

# Chemical Process Applications



In Chemical Process work, time and money is everything. If you are thermal drying, you have to scrub the exhaust from the process.

With DryVac, the fumes are contained and the product is compressed. This presents a definite advantage because materials are dewatered and dried much faster allowing for shorter cycle times and lower overall cost. This saves your company *Time* and *Money*.

## Case study

### *Metals Processing*

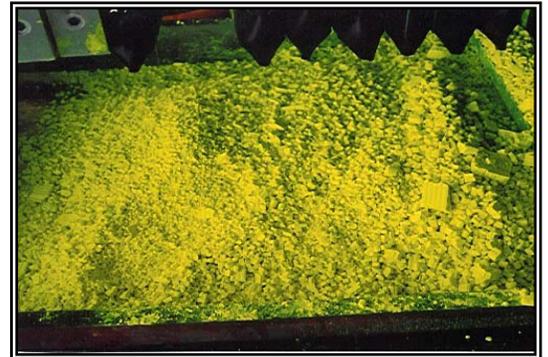
Although the process is proprietary in nature, this unit is currently being used to manufacture a plating compound for the metals fabrication industry. This “little” 10 cubic foot unit is the same basic design as any other, but allows this company to create and dry a product in an enclosed environment. No fumes from the drying process are vented to the atmosphere and the resulting liquid is reused.



## Case study

### *Pigment Processing*

Over the years, DryVac has installed systems for pigment manufactures. The DryVac process occupies a smaller area than normal Thermal Drying Processes. The DryVac requires no emissions control unlike other more intensive systems. A reduced energy cost was noted in these facilities as well.



## Case study

### *Plastics*

One of our clients was literally losing money down the drain. Processed waste materials, “plastic nodes”, were found in the process waste stream. We developed a method to pump the wastewater containing this material into the DryVac. Once the material was dried, the nodes could then be reused. With DryVac, this company recovered significant lost revenue.



# DryVac in Chemical Applications

There are DryVac installations worldwide using our technology in both manufacturing and in reclaiming the water used in the manufacturing process. In most of these applications, plants are typically fed with sludge ranging from 0.5% to 7% solids. Using additional chemical treatment can enhance the dewatering process.

During the first stage of the DryVac process, the sludge is dewatered over 45 minutes to one-hour, which usually achieves a dryness of between 20-40% solids, depending on materials and chemical pre-treatment. Low-pressure steam (less than 1 bar) is then applied to the DEEM's{patent pending} as a vacuum is applied to the filtrate ports, and the drying phase proceeds.

The remaining moisture is vaporized in a process that can be halted at any time to achieve the desired moisture level. At the conclusion of the drying phase, the DryVac equipment is opened up and the dried sludge drops to a conveyor or auger below.

## Summary of DryVac Advantages

- Drier chemicals means less water used during process reducing costs of pipes and transport equipment
- Relatively simple process with minimal health and safety risks
- Drier solids means less cost of transport and disposal
- Enhanced treatment is achieved
- Flexibility of disposal options.
- Mobile, Modular, or Permanent units
- Real time computer uplink via satellite is available
- Combination dewatering and drying processes (below) are eliminated
  - Belt Press and Thermal Dryer
  - Centrifuge and Drying ponds
  - Solar Evaporation Systems
- ***Dramatically reduces labor and equipment handling expenses***



*Products*



*Pigments*



Plant managers inspect the unit June 2000



*Recovery*



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