

ASA-2F

Diamond shape sorting machines

New product



Diamond sorting machine ASA-2F is designed for sorting diamonds of $-4.5 + 1.8$ mm in size into 10 classified positions.

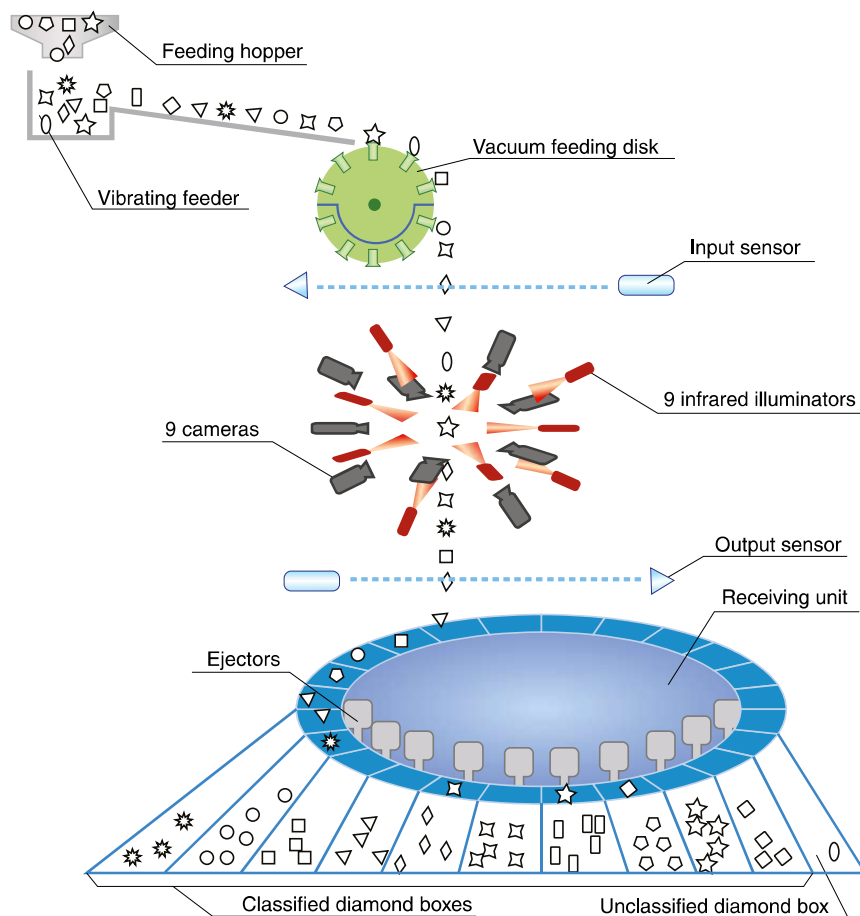
Operation

Diamond crystals are fed one by one into the registration zone by means of a vacuum disk. Nine video cameras transmit nine projections of the diamond to the computer. The classifier program creates a model of the diamond crystal and determines its class. The diamond is placed in the cell of the receiving drum, from where, at the command of the executive module, it is cut off into a box corresponding to the class number.

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 (LxWxH), mm	1200x900x1500
Weight, kg	250
Power consumption, VA (single-phase network, 220V/50Hz)	1000

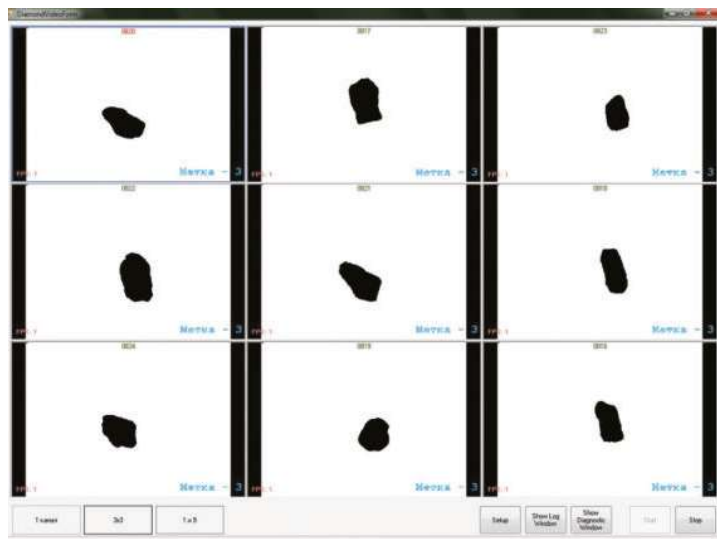
Principal Process Diagram



Software interface

Software analyses diamond projections obtained from nine cameras, generates 3D image of the diamond, classifies it to the certain group depending on its shape and ensure that the crystal is ejected to the corresponding box.

9 diamond projections



Form of classification results

