

## Challenge

There is an increasing demand for small-scale units combining distillation and dehydration to recover ethanol. This may be for demonstration projects, decentralised biofuel production or in-situ ethanol recovery. However, such plants often require proportionately higher capital investment than larger scale projects, may be oversized due to technical restrictions and demand specialist know-how for installation, set-up and operation.

## Whitefox™ Solution

Whitefox' custom-designed, membrane-based, mobile units offer a compact solution for small scale requirements which deal with these issues. These turn-key units can operate continuously or be used for batch production and can produce a very dry product using minimal steam and energy. Smaller units can be pre-commissioned and assembled on location by the customer. Fully assembled larger units are designed to fit onto a flatbed truck. They have a small footprint and are easy to operate, offering a very effective way to carry out distillation/dehydration for a wide variety of applications.



## Operational features

Pressure: Up to 6.5 barG

Temperature: Up to 150°C

Steam consumption: 0.4-1.5 kgS/E\*

Ethanol concentration in product: Up to 99.95%  
in a single pass

Automation: Optional. Remote monitoring,  
real time data acquisition

Standards: Built to applicable code

\*Steam consumption (in kilograms of steam per litre of ethanol)  
depends on feed and product ethanol concentration.

## Featured Projects

In 2013, Whitefox Technologies partnered with leading engineering firms to offer micro-distillery/dehydration solutions to a variety of clients. The table below describes projects for three different clients with different feedstocks.

Parameter	Client 1	Client 2	Client 3
Location	South America	North America	North America
Capacity	1,000 LPD	1,000 LPD	18,000 LPD
Feedstock	Sugarcane	Sugar beet	Corn/Wheat
Type of Project	Demonstration project	Demonstration project	Capacity expansion (MSU regenerate stream treatment)
Feed	Ethanol 93 wt%	Ethanol 93 wt%	Ethanol 56 wt%
Product	Ethanol 99.6 wt%	Ethanol 99.6 wt%	Ethanol 99.8 wt%
Automation	Manual	PCS** included	PCS** included
Dimensions	3m x 1m x 4m	2m x 1m x 4m	7m x 3m x 11m
Steam Consumption	0.7 kgS/IE	0.4 kgS/IE	0.9 kgS/IE

\*\*Process Control System

1,000 LPD unit



18,000 LPD unit



**For further information please contact**

**Whitefox Technologies Limited**

Europe: +44 (0) 20 7953 8446 North America: +1 403 210 2999

Email: [solutions@whitefox.com](mailto:solutions@whitefox.com)

[www.whitefox.com](http://www.whitefox.com)

