

Author: Dr. Michael Thielen, freelance editor

# HASCO's cooling system celebrates its 50th birthday

The standard for efficient cooling in mouldmaking

## 50 Years



### HASCO Cooling System

1/ HASCO - The standard for efficient cooling

For 50 years, standardised components from HASCO have been enabling mouldmakers throughout the world to ensure efficient cooling of injection moulding tools. From nipples and couplings through to nozzles and hoses, HASCO offers the most comprehensive cooling range for modern mouldmaking. The comprehensive range of variant combination options guarantees future-oriented solutions for all challenges in cooling technology.

#### HASCO defines the international standard in mouldmaking

It was back in 1971 that HASCO developed the first plug-in connector with the respective coupling, and subsequently had it patented. Only HASCO's hose nipple profile allows such high tear-off forces and bursting pressures, that avoids hose damage. Continuous, market-oriented further development has made it possible to establish one of the industry's most comprehensive product ranges for mouldmaking.

#### Stainless steel range especially for clean-room conditions

HASCO's new cooling range in stainless steel allows clean and reliable cooling of injection moulding tools, and is ideal for use in clean-room environments and medical technology. The standard temperature components in stainless steel and equipped with optimised

FKM quality seals and can be used at temperatures of up to 150 °C for water and 200 °C for oil. Even with wide temperature differences, the thread connections remain secure.

"Especially with high-temperature applications, the different coefficients of thermal expansion of steel and brass result in small leaks from time to time", explains Stefan Fritsch, head of the Research & Development team at HASCO. "This can be offset by the new stainless steel range."

HASCO also offers stainless steel

HT components specifically for the high-temperature range. This allows maximum long-term service temperatures of 180 °C for water and up to 220 °C for oil. The low compression set of the FKM sealing rings guarantees optimum and safe use even with changing service temperatures. Failures and leaks are reliably avoided. The range covers more than 30 product groups offering optimal flexibility.

#### Clean break cooling range prevents leakage of cooling media

The clean break HASCO cooling range offers users maximum safety and reliability during uncoupling. It ensures outstanding durability.

"Our innovative cooling system has flat end sealing surfaces and shuts off on both sides", explains Stefan Fritsch. "This ensures clean break opening and closing under pressure without media leakage."



2/ Stainless steel cooling range especially for clean-room conditions



*3/ Clean break cooling range prevents leakage of cooling media*

The one-handed quick-release couplings with a particularly long and precise guidance for the sealing nipple guarantee safe and independent coupling with a maximum flow rate and only a low pressure drop. This ensures a reliable production process.

## **High-temperature portfolio guarantees long-term process reliability**

With its high-temperature product portfolio, HASCO is the only supplier to offer a cooling system that guarantees long-term operat-

ing temperatures of up to 220 °C, depending on the medium used. This is achieved through special seals for maximum load, which have permanent high-temperature resistance.

“The seals consist of a special FKM material (fluorinated rubber copolymer)”, says Alexander Ulman, head of the Product Management team at HASCO. “For this reason, they are ideal for applications with hot water or cooling oil.” A low residual deformation also allows optimum and safer use. On top of this, the sealing rings have high chemical resistance and outstanding ageing properties. As a result, production stoppages due to leakage are reduced to a minimum. The components of the HT range are easily recognised by an un-



4/ Push-Lok system enables repairs directly on the mould

mistakable labelling in the form of an orange-coloured circular marking.

## Push-Lok system enables repairs to be carried out directly on the mould

Through the patented HASCO Push-Lok system, the connection of moulds to the media supply has been made even easier and faster. The Push-Lok system also allows repairs to be carried out directly on the workbench, which means that supplementary accessories such as hose clips and crimping sleeves are no longer needed.

With Push-Lok, the assembly times and therefore naturally also

the costs can be reduced significantly. An end-point marking, guarantees safe assembly of the hose on the coupling.

The Push-Lok system with hoses and shut-off couplings with and without lock-off valve, either straight or with angles of 45° or 90°, is perfectly coordinated to the proven standard cooling range. The special geometry on the coupling and specially developed hoses guarantees a reliable connection. This means that a change of systems is possible at any time without a problem.

## CoolCross allows cross-overs on one plane

The HASCO CoolCross system

makes it possible to have cooling channels cross each other on the same plane flexibly and inexpensively and without any major production cost.

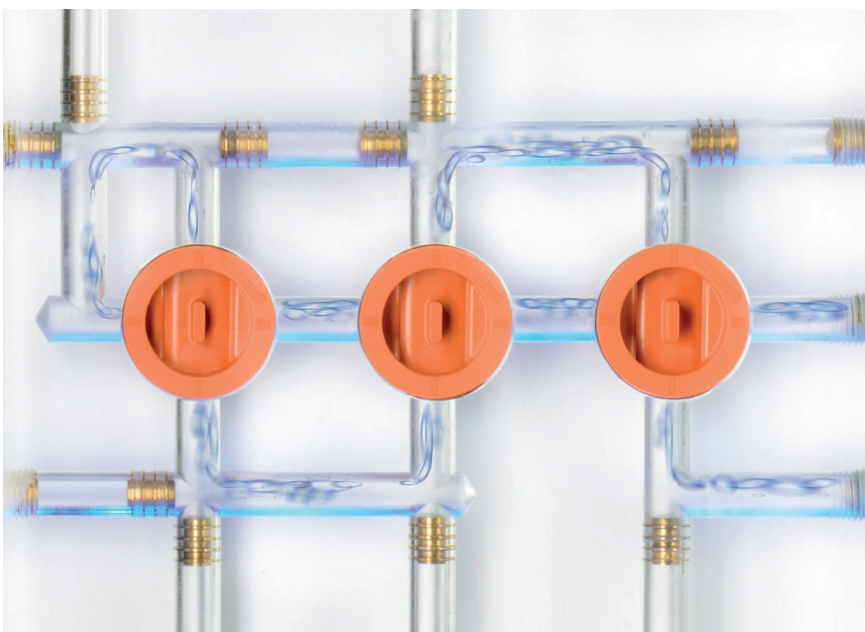
CoolCross permits a homogeneous temperature distribution at the core or insert, as well as constant cavity cooling on all four sides for the full duration of the injection moulding cycle. In particular, it also prevents hot spots. In addition, 100 % protection against rotation (achieved through a locking mechanism) prevents the unintended closure of the cooling channels.

“Because different independent cooling circuits can cross each other on the same plane, it is possible to incorporate small plate thicknesses and inexpensive accessory components in the mould design,” says Alexander Ulman. By reducing the plate thickness, use can be made of shorter nozzles, guidance and attachment elements. Not only the costs of the components are brought down, but also the processing costs.

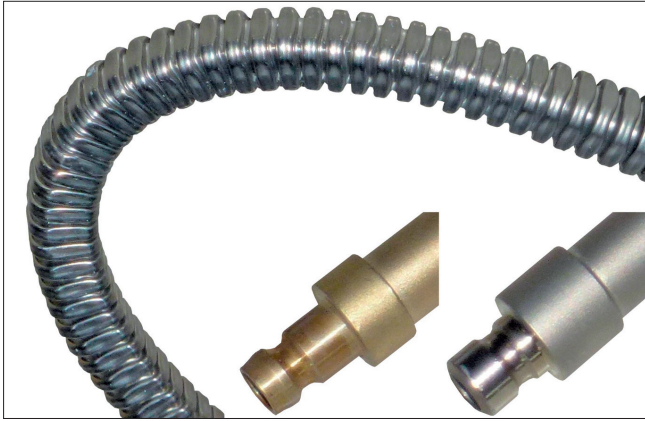
## TempFlex hose reduces costs

The TempFlex metal-braided hose supplied exclusively by HASCO offer optimum conditions for the cooling of mould plates or spacer plates with simultaneous conformal cooling. Complex deep-hole bores and high pressure losses due to 90° deflections are a thing of the past.

The flexible metal-braided hose allows fast and simple assembly, interchangeability, and is adaptable to any groove pattern.



5/ CoolCross permits a homogeneous temperature distribution



6/ TempFlex offers optimal temperature control with simultaneous conformal cooling

Existing moulds with inadequate cooling performance can be optimised without any problem. Through the deflection of the cooling via arcs and not 90° corners, pressure losses are significantly reduced while the flow rates remain the same. High temperature resistance is also guaranteed. The square hose cross-section offers optimum heat transfer to all mould plates. Corrosion in the cooling channels can be eliminated. Because there is no deep-hole boring and plugging, a considerable cost reduction can be achieved when using the TempFlex for manufacturing the mould plates.

#### **Highest quality standards enable global compatibility**

As a DIN ISO 9001 certified company, HASCO attaches major importance to maximum raw material quality and constant quality controls. Very tight production tolerances allow worldwide compatibility, and an unambiguous product labelling system guarantees 100 % traceability. Hand in hand with high-grade products comes the top-class service. This starts at HASCO with the simple and user-friendly HASCO portal [www.hasco.com](http://www.hasco.com) with direct access to the HASCO cooling system catalogue and product availability information, and to the 24/7 ordering service.

(Pictures:  
HASCO Hasenclever GmbH + Co KG, Lüdenscheid, Germany)