

## AIRFLOW COMPENSATOR

We have installed an airflow compensator/valve produced by the *Miniera* company to our 90-m<sup>3</sup> aeration dryer (built by the *Biani* company).

In the first drying cycle we ran after the compensator was fitted, we recorded an evening out of the temperatures inside the unit.

Indeed, despite making various modifications to the aeration chamber, the four temperature probes fitted to monitor the exhaust air (one for each fan) would previously register a variation of 4-6° between the central probes (2 & 3) and the side probes (1 & 4).

Having fitted the compensator, we carried out various tests across a number of different drying cycles with the valve “open” and found that the temperature had evened out across the four probes, to the point that the temperature variation was no more than 2°. When the valve was reset to “closed”, the temperature variation would return.

The temperature and humidity of the rice within the drying system is continuously monitored by a humidistat that samples the rice at pre-set intervals.

This has made it possible to measure the reduction in drying time achieved with the valve open, compared to drying with the valve closed. For products of a similar initial moisture level, this reduction varied from 1.5 to 3 hours.

The average diesel consumption for this system, which dates from 2016, has been measured at 55.5 litres per hour during drying. We therefore calculate the average saving in fuel with the new set-up to be around 90-100 litres per drying cycle.

The average electricity consumption over the course of 2016 was 46 kW/hour, which means 100 kW are now saved for each drying cycle.

Both Indian (Ecco 51) and Japanese (Gloria/Centauro) varieties were used for the tests, with the same results in both cases.