



A PRINCIPLED *APPROACH*

**CP Group's MRF design principles and engineered solutions
produce results for customers.**

At CP Group, we speak from experience. Since 1995, we have owned and operated a material recovery facility (MRF) in San Diego. This hands-on experience drives our approach to equipment development and MRF design.

We know what downtime really means in a MRF; the pile doesn't stop growing and you can't shut your doors. That is why we design our equipment to be effective, low maintenance and durable. We focus on the lowest-cost-per-ton solutions.

Our unique experience as a MRF operator, equipment manufacturer and solutions provider led us to create our design principles: fractionate, liberate and separate.

Extracting the most value from incoming material involves a highly automated system with inherent operational flexibility. Our MRF design principles emphasize blending selective sorting using our MSS CIRRUS® optical sorting technology with mechanical equipment to fractionate and liberate material.

This principled approach to design increases system performance while minimizing labor costs and operating expenses, which further enhances the economic viability of a MRF.

Fractionate

Fractionating the material stream to create a parallel process is

imperative to increase system performance and reduce operating costs. Our low-maintenance cantilevered steel Auger Screens are anti-wrapping and jamming. We are the only company to offer this new screening technology, which splits the incoming material stream to create homogeneously sized fractions. This increases worker safety while providing reliable sizing at high volumes to enhance the performance of downstream equipment. The CP Auger Screen is versatile, serving as a primary, scalping and fines screen.



As a primary separator, the Auger Screen diverts 60 percent or more of the undersized fraction away from the traditional single-stream presort. This allows MRF operators to reduce the number of manual sorters while increasing safety and productivity. Fractionating prior to the presort decreases human

exposure to sharps and other hazards in this smaller fraction. Additionally, sorters only see what they need to—the “big uglies”—large trash, rigid plastics, wrapping hazards and metals.

The CP Scalping Auger Screen replaces the traditional Scalping Screen and creates homogeneously sized material streams to properly feed downstream sorting machines. The Scalping Auger Screen captures small OCC (old corrugated containers) in one place for improved recovery and also can

have a tight pattern to removes fines.

The Auger Screen is extremely adaptable and low maintenance, making it a key player in the CP design principles.

Liberate

Preparing the material stream for efficient downstream processing is essential in successful MRF design.

Using screening technology, we liberate the fluffy, high-volume 2D material from the rigid 3D material. This allows material to be presented to our MSS optical sorters for effective recovery, high purity and greater efficiencies.

We do all this using the lowest maintenance screens in the industry. Our discs offer operators longevity that our competitors cannot match. It's not uncommon for our rubber CPScreen™ and AWScreen discs to run 2,000 and even 3,000 hours. Our steel GlassBreaker and OCCScreen™ discs run tens of thousands of hours.

Separate

Selective sorting is a cornerstone of our MRF design, yielding an increase in overall system intelligence and value.

Optical separation of commodities yields high volume, low-cost recovery. MSS optical sorters run at the fastest belt speeds (1,000 feet per minute) on the widest belts (112 inches). This equates to more tonnage processed and more picks per minute on a single unit with less collateral damage. It delivers the highest purity commodities while also allowing operators the flexibility to adapt to future needs. With the touch of a button on our MSS optical sorters, you can change the recipe selection to recover different material.

Mechanical separation alone is no longer a viable option for MRF operators because 2D material is no longer only paper and 3D material is no longer only containers. Selective sorting helps to keep operating expenses low while also delivering high-volume separation and high purity recovery.

The MSS FiberMax™ optical sorter helps you reduce headcount on fiber QC lines and improves the marketability of your fiber. We have units in the field processing more than 1,500 picks per minute, and even up to 2,000.

Our design principles are changing the future of the MRF. We know they work because we have put them to the test helping companies achieve their processing and purity goals.

We don't just manufacture machines, we engineer solutions.



Learn more about our design principles and technology. Contact Ashley Davis, director of sales & marketing at the CP Group, at ashley@cpgrp.com.



CP Group
6795 Calle de Linea
San Diego, CA 92154
619-477-3175 | 800-462-5311
www.cpgrp.com

SUCCEED WITH CP GROUP

We are fortunate to work with great customers and help them achieve their goals. Here are a few recent examples.

Cal-Waste Recovery Systems

CP Group recently completed a total system upgrade at Cal-Waste, Galt, California, that involved adding a Primary Auger Screen, a GlassBreaker Screen, an AWScreen, a CPScreen™, a Scalping Auger Screen and five MSS optical sorters.

Dave Vaccarezza, owner of Cal-Waste says the Primary Auger Screen, "Takes the burden depth down to a much more manageable level and does a great job of spreading everything out so there are no big lumps and clumps." It also has allowed Cal-Waste to reduce the number of sorters on the presort line from eight to four. Even with the reduction in workforce, the MRF increased its capacity from 11 tons per hour (tph) to 30 tph.

The Scalping Auger Screen further splits the material into homogeneously sized streams. "I think it is working very well there," Vaccarezza says.

Balcones Resources

Last spring, we partnered with Balcones Resources Inc., Austin, Texas, on an upgrade of their single-stream residential and commercial MRF. The upgrade included three MSS CIRRUS® FiberMax™ optical sorters to clean the fiber streams. The retrofit also included a four-deck GlassBreaker Screen, an AWScreen and a CPScreen™, both 140 inches wide. Thanks to the retrofit, Balcones reduced its headcount per shift by 43 percent while increasing throughput by 25 percent. The company's screen maintenance also declined from two hours per day to 30 minutes daily.

"We considered a number of different manufacturers and reviewed proposals from all of them," says Joaquin Mariel, vice president of operations at Balcones.

He says CP's hands-on approach to vetting our proposal for the retrofit "took away a lot of the doubt and concerns around the proposal because we could see it in real time."

Mariel says the FiberMax™ units "are able to clean mixed paper very thoroughly and very quickly and enabled us to scale down our reliance on manual sorting in the fiber QC lines."

Dem-Con

Dem-Con, Shakopee, Minnesota, conducted three upgrades with CP Group over the last few years. The first, in 2017, involved adding an MSS CIRRUS® optical sorter to recover small cardboard boxes and other fiber, sending them to the fiber QC line.

In the company's next upgrade in 2018, CP Group installed two FiberMax™ units in parallel. "That brought the contamination in our fiber down from 2 percent to 0.5 percent," Dem-Con President Bill Keegan says.

In 2019 the sensor on the original Aladdin optical sorter was upgraded to a CIRRUS® PlasticMax™ sensor to positively sort PET. Keegan says this retrofit improved recovery by 21 percent while also reducing the sorting headcount by two. "We are meeting end market specifications of less than 1 percent contamination."

The 2018 and 2019 upgrades combined allowed Dem-Con to reduce its headcount by 36 percent and to increase its processing capacity from 20 tph to 25 tph.

Gold Coast Recycling and Transfer

At Gold Coast Recycling and Transfer in Ventura, California, CP Group replaced the existing screens with wider, more efficient screens, including a GlassBreaker Screen, AWScreen and CP-Screen™. We also added an OCCScreen™ and three MSS optical sorters. The MRF's capacity increased from 13 tph to 30 tph, and it produces cleaner paper. Gold Coast now mechanically processes commercial material that previously was processed manually and combined its two processing shifts into one shift.

Gold Coast General Manager George Harrison says, "We're able to produce OCC and curbside residential paper at the same time."