



Up to 15% air saving in the air interlacing of DTY yarns



ITMA 2023

Heberlein presents new generation of air interlacing jets

Heberlein AG, Wattwil, Switzerland, April 2023 - Heberlein, the leading supplier of air interlacing and air texturing jets, will present a new generation of 'Advanced Performance' DTY jet inserts at ITMA 2023. The innovations come in two types. Firstly, the APe series interlacing jets significantly reduce compressed air consumption, yet maintain the same number of interlacing knots – saving energy and helping the environment. Jets in the APH series, also being launched at ITMA, meet the most stringent requirements for interlacing stability, underlining that 'Advanced Performance' from Heberlein means unique performance with no compromises in yarn quality and process reliability.

Heberlein's innovative technology has transformed what was previously considered impossible into a practical reality, by saving compressed air while also keeping the number interlacing knots constant. The new APe jet inserts can achieve an air consumption reduction of up to 15%.

Lower production costs, instantly

The APe jet inserts are truly 'plug and play' – enabling existing jets to be replaced quickly and easily. They deliver savings right away, without the need for adjustments to process parameters.

For example, replacing a P142 jet insert (P-series) with an APe142 resulted in cost savings of USD 120 per day for a texturiser in Italy. This was on a 288-position machine with a working pressure of 3 bar. The figure is based on the industry-standard cost calculation (1 Nm³ = 0.12 KWh) and energy prices from [globalpetrolprices.com](https://www.globalpetrolprices.com).



Heberlein SlideJet-FT15-2 with Jet insert APe142

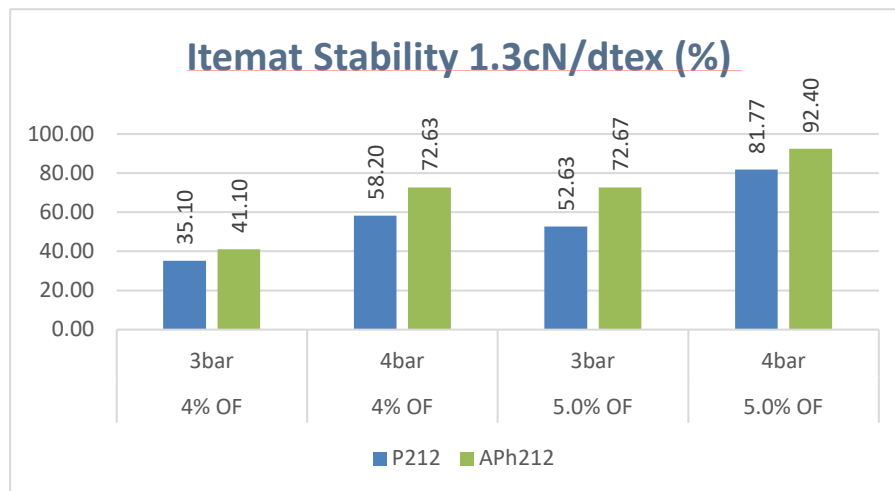


Compressed air savings with APe142 and APe143, in direct comparisons with jet insert P142 and P143 respectively, reach 0.265 and 0.331 Nm³/h at an air pressure of 2 bar, which corresponds to an average compressed air saving of 15%. There is no loss of quality, but the users still enjoy the typical Heberlein advantages of long service life of the jets, which are made of high-quality materials, and unique position uniformity thanks to narrow manufacturing tolerances. In addition, APe jet inserts are compatible with all SlideJet-FT15-2 and SwissJet housings.

Knots you can rely on...

For producers of yarns in the 110-300 dtex range by AirCovering, for example, the big challenge is the stability of the interlacing knots. Yarns blended with spandex are exposed to considerable forces during further processing, and the APh jets ensure optimum performance with these. Detailed yarn analyses in the Heberlein textile laboratory also confirm that the APh series offers a competent solution, especially for a low number of filaments.

Thanks to their innovative design, APh jets meet the highest requirements for interlacing stability in downstream processes such as knitting, warp knitting and weaving. A broad series of tests with the APh212 and APh213 jet types showed that a stability of up to 100% can be achieved at a load of 1cN/dtex. These values allow an increase in machine speed. Productivity can thus be significantly improved – or the use of sizing can be reduced, with a positive effect on costs and the environment.



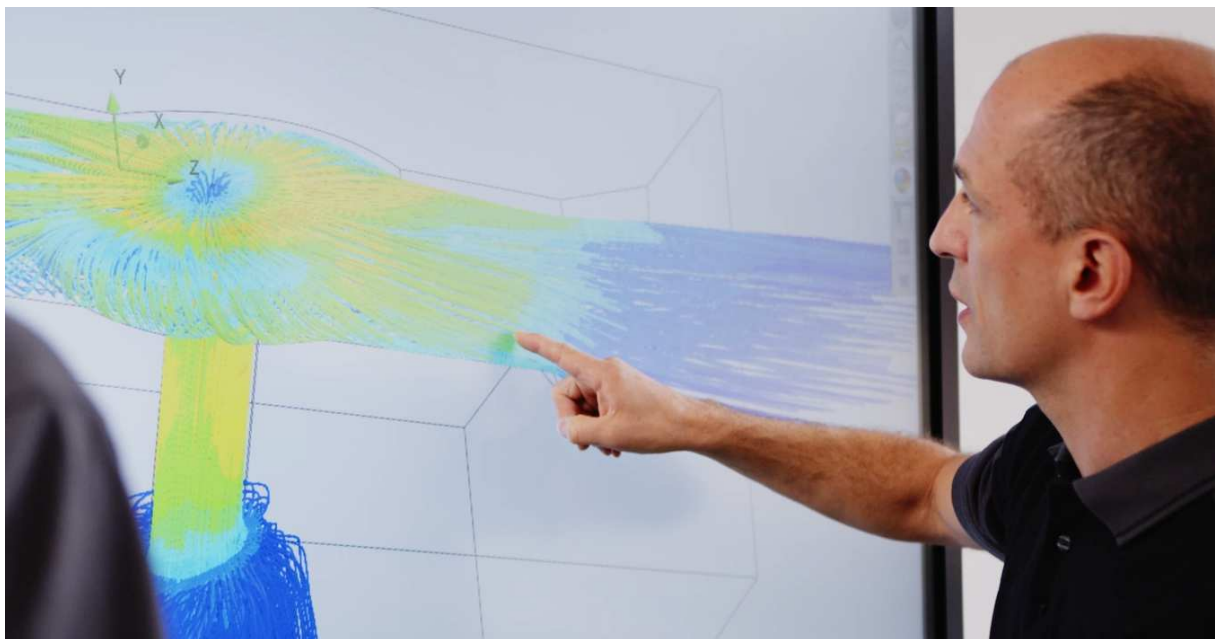
Measurement with Itemat shows the significant increase in knot stability at a load of 1.3cN (test series with PES dtex 167f36, machine speed 800m/min)



Systematic innovation

The development and production of highly specialised key components for process-optimising finishing of synthetic yarns, especially filament yarns, is Heberlein's core competence. Using the latest flow simulations, DTY experts gained valuable knowledge to develop the new Advanced Performance generation. Tests in the company's own textile laboratory, as well as on site with customers, confirm the increased performance of the new generation of jets. They enable texturisers to achieve significant process optimisations or energy savings. The comprehensive advantages of the new AP interlacing jets mean that payback time is correspondingly short.

Experts will be demonstrating all these benefits on the Heberlein stand (E204 in Hall 3) at ITMA 2023 in Milan. Visitors will also be welcome to view test results on compressed air and energy consumption, as well as interlacing stability.



Heberlein Senior Manager R&D DTY, Nicola Chiusolo, explains the results of a flow simulation.