



FDU **HOTRUNNER**

FOR SMART HIGHSPEED INJECTION

SHORTER CYCLE TIME

LESS SHEAR RATE

REDUCED PRESSURE



fdu-hotrunner.com

FDU - THE FUTURE OF INJECTION MOULDING

The „Flat Die Unit“ is a development synergy project. It combines the benefits of the injection moulding and extrusion technology.

The FDU is a establish hot-runner nozzle system for injection moulds. The flow channel in the nozzle has been projected onto a flat nozzle. The plastic flows evenly into the cavity through a defined narrow gap.

With FDU technical plastics and filled materials such as recycling material can also be used.

Finalised projects show that we achieved significant reductions of cycle time and injection pressures.

Benefit from the advantages of the FDU and the resulting higher productivity and use the future of injection moulding already right now!

FDU PRODUCT PORTFOLIO

	FDU MINI open & SLS	FDU MIDI open & SLS	FDU MAXI open & SLS
Nozzle lengths	80-180 mm (stepped in 20 mm)	120-320 mm (stepless)	160-520 mm (stepless)
Melt channel open	6,5 mm	16 mm	20-24 mm
Melt channel SLS	6,5 mm	16 mm	20-24 mm
Cross-sectional area at the outlet open*	6 mm ²	21 mm ²	50 mm ²
Cross-sectional area at outlet SLS*	12 mm ²	42 mm ²	100 mm ²
Shot capacities open*	3-100 cm ³ /sec.	50-1.000 cm ³ /sec.	300-2.000 cm ³ /sec.
Shot capacities SLS*	3-70 cm ³ /sec.	50-750 cm ³ /sec.	300-1.700 cm ³ /sec.

* The shot capacities and cross-sectional areas at the outlet are standard values for medium-viscosity, unreinforced plastics. The nozzle design will be checked project-related by your FDU team.

FDU MINI

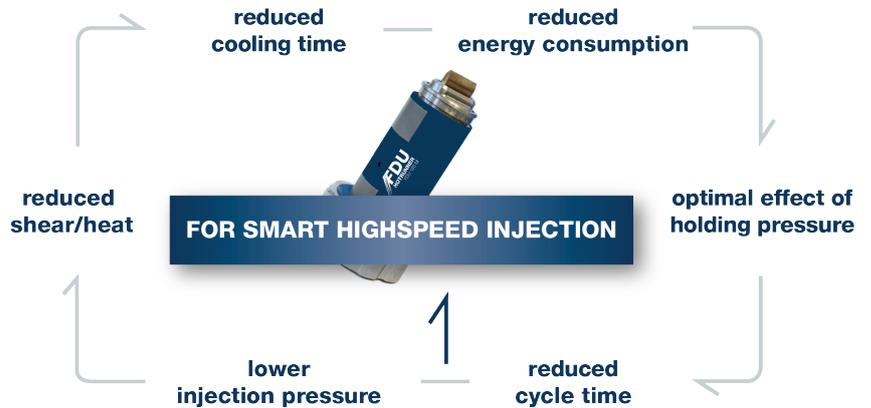
FDU MIDI

FDU MAXI



ADVANTAGES FDU

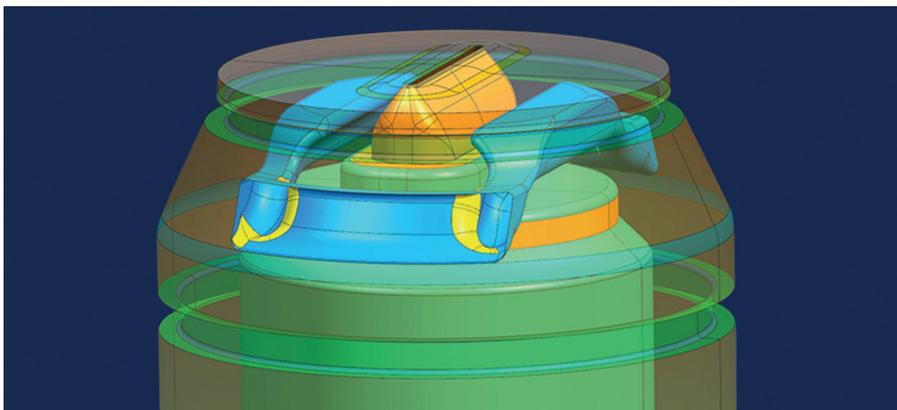
- **Reduction** of injection time
- **Reduction** of holding pressure time
- **Optimum effect** of holding pressure
- **Shorter** cooling times
- **Reduction** of shear
- **Improvement** of part quality
- **Use** of new materials/recycling-material
- **No** jetting
- **New** constructive connectivity options



COMPARISON FDU VS. ROUND NOZZLE

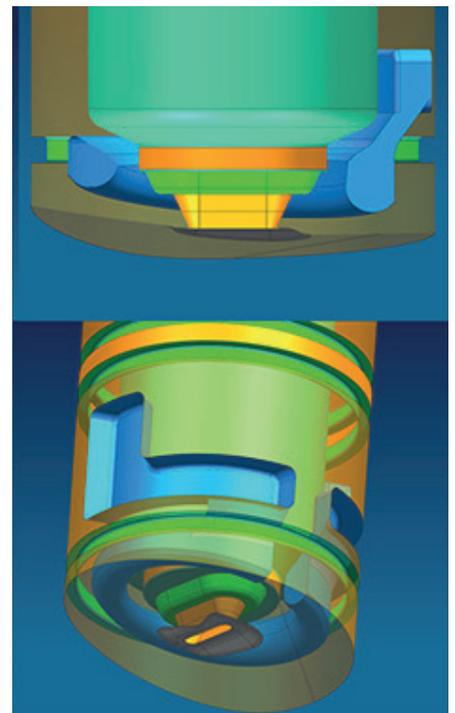
FDU open FDU SLS	Cross-section area FDU	Outlet diameter round nozzle	Cross-section area round nozzle
Mini 6 x 0,8	4,8 mm ²	Ø 0,8	0,5 mm ²
Mini 6 x 1,0	6,0 mm ²	Ø 1,0	0,8 mm ²
Mini 6 x 1,5	9,0 mm²	Ø 1,5	1,8 mm²
Midi 14 x 1,0	14,0 mm ²	Ø 2,0	3,1 mm ²
Midi 14 x 2,8	39,2 mm²	Ø 2,5	4,9 mm²
Maxi 25 x 1,5	75,0 mm ²	Ø 6,0	28,3 mm ²
Maxi 25 x 4,0	100,0 mm²	Ø 8,5	56,7 mm²

FDU COOLING SLEEVE

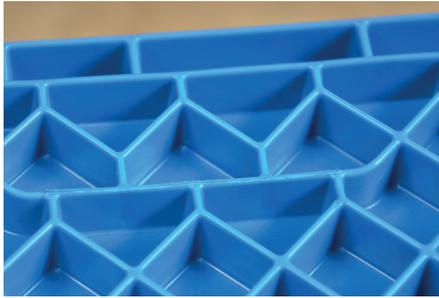


The FDU cooling bushings are available in several versions. Our experts will be happy to help you make the best choice, perfectly matched to your requirements and needs:

- Drilled variant
- Cooling bush manufactured by means of metal 3D printing
- Hybrid laser-engineered bushing
- Lasertec welded cooling bush

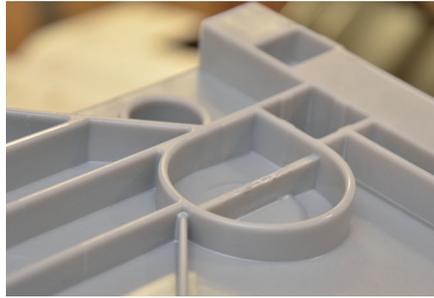


REALISED PROJECTS AND THEIR BENEFITS



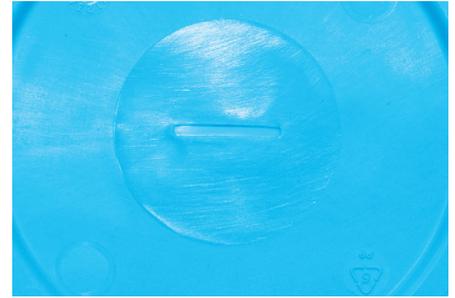
LOGISTICS CONTAINER

- Cycle time reduction 17 %
- 300 bar less pressure drop
- Direct connection on the rib



WHITE GOOD

- Cycle time reduction 14 %
- 22 % less pressure drop
- Energy saving 2,6 ct/pc.



WRINKLE-POT

- Sequential injection with FDU SLS
- Optimal holding pressure effect
- Especially for foamed material



MOUTH NOSE COVER

- Material TPE / TPU
- Cosmetic tear-off quality with SLS
- Reduced injection pressure



FIBRE OPTICS

- Low-friction filling
- Improved holding pressure
- Variable profile of injection speed



AUTOMOTIVE

- Cycle time reduction
- Very good filling behavior
- No restriction of injection speed



PALLET DECK AND SKIDS

- Cycle time reduction 10 %
- Higher shot weights per nozzle possible
- Gentle fiberglass processing



FLOW CHANNEL

- Cosmetic tear-off quality
- Cycle time reduction by 16%
- Gentle processing of the polymers and their additives



SEAT SHELL

- Cycle time reduction by 22%
- Fast color change
- Optimal surfaces and filling behavior



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