

Centralized vacuum solution with less kW, less noise and better vacuum



Production machines are often delivered with on-board pumps. The vacuum is important, still it is a minor issue, so that many small pumps are used instead of a central system, as done for electrical power, water and compressed air. Pneumofore analyzed the situation and several compact pumps were replaced to obtain a better vacuum with impressive savings in power consumption.

The collaboration of Pneumofore with ICEA, an Italian thermoforming company, started nearly casually in late 2004. The first personal meeting happened towards the end of January 2005 and we were honored to meet the company owners. At that time nine thermoforming machines were served by nine compact pumps, each one of 100 m³/h capacity except one of 200 m³/h. Another plant of ICEA had two pumps of 180 m³/h each. After long discussions regarding technical details of the Pneumofore UV vacuum pumps, it was agreed to install one first UV4 to replace the two 180 m³/h pumps.

The previous vacuum solution showed the nominal capacity of 360 m³/h (180 x 2). The UV4 with 5,5 kW states the capacity of 250 m³/h (see picture above). Still, the vacuum level was improved **from 150 mbar(a) to 100 mbar(a)**. This was no surprise since the performance of compact pumps using plastic vanes is strongly influenced by the running hours, in other words: "time causes performance losses". But companies need constant pressure to improve their production, time shall bring improvements rather than reduced efficiency.

With operation of 11 hours per day and 5 days per week, the pump runs now since more than 5.000 hours and has never been serviced, no consumable parts have been replaced. The first ordinary maintenance is scheduled shortly and the customer is quite happy about his choice. Another advantage obtained by the replacement of single on board and compact pumps with the centralized solution using the UV pumps is the remarkable reduction of the **noise level**. Surprising was also the result achieved by supplying vacuum also to the **new third line**: the absolute pressure level only increased by 20 mbar(a), from 100 to 120 mbar(a). Such satisfactions result from the professional evaluation and execution of a project, both the customer and the supplier need to cooperate to access the potential of improvements. The future expansions of ICEA foresee more thermoforming lines, our efforts to serve this factory with a solution gave good results and we look forward to collaborate further.



Production area of ICEA

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