WORKING PROCESS
1. The product to sort is loaded into the in-feed hopper,
2. it moves along the vibrating plate until it flows into
3. a sloping chute where it is individually checked and sorted by state-of-the-art cameras
4. (Hi-resolution Full-color RGB cameras for standard version and
5. eventual additional NIR and/or InGaAs cameras) situated in the
6. front and rear of the flow. Based on the signals received from the
7. optical system, the sorter software controls
8. the ejectors which physically separates the unwanted products
9. out of the conforming ones, which naturally reach their outlet.
10. The rejected products are instead deviated by a jet of compressed
11. air produced by the relevant ejector and discharged in the front
12. side hopper.
In automatic re-pass versions, the sorted or rejected product is
automatically conveyed to another section of the machine for undergo-
ing an identical process.
Re-sorting and reverse sorting configurations available.

TECHNICAL CHARACTERISTICS OPTICAL SYSTEM:
- Double vision system, with high-definition RGB Full-color cameras in
  front and rear side of product’s flow, allows the perfect control and sorting
  accuracy. Available versions with NIR and InGaAs additional cameras.
- Characteristics of the medium-resolution full-color cameras:
- combined with HSI software system, allow a near human eye vision
  to precisely sort almost any small shade differences.
- Optical resolution: <0.1 mm.
- SEA CHROME software setting can count on the 16 families of
defects adjustment, as well as the combination of said 16 groups.
- Shape-sizing integrated into the system.
- Control and adjustment of the defect size.
- LED lighting and background.

EJECTION SYSTEM
- N.54 Solenoid valves each chute for the ejection of the product to
  be discarded (one every 5 mm). Working speed up to 1,000 cycles/sec. granted for 2,000 million of cycles.
- Adjustment-filter unit to eliminate condensation.

ELECTRONIC SYSTEM
- The hardware system is organized with easily replaceable electronic
  boards, using the ultimate SMD and FBGA technologies. Self-control functions (auto-diagnostics and auto-calibration) ensure an
  excellent operational stability.
- Program settings and adjustments are performed through a user-friendly
  software, which allows the real image setting directly on the
  15 inches colour touch-screen, to establish defective and conform
  elements.
- User-friendly software allows easy and fast product changeovers.
- Ethernet or WIFI connection allow real time monitor and servicing
  via web.
SEA CHROME COLOR SORTER

MECHANICS
- SEA CHROME is available from 1 to 7 chutes, and into narrower frame with 0.5 and 1.5 versions.
- Reversible chutes: flat on one side and with 4 kind of grooves on the other side.
- Tilting and airtight optical boxes prevent dust ingress.
- Vortex cooling system to keep the optical boxes internal temperature within the safe working limits.
- Ready for connection to dust extraction system.
- Automatic cleaning system.
- Leave 1 meter of empty space around the sorting machine.
- Keep the sorter far from dusty environment, direct sunlight and strong lights.

TECHNICAL DATA:
- Machine standard color: White RAL 9010
- Power supply: 230 VAC 50/60 Hz single phase
- Environmental temperature between +3 °C and +35 °C*
- Environmental humidity: < 95% (without condensation)
- CE Conformity to European Union Directives:
  - 2006/42/CE on safety of machinery
  - 2004/108/CE on electromagnetic compatibility
  - 2006/95/CE on low voltage electrical material
- ATEX certification available upon request (not standard)
- Compatibility with UL and CSA Regulations

EXTERNAL DEVICES REQUIRED FOR THE SORTER PROPER FUNCTIONING:
For the sorter proper functioning, the user has to provide and install
- 230 V – 50 Hz Power supply
- An adequate voltage stabilizer (strongly required)
- Pneumatic system composed of: rotary compressor, tank, drier, filter 5 μm, filter 1 μm, filter 0.01 μm (strictly required)
- Minimum 1 inch air supply hose
- Machine supporting frame
- Additional loading and discharging hoppers
- Product conveyors
- Fast internet connection

### POSSIBLE OPTICAL CONFIGURATIONS

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<th>Front</th>
<th>Rack</th>
<th>Description</th>
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*Note: T = Standard version, Front and rear high definition RGB Full color cameras, T N = Front and rear high definition RGB Full color cameras + one NIR rear camera, T R = Front and rear high definition RGB Full color cameras + one InGaAs rear camera.*

### TECHNICAL SPECIFICATIONS

<table>
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<tr>
<th>CHROME</th>
<th>Max processed product speed</th>
<th>No. of vibrating plates/chutes</th>
<th>No. of cameras (front+rear)</th>
<th>No. of solenoid valves/shooting channels</th>
<th>Compressed air consumption (max value at 6 bar)</th>
<th>Air supply connection</th>
<th>Supply voltage / frequency</th>
<th>Absorbed power (max value)</th>
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*Note: Chrome refers to the number of chutes available.*

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