



1 mm
1/25"

clarity
the next dimension
in fines sorting

we process the future

binder+cö

CLARITY - THE NEXT DIMENSION

The use of cullet is indispensable for the production of new glass for reasons of economy, energy and efficiency of resources. The requirements for use as a secondary raw material are twofold: highest quality in increasingly fine fractions and loss of as little glass as possible.

To fulfil these demands, the cullet has to be colour-sorted, free of non-transparent contaminants (ceramic, stone, porcelain and metal) and has to be separated from transparent foreign matter, such as heat-resistant (HR) and lead glasses.

Binder+Co is the pioneer in the sorting of cullet. As early as the 1990s, Binder+Co opened up a new dimension in cullet sorting for the recycling industry with the world's first three-way system CLARITY. Meanwhile in its 4th generation, CLARITY has been equipped with the latest technology to fulfil the high demands of customers – which also includes sorting finest grain sizes.

Revolutionary and award-winning – no other sorting system has changed glass recycling so sustainably as CLARITY.

CLARITY. THE NEXT DIMENSION IN FINES SORTING.

2- and 3-Way Solutions

The revolutionary system from Binder+Co is highly adaptable

The CLARITY sorting machine can be executed in both 2 and 3-way systems. The system is individually customised with the appropriate camera, illumination and sensor technology to achieve the best results for the respective task. CLARITY has been designed in modular form to enable a trouble-free integration into existing installations.

320 Valves

High-speed 1 m sorting width

CLARITY works using the latest high-speed technology to sort finest grain sizes. The high-speed valves developed by Binder+Co are installed with the smallest possible distances to the object, thus effecting high-precision ejection of material. The valves can be exchanged individually or, to save time, in a block of 32 valves.

1 - 15 mm

For more accurate ejection of valuable secondary raw material

The latest generation of CLARITY sorts glass in a range of grain sizes from 1 - 15 mm. This ensures a higher glass yield from fractions which up to now could only be partially recycled.

Award Winning

Cut-off technology for sorting glass-ceramics

Fluorescence technology for sorting lead glass

CLARITY accomplishes the separation of heat-resistant and lead glass with a combination of camera technologies using visible light and UV light. Existing CLARITY systems can be relatively easily retrofitted with HR and/ or LEAD technology depending on state of development.

Intelligent Recognition

Improved camera technology

Ejection unit at very close range to object

CLARITY works with high-resolution camera technology, enhanced computing power and optimised material feed for high-precision sorting with lowest possible material loss. The distances between the recognition unit and ejection unit, and between the ejection unit and object to be ejected, are minimal and thus ensure precise ejection of single fractions.



1 mm
1/25"

Improved

Quick and simple service and maintenance accessibility

CLARITY is easily accessible for maintenance and operational checks: The camera casing, valve strips and lighting can be swung out for inspection.

Self-Cleaning

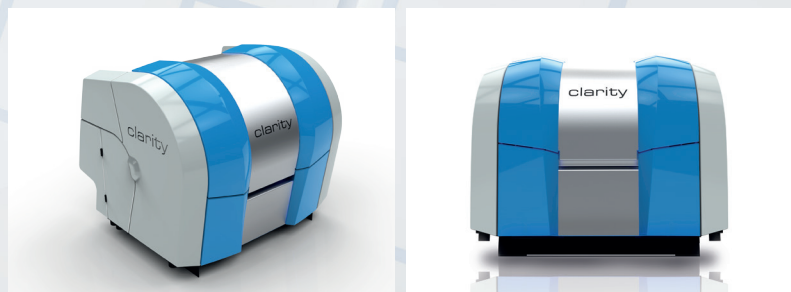
Recognition system cleans itself

CLARITY has innovative cleaning possibilities: The machine can be optionally fitted out in the sensor and recognition area with an automatic cleaning system using an air-water mix or a metal partition. Cleaning ensures not only optimum recognition of the feed material, but also high availability of the sorting system and minimum maintenance.

Controllable Performance

For optimum production and end-product quality

Single machines and complete systems can be equipped with an automatic control system tailored to the respective task. The SortVisu programme records the states of the single sorting machines. Using further systems which are situated at sensitive positions in the complete system to record data, exact information about the state and performance of the respective machines and system components can be retrieved. Integrated alarm systems are able to report errors and critical states. As a response to these, measures can be introduced to achieve desired production and end-product quality, or an intervention in the control system to eliminate these errors can be automatically initiated.

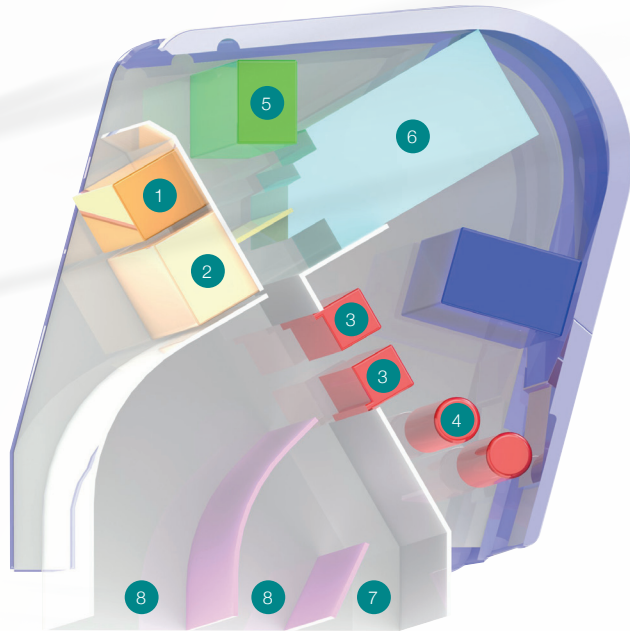


OPERATION

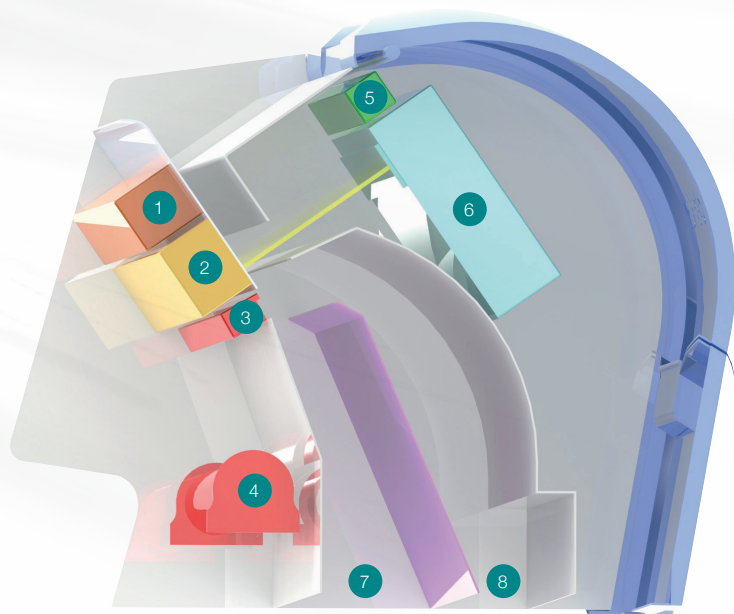
CLARITY is fed with cullet in grain sizes between 1 mm to 50 mm. The material stream runs along an angular chute and the cullet is illuminated with light of a particular colour spectrum. To sort heat-resistant and lead glasses, a combination of two recognition systems is installed. The transmission information is recorded by highly sensitive cameras

and analysed. The valves attached to the ejection units are activated at the right moment. Depending on the programmable menu, contaminants and pre-defined colours are ejected into the freely selectable sorting ways.

- 1 Metal detection
- 2 Transmitted light
- 3 Sorting valves
- 4 Compressed air supply
- 5 Cleaning system
- 6 Sensor unit
- 7 Fraction passing through
- 8 Ejected fraction



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TECHNICAL DATA CLARITY glass

Contamination and color sorting

Sorting width	700 mm	1000 mm	1400 mm
Capacity*	8 t/h	12 t/h	16 t/h
Valves**	112	160	224
Grain sizes	5 - 50 mm		
Sensor systems	VIS (RGB) transmission Metal recognition		

Option: glass ceramics

Sorting width	700 mm	1000 mm	1400 mm
Grain sizes	5 - 50 mm		
Sensor system	UV-A/VIS (RGB) transmission		

Option: lead glass

Sorting width	700 mm	1000 mm	1400 mm
Grain sizes	3 - 50 mm		
Sensor system	UV-C/VIS (RGB) transmission		

Option: material recognition

Sorting width	700 mm	1000 mm	1400 mm
Grain sizes	7 - 50 mm		
Sensor system	NIR		

Fine-grain size sorting (contamination and color sorting)

Sorting width	1000 mm	1400 mm
Capacity*	9 t/h	12 t/h
Valves**	320	448
Grain sizes	1 - 15 mm	1 - 15 mm
Sensor systems	VIS (RGB) transmission Metal recognition	

*depending on the respective task and on the specific bulk density of the main fraction

**maximum number of valves per machine

To optimally equip the CLARITY for individual tasks, various valve configurations are available

Distance in mm between valves	3.125	6.25	8.33	12.5	25
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