



Significant cost savings and lowered CO₂ emissions through efficient heat-recovery solutions



Airflux, based in Lille, France, is one of the leading providers of air compressors for the French market.

Marc Delannoy, General Manager Airflux: "Our market approach has three pillars. First, we want to select and offer our customers compressors and systems that can produce and deliver compressed air with the highest energy efficiency possible. Second, we help our customers produce compressed air more efficiently and find ways to minimize waste. To support this, we are conducting audits and leak-reduction campaigns. Third, we are striving to maximize heat recovery for reuse in customers' processes."



To maximize heat-recovery efficiency, Airflux engineers have designed the Ecosph'Air Energy-Recovery System. Its purpose is to recover heat energy produced by air compressors and make it available for industrial processes, hot water production, and heating systems.



One of the key decisions during the design of Ecosph'Air was the type of heat exchanger to use. Compared with other technologies, brazed plate heat exchangers offer a number of advantages, including compact size, increased efficiency, and reliability.

Marc Delannoy, General Manager Airflux: "Airflux selected SWEP as a partner for two main reasons. First, SWEP is a well-known brand, appreciated in the heat exchange industry. Furthermore, one of our main partners was already successfully integrating SWEP's brazed plate heat exchangers in their systems. We have had a positive experience of integrating SWEP heat exchangers into our customers' machines, so commissioning SWEP as our heat exchanger supplier was a natural choice."

Air compressors are designed to produce compressed air, but they also produce a lot of heat energy. Without a heat-recovery solution, most of that heat energy is lost. For all efficiency-oriented businesses, therefore, the heat-recovery capability of their compressed air system is critical. Let's visit a couple of industrial sites that have efficient compressed-air solutions.

José De Oliveira, Head of R&D Airflux: "First, let's visit a customer site where they are producing filler material for the diaper industry. They have a compressed air system rated at 300 kW with a potential recovery of 210 kW.



This system includes four Ecosph'Air systems that recover energy from their five compressors and transfer it to process and space heating.



Second, let's look at an industrial signage production facility where we installed a 1.2 MW compressed air system. Heat recovery uses heat exchangers installed on the tops of the compressors. This configuration was preferred to take advantage of the available space. The total recovered energy is around 800 kW for the complete system. It is reused in the customer's heating system."



The reduction in wasted energy combined with lowered utility costs optimizes the payback period. In most cases, it can be as short as 6 months. Businesses that choose to install a heat-recovery solution for their compressed air systems achieve significant cost savings while also lowering CO₂ emissions.