Plastics Processing
Bottle & Flake Optical Sorting
Plastics recyclers have had to choose either one provider for a complete bottle and flake optical sorting solution or various companies in hopes of achieving higher performance. Thanks to our new strategic partnership, Buhler Sortex and NRT provide integrated, best-in-class technology and unbeatable service and support.

Combining our comprehensive range of proven bottle and flake sorting machines to provide one, complete optical sorting recycling solution with absolutely no compromise on quality for PET and HDPE recycling. SORTEX and NRT sorters feature a range of innovative, state-of-the-art technologies including high resolution color cameras, PROfile™, SmartEject™, Label Reduction Kit, In-Flight Sorting® and PET Boost™ for optical sorting results that are second-to-none, focusing on high capacity and high recovery to achieve maximum profitability. Recyclers can be confident of recycled PET and HDPE recyclate which meets the highest standards of quality and purity for a higher return on investment.

Strategically placed in North America and Europe, with a presence in the key plastics recycling markets, our collaborative solution provides you with unparalleled access to a wide range of capabilities including a dedicated servicing network with first-class service teams, consultation, project management and installation expertise.

- One-stop optical sorting recycling solution
- Maximizing recovery and profitability
- First-class serviceability
TRUSTED TECHNOLOGY.
COMPLETE OPTICAL SORTING.

PET BOTTLES
NRT sorters use NIR detection, featuring In-Flight Sorting® technology, to accurately identify unique polymer signatures for a higher recovery of PET bottles from polymer residue streams including PVC, PS, PETG, PLA, PC, PE and PP. High purity clear and light blue PET bottles are recovered in a single sort and PET Boost™ improves detection of thin-wall PET, wet PET and full-sleeve labeled PET bottles maximizing the recovery and profitability for the recycler.

PET FLAKE
Bühler’s market leading range of optical sorters are equipped with the latest in technological advances including high-resolution color cameras for the efficient removal of challenging contaminants from clear, blue or multi-colored PET flakes. The end result being PET flakes of the very highest standard and purity with near-pure resin streams, resulting in higher value PET product for the recycler.

HDPE BOTTLES
Proprietary RGB Line scan cameras feature powerful, high-speed processors for outstanding separation of HDPE bottles from natural HDPE bottles to achieve the very highest levels of food quality recyclate. The advanced color cameras also group HDPE bottles by color, further increasing the value of the recycled product.

HDPE FLAKE
Advanced flake sorting technology from Bühler removes PE, PP, packaging labels, aluminum, wood and other challenging foreign materials from a range of HDPE packaging flakes including milk bottles, bottle caps, detergent and shampoo bottles. The final accept product meets the very highest demands in the recycling industry, generating higher quality food grade product by removing unwanted plastics and contaminated materials.
NRT SpydIR®

The SpydIR® range, available in two variants, is an advanced infrared sorting system that separates numerous selected polymers from a mixed stream. It uses proprietary technology and fast, highly sensitive algorithms to rapidly identify unique polymer 'signatures' from their infrared spectra.

SpydIR® is the only technology that uses PET Boost™ (patent pending) to improve detection of thin-wall PET, wet PET and full-sleeve labeled PET.

While other optical sorters detect material over the belt and eject some time later, NRT offers In-Flight Sorting®, which detects and ejects material in flight. In-Flight Sorting® enables the use of transmissive detection for the highest detection strength available, and eliminates motion-related error and belt interference, increasing purity levels and hit rates.

NRT ColorPlus™

The NRT ColorPlus™ Imaging System is an advanced image processing sorting system designed to target and sort materials based on precision color analysis and sophisticated form factor recognition.

The ColorPlus™ Imaging System utilizes a network of powerful high-speed processors and intelligent recognition algorithms to analyze color, transparency, opacity, and physical form factors including opaque analysis and label recognition for error-less object targeting. NRT has upgraded its ColorPlus™ technology, enabling the equipment to detect up to 50 million pixels-per-second. High resolution sorting, combined with NRT’s In-Flight Sorting® technology, allows the ColorPlus™ to distinguish the correct bottle color or opaqueness (such as clear PET) when only 1% of the material is visible.

- Sorts 1-7 plastics in any combination
- Sorts clear and light blue PET directly from container stream
- Removes contaminants including PVS, PS, PETG, PLA, PC, PE and PP
- Recovers clean PET product from polymer residue streams
- Sort Tetra Pak®, aseptic and PE coated gabled products
- Remove cardboard, paper and other fibers
- Available with MetalDirector™ to remove ferrous & non-ferrous metals

- Removes opaque PET, metal cans and other opaque objects from PET stream
- Sorts operator selected PET bottles from clear PET
- Sorts blue bottles from clear bottles without label error
- Sorts labeled bottles from non-labeled bottles
- Separates HDPE from natural HDPE
- Groups HDPE by color
BUHLER SORTEX A

Available in four sizes, the SORTEX A range provides plastic recyclers with dedicated customized options to handle the most unique and challenging sorting requirements. Showcasing Bühler innovation with new advanced inspection and lighting systems, tiered chute and Label Reduction Kit, this state-of-the-art technology provides the ultimate PET and HDPE flake sorting solution, with the highest throughput in the industry.

The SORTEX A uses rear and front ended, high-definition color cameras and broadband LED lighting to detect contaminants with up to half the pixel size of other industry solutions. Bühler’s proprietary technologies ensures the accurate removal of foreign materials in the smallest of PET and HDPE flakes for higher recovery and increased profitability. The tiered chute provides exceptional separation of PET and HDPE flakes for easier targeting while the unique SmartEject™ system sits directly under the chute for the most accurate ejection of defective flakes and foreign materials for industry-leading reject concentration with next to no loss of good product.

Process engineered with flexibility to handle small to large capacities, the SORTEX A is available in one to five module versions, in three different frame sizes.

BUHLER SORTEX E POLYVISION™

Introducing the SORTEX E PolyVision™ — Bühler’s brand-new optical sorter for the ultimate same-in-color polymer contaminant removal, handling the toughest challenges for PET recyclers.

Designed with only PET processors in mind - the SORTEX E PolyVision™ is Bühler’s all-new optical sorter for polymer contaminant removal, complementing the existing PET flake sorting portfolio.

Equipped with ground-breaking SORTEX PolyVision™ detection technology, unique lighting system and high precision ejectors to remove same-in-color polymer contaminants such as PVC, PP and PE and to reduce other polymers such as PS, PA (Nylon), POM flakes and silicon with unrivalled accept quality and yield for your cleanest and purest PET flake yet.

• The ultimate polymer contaminant removal
• Delivers consistent, higher-grade PET flakes
• Greater flexibility, recovery & purity
INNOVATIVE TECHNOLOGIES
THE BEST OF BOTH BRANDS

In-Flight Sorting®
NRT units detect and eject material while it is in flight after it has left the belt. Others typically detect over the belt and then eject material some time later. This innovative, market-leading technology reduces motion-related error, eliminates signal error from belt interference and enables use of transmissive detection for the industry’s highest signal-to-noise ratio.

PET Boost™
NRT’s patent-pending PET Boost™, only available on the SpydIR® range of bottle sorters, improves detection of thin-wall PET, wet PET and full-sleeved PET by using proprietary algorithms to boost weaker detection signals.

High-definition, color cameras
Bühler’s high definition color cameras are designed and built in-house to detect contaminants up to 50% smaller than other industry solutions. When combined with broadband LED lighting, Bühler optical sorters can target defects on flakes as small as 2mm within the entire visible spectrum.

SmartEject™
Precision built for high speed ejection, SmartEject™ fires precisely at the whole defect, efficiently removing unwanted product. Featuring easy ejector serviceability and a long life span also enables the low cost of ownership of SORTEX optical sorters.

PolyVision™ detection
Bühler’s ground-breaking SORTEX PolyVision™ detection technology analyzes the unique chemical composition of challenging polymer contaminants from PET flakes with greater efficiency than ever before.
GLOBAL COVERAGE, LOCAL SUPPORT
THE INDUSTRY’S MOST POWERFUL SERVICE NETWORK

With a presence in more than 140 countries offering local support and service sites, Bühler and NRT operate in all major plastic recycling markets. Wherever you are in the world, our collaborative solution provides you with a window to our comprehensive global PET and HDPE recycling capabilities.

We provide a range of solutions and support to ensure that your optical sorter performs to maximum efficiency, delivering maximum productivity and making a maximum return on investment.

Efficient, expert and expedient solutions for your operations are crucial. Our all-encompassing maintenance and support programs improve production speed, efficiency, increase throughput, lower contamination levels and increase recovery rates by making sure your equipment continues to run at optimal levels.