

Stripped Down UV30 Pump

It took 9 years of continuous work before overhauling



Installed in 2000, one UV30 for aluminium can production belongs to the first generation of air cooled, large capacity vacuum pumps. Working 24/7, this machine deserved a full check in order to return to work for the next decade.

The UV30 rotary vane vacuum pump, air cooled n. 35414, supplied with 400V, 50 Hz was installed next to other UV pumps in the facility room of the Rexam site in Nogara, Italy. Almost ten years passed, the service team of Pneumofore is servicing the vacuum system directly with regular ordinary maintenance. Competence of service technicians alone is insufficient, if wrong spares are installed. The use of genuine spare parts and of the original lubricant makes the difference and pays back. Fortunately, here we report about a successful collaboration of us, manufacturer, with the end user, not only in system design, but also regarding the after sales service by means of a preventive maintenance contract.

When looking at the pumps, after 71.000 h of work, especially the inside, we can hardly recognize items by the colour, as the cooling fans run constantly and suck cooling air into the pump cabin to refresh the components dissipating heat. It is therefore common to have a considerable "cleaning" work to do before even seeing, being able to observe and analyze single parts.

The amount of hours divided by the life span gives the work load, in this case above 95% of the time. The sound of the machine is the first indicator of trouble, defects can be heard before they emerge. Damaged moving parts have a phase of increasing damage till they break and need replacement. Even if it was not the case for this pump, all agree that a regular full-check and cleaning is appropriate. The stripping of the machine gives the opportunity to identify eventual functional parts requiring the replacement.



UV30 dismantling and cleaning



Reassembled UV30, totally revised, ready for testing

The vanes of the UV pumps do not need replacement if the lubricant used is the correct one, if the two bearings of the rotary vane air end are regularly maintained with grease, if the oil filter is kept clean or replaced regularly with the inlet air filter and the oil separation cartridge. But bearings, rotating at 1.450 rpm, 71.000 h long, after 6.177.000.000 revolutions, might need a tolerance and vibration control, which for safety reason, frequently motivates their replacement, as the air end is stripped only once every ten years.

The overhauling work lasts few days only, then the unit is reassembled and tested in capacity, efficiency and noise. With a total cost of 10% of the new unit's list price, this total check and overhaul represents a guaranty for almost 10 more years of work. This minimal service cost contributes to have the lowest Life Cycle Cost compared to other technologies.

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