

Europlaz Adds To Sustainable Machine Investment

Spurred on by being awarded the Silver Ecovardis Medal in 2023, high-end medical device manufacturer Europlaz continues to drive positive and sustainable production changes. The Essex-based company's repeat order of three flexible, high-performance and energy-efficient all-electric IntElect2 machines from Sumitomo (SHI) Demag, each featuring different clamp forces, mirrors its Quality In; Quality Out business ethos.

Manufacturing and assembling millions of class I and class II medical device components annually, Europlaz Technical Director Ian Goodacre handed over the order in person at Interplas 2023. Unlike past machine orders, all three machines are for new production cells being introduced by Europlaz to increase capacity and manufacture new product streams.

This latest order, follows another significant rise in medical, diagnostic and life science project wins. The 100T IntElect2 is also equipped with a high temperature demoulding pick and place 3-axis system.

Ian describes the customisation options, compact machine footprint, intuitive processing software, interchangeable barrels, machine reliability, energy savings and service support as the unrivalled factors that align to their company's sustainability credentials.

Equally important for the ISO 13485-accredited and FDA-registered medical moulder, the Sumitomo (SHI) Demag brand is well-respected and known in medical circles as being a reliable, high performance top-tier machinery supplier. *"Many of our customers know the Sumitomo (SHI) Demag name well. Given the sustainability details we have to submit when preparing tenders, the reliability and energy efficiency statistics we can present certainly corroborates the advantages of actively selecting the IntElect series,"* attests Ian.

Europlaz continues to move towards a fully electric suite of moulding machines and as a medical moulder there is no margin for processing errors. It means that the team's focus is concentrated on moulding quality, processing consistency and consciously challenging sustainability.

Ian is also quick to rate the other unique precision moulding features included within their latest all-electric machines. Especially the activeFlowBalance and activeLock features that Europlaz specified to help maximise efficiency and output.

Both of these technology features help to optimise the melt cushion that's so critical in tight tolerance medical device applications, reports Ian. He explains that activeFlowBalance helps to stabilise and evenly distribute the pressure of the expanding melt within multi-cavity mould tools with no additional pressure, while the activeLock feature digitally controls the closing position on the non-return valve.

Three machines, countless configurations

Europlaz took delivery of two IntElect2 75T machines, one a 110 injection unit with a 22mm assembly and the other a 65 injection unit with a 18mm and additional 14mm assembly, in December 2023. Combined with the IntElect2 100T machine with a 250 injection unit and another two further screw sizes - 40mm and 25mm – which arrived end of January 2024, Europlaz has all of the in-built flexibility to accommodate their expansive and ever-growing medical tooling estate.

Having the option to rapidly switch between five screw sizes (14, 18, 22, 25 and 40mm) ensures that the optimum screw size is selected to suit each application's shot weight. Additionally, the IntElect2's large platen design means that the team can fit tools with up to eight cavities that might previously have required a larger tonnage and more energy intensive machine.

UK regional sales manager and part of the Sumitomo (SHI) Demag One Global Medical team Ashlee Gough clarifies: *"Both of the IntElect2 75T's have 420mm x 420mm distance between tie bars and increased mould height. This allows Europlaz to fit mould heights ranging from the minimum up to a maximum 460mm, whilst the innovative toggle platform maintains the all-important fixed 300mm opening stroke."*

The IntElect2 75/420-110 has a shot capacity of up to 35.9g in PP. The IntElect2 75/420-65 has a micro-moulding shot range of less than 1g through to 14.5g in PP. Putting this into production context, Ian confirms that that 75T machines gives Europlaz the clamp flexibility to take on most medical moulding projects.

Adding the 100T configuration extends the tie bar distance to 470mm, enabling Europlaz to accommodate mould tools ranging from 180mm to 550mm in height. *“Between these three machines we can essentially mould components of any shot weight, using any tool, from the widest variety of medical-grade polymers,”* extols Ian.

Quality In; Quality Out

A special Titanium Nitrate (TiN) coated 25mm screw assembly for the 100T IntElect was also sourced to support the high-quality processing of a cyclic olefin polymer (COP). Ian explains: *“As a material that is commonly used in medical applications, COP can be prone to cracking when using traditional barrel assemblies.”*

The One Global Medical team in Germany recommended a Titanium Nitrate impregnated barrel. Ian describes the teams’ breadth of processing knowledge and technical astuteness as exceptional. *“They really were not fazed at all by this unique request,”* notes Ian. A revised quote for the TiN assembly was issued overnight.

Alongside favouring the energy performance of the IntElect2 series, the Europlaz team values the benefit of familiarity. *“The Sumitomo (SHI) Demag systems and service support always feels like the complete package. From being able to call upon personalised troubleshooting and guidance, tap into global expertise and having access to the Training Academy, the team and technology genuinely feels like an end-to-end extension of ours,”* exclaims Ian.

Machine reliability is the ultimate measure of efficiency. But for Europlaz, and indeed the medical device market, Ian regards quality as the true measure of value. *“Quality leads to greater customer satisfaction, higher operational efficiency and effectiveness, and even increases in productivity, innovation and workforce engagement. This is why we hold these QIQO IntElect2 investments and the Sumitomo (SHI) Demag team in such high esteem.”*