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VIBROTECHNIK



SIEVES AND SHAKERS



PRODUCTIVITY IN MINERALS

MIT-GROUP

MIT-SA



LABORATORY SIEVES

Options for sieve surfaces: screen or perforated sheet

Screen material: brass, bronze, stainless steel or polyamide

Shape of stainless steel sheet apertures: round or square

ADVANTAGES:

- Accurate and reproducible sieving results;
- Sieves are manufactured in conformity with technical specification ISO 3310.1, ISO 3310.2;
- Sieve frame are made of food-grade stainless steel grade AISI 321, 0.55 or 0.8 mm thick;
- Beads and raised edges increase frame rigidity;
- Sieves are supplied with increased height and intermediate rings;
- Sieves **C 20/50**, **C 30/50** and **C 50/70** are equipped with shock-absorbing sealing rings.

CHARACTERISTICS	C 12/38	C 12R	C 20/38	C 20/50	C 20/100	C 20R	C 30/50	C 30/100	C 50/70
Inner frame diameter (mm)	120	100	200	200	200	200	300	300	500
Mesh size (mm)	0,02-4,0	0,02-2,5	0,020-4,0		1,0-4,0	0,02-2,5	0,04-4,0	1,0-4,0	0,2-4,0
Size of apertures in perforated plate (mm)	0,8-50,0	*	*	0,8-50,0		*	0,8-100,0		
Weight (kg)	0,12	0,98	0,27	0,47	0,5	1,9	0,9	1,3	3,5
Maximum sample weight (kg)	0,1		0,15		0,3	0,15	0,3	0,5	1,0
Maximum load on sieve with perforated plate (kg)	0,3	*	*	0,5	0,5	*	1,0	1,0	3,0

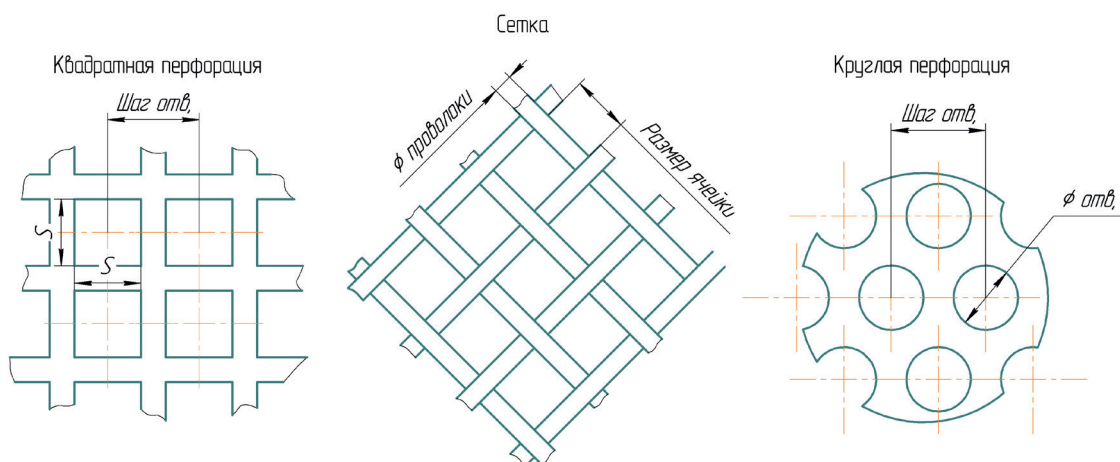
* The design of the sieves does not require the use of a perforated plate sieve element.

APPLICATIONS

Diamonds, ferroalloys, ore, metal powders, coal, slag, glass, ceramic, polymers, peat, cereals, herbs, coffee.



Laboratory Sieves



Sieve **C 12/38** with stainless steel mesh



Sieve **C 20/50** with bronze mesh



Sieve **C 30/100** with circular perforation



Sieve **C 50/70** with circular perforation



Sieve **C 20R** with polyamide mesh on Ø200 mm tray



Sieve **C 12R** with stainless steel mesh on Ø120 mm tray



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Russian avant-garde equipment for milling



Mesh size of metal fabric screens

Cell size, (mm)	0,02	0,032	0,04	0,045	0,05	0,056	0,063	0,064	0,071	0,08	0,09	0,094	0,1
Material	s.steel	bronze, s.steel	bronze	bronze	bronze, s.steel	bronze	s.steel	brass, s.steel	brass	s.steel	brass, s.steel		
Cell size, (mm)	0,112	0,125	0,14	0,16	0,18	0,20	0,25	0,28	0,315	0,355	0,40		
Material	brass	brass	brass, s.steel	brass	brass, s.steel	brass	brass, s.steel	brass, s.steel	brass, s.steel	brass, s.steel	brass, s.steel	brass, s.steel	brass, s.steel
Cell size, (mm)	0,45	0,50	0,56	0,63	0,70	0,80	0,90	1,00	1,10	1,20	1,25		
Material	brass, s.steel	brass, s.steel	brass	brass, s.steel	brass, s.steel	brass, s.steel	brass, s.steel	brass, s.steel	brass, s.steel	brass, s.steel	brass, s.steel	brass, s.steel	brass, s.steel
Cell size, (mm)	1,40	1,60	1,80	2,00	2,20	2,50	2,80	3,20	3,50	4,00			
Material	s.steel	brass, s.steel	s.steel	brass, s.steel	s.steel	brass, s.steel	s.steel	s.steel	s.steel	s.steel	s.steel	s.steel	s.steel

Size and shape of apertures in perforated plate

Diameter (mm)	0,8	1,0	1,5	2,0	2,5	3,0	3,5	4,0	4,5	5,0	5,5	5,6
	6,0	6,5	7,0	7,5	8,0	9,0	10,0	11,0	12,0	12,5	13,0	14,0
	15,0	16,0	17,0	18,75	20,0	22,5	25,0	30,0	31,5	35,0	40,0	45,0
	50,0	55,0	60,0	63,0	70,0	80,0	87,5	100,0	125,0	150,0	200,0	300,0
Side of square (mm)	3,15	3,5	4,0	4,5	5,0	5,6	6,0	6,3	7,0	8,0	9,5	10,0
	11,2	12,0	12,5	13,0	15,0	16,0	18,0	19,0	20,0	22,4	25,0	31,5
	31,5	32,0	34,0	37,5	40,0	45,0	50,0	60,0	63,0	80,0	120,0	130,0

Sieve elements with different aperture sizes can be manufactured to order.

Polyamide mesh cell sizes

Cell size (µm)	65	70	75	85	90	95	100	105	110	120
	130	150	160	200	220	240	250	260	270	275
	280	300	310	320	350	360	410	440	460	490
	500	540	600	650	670	750	810	840	970	1120

SIEVE SHAKERS

The Sieve Shakers are designed for intermittent dry sieving of bulk materials according to particle size.

The Sieve Shaker consists of a vibration drive with a set of sieves installed, a tray, a cover and a device for fastening the sieves. The type of vibration drive, the number of sieves, and the intermediate rings and trays are selected depending on the order and according to the size of the mesh or the apertures in the perforated plate.

ADVANTAGES:

- High quality, confirmed by 100 Best Products in Russia and Made in St. Petersburg awards;
- Accurate, reproducible sieving results;
- Vibration drives equipped with shock absorbers to cancel out the vibration which occurs during operation;
- Made of materials permitted to come into contact with food products;
- Sieve Shakers on base Vibration drive **VP 30**, Vibration drive **VP 30T** and Vibration drive **VPS** are equipped with **T 80** support stands; Sieve Shakers on base Vibration drive **VP 50** are equipped with **T 40** support stand and control panels;
- Small size and low weight;
- Low noise.

Technical characteristics of Sieve Shakers

CHARACTERISTICS		A 12	A 12R	A 20	A 20R	A 20x4	A 30	A 50
Sieve diameter (mm)		120	120	200			300	500
Maximum number of sieves		10	1	8	1	4x10	6	8
Type of vibration drive		VP 30, VP 30T, VPS				VP 50	VP 30, VP 30T, VPS	VP 50
Amplitude of vibrations (depending on weight of sample and number of sieves) (mm)		0,25-1,5	1	0,25-1,5	1	2,0-4,0	0,25-1,5	2,0-4,0
Vibration frequency (vibrations/minute)		1500						
50 Hz supply voltage (V)		220				220/380	220	220/380
Maximum overall dimensions (mm):	Length	390	390	390	390	560	390	560
	Width	350	350	350	350	550	350	550
	Height	684	306	760	335	1000	650	1154
Maximum weight (kg)		21	20	22	20	88	29	113



Sieve Shaker **A 12**



Sieve Shaker **A 20**



Sieve Shaker **A 30**



Sieve Shaker **A 20x4**



Sieve Shaker **A 30**
on base **VP 50**



Sieve Shaker **A 50**

CIRCULAR VIBRATORY SCREENERS AND CIRCULAR VIBRATORY SCREENER UNITS ON BASE PG

The Circular Vibratory Screeners are designed for sieving bulk materials according to particle size classes.

The operating principle of the Circular Vibratory Screeners is similar to the operating principle of the analyzer, except that supply of the material to be sieved and discharge of the separate classes from the surface of the sieve and tray are continuous.

ADVANTAGES OF CIRCULAR VIBRATORY SCREENERS UNITS:

- The distance traveled by the material particles during screening exceeds the diameter of the sieves installed, which improves sieving efficiency;
- Dust discharge is eliminated;
- The Circular Vibratory Screeners is equipped with corrugated discharge hoses and plastic receiving containers;
- Efficient screening using reciprocating helical vibrations of platform;
- Supply of elastic discharge hoses that do not distort the vibrations, for connecting pipes to receiving containers.

ADVANTAGES OF GR UNITS WITH PG:

- Uniform feed of material to upper sieve of Screener;
- The material feed rate is adjusted by:
 - moving the slide gate in the feed hopper;
 - changing the amplitude of the feed tray vibrations making it possible to change the thickness of the material layer in the tray.
- Sealed connection of feeder, sieving elements and receiving containers;
- Increased output of Circular Vibratory Screeners **GR 50** through simultaneous loading of material into several identical sieves on one sieving column.

CHARACTERISTICS	GR 30	GR 50	GR 30 with PG 1	GR 50 with PG 1	GR50 with PG 2
Sieve diameter (mm)	300	500	300	500	
Maximum number of sieves	5	8	5	8	8
Amplitude (semispan) of vibrations (mm)	0,25-1,5	2,0-4,0	0,25-1,5	2,0-4,0	
Vibration frequency (vibrations/minute)	1500				
Maximum raw material particle size (mm)	3	5	3	5	
Supply current consumption (A)	-		0,4	0,4	
PG feeder hopper volume (dm³)	-		9		66
Electric motor power (kW)	2x0,025	2x0,37	2x0,025	2x0,37	
50 Hz supply voltage (V)	220	220/380	220	220/380	
Overall dimensions (Length x Width x Height) (mm)	365x350x570	721x690x1100	365x350x570	1025x700x1370	1170x700x1600
Weight (kg)	26	114	46	137	147

SIEVING EQUIPMENT

Circular Vibratory Screeners and Circular Vibratory Screener units on base PG



Circular Vibratory Screener **GR 30**



Circular Vibratory Screener unit with feeder **PG 1**



Pipe and skirt of sieve **GR 50**



Circular Vibratory Screener **GR 50** with double output and simultaneous loading into 2 sieves



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TRAYS, COVERS, SIEVE FASTENERS

TRAYS

Material particles that have passed through all sieves of the sieving column are discharged to the analyzer trays.

Intermediate trays are designed for the installation of several identical sets of sieves in one sieving column.

The sieve shaker trays are designed for continuous discharge into the receiving container of the material that has passed through the lower sieve.



Trays with diameter of 120, 200, 300 and 500 mm



Trays for sieve shakers **GR 30** and **GR 50**

COVERS

The Sieve shaker and Circular Vibratory Screeners covers are designed to reduce the dust level; in addition, the Circular Vibratory Screeners covers are designed for loading material into the top sieve. There are four designs for the **GR 30** and **GR 50** covers:

- with a funnel for portioned loading of material;
- with a pipe for sealed connection of an elastic hose;
- with a membrane for loading material through a rigid hose;
- with a water supply for wet sieving.



Covers with diameter of 120, 200, 300 and 500 mm



GR 30 cover with pipe and membrane,
GR 50 cover with funnel

SIEVE FASTENERS

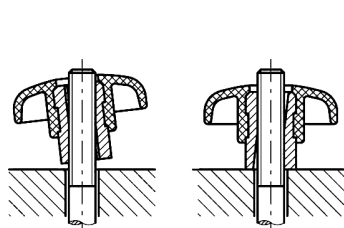
The sieve fastener **UKS** is designed to secure a sieve column of arbitrary height on a vibration drive platform. In addition to the sieve fastener **UKS**, the **UKS-M** (modified) is also produced, and can be attached to pins at an arbitrary height.

ADVANTAGES OF UKS:

- Use of industrial fittings that ensure convenient use and durability of the sieve fasteners;
- The main element of the sieve fastener, the cross piece, has two guide bushes that reduce the likelihood of it skewing;
- The cross piece has a square cross section to prevent deformation;
- The **UKS** knobs do not have continuous threads, but rather beveled threads, which eliminate the need to twist the knobs on the threaded pegs and reduce the time required to secure the sieve column when its height is changed;

ADVANTAGES OF UKS-M:

- The switch from two knobs to one, which reduces the time required to secure the sieve column when its height is changed;
- The **UKS-M** is operated using one handle rather than two;
- The **UKS-M** cross piece can be attached at an arbitrary height, which reduces the time required to install a sieve column.



UKS knob



Sieve fastener UKS



UKS-M cross piece

SIEVE HOLDERS

The **S 50** cassette is designed to store five **A 50** or **GR 50** sieves.

ADVANTAGES:

- Compact storage of **A 50** and **GR 50** sieves, trays, covers and intermediate rings;
- Wooden inserts prevent the sieves from coming into contact with metal parts of the cassette;
- A handle and rollers are provided to move the cassette.



Cassette S 50





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