

Dryclone[®] Drying Systems

*LARGE VOLUME, LOW TEMPERATURE,
EFFICIENT DRYING SOLUTIONS.*



Eliminates Expensive
Gas-Powered Dryers

Reduces Transportation
and Disposal Costs

Consistent Dryness and
Energy Density

Dryclone[®] Drying Systems

The high moisture content of biomasses such as agricultural waste, municipal solid waste, and sludge has always been a limiting factor in secondary use of these materials. Traditional drying of those types of materials is a cost intensive and energy intensive process while conventional mechanical drying methods are often unable to reduce moisture sufficiently. As a result, drying has often been a barrier to the low-cost disposal or profitable reuse of these materials.

The Dryclone is a pulverizing drying technology offering a low-heat drying system for wet semi-solid biomasses. The Dryclone is the only drying system of its kind and is changing the way municipalities and corporations are drying feedstocks worldwide.

Whether you need to remove water simply to save on transportation and disposal costs, or you need to dry waste so it can be converted into a more valuable resource, the Dryclone system is the ultimate solution.

FEATURES & BENEFITS

The Dryclone system can quickly dry large volumes of various feedstocks to save on transportation and disposal costs, or to prepare the feedstock to be converted into a more valuable energy source. Save millions of dollars annually as well as extend the longevity of, or even eliminate, landfills around the world for generations to come.

- Low operation costs
- Low maintenance
- Low temperature
- Scalable and customizable
- No sorting of wet and dry material
- Extends longevity of landfills

BIOMASS FEEDSTOCKS

- Municipal Solid Waste Including Food and Green Waste
- Municipal Biosolids
- Food Waste
- Bagasse
- Hemp
- Paper Sludge
- Animal Manure
- Spent Grain
- Green Waste
- Nut Waste
- Agricultural Waste

Any other raw material that needs to be dried, pulverized, blended, or homogenized.



Dryclone® Technology

PERFORMANCE

Until now, expensive and time-consuming sorting of waste was needed to separate dry material from wet. The material that was already dry could be used as fuel for a variety of purposes, including waste to energy. The remaining wet material was not used and constituted an expense for disposal. With the Dryclone system, this sorting is no longer needed since the Dryclone can dry all the material to a uniform level as low as 5-15% moisture, depending on the feedstock.

UNIFORM LEVEL OF
MOISTURE AS LOW AS

5-15%

The Dryclone's performance, value, and positive environmental impact make it the only commercial drying solution of its kind. Its capabilities, coupled with high-volume throughput capacity, result in lower operating costs and higher processing efficiency.

DRIES UP TO

15 tons/hour

(13.5 metric tons/hour)

350 tons/day

(315 metric tons/day)

WASTE TO ENERGY (WTE)

Even with today's sophisticated recycling programs, landfill diversion has tended to stall at around 65%, with organics and moisture content presenting a major challenge. Getting closer to 100% diversion requires new solutions including WTE. Emerging technologies such as gasification and pyrolysis aim to solve the problem, but typically require a drier and more energy-consistent feedstock than the RDF currently produced for incinerators.

Dryclone's unique pulverizing and blending action, coupled with its superior drying performance optimizes all waste materials for energy recovery. Dryclone's ability to shear open cell structures and remove internal moisture solves the organic waste disposal problem once and for all. Once the metals and inerts are removed, the Dryclone can create the optimum blend of consistent dryness and energy density, which enables the entire remaining waste stream to be used in gasification and pyrolysis with maximum energy recovery.

PYROLYSIS

GASIFICATION

> MAXIMUM ENERGY
RECOVERY

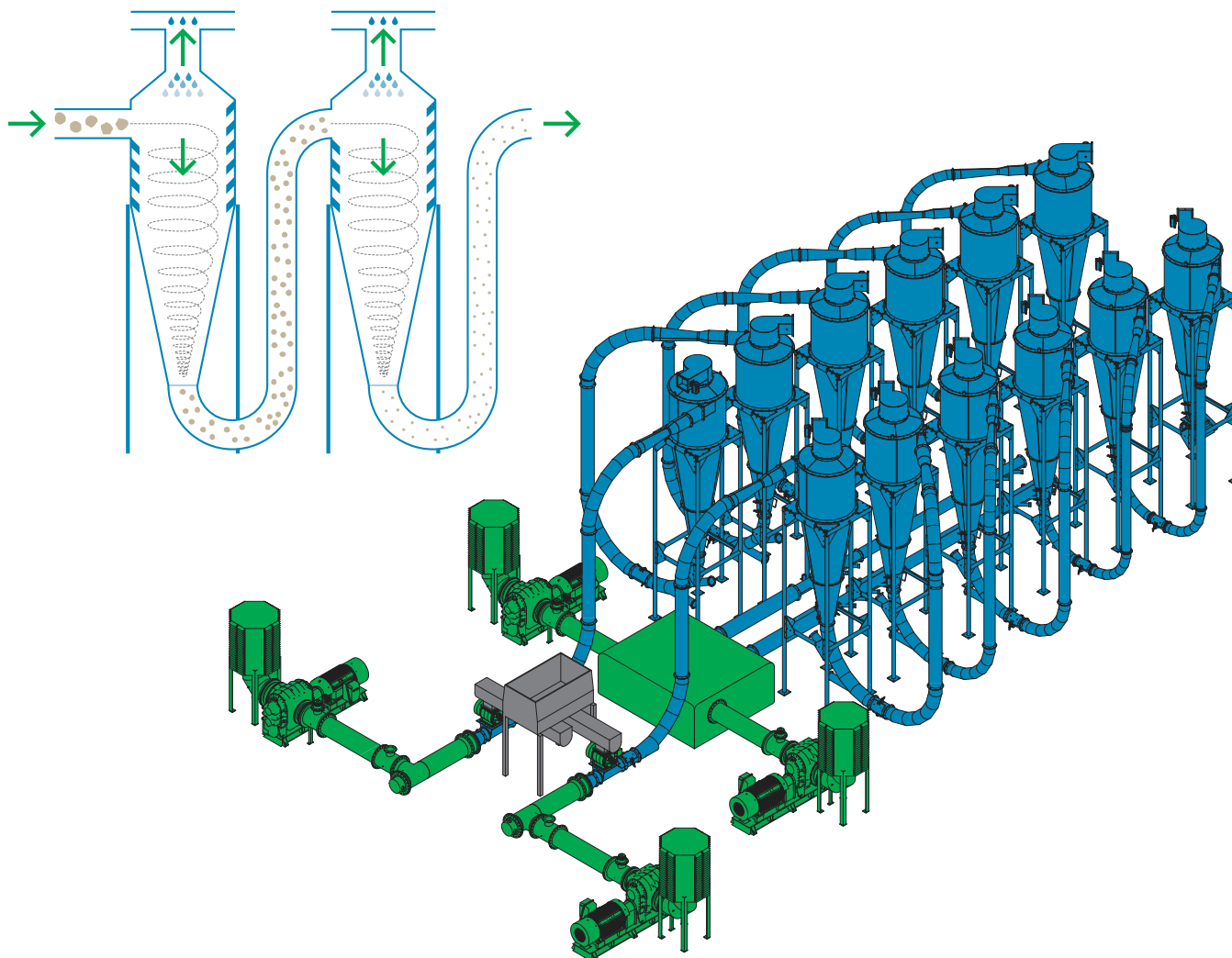
Due to the lower operating temperature of the system, the energy value for applications expecting to create a valuable renewable fuel source remains high.

When dry materials are further converted into more valuable resources, the payback of the Dryclone system can be very quick.



How it Works

The raw material is fed into an airstream that reaches speeds of up to 400 mph (640 km/h). As the material is suspended and accelerated, it travels through a series of uniquely designed Dryclones. Within each Dryclone, its cellular structure is broken down and the moisture is separated from the raw material. Once separated, the water is embedded into the airstream and released through the top of each Dryclone and ultimately passed through a filtration system.



CONFIGURATIONS: DRYCLONE TL

One of the benefits of the Dryclone system is that it is scalable and customizable. For projects requiring larger volumes, the Dryclone system is easily scalable and can be configured to accommodate an unlimited amount of raw material.

Although the standard Dryclone TL configuration is a system capable of processing up to 15 tons (13.5 metric tons) per hour, the Dryclone can also be configured for applications requiring less throughput per hour. The Dryclone can be configured to accommodate extra high moisture applications as well.

SPECIFICATIONS

Dryclones: 12
Blower: 4
Throughput: up to 15 tons/hr
(13.5 metric tons/hr)

OTHER CONFIGURATIONS

- Dryclone TLX
- Dryclone SL
- Dryclone SLX



www.dryclone.com