

2 Advanced concepts in polymer rheology

The **Xflow** solution applies the most advanced concepts of polymer fluid dynamics to hot runner engineering. By taking melt rheology aspects into account, it is possible to obtain balancing results quite beyond those of traditional systems. When it came onto the market, **Xflow** halved the imbalance in melt flow compared with SIPA's first generation of hot runners as well as in comparison with competitor's systems.

"**Xflow** is without doubt the best solution in this respect," says Andrea Cavalet - Global Engineering Manager Injection Molds & Hot Runners. "Use of rheological balancing translates into minimum energy demand and a very low pressure drop."

Xflow can be applied to any application to provide the best solution for high-speed injection of critical preforms."

3 Breaking down mold design barriers

Xflow is also incorporated in SIPA's GEN4 hot runner design concept which overcomes traditional limitations on cavity lay-outs. Most PET preform molds have standard configurations, with 72, 96, 128 or 144 cavities. But now, preform producers can use molds with non-standard cavity lay-outs to substantially raise output of their machines without putting extra stress on them.

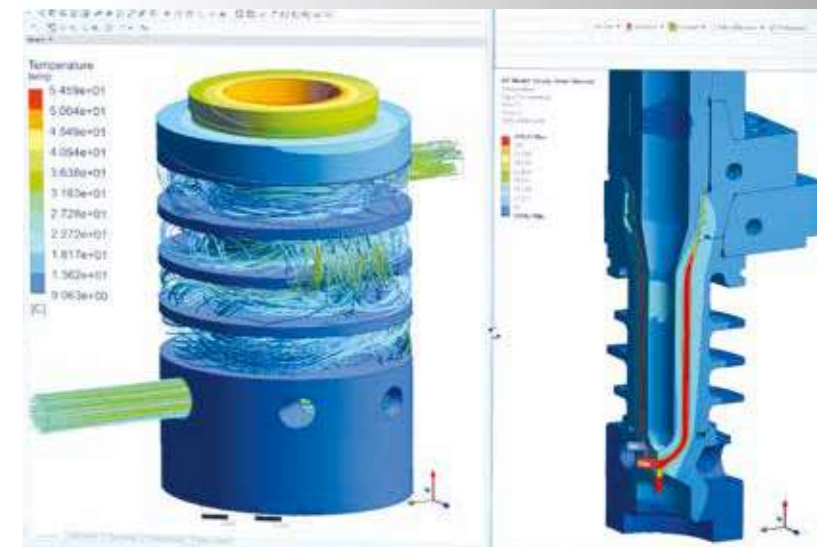
4 World's first 180 - cavity preform mold

The concept allowed SIPA to engineer and manufacture the first 180-cavity preform tooling in the world. "It's not the biggest preform mold in the world, but the filling characteristics are excellent, so the customer isn't gaining quantity at the price of quality," says Cavalet. "There are no penalties to pay in terms of cycle time and weight distribution."

5 Maximizing machine potential

No compromises on mold robustness: thanks to features like the **SmartLock™** stack design (which delivers excellent component life), **XGuidance™** (which guarantees perfect mold alignment) and its superior **LongLife™** treatment, the expected life of this mold exceeds industry standards.

"We are using open and available technology that can be mounted not only on SIPA XFORM GEN4 500, 350 and 250-tonne production systems, but also on other compatible platforms on the market, as long as they do not incorporate special protective software", says Cavalet.



UP TO 192 CAVITIES

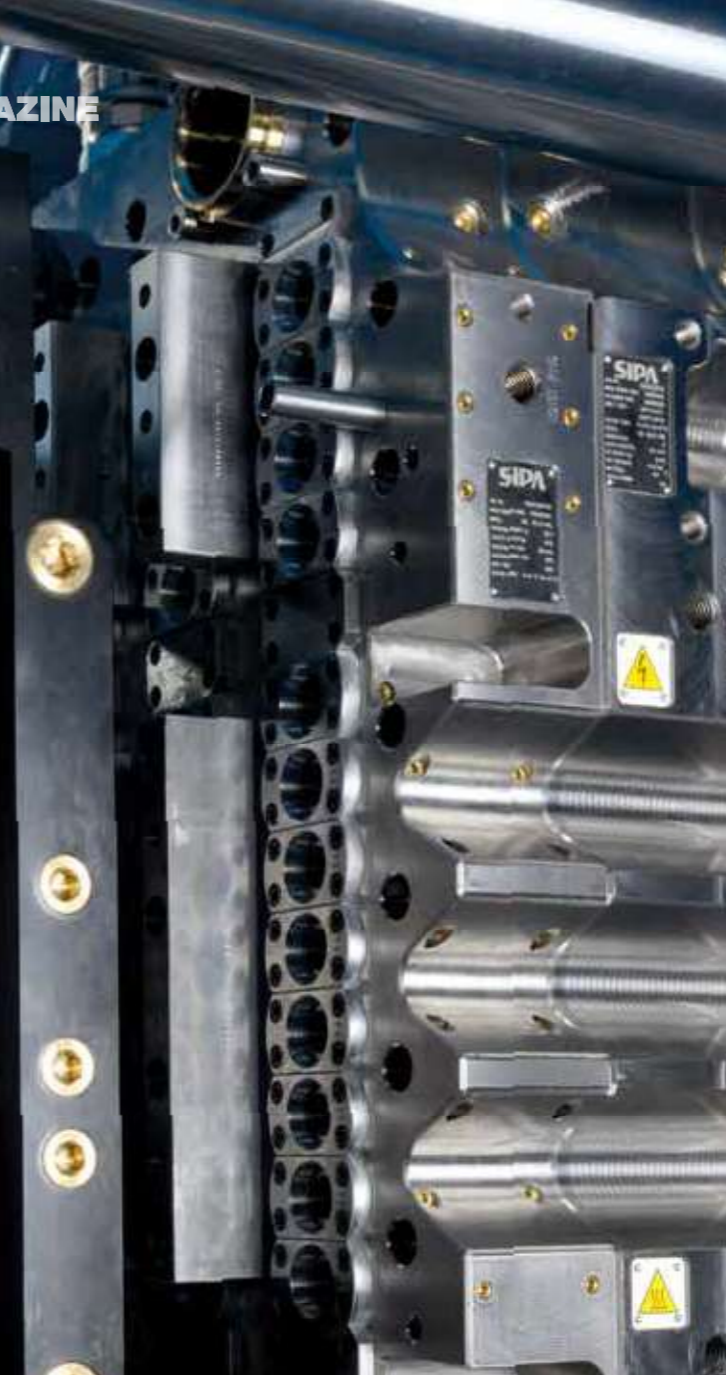
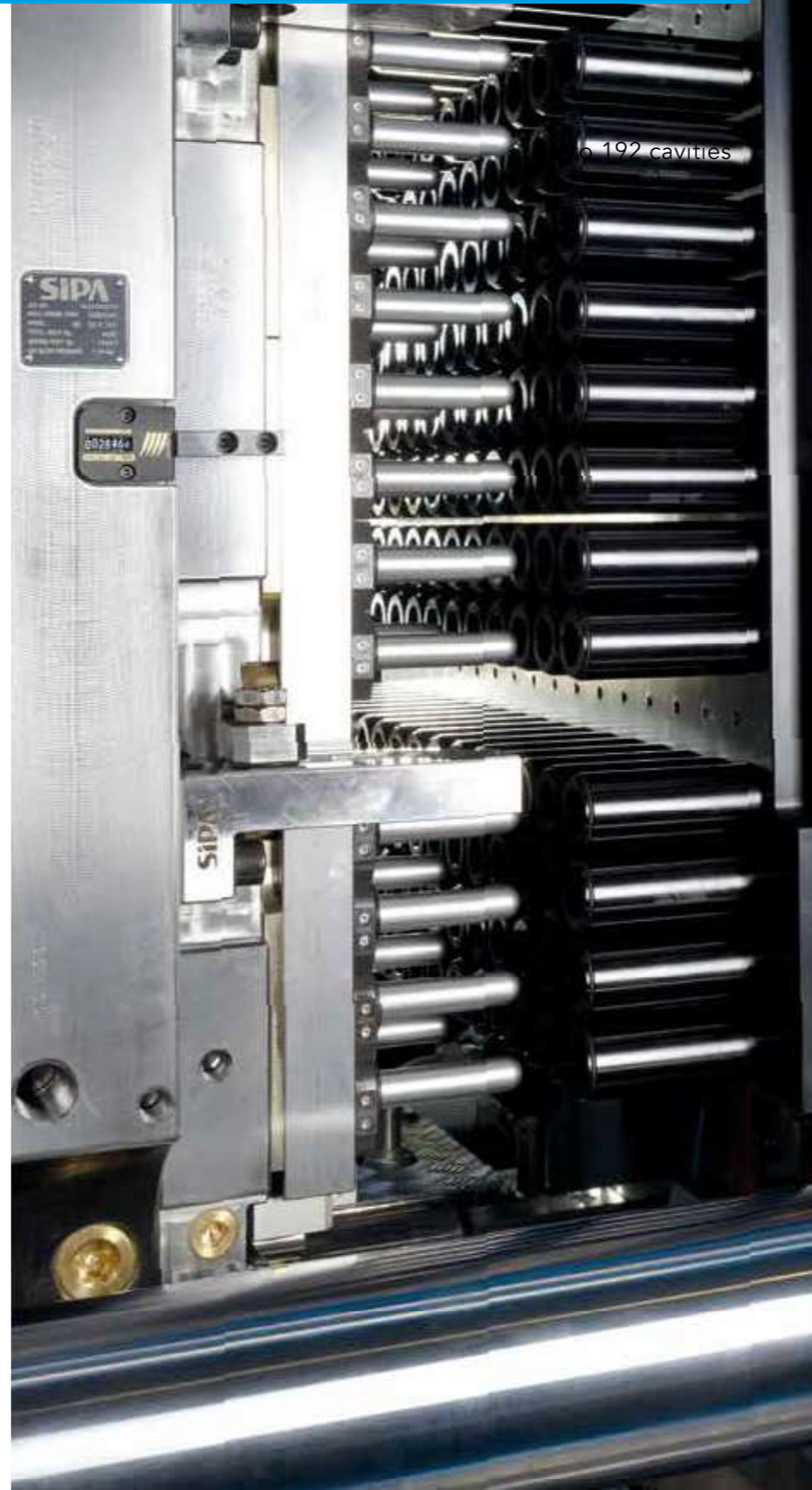
NO MAINTENANCE NEEDED FOR 11 MILLION CYCLES

Latest PET preform mold cold halves made by SIPA running in SIPA XFORM production systems now have maintenance intervals of **11 million cycles**. That's three million more than before. The XFORM stands out for its speed, its precision, its versatility (it accepts any generation of legacy tooling from any major mold maker), its energy efficiency - consumption can be as low as 200 Watts for every kilo of PET consumed - and its reliability.

Until recently, cold halves running on XFORM equipment were guaranteed to run for eight million cycles before maintenance was recommended to ensure that there was never any flash over 0.2 mm. But SIPA has now considerably extended the guarantee period for cold halves - by close to **40%** - when they incorporate the company's **LongLife** surface treatment technology and **Xguide**, and as long as they run on XFORM GEN4 systems.

Customers get more up time, they save more money, and they get extra overall satisfaction. SIPA can produce preform molds holding up to 192 cavities.

This means that between one refurbishment and the next, a production system may be able to produce up to over two billion preforms when the mold is equipped with LongLife.



XFORM

