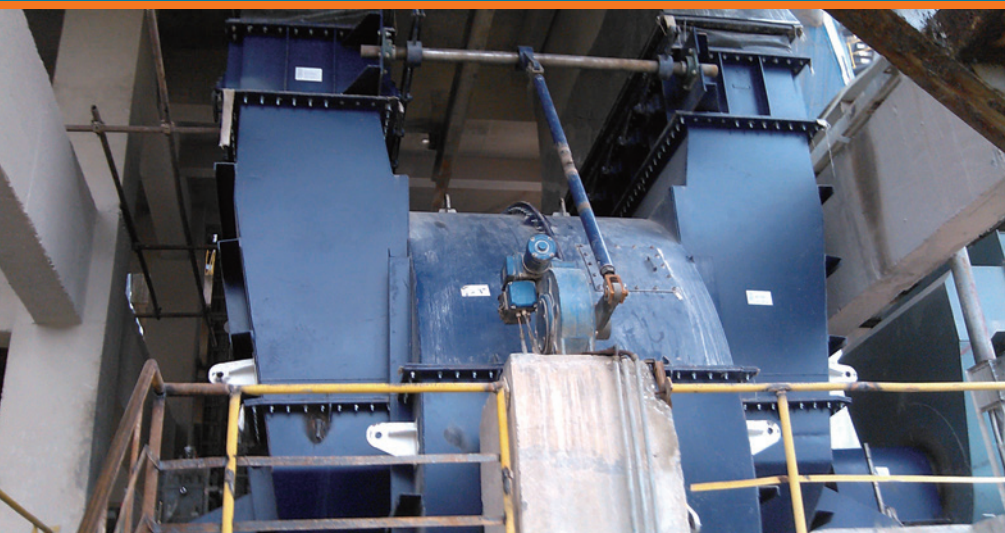


Reducing carbon emissions in the cement industry



Product:

Centrifugal fans

Application:

Cement processing

Howden centrifugal fans are used at various stages in Cement production to move process gases which includes dust. In a retrofit application, the efficiency of our products can deliver a step change in performance for our customers.

The cement industry has a high carbon intensity and is responsible for around 7% of Global CO₂ emissions. As part of the process, fans need to move very large quantities of gas and are one of the biggest power consumption needs in the process. Highly abrasive and corrosive environments can reduce the efficiency of the fans and increase power consumption from the motor. For this reason the efficiency of the fan is critical to saving energy, reducing CO₂ emissions and saving unnecessary cost for the customer.

Environmental benefits

In addition our products are an integral part of the flue gas treatment process which minimises particulate emissions.

Our fans typically operate from 5000 to 7000 hours a year and can save from 50 to 300 KW of electricity an hour compared with the products they replaced.

An example of the impact of Howden centrifugal fans on reducing carbon emissions is that our combined install base in China is reducing 305,000 tonnes of CO₂ a year.



Some Centrifugal fan retrofits can save between 400 to 1300 tonnes of CO₂ a year and reduce grid electricity consumption.

Where our fans are used

Clinker cooler fans:

Circulate fresh air to cool down the clinker.

Raw, Coal & Cement mill ID Fans:

Move air through the grinding mills.

ESP or Bag House Fans:

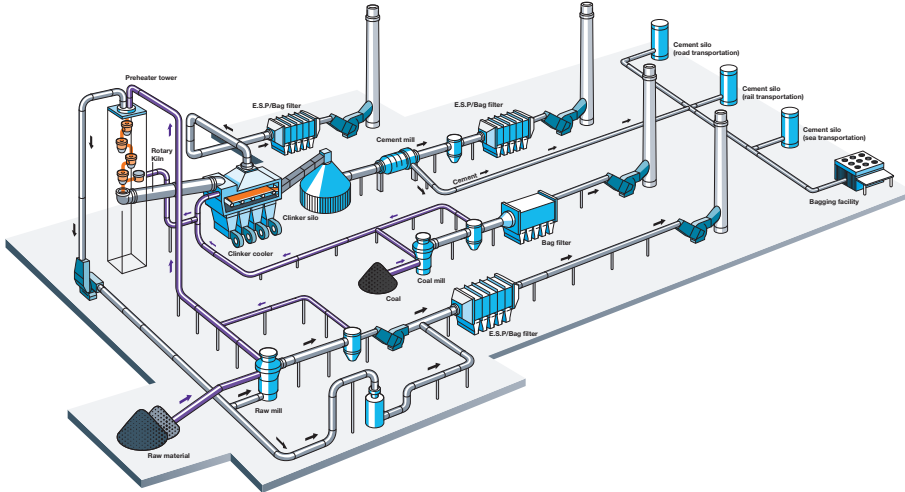
Move air through bag or electrostatic filters for cleaning.

Final ID Fan:

Induced draft fan to move exhaust to atmosphere.

Preheater exhaust Fans or Kiln ID Fans:

Circulate the air from kiln and pre-heater to the bag house.



For further information about
Howden in the cement industry, visit:
www.howden.com

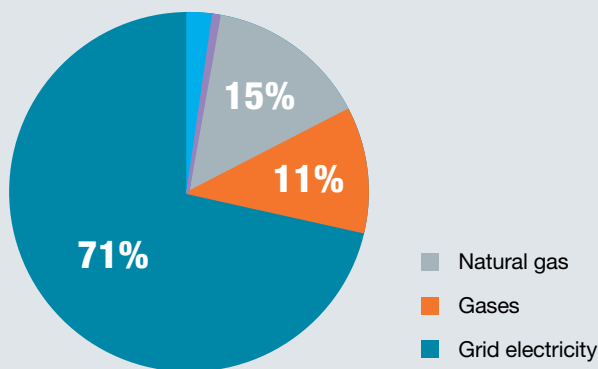
Key product features

Impeller 15 tonnes
Shaft 35 tonnes

= 92.5 tonnes of CO₂ from
raw material production

We have established a simplified estimate of Upstream
Raw material Carbon impacts by quantifying the Steel used.
Each tonne of Steel produced emits 1.85 tonnes of CO₂.

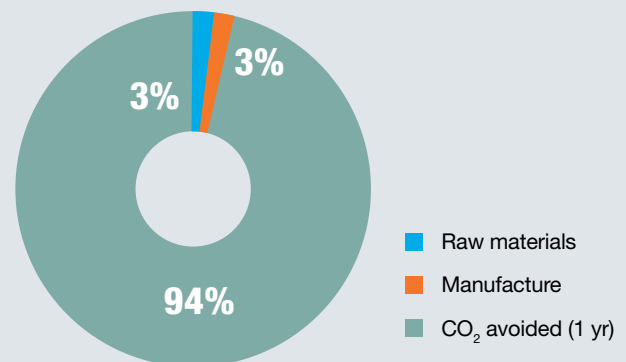
Manufacturing carbon footprint



The entire Scope 1 and 2 Carbon footprint of our
manufacturing plant in China is 8778 tonnes of CO₂ a year.

The main elements are Grid Electricity, Natural Gas and Process
Gasses. We have estimated that producing a centrifugal fan
accounts for around 1% of this total.

Carbon dioxide balance



The small section represents CO₂ equivalent from
the Raw material and manufacture phases.

The larger segment represents the CO₂ avoided by retrofitting
one Centrifugal Fan. For this example we have used a Raw mill
fan running 7000 hours a year saving 3038 tonnes of CO₂ for
the customer.

Howden sustainability approach

At Howden we manage our environmental impact through our Environment Health and Safety (EHS) standards approach supported by ISO14001 on many of our sites.

From 2021 we will be disclosing our sustainability performance through the CDP carbon disclosure project. We are committed to reducing our internal carbon footprint by 50% by 2030. We will achieve this by focussing on targeted efficiency, investment projects and sourcing renewable energy.