**Applications:** in evaluation of content of precious metals and other valuable heavy minerals in geological samples in geological exploration of alluvial and ore deposits, as well as industrial waste of old mines;

- in processing of low-grade gravity concentrates produced at sluices of refinery plants, in reprocessing of tailings of jig units, concentration tables and magnetic-liquid separators, containing fine, fine-dispersed and dust gold at placer gold-concentrating sites of prospectors’ teams;

- in processing (considerable grade raising) of low-grade gravity concentrates produced at sluices of refinery plants, industrial centrifugal concentrators of classifying type (KNELSON, FALCON, ITOMAK, etc.), as well as in reprocessing of tailings of jig units and concentration tables and in processing of old tailings.

- for the evaluation of the operation of mineral processing plants on the basis of complex mineral technological analysis of the products of minerals processing.
Technological advantages: the possibility to produce concentrates of fine, fine-dispersed and dust gold and platinum: class

- 0.5 + 0.25 mm – 98-100%; class –0.25 + 0.1 mm – 97-98%; class –0.1 + 0.05 mm – 96-97%; class –0.05 + 0.015 mm – 80-96%; class –0.015 + 0.01 mm – 68-80%;

- the possibility to process concentrates containing up to 80% of heavy minerals (magnetite, pealite, chromespinelide, etc.);

- the possibility to extract concentrates of mercury, as well as gold and platinum with grain size of 3…5 microns;

- environmental safety of the technological process;

- high economical efficiency;

- the possibility to operate on recirculated water;

  - rubber replaceable bowls of the concentrating cup considerably accelerate the process of concentrate discharge without time losses

The technical specifications of CK concentrator:

Model CK0.2
Feeding Capacity (t/h) 0.2
Fluidization water Required (m³/h) not required
Pulp dilution (solid to liquid ratio) for alluvial / ores 1:4 / 1:8
Reduction 2000
Feeding size (mm) 0-2
Concentration Cleaning Up Cycle Vein gold 1-4 Hours Placer gold 3-10 Hours
Concentrate weight (g) 40-80
Power Requirements Ac 240V 50HZ, 250w
Weight (Kg) 25
Dimensions (mm) 460x290x400

User manual
Centrifugal vibratory hub CK02 consists of removable rubber chamber made in the form of a conical bowl with ribs. Rubber chamber fixed in cone, which screwed to vertical rotation shaft. Shaft diameter is less than 2.5-3.0 mm then bush hole, the shaft rotating in. That creates high frequency vibrations of bowl.

Material in the form of slurry is fed through the pipe of the hopper to the bottom of the rotating and vibrating at the same time concentrating cup. Heavy minerals particles catch in grooves to form a concentrate of heavy minerals with valuables. Tailings leaves bowl and discharged trough discharging unit.

Under the influence of alternating circular vibration of the bowl with a frequency higher than the frequency of rotation 2-3 times, with the amplitude of oscillation of 2.5 ... 3 mm minerals resides in a fluid (loosening) state, creating optimum conditions for segregation (penetration) of the particles of heavy minerals through the gaps (gap) between the grains of lighter minerals (quartz, asbestos, apatite, calcite, limonite, kaolinite, magnesite, and others.). As the feed pulp concentrate is formed by the accumulation of the heavy fraction in "bed" and crowding out the light fraction that is leaving the groove moves to the top of the cup outside, along the tray outside the hub.

To start concentrator, switch on the motor. Initial rotation can be without vibration or with low frequency vibration. Necessary high frequency vibration can be started by hand push of concentrator pin side. Also it can be done by one second switch off/on procedure. Stable sound about 50 HZ must be heard. Refer to Video https://www.youtube.com/watch?v=yU2erpxF0rs

Start feed concentrator by slurry. For better performance we recommend to feed the water at higher rate. After the accumulation time of the concentrate (which is calculated based on the actual performance of the enrichment process), stop feed slurry and switch off the motor drive rotation at same time. Remove rubber bowl for empty concentrate.