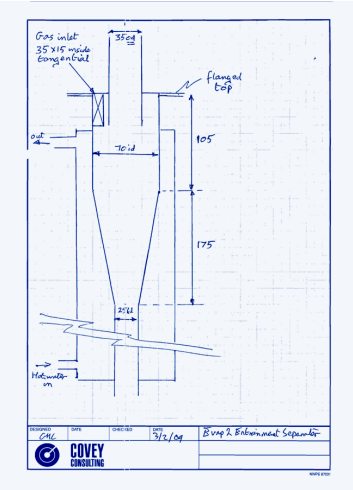
Covey Consulting Pty Ltd

Serving the industry since 1989

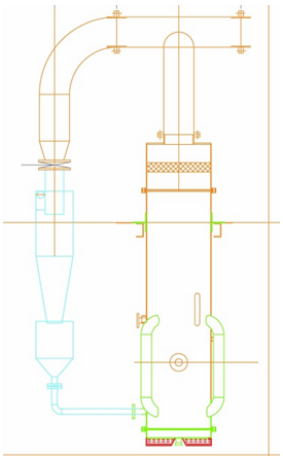
A Cyclone for Every Plant

COVEY CASE STUDY

The cyclone is a widely used piece of equipment for separation of dust and droplets from gases. It is comparatively cheap and simple to fabricate, it has no moving parts, it has a fairly low pressure drop and it can have a very high efficiency.



Unfortunately, our experience has been that many cyclones are poorly designed. They may be incorrectly sized, have poor proportions, have inadequate consideration of discharge lines or include unusual shapes and features. These errors can lead to greatly reduced efficiency, increased pressure drop and re-entrainment of particles.



A view expressed in many publications is that for droplet separation there is no need to use a conical base to the cyclone. Our experience and consideration of theoretical aspects is that straight cyclones are certainly cheaper, but they have lower separation efficiency, particularly of fine droplets. We only recommend straight cyclones to our clients in very special cases.

Over the years we have designed many cyclones for clients and for many applications. Apart from the more common uses, these have included:

- Removal of 'clips' of tissue from a rejects pick-up stream.
- Retro-fitted to an evaporator system to reduce entrainment.
- Un-insulated stainless steel cyclone on furnace gases to separate coarse solids and simultaneously cool the streams to below the sticky point of the fine solids.
- Hot-water jacketed cyclone to remove high viscosity droplets from a gas stream.
- As collection stage for gas scrubbers.
- Irrigated cyclones.

As required, our cyclones include a range of features to maintain high efficiency in difficult circumstances.

We love finding novel ways of using cyclones. Talk to us!

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