

Aiming high

Harbec: Carbon, water, and waste-neutral production



Four of Harbec's five ALLROUNDERS are electrically driven. A hydraulic ALLROUNDER 520 S with the ARBURG energy-saving system (AES – pictured left) is the optimum technical solution for the injection compression moulding of optical lenses (right).

Harbec sees itself as a pioneer in the US when it comes to sustainability. The company has been carbon-neutral since 2013 and water-neutral since 2015. Production is also expected to be completely waste-neutral by 2022. For its machine fleet, Harbec relies on energy-efficient hydraulic and electric ALLROUNDERS.

Since 2009, Harbec company founder Bob Bechtold has been actively committed to sustainability as a matter of conviction. As the plastics processing firm has a high energy requirement, the first challenge he took on was the issue of its carbon footprint. Harbec has been certified for its energy management under ISO 50001 and SEP

Platinum (Superior Energy Performance) since 2013, meaning that energy savings are quantified in annual audits. In order to be water neutral as well, the majority of the company's needs are met by its own rainwater retention basin.

80 per cent energy self-sufficiency

Harbec covers around 80 per cent of its energy requirements itself. 60 per cent comes from two wind turbines, which together supply 1,100 kWh of electricity. A further 20 per cent is generated by a gas-fired combined heat, power and refrigeration plant of which Bob Bechtold is proud: "Our 530 kW plant generates electricity from natural gas and also covers our heat-

ing and air-conditioning needs. We have already saved hundreds of thousands of dollars." From 2021 onwards, Harbec will generate additional solar power, which will be supplied by a photovoltaic system (175 kW) on the roof of the new building. The company buys carbon offsets to compensate for energy from non-renewable sources, such as its vehicle fleet's diesel consumption. The same applies with respect to water.

Sustainable practices in demand

The next challenge for Harbec is to become a "zero waste company" by 2022. "Many companies talk big but do actually very little in the way of sustainability. ARBURG is a major exception here – both in terms of production and products. I saw this for myself at the Technology Days a few years ago. And that's why I like to buy ALLROUNDERS that are 'made in Lossburg'," explains Bob Bechtold.

Every new purchase is also evaluated according to its expected energy consumption and the savings are factored into the purchase price. Energy-efficient electric injection moulding machines are purchased where it makes sense to do so, and these also generate little waste heat. For injection compression moulding applications for optical components, however, high-quality hydraulic machines have proven to be the

technically better solution. So for example an ALLROUNDER 520 S produces plano-convex lenses from optical PC for medical applications. The associated MULTILIFT SELECT robotic system, temperature control unit, core pull, and pressure and temperature sensors for monitoring the mould are integrated into the SELOGICA control system.

Energy-efficient machine technology

Thanks to extensive programming functions, the processes can be adapted exactly to Harbec's requirements. This ensures short cycle times and high part quality – and in this case, stress-free lenses. Thanks

to the ARBURG energy-saving system (AES), the hydraulic machine operates energy-efficiently, as the speed and power of the water-cooled pump motor are adapted to actual requirements. This also reduces noise and wear.

For "contract moulding", Harbec uses four electric ALLROUNDER 370 E machines, which operate around the clock in three shifts. "We have been a partner of ARBURG for ten years. The high quality of its products, excellent application technology advice on site coupled with expertise in automation, and a corporate philosophy that is a perfect fit for us were all factors in winning us over," comments Bob Bechtold.



"We can still learn a lot from ARBURG. This will keep us on the road to success in the coming decades."

INFOBOX

Name: Harbec, Inc.
Founded: 1977 by Bob Bechtold
Location: Ontario, New York/US
Turnover: USD 20 million (approx. EUR 17.3 million) on average
Production area: approx. 5,600 square metres
Employees: 150
Industries: Medical, aerospace, industry
Machine fleet: 30 injection moulding machines, of which 5 ALLROUNDERS
Contact: www.harbec.com

