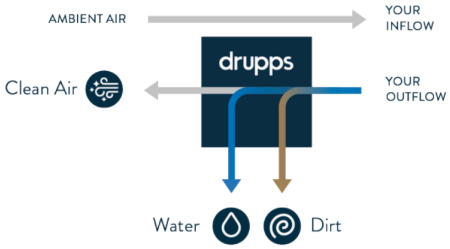
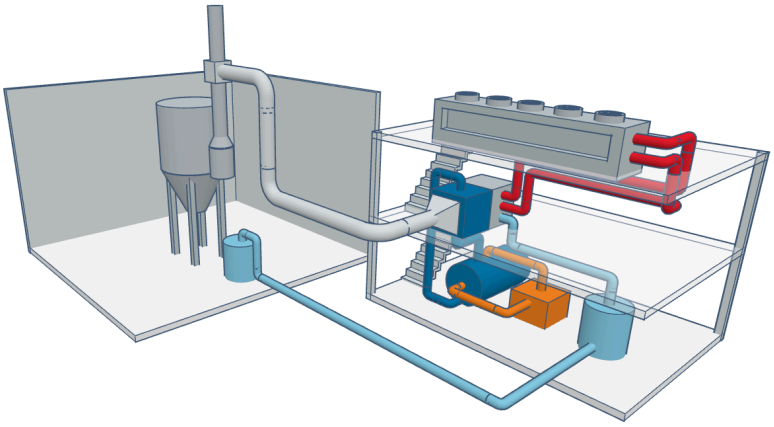
Drupps Vapor Water

Water Recovery from Dirty Industry Airstreams

Drupps Vapor is a game-changing system for recovery of water and energy from dirty industry outlets.

Vapor technology is based on Drupps' unique zero-water scrubbing technology that requires a bare minimum of added water. Effective cleaning of the airstream enables water recovery by downstream heat exchanging.





What it looks like

Drupps Vapor Water is fitted to connect with the exit air duct of a spray dryer. The airflow passes through a wet scrubber (blue module) effectively cleaning the airflow from airborne particles such as fine clay dust. In the next step, water is condensed by heat exchanging (grey module) and collected (light blue module). Heat is released via dry coolers.

Use Case

Ceramic industry

Need

A ceramic tiles manufacturer in need of increased water efficiency on site A.

Conditions

High content of fine clay particles in the exit airflow coming from spray dryers, preventing the use of air-cooled condensers.

Solution

Cleaning of the exit airflow by wet scrubbing with zero water loss, combined with air-cooled condensing.

Economics

The economics of this spray dryer upgrade can be viewed in the table below.

Vapor Water	Output	Net Value
Water Generated	111,000 m^3/yr	278,000 €/yr
Thermal Power Recycled	0 MWh/yr	0 €/yr
CO_2 Reduction	0 ton/yr	0 €/yr
Electricity Consumed	-995 MWh/yr	-109,000 €/yr
Airborne Dirt Removed	< 19,500 kg/yr	195,000 €/yr
Total		**364,000 €/yr**

Air Flowrate 100,000 m^3/h / Dryer Outlet Air Temperature 76 °C / Dryer Outlet Air Relative Humidity 70% / Ambient Air 20°C/60% / Operating Time 6,500 h/yr Water 2.5 €/m^3 / Natural Gas 80 €/MWh / CO_2 80 €/ton / Electricity 0.11 €/kWh Value of cleaning air: 10€ / kg dirt removed

How could Drupps Vapor be applied to your operation?

Every case is unque. Connect with us for a discussion on how Drupps Vapor could be adapted to your operations, and what it would look like.