

# X-RAY LUMINESCENCE SORTER FOR DIAMOND RECOVERY



# BOUREVESTNIK

Since 1959

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## • LS-OD-4-04N



X-ray luminescence sorter LS-OD-4-04N is designed for prefinal and final treatment of dry material of the size fractions:

- 5 +2 mm,
- 2 +1 mm,
- 1 +0,5 mm.

The sorter can be installed within the treatment plants or within final recovery facility.

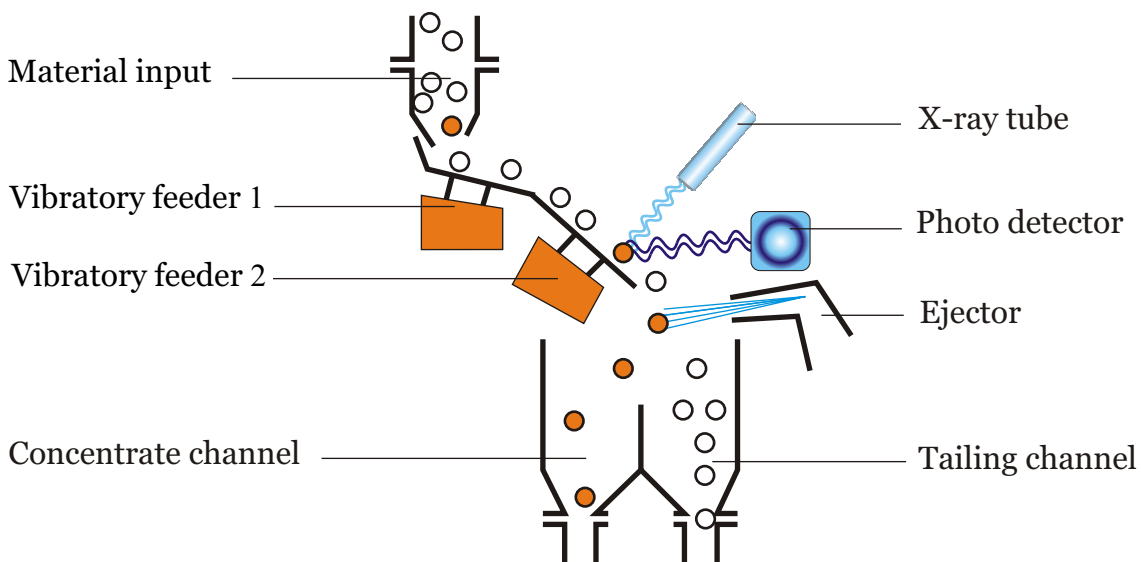
The sorters design prevents x-ray radiation emissions.

### • Functional principle

The principle of sorters operation is based on the nature of diamonds to luminesce under X-ray radiation and the sorter uses this principle to distinguish diamonds from other associated luminescent minerals. The registration system and the X-ray source are located on one side of the flow of material.

Diamonds are ejected by special ejector utilizing compressed air.

### • Technological scheme



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## • Technical features

Sorter is single stage, mode of radiation - impulse.

Quantity of channels of registration - 8.

Material to be processed ..... dry

Size fractions of material ..... -5 +2 mm

-2 +1 mm

-1 +0,5 mm

Nominal throughput on size of material: -5 +2 mm..... not less then 100 kg/h

-2 +1 mm .....not less then 25 kg/h

-1 +0,5 mm..... not less then 4 kg/h

Recovery on size of material: -5 +2 mm ..... not less then 98%

-2 +1 mm ..... not less then 96%

-1 +0,5 mm..... not less then 90%

Yield of material for one ejection (with the nominal throughput):

-5 +2 mm ..... not more then 30 particles

-2 +1 mm ..... not more then 45 particles

-1 +0,5 mm..... not less then 45 particles

Technical water (transport) flow ..... not more then 1,2 m<sup>3</sup>/h

Cooling water (potable quality) flow ..... not more then 6 l/min

Average flow of compressed air (with the pressure 0,4 MPa) ..... not more then 10 l/min

Dimensions (L x W x H):

Sorter .....1660 x 770 x 1820 mm

Automatic control rack .....765 x 555 x 1745 mm

Weight:

Sorter.....1000 kg

CAutomatic control rack .....230 kg

## • Sorter design

The sorter consists of the sorting machine and automated control panel.

The sorting machine and automated control panel are connected via cables of 35 meters in length.

The feeding hopper, tailings and concentrate discharge are equipped with flanges to connect to the relevant treatment plant material stream (installation of boxes for collection of tailings and concentrate is available as an alternative).

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