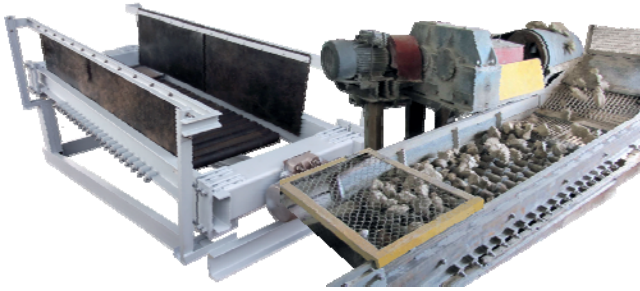


Mining and mineral-processing equipment Screens (roll vibration classifiers)



Application:

- Open pits and mines
- Ore-dressing and processing enterprises, processing and separation factories and plants.
- Processing enterprises for dry and wet mineral raw materials.

NKMZ and the Institute of Geotechnical Mechanics named after N.S. Polyakova of the National Academy of Sciences of Ukraine produce processing lines based on individual engineering to separate loose and wet rock according to size with a capacity of 50 to 200 t/hr, depending on the type of processed material, the size of the screen underflow and the area of screening surface. The basis of such lines is roll vibration classifiers (screens).

The roll vibration classifier consists of a metal body, a vibration drive and a screening surface in the form of rolls.

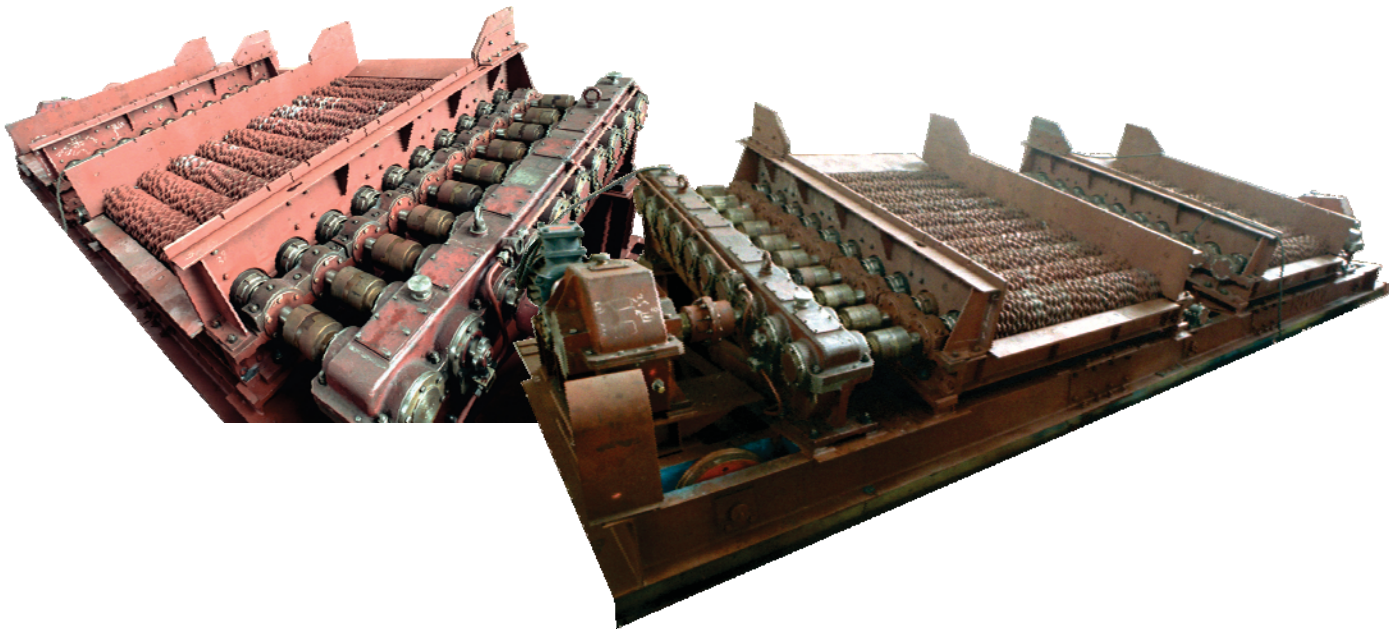
The rolls may have the form of cylinders, discs or sprockets, depending on the type of feedstock being processed. The distance between the rolls is standardized. The rolls are fastened on the classifier case in such a way that under the action of a vibration drive they form a system of nonlinear pendulums with heteroparametric excitation. Such excitation of the rolls provides their synchronous and in-phase mode of motion, while maintaining the size of the screening slots. The entire system of rolls performs not only rotational motion, but also circular vibrational motion in a two-dimensional vertical coordinate plane. The basis of high productivity and effective separation of mineral raw materials by size is a complex double movement of the rolls, which allows separating wet, sticky and fibrous materials by size, for example, wet, fat coals, clay compounds, peat and other mineral raw materials.

An additional impact is introduced on wet processed material by the rolls of a special design. Such rolls are able to destroy strong external bonds between particles of material, thereby increasing the separation efficiency.

Specification of screens

Parameter	Model values	
	ГИЛ-52	БК-100
Screening surface dimensions, mm:		
- length	4500	3000
- width	1750	1000
Screening surface tilt angle, deg.	10-25	0-15
Oscillation amplitude, mm	1,7-3,6	1,5-3,2
Rated motor power, kW	15 (2 x 7.5)	2,1 (2 x 1,05)
Box oscillation frequency, min ⁻¹	960	680
Feed capacity, max, t/hr	116	120
Feed lump size, max, mm	300	350
Oscillated part weight, kg	3000	660

Mining and mineral-processing equipment
Screens (roll vibration classifiers)



Mobile double (2 stands) disk screen with 10 to 14 rolls is designed to screening 0 to 25 mm coke in the metallurgical industry.

The principle of operation of the screen is as follows: the coke entering the upper part of the stand is shaken by rotating toothed disks and then rolls at an increasing speed along the slope formed by the disks. When moving, coke breeze falls into square cells formed by discs, and larger pieces of coke roll off the screen.

Specification of screens

Parameter	Model values	
	2ГДП10х1,65-25	1ГДП14х1,8-25
Screening fraction, mm	0...25	0...25
Stand tilt angle, deg.	15	15
No. of rolls of 1 stand, pcs	10	14
Capacity of 1 stand, t/hr	175	175
Type of current	alternating 380 V	alternating 380 V
Stand overall dimensions, mm:		
- length	2214	3190
- width	1650	1850
Weight, kg:		
- without electrical equipment	26874	40602
- with electrical equipment	27378,3	41577
Designed screen dimensions, mm		
- length	8200	8660
- width	2750	3820