



## OS-1



## CENTRIFUGE CONCENTRATOR

**Urga's centrifuge concentrator device is used primarily for gravitational concentration and separation of fine particles of gold, silver and the platinum group metals from alluvial placers or from pulverized ore material.**

### Applications :

- **processing of fine particulate fractions of alluvial placers with content of gold, silver & platinum**
- **processing of pulverized ores with finely dispersed particles of gold**
- **processing of soils, contaminated with heavy metals (lead, mercury)**
- **as a sub-unit in larger processing units or plants**

The centrifuge concentrator OS-1 is based on the principle of fast rotation of a pot, which has concentric grooves in its inside wall.

Heavy particles get trapped in the grooves. Incoming material is fed from the top into the bottom of the pot. The particles are distributed up into all grooves by centrifugal forces and the water flow. Light particles overflow from the top groove and are discharged via the side outlet.

OS-1 concentrator works in semi-continuous manner. The concentrate can be discharged, after filling the grooves, via bottom outlet using a hand lever. OS-1 concentrator features a system of fluidization of the concentrate, which facilitates continuous operation in the order of hours and improves efficiency of the concentration. Interruption of the

process and discharge of the concentrate takes typically 1 minute without having to remove the top cover. Water inlet pipe includes a ball valve and a connection for flush water. The pot is driven by the 3-phase Siemens 50/60 Hz motor with the belt transmission. Electrical installation consists of AEG switch, circuit breaker and Moeller current protection to comply with the European safety standards.



### Technical specifications :

|                        |                         |                         |                      |
|------------------------|-------------------------|-------------------------|----------------------|
| Speed of rotation      | 670 rev/min             | Concentrate volume      |                      |
| Throughput (solids)    | 2-3 m <sup>3</sup> /hod | before discharge        | 1910 cm <sup>3</sup> |
| % solids in slurry     | 0-50 %                  | Recovery of fine gold*: |                      |
| Pot diameter           | 300 mm                  | above 100 µm            | 80-99%               |
| Pot volume             | 7.5 l                   | above 50 µm             | 50-95%               |
| Average G values       | 54-66                   | above 10 µm             | 10-90%               |
| Max. input granularity | 4 mm                    | El. motor power         | 0,75 kW              |
| Inlet water pressure   | 0.19 MPa                | Height                  | 980 mm               |
| Water consumption      | 160 l/min.              | Base                    | 720 x 880 mm         |
|                        |                         | Total weight            | 140 kg               |

\*typical values, depend on pre-screening and other variables

**OS-1** is a device with the best possible efficiency in the recovery of fine particles of gold and other heavy metals, minerals and materials. It is the only type of device, which can in large part replace ecologically controversial chemical methods of precious metals processing. OS-1 is suitable for pilot or full scale processing of raw materials with granularity below 4 mm, as a sub-unit of larger processing units or as a sampling device to verify the effectiveness of existing processing technologies. Concentrator OS-1 can be used in a wide range of applications for remediation of soils, contaminated by heavy metals, especially mercury. In terms of efficiency, environmental impact and cost it complies with the requirements of BAT (Best available technology).