The G. Fratini Oil & Grain Mill has been dealing with soft wheat flour and extra virgin olive oil for over three generations. The objective of the Fratini family is to offer a quality product made from local raw materials and to introduce innovative techniques to exalt the organoleptic properties of the product, in full respect of the environment.

Customer: G. Fratini Oil & Grain Mill
Commissioning Date: September 2014

The G. Fratini Oil & Grain Mill uses the continuous cycle method of olive oil extraction. This system consists of a series of machines connected to each other in such a way that any interruptions in the process cycle are completely eliminated.

Continuous-cycle systems arose out of the need to achieve ever better quality for the finished product, extra virgin olive oil. The olive processing stages are: washing, crushing, malaxation, centrifugation, separation.

After being crushed to a paste, the olives are sent to a horizontal centrifuge separator, the decanter, which separates the paste into each of its three phases (i.e. oil, water and pomace), which all have different specific weights and can thus be separated using centrifugal force.

The Fratini family has always kept a careful eye on energy use, and so decided to replace the previous motor installed on the Centrifugal Separator with the new REEL SuPremE® motor, coupled to the FlexiMova® cm inverter in order to optimize energy consumption, thus avoiding waste, maintaining a high level of efficiency and improving the quality of the entire system as well as the yield of finished product.
Benefits:

- **Energy savings** by installing the REEL SuPremE® package with the FlexiMova® cm Inverter. The customer has in fact reduced electricity consumption by 20%, thus saving more than 15% on energy costs.
- **Increased machine reliability** for more accurate speed regulation.
- Motor **bearings last longer** due to low rotor temperature.

Application:

**Centrifugal Separator (Decanter)**

The centrifugal separator (decanter) consists of a cylindrical tank containing a rotating drum and works by separating components with different densities, using centrifugal force. The crushed olives are poured in from above and subjected to centrifugation of up to 3700-3900 rpm.

The separator is powered by the REEL SuPremE® motor that connects to the screw conveyor and bowl and by the FlexiMova® cm Inverter that controls the motor so as to achieve optimum speed differential: on the outside, the decanter bowl rotates at high speed and generates the centrifugal acceleration required to separate oil, water and pomace while the inner screw conveyor rotates at a different speed (speed differential) which serves to extract the pomace.

By controlling the speed differential, extraction of the solids can take a longer or shorter time to complete. This speed can be adjusted according to the properties required for the final product.

**Project data:**

REEL SuPremE® Motor 11kW, 1500 rpm
FlexiMova® cm Inverter