange in cages while landing on hard landing chairs and cage jump sets in coal and non-ferrous industry mines for mine surface and unwatered shaft insets.

It is practical and simple in its form and reliable construction, with rational positioning of assembly units and easy maintainance, which make it irreplaceable for freight traffic organization at mining industry enterprise.

Technical information

Name of the parameter and size	SCC8-3,5	SCC8-4,0	SCC8-5,0	SCC8-4,5	SCA8-5,0
Pushing action, N, no less than	8000	8000	8000	8000	8000
Pushing speed, m/s, no more than	0,8	0,8	0,8	0,8	0,8
Site of operation, mm, no less than	3500	4000	5000	4500	5000
Overall dimensions, mm					
length	6400	6900	7900	7000	7500
width	1600	1600	1900	1600	1600
height	700	700	700	700	700
Cager weight (without bought-in components), kg, no more than	1165	1180	1235	1370	1450

SHAFT HOISTING EQUIPMENT



Track car stops TCS

Designed for stopping and holding load-holding cars moving in one direction on haulage-road. Sequentially installed stops SS are used for cars proportioning.

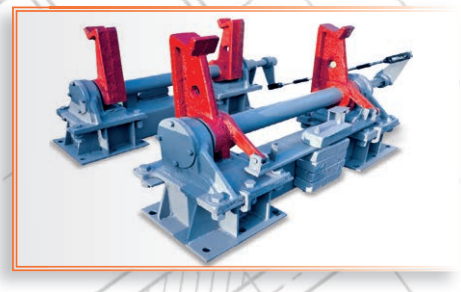
The example of conventional signs for track car stops with locking power of 4000 J (400 kgf/min), 900 mm track, electrical drive: TCS400-9E, where E, P, H mean electrical, pneumatic and hydraulic type of drive correspondingly.

Technical information

Indication acc. to TS 12.44.960-81	Weight, kg	Size, mm			Locking power, J, no les than	Track, mm	Typical size of processed cars
		B	L	H			
TCS200-6E	800	1368	1510	613	2000	600	CC 1,1-600; CC 1,3-600 CC 1,2-600; CC 1,3-600 CC 0,7-600; CC 1,4-600
TCS200-6P	655						
TCS200-6H	620						
TCS200-7,5E	815	1518	1510	613	2000	750	CT 0,8-750 CC 1,2-750
TCS200-7,5P	660						
TCS200-7,5H	625						
TCS400-9E	830	1668	1640	653	4000	900	CC 2,5-900; CT 3,3-900 CC 3,3-900; CT 5,6-900 CC 2,0-900
TCS400-9P	685						
TCS400-9H	650						
TCS400-6E	810	1368	1640	653	4000	600	CS 1,6-600 CC 2,2-600
TCS400-6P	670						
TCS400-6H	635						
TCS400-7,5E	820	1518	1640	653	4000	750	CS 1,6-750 CC 2,0-750 CC 2,2-750
TCS400-7,5P	675						
TCS400-7,5H	640						
TCS800-6E	835	1368	1755	653	8000	600	CS 2,5-600
TCS800-6P	690						
TCS800-6H	655						
TCS800-7,5E	845	1518	1755	653	8000	750	CS 2,5-750 CS 4,0-750 CC 4,5-750
TCS800-7,5P	700						
TCS800-7,5H	665						
TCS800-9E	850	1668	1755	653	8000	900	CC 4,5-900
TCS800-9P	705						
TCS800-9H	670						

Landing keps LK-m

Are designed for accurate locking of crown of rail of shaft cage in relation to the landing platform of vertical unbalanced single-rope hoisting with a side arrangement of shaft conductors in conditions that do not require compensation of rope stretching. There are automatic, remote and local (repair) mode. Versions with electric, pneumatic and hydraulic drives allow installation of cams regardless of the environment, and with regard to the type of energy used at the mine.



Technical information

Name of the parameter and size	LK-m
Static loading on cams, kN	170…375
Space between cams axes , mm	600; 900
Shaft length, mm	1360…1700
Cams mountain surface length, mm	110
Cams mountain surface width, mm	110
Weight without drive, kg	1650…2300

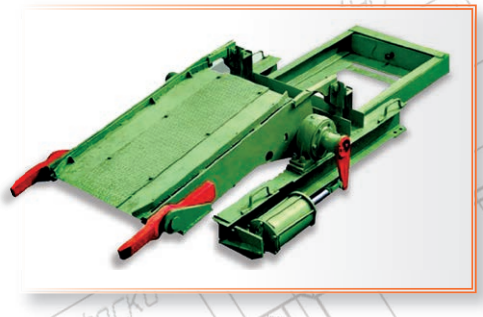
Cage jump sets CJS

Swinging platforms are designed to connect the haulage tracks, mine cages with rails of landing platforms of vertical unbalanced single-rope hoisting equipped with rigid guides. SBs are used for heightwise connection without latching with operating angle of platform rotation between + 9 ° (upper) and -8 ° (bottom). 24 sizes of platforms are produced with electric, pneumatic and hydraulic drives and work in both forced and self-maintained haul modes.

Preferred sphere of application: landing platforms of pithead buildings, shaft insets and intervaning levels in combination with standardized, ranged and individual cages equipped with rigid or roller guides with lateral or frontal location of the conductors.

Technical information

Name of the parameter and size	CKS-m
Static load, kN	110. . .150
Relative outreach length, mm	1500; 2000; 2500
Track, mm	600; 750; 900
Rope elastic stretch compensation, mm	440. . . 740
cage jump set fore-and-aft axis width, mm	
drive side	1120; 1195; 1270
opposite to drive side	700; 775; 850
Input/output weight of cage jump set without drive (kit), kg	1310/1920 (2710/4330)



Shaft sinking barrels of SSBM type

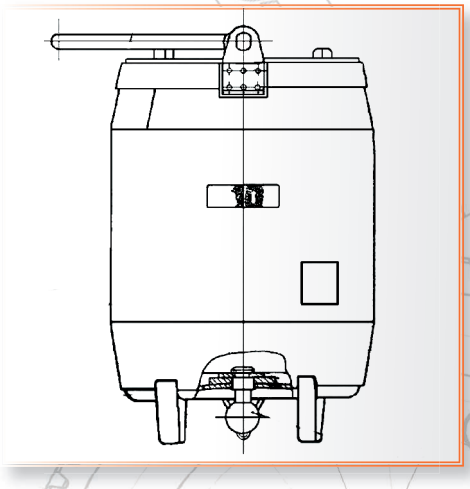
Designed for increasing hauling-up pace and capacity as well as for decrease of general duration of the cycle to a great extent.

Sinking barrel with mechanized unloading SSBM is designed for rim rock and water egress from a shaft foot and for inbye convey and hoisting of people, tools and materials in mines with vertical sinking.

Technical information

Name of the parameter and size	SSBM-0,75	SSBM-1,0	SSBM-1,5	SSBM-2,0	SSBM-3,0
Performance, m^3	0,75	1,00	1,5	2,0	3,0
Carrying capacity, kg	1500	2000	3000	4000	6000
Barrel outer diameter, mm	950	1150	1300	1400	1600
Guiding rope diameter	18+38	18+38	18+38	18+38	18+38
Guiding frame:					
space between guiding ropes axes, mm	1250	1450	1600	1700	1900
space between legs, mm	1050	1250	1370	1470	1670
Heigth,mm	3108	3115	3 529	4070	3700
Width, mm	1330	1535	1690	1790	1990
Weight, kg, no more than	390	390	630	770	1150

Name of the parameter and size	SSBM-4,5	SSBM-5,0
Carrying capacity, m^3	4,5	5,0
Lifting capacity, kg	9000	10000
Nominal outer diameter frame, mm	1700	2050
Height, mm	1670	1720
Weight, kg, no more than	1700	1800



SHAFT HOISTING EQUIPMENT

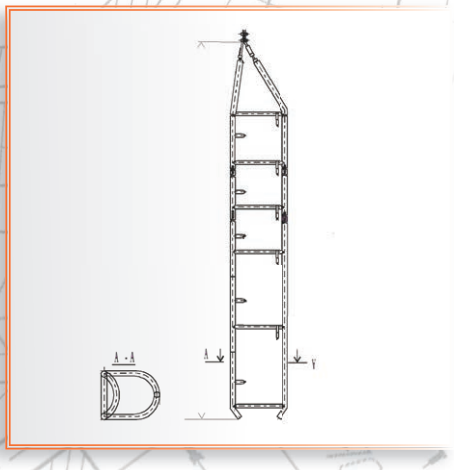
Barrel complex SSBM

Equipment complexes with mechanized unloading of sinking barrels SBSM are designed for rim rock and water egress from a shaft foot and for discending and hoisting of people, tools and materials in mines with vertical sinking.

Complexes' carrying capacity are produced varying from 0,75 to 5,0 m³ and they consist of a barrel SBSM (of analogical typical size), a frame, shaft door and a winch.

Technical information

Name of the parameter and size	SSBM 0,75	SSBM 1	SSBM 1,5	SSBM 2	SSBM 3	SSBM 4	SSBM 4,5	SSBM 5
Barrel carrying capacity, m³	0,75	1	1,5	2	3	4	4,5	5
Barrel lifting capacity, kg	1500	2000	3000	4000	6000	8000	9000	10000
Space between guiding ropes axes , mm	1250	1450	1600	1700	1900	1950	2000	2350
Weight, kg								
complex	2430	2630	3250	4420	5420	6300	7000	7750
guiding frame	440	450	650	730	800	950	1000	1100
unloading shaft door	700	800	1150	1600	1820	2100	2500	3000
delivering kit	2500	2700	3600	4500	5500	6400	7100	7850



Safety ladder SL

Is designed for transporting people out of the shaft face in case of hoisting accident or power cutoff.

Technical information

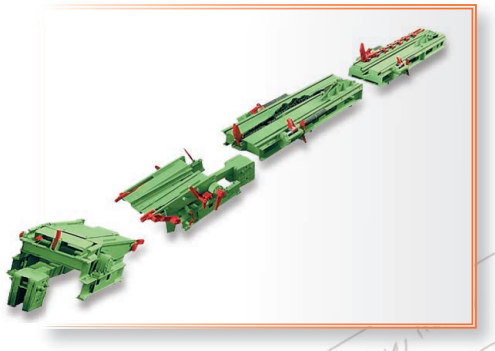
Name of the parameter and size	SL-1	SL-2
Overall dimensions, mm		
length	616	750
width	600	-
height	19900	16760
Maximum number of people positioned on the ladder, person	20	30
Maximum load of pull-type device, t	2,5	2,8
Weight, kg, no more than	495	428

Counterweights for shaft cages (skips)

Designed for balancing of shaft cages (skips) of single-rope or multirope hoisting in verticals of mines. Counterweights for loads from 60 to 800 kN are produced.

Production of customized counterweights according to operating mines features is possible.

Chain aggregate for mechanization of car exchange in the cage CAM



Is designed for mechanization of cars exchange operations and for skipping the trucks with elongated materials on upper, middle and lower loading platforms of shaft with cage winding, in pithead buildings and shaft insets of any gas or dust based category.

The aggregate works along with rope cager RCO 16-80. It is produced with single-type drives placement and allows for parallel in-line installation (without remounting) for operation with different cages.

Technical information

Name of the parameter and size	1,5CAM 900	2,5CAM 900	CAM 900	1,5 CAM600	2,5CAM600	CAM600
Pulling force, kN	16					
Pulling speed, m/s	0,8					
Puller pitch, mm	6000	7000	5200	5200	6200	4400
TM length, mm	1500	2500	-	1500	2500	-
Distance to the cage, mm	10720	12720	8860	9420	11420	8060
Width, mm	2525			2375		
Height, mm	1390					
Track, mm	900			600		
Weight, kg	10500	12400	6600	9200	11000	5900

Mechanized aggregate for car exchange in cages MAE

Designed for mechanization of single cars exchange processes of two- and one-cage hoisting. Aggregates are loaded on loading platforms of shaft insets of end and intermediate level of mines of any gas or dust based categories with any humidity and water-inflow coefficient in exchange systems, excluding independent cars traffic. The aggregate has ten assembling types depending on car's typical size, conductor type, hoisting type and main rope elastic stretch compensation.

Technical information

Name of the parameter and size	MAE-10	MAE-11	MAE-12	MAE-08	MAE-09	MAE-02	MAE-03	MAE-04	MAE-00	MAE-01
Drive type	pneumatic									
Hoisting type	one-cage					two-cage				
Moving cars type	CC1,3 CC1,4 CC1,6 CTK1,5	CC2,5 CC3,5 CT3,3 CTK2,5	CC1,3 CC1,4 CC1,6 CTK1,5	CC2,5 CC3,5 CT3,3 CTK2,5	CC2,5 CC3,5 CT3,3 CTK2,5	CC1,3 CC1,4 CC1,6 CTK1,5	CC2,5 CC3,5 CT3,3 CTK2,5	CC1,3 CC1,4 CC1,6 CTK1,5	CC2,5 CC3,5 CT3,3 CTK2,5	CC2,5 CC3,5 CT3,3 CTK2,5
Track, mm	600	900	600	900	900	600	900	600	900	900
Operating force, kN	15,7									
Cager's cam pitch, mm	5000	5500	5000	5500	5500	5000	5500	5000	5500	5500
Overall dimensions, mm										
length	13550	14550	13550	14550	14550	13550	14550	13550	14550	14550
width	1435	1735	1435	1735	1735	1435	1735	1435	1735	1735
height	1090	1090	1090	1090	1090	1090	1090	1090	1090	1090
Weight, t, no more than	11,09	8,58	7,75	12,03	12,3	21,6	16,55	14,95	23,4	23,9
Shaft conductor type	rigid				rope	rigid				

SHAFT HOISTING EQUIPMENT

PDS.1M shaft door actuator

The actuator is intended to open and close a mine shaft door. The actuator is designed for operation in gaseous and dusty mines requiring the use of underground explosion-proof electrical equipment. It may be also used in other branches.

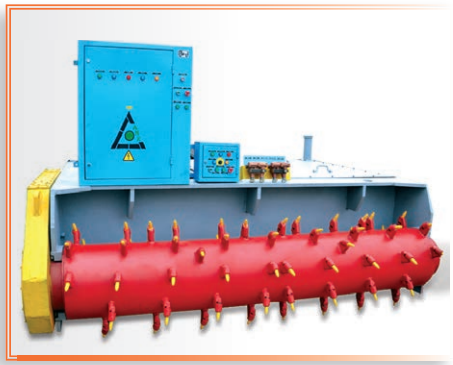
Technical information

Parameter name and size	PDS.1M
Shell protection rating	IP65
Explosion protection level and type	PB, 3B (Exdl)
Climatic version:	
for moderate and cold climate	UKhL5
for tropical climate	T5
Traction force, N (adjustable)	100...1,000
Linear velocity of drum, m/sec	1
Door stroke, m, no more than	3
Operation mode	repeated – short-term
Turn-on duration (TD), %	30
Cycle duration, sec, no more than	10
Consumed power, kW	1.5
Rated voltage, V	380/660
Dimensions, mm, no more than	500x300x300
Weight, kg	45
Operation in cold, moderate and tropical climate conditions at:	
ambient temperature, °C	-50...+45
air relative humidity at 35°C, %, no less than	100

CRUSHING-AND-MILLING MACHINES

Crushing-and-milling machines CMM-20M

Designed for crushing tilted out of railway cars using tippler on sorting grill of frozen lumps of coal and grills of receiving bin, different types of rotary rail car tipplers, as well as on grills of receiving bins unloading devices with side rail car tipplers.



Technical information

Name of the parameter and size	CMM-20M
Hardness of grinding material, kg/ cm²	450
Lump size of grinding material, mm, no more than	800
Active crushing area, mm	3 100
Moving speed, m/min	3,5...12,8
Track on rail axes , mm	3 450,00
Overall dimensions, mm	
Length without a stop and spare drive	2 650
length	3 615
height	1 025
Weight, kg, no more than	12 100

**Technical characteristics and assembly models of crushing-and-milling machines can be changed according to customer's requirements*

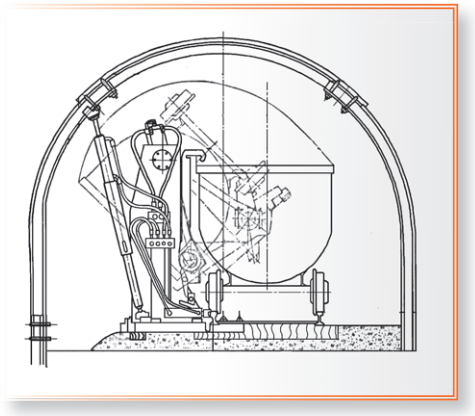
TIPPERS

Side car dumper SCD

Is designed for side solid-bottom MC-type car tipping, also suitable for gas (methane) and dust hazardous mines.

Technical information

Name of the parameter and size	SCD-1,3	SCD-1,4	SCD-1,6	SCD-2,5	SCD-3,3
Weight of freighted cars, kg, no more than	3000	3200	4000	6000	8000
Overall dimensions, mm					
length	3700	4100	4400	4500	5200
width	800			850	
height	1750			1900	
Installed engine power capacity, kW, no more than	40	40	40	40	40
Weight, kg, no more than	2300	2400	2500	3200	3400
Delivery set weight, kg, no more	6800	6850	7000	7750	7900



Electrical rotary car dumper ERCD

Shaft cars dumpers with an electrical drive are designed for unloading mining freight cars with a solid-bottom and of MC-type in a break-up or non-break-up train, without skipping (RD) and skip (ERD) locomotive. They are applied at mining enterprises of ferrous and non-ferrous metallurgy.

RD and ERD dampers are exploited at mining enterprises of ferrous, non-ferrous and mining and chemical industries, being not gas and dust hazardous.

Distinctive features:

- *the widespread use of standardized assembly units and parts;*
- *increased performance at the expense of increasing the speed of rotation of the tipper drum and weight, unloaded in one cycle;*
- *the presence of a soundproof booth for an operator;*
- *the use of a pneumatic drive to control the stop*

Technical information

Name of the parameter and size	ERCD-1-4,5-750V	ERCD-2-4,5-750V(900A)
Type of unloaded cars (MC-5,5A)	MC-4,5A	MC-28; MC-4,5A
Number of simultaneously unloading cars, pcs.	1	1; 2
Time for a drum revolution, s	13±1	13±1
Control	Automatic or distant (local)	
Overall dimensions, mm		
Length without a stop and spare drive	8500	12500
length	6300	6300
height	4500	4500
Weight, kg, no more than	40000	50000

TIPPERS

Mechanical revolving car dumper MRCD

Revolving dumpers with electrical drive are designed for unloading non-disengageable train cars in the shaft insets of coal mines skip hoisting or single cars in pithead buildings of cage hoisting of mining trucks (MT). Explosion-proof models are produced thus they can be exploited in the gas and dust hazardous mines.

Technical information

Name of the parameter and size	MRCD1-3,3-9,0	MRCD1-2,5-9,0	MRCD2-3,3-9,0	MRCD2-2,5-9,0	MRCD1-1,6-6,0	MRCD1-1,4-6,0	MRCD1-1,0-6,0
Drum diameter, mm	3000±10				2800±10		
Drum length, mm (+/- 10 cm)	3800	3100	7450	6050	3080	2750	1900
Opening width for a truck, mm, no less than	1450	1450	1450	1450	1000	1000	1000
Opening height for a truck, mm, no less than	1710	1710	1710	1710	1710	1710	1710
Track width, mm (+/- 2 mm)	900	900	900	900	600	600	600
Nominal voltage, V	380 (660)						
Height from frame base to crown of the rail, mm (+/- 10 mm)	1515	1515	1515	1515	1432	1432	1426
Number of simultaneously unloading cars, pcs.	1	1	2	2	1	1	1
Time for a drum revolution, s	12	12	12	12	11	11	11
Power consumption, kW, no more than	11,0	11,0	11,0	11,0	11,0	11,0	11,0
Engine rotation frequency, rpm	1500	1500	1500	1500	1500	1500	1500
Overall dimensions, mm							
length	4600	3900	8250	6850	3890	3560	2750
width	3680	3680	3680	3680	3680	3680	3680
height	3650	3650	3650	3650	3650	3650	3650
Weight, kgt, no more than	12200	11400	17600	16500	11900	11670	9485
Assemblage	Right and left for non-disengageable trains and right for single cars		Right and left for non-disengageable trains		Right and left for non-disengageable trains and right for single cars		
Typical size of a car	CC3,3-900	CC2,5-900	CC3,3-900	CC2,5-900	CC1,6-600	CC1,4-600	CC1,0-600

Name of the parameter and size	MRCD2-1,6-6,0	MRCD2-1,4-6,0	MRCD2-1,3-6,0	MRCD2-1,0-6,0	MRCD-1,2(1,3)-6,0	MRCD1-1,3-6,0
Drum diameter, mm	2800±10					
Drum length, mm (+/- 10 cm)	6030	6370	4430	3650	2280	2280
Opening width for a truck, mm, no less than	1000	1000	1000	1000	1000	1000
Opening height for a truck, mm, no less than	1710	1710	1710	1710	1710	1710
Track width, mm (+/- 2 mm)	600	600	600	600	600	600
Nominal voltage, V	380 (660)					
Height from frame base to crown of the rail, mm (+/- 10 mm)	1432	1432	1432	1426	1432	1432
Number of simultaneously unloading cars, pcs.	2	2	2	2	1	1
Time for a drum revolution, s	11	11	11	11	11	11
Power consumption, kW, no more than	11,0	11,0	11,0	11,0	11,0	11,0
Engine rotation frequency, rpm	1500	1500	1500	1500	1500	1500
Overall dimensions, mm						
length	7070	6410	5236	4460	3090	3200
width	3680	3680	3680	3680	3550	3680
height	3650	3650	3650	3650	3378	3550
Weight, kgt, no more than	17745	17120	13500	12803	9000	9500
Assemblage	Right and left for non-disengageable trains				Right and left for non-disengageable trains and right for single cars	
Typical size of a car	CC1,6-600	CC1,4-600	CC1,1-600; CC1,3-600	CC1,0-600	CC1,2-600; CC1,3-600	CC1,1-600; CC1,3-600

TGM PUSHERS

TGM-u hydraulic motor pushers

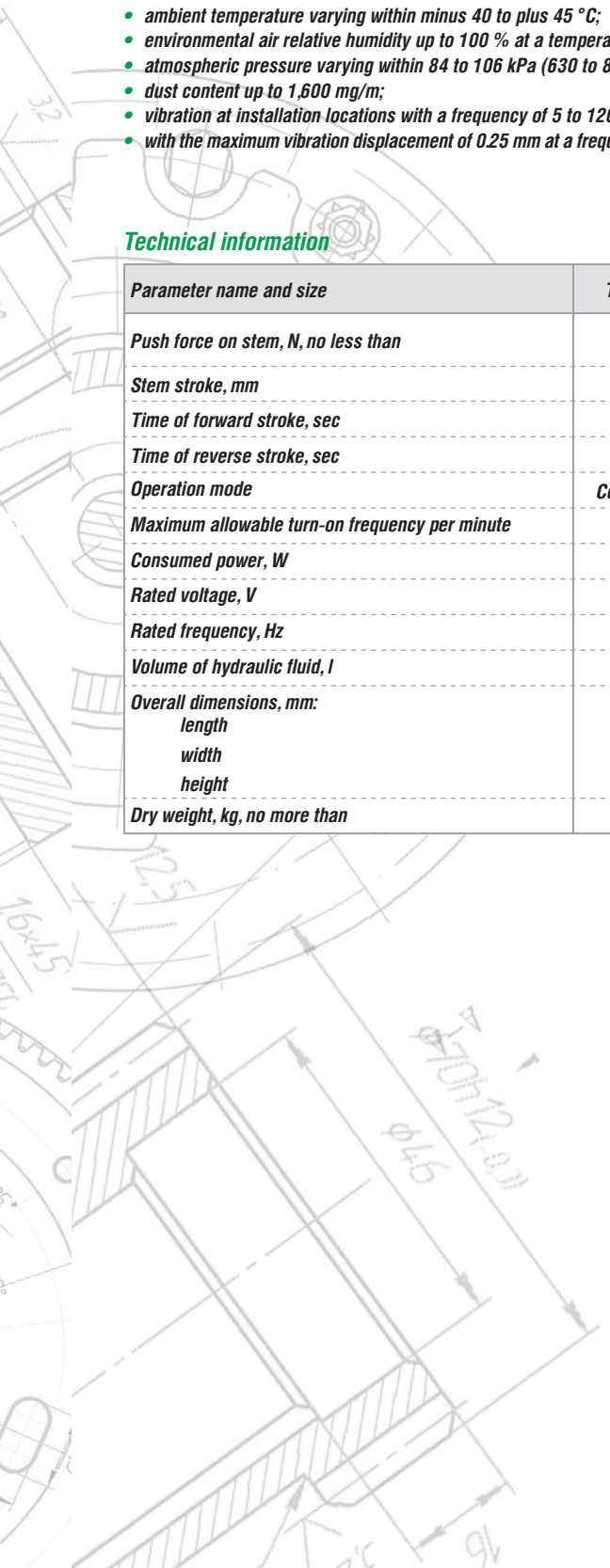
Pushers are intended to control rail switches in gaseous and dusty coal mines requiring the use of underground explosion-proof electrical equipment. They may be also used in other branches.

TGM pushers may be used in gas and coal dust outburst hazardous mines, under a shelter on the surface in the following conditions:

- *ambient temperature varying within minus 40 to plus 45 °C;*
- *environmental air relative humidity up to 100 % at a temperature of 35 °C;*
- *atmospheric pressure varying within 84 to 106 kPa (630 to 800 mm Hg);*
- *dust content up to 1,600 mg/m;*
- *vibration at installation locations with a frequency of 5 to 120 Hz:*
- *with the maximum vibration displacement of 0.25 mm at a frequency up to 45 Hz and maximum vibratory acceleration of 20 m/sec2 at a frequency of 45 to 120 Hz.*

Technical information

Parameter name and size	TGM-1U	TGM-2U	TGM-3U	TGM-4U	TGM-5U	TGM-6U
Push force on stem, N, no less than	3,000 (300)	3,000 (300)	6,000 (600)	6,000 (600)	12,000 (1,200)	12,000 (1,200)
Stem stroke, mm	250	350	250	350	250	350
Time of forward stroke, sec	12	22	12	22	32	32
Time of reverse stroke, sec	0.05	0.8	0.65	0.8	1.0	1.4
Operation mode	Continuous, repeated – short-term. Turn-on duration – 60 %. Cycle duration – at least 7 minutes					
Maximum allowable turn-on frequency per minute	7	4	7	4	3	2
Consumed power, W	1,500					
Rated voltage, V	360/660					
Rated frequency, Hz	50					
Volume of hydraulic fluid, l	12	15	12	15	12	15
Overall dimensions, mm: length width height	 1,120 350 300	 1,120 350 300	 1,120 350 300	 1,120 350 300	 1,100 350 300	 1,120 350 300
Dry weight, kg, no more than	86	90	90	95	110	120



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