

ASA-1K

Diamond purity sorting machine

New product



Diamond sorting machine ASA-1K is designed for sorting diamonds of $-4.5 + 1.8$ mm in size into 6 classified positions.

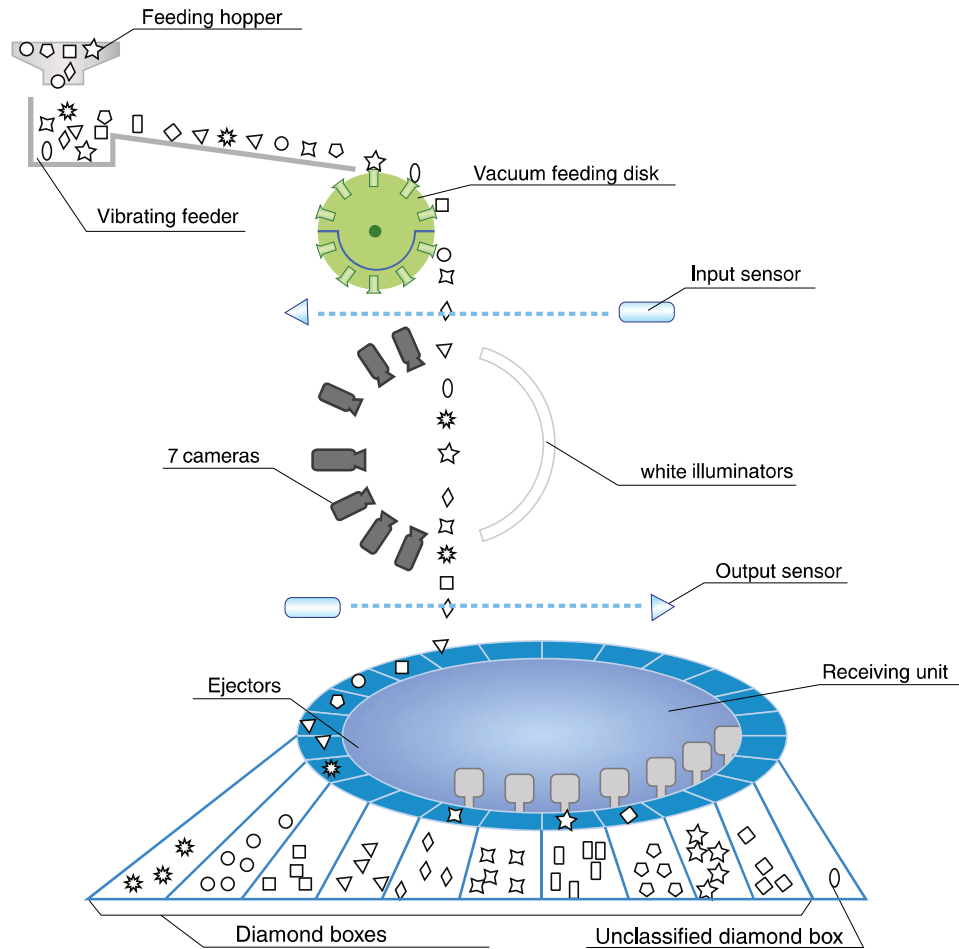
Operation

Crystals or fragments of diamonds are fed one by one into the registration zone by means of a vacuum disk. Seven video cameras transmit images of the diamond to the computer. The classifier program creates a qualitative model of the diamond and determines its quality. The diamond is placed in the cell of the receiving drum, from where it is cut off into the box at the command of the executive module.

Technical data

Size fraction, mm	-4.5 + 1.8
Size variation for each fraction, mm	0.3
Average throughput, particles per second	5
Number of boxes for sorting diamonds:	
- classified items	12 (the actual number is determined by the classifier)
- unclassified items	1
Composition of each sorted item:	
- main item, not less than, %	90
- diamonds not belonging to this item, not more, %	10
The probability of mechanical separation of diamonds into the corresponding box according to the signal from the registration system not less than, %	99
Compressed air consumption, l/min	no more than 200
Overall dimensions (L x W x H), mm	1200x900x1500
Weight, kg	250
Power consumption, VA (single-phase network, 220V/50Hz)	1000

Principal Process Diagram



Software interface

The classifier program, based on the images from 7 cameras, creates a model of the diamond crystal, determines its quality and gives a quality class number to the executive unit.

СОРТИРОВКА ПО КАЧЕСТВУ					
ПОЛУЧЕНИЕ СНИМКОВ		ОБРАБОТКА СНИМКОВ			ОЦЕНКА ЧИСТОГО ОБЪЁМА
					100 % TEST 1
					68 % TEST 4
					17 % TEST 5