

Ancillary equipment at Plast 2006

A flexible dehumidification system

During Plast '06, the international exhibition for plastics and rubber that will be held in the new halls of Fiera Milano, Moretto Plastics Automation (Stand A/B, Hall 11) will present its new X DRYER. This new dryer reaches top performance when combined with Flowmatik, a systems that adjusts the airflow according to the process data and thanks to a series of sensors that detect the real throughput needed.

"INFINITE NEEDS IN ONE TOUCH" is the campaign slogan that sums up the enormous potential of X-DRYER, a dehumidifying dryer destined to transform the same concept of dehumidification. This new system, with its innovative technology and the new way in which this technology is used, was preannounced at K 2004 in Düsseldorf and is now ready to be launched on the market. Its innovation is not only in terms of technology, but also in the new approach that the user has with the machine

Material to treat and hourly throughput (in kg/h) are the only two parameters that need to be set through a straightforward object-based touch screen. X Dryer automatically controls and manages a wide range of parameters for an accurate and precise process of the polymers, respecting their characteristics:

1. quantity of technological airflow (m³/h)
2. ratio of airflow expressed in m³ to throughput expressed in kg.
3. process temperature
4. safety temperature
5. antistress temperature
6. drying time
7. overtime process

Thanks to its exceptional features, X Dryer supplies dry air at a much lower cost than every other dryer. Yet, the greater amount of energy saving is given by the simultaneous control of the process variables, since this unit can supply the airflow actually needed by the system. X Dryer possesses many other features: it does not require compressed air, it does not need water to be cooled down, it supplies technological air up to -75°C Dew Point; moreover, it is a constant machine whose efficiency is guaranteed within 10 points in Dew Point value. It is equipped with a soft start system and a heating boost. It regenerates with dry air and processes in countercurrent; furthermore, it recovers the heat originated by regeneration and does not use supplementary heating chambers. In a variable configuration, it adjusts itself to the specific needs. These features, and the reduction of energy costs, ensure a diminution up to 72% of the cost per kilo in comparison with conventional dryers, being either of the carousel, double tower or vacuum type. Further saving are guaranteed since there are no problems of overtime treatment, which involves significant variations in viscosity and during the subsequent processing phases. Up to now, this phenomenon has been utterly undervalued or badly handled, with consequent waste of energy and damage of the end-product. For all these reasons X Dryer is a systems that, thanks to its high performance, improves competitiveness of the processing industry.

This dryer reaches top efficiency when integrated with Flowmatik, a system that adjusts technological airflow thanks to a series of sensors that detect the real production needs. Flowmatik is equipped with an antistress mechanism that protects the granule from overdrying. That is how Flowmatik and X Dryer become a flexible dehumidification system, able to adapt itself to the actual conditions of use. Energy saving, in such an all-round system, is very high; if to this saving we add the negative effects caused by overtime treatment, there is a profound difference between conventional dryers currently on the market and this new system. Flowmatik can be installed on single-hopper dryers too, but it is on a multi-hopper configuration that it becomes really interesting. In fact, Flowmatik can manage up to 16 hoppers at the same time. In order to meet the requirements of every single hopper it independently elaborates a series of data:

- it calculates the airflow needed by every single hopper;
- it measures every single delivered airflow;

- it sums every single request;
- it correctly shares the airflow;
- it allows the dryer to supply the exact airflow.

Flowmatik ensures a perfectly balanced system, respecting polymers and acting on three levels:

1. higher technological level
2. easier control – “infinite needs, one touch”
3. higher competitiveness in terms of economic advantage and quality

In spite of all the explanations that the manufacturer can give on this system, it is only by testing it that a processor can really understand how different the approach to single or centralised drying is.

As far as microdosage is concerned, at Plast '06 Moretto PA will present the new DPM (Microbatch Pulsed Dosing Unit), an exclusive self-learning pulsed dosing unit with direct setting of the percentages that can store up to 100 recipes. DPM is absolutely new, since it determines the blend by multiplying the microbatch-master base. The quantity of the blend is established by infra-red sensors placed inside the Pyrex body. Because of the small quantities treated, there is no risk of demixing caused by overmixing. For this reason, this new dosing unit is especially indicated for low percentages, starting from 0,1 grams.

This new machine uses Rotopulse - the exclusive pulsed rotor system – as well as the double-lid mechanism. Because DPM is installed onto a Pyrex base, it is possible to check the prepared blend at all times. Finally, DPM is the only dosing system that does not need a mixer.