

ABEL piston membrane pumps feed recycled liquid fuels to rotary kiln burners in the cement industry all over the world

**Installed in more than 20 cement works worldwide**

### The application

In cement works, the rotary kiln is usually the heart of clinker production. Depending on the site and product range, marl lime, chalk or lime sand is placed in the kiln. The raw material is melted down at temperatures of more than 1400°C in order to produce the so-called cement clinker. Rotary kilns can be up to 100 m long with diameters of up to 5 m. Normally they have an incline of 3 - 4° along the whole length.

The kilns are frequently fired with hard coal. But in recent years there has been an increasing trend to using alternative fuels. These include not only animal charcoal and shredded tyres but also used and reclaimed oil and solvents (RLF). By making use of these substances, for years the cement industry has made an active contribution to environment protection.

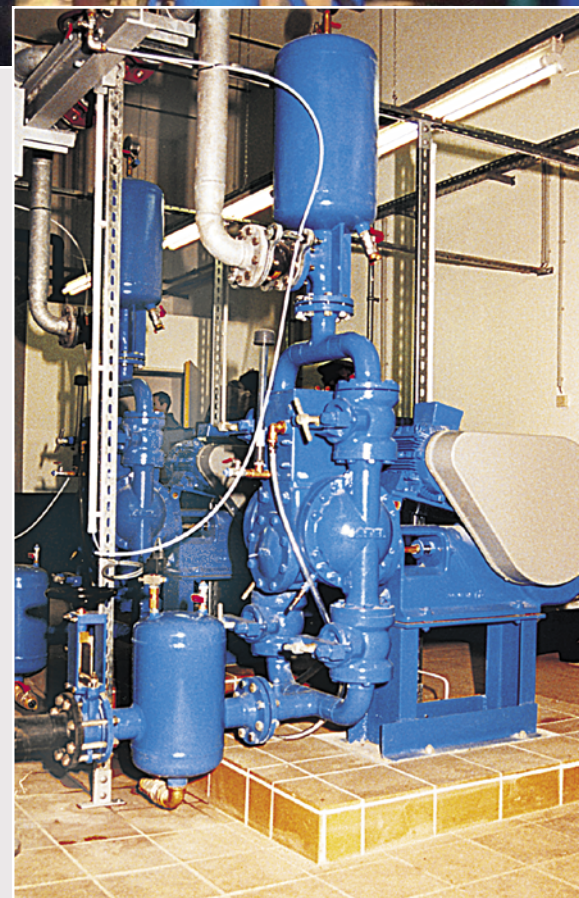
### The ABEL solution

ABEL piston membrane pumps types CM are used in various cement works all over the world to pump RLF alternative fuels to the burners of the rotary kilns. Robust, highly reliable and safe operating pumps are required in view of the differing composition of the various oils and chemicals which frequently cannot be specified precisely in advance.

The key features of these pumps include high dosing accuracy together with rugged resistance to fluctuating viscosities and high levels of suspended solid materials in the product.



The pumps also fulfill the ATEX directive which has been binding since July 2003. By using low electrically conductive plastics on the product side, it is possible to take account even of the special application „ex zone inside the pump“.



**ABEL®**  
Pump Technology

### Advantages of the ABEL solution

- High reliability where prolonged continuous operation is required.
- Low wear with ideally rated membrane and product valve materials
- Up to 95% volumetric efficiency thanks to special shaping of the membrane housing and membrane
- Fulfils the strict requirements of 94/9/EC (ATEX)

- Simplest adjustment to operating conditions through frequency control of the pump
  - Low maintenance because contains few wear parts
  - Only one double-acting pump piston required
- The high availability of the pumps is guaranteed by using genuine double membranes with leak monitoring.
- Today more than 20 cement works all over the world count among ABEL's satisfied customers.

