

The switch from compact to industrial vacuum pumps



Saint-Gobain Desjonquères has a plant in Sucy en Brie, in France, specialized in hollow glass containers for the cosmetic and pharmaceutical industry. For 7 IS lines with the total of 52 sections, the previous vacuum system investment, motivated by low purchasing prices, failed due to the inadequate choice for the continuous, heavy duty operation required in glassworks. In 2011 the vacuum level was improved with 1 x UV30 VS55 vacuum pump of Pneumofore. The absolute pressure of 450 was reduced to 220 mbar(a), with evident advantages for the moulding speed and quality of small containers with intricate shapes.

The economical pumps mod. RA630 bought in 2005 caused frequent maintenance interventions with change of lubricant every 2000 hours, expensive spare parts and service. Considerable was also the lack of engineering assistance for installation and system lay-out. What had been a success for the purchasing office six years back, when the vacuum system budget was kept low, finally turned out to be a nightmare of unexpected and initially unconsidered service costs. These measurable amounts of Euros, for spare parts and labour as well as for electrical power consumption, pushed the plant engineers to search for a solution.

In addition, the insufficient vacuum level of 450 to 500 mbar(a) generated by the four compact pumps with nominal 630 m³/h did not allow to run production with full speed. The absolute vacuum level had to be improved considerably, at the same time also the power consumption and the operational costs. When Pneumofore was contacted, we noticed the missing filtration device to avoid the pollution of the pumps with lubricant from the IS moulds. The complete vacuum system had to be designed with new piping.



DVF demister filter



On left obsolete pumps, on right new UV30 VS55

A major investment for a state-of-the-art vacuum system, for the long term efficient and trouble free operation, was made by installing one UV30 with variable speed, 55 kW, air cooled. In September 2011 the new Pneumofore vacuum system was started-up with big expectations regarding the better moulding quality for the difficult, yet prestigious production of cosmetical and pharmaceutical glass containers. The UV30 pump was running at 35 Hz only to operate 34 IS sections and the vacuum was increased to 220 mbar(a). A new piping system with correct connections, buffers and filtration supports the long term efficiency of the Pneumofore vacuum pumps. Ordinary maintenance is required every 6000 hrs only, power consumption is lowered.

A fast look at the pumps shows that the UV30 comes within a soundproof canopy, which includes all the components for the ready-to-use commissioning, like the entire air-cooled lubrication circuit, the power and control panel, safety devices, additional inlet-air filtration and more. Next to the UV30 pump is the Pneumofore DVF demister filter and the large receiver, all connected with DN150. Special for this unit is the Frequency Converter, which allows to set a specific vacuum level and keep it constant by adapting the pump's rotation speed from 35 to 60 Hz. The extension of this innovative UV vacuum system is scheduled for the new IS machines of SGD during 2012.



Pneumofore UV30 VS55 vacuum pump

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