

## **VARIO** cold runner and **FlowControl<sup>+</sup>** cold runner

### - Top topics in production optimization

**Supported by the current market situation, the solutions for production optimization developed and provided by DESMA are highly rated. While in previous years many planners were keen on increases in capacity and volume orientation, the focus is now on ways to cut production costs and to optimize processes, as it is reflected by the strong interest in the cold runner technology.**

The emphases of the decades of development work in the DESMA mould shop are cure time reduction with a controlled shear heat input and the lowering of material costs which in the interim have become part of the especially perceptible cost drivers in many manufacturing plants. Thus it could already be proved at an early stage by using different cold runner systems that even in case of relatively low-priced compounds (EUR 3.80 / kg) many hundreds of thousands of euros can be saved over a product life cycle



**Image:** Clear illustration of the cost savings when using cold runner technology

### **Material savings through the new VARIO cold runner system**

A great surprise to the complete industry was the **VARIO** cold runner system whose application for patent was filed by DESMA early 2009. The first cold runner which allows to easily adjust the nozzle positions and thus to be adapted to various moulds. On the model

presented the nozzle distances could be continuously adjusted from 240 mm up to 460 mm and this without changing balancing!



Image: **VARIO** cold runner system - the easy way of adjusting the nozzles was fascinating



Image: Bild: 4-nozzle **VARIO** cold runner incl. heating platen

The **VARIO** cold runner system can be delivered with a varying number of nozzles and with a customized designed adjusting range. Here the main advantage is that this cold runner can be used for complete groups of moulds and thus its usage is quickly refinanced because of the material savings even in case of small quantities per mould. Especially as far as the seal production and in particular the article arrangement is concerned, one is no longer tied to fixed nozzle positions that often entailed compromises concerning the maximally possible number of cavities. The adjustment of the nozzle position is made from outside by means of a socket wrench. Each nozzle can be adjusted individually which is additionally advantageous for the production of large seals with several injection gates.

The different nozzle positions in the adjusting range are either totally flexibly adjustable or, if requested, indexed. As an alternative, all possible positions can be pictured through a

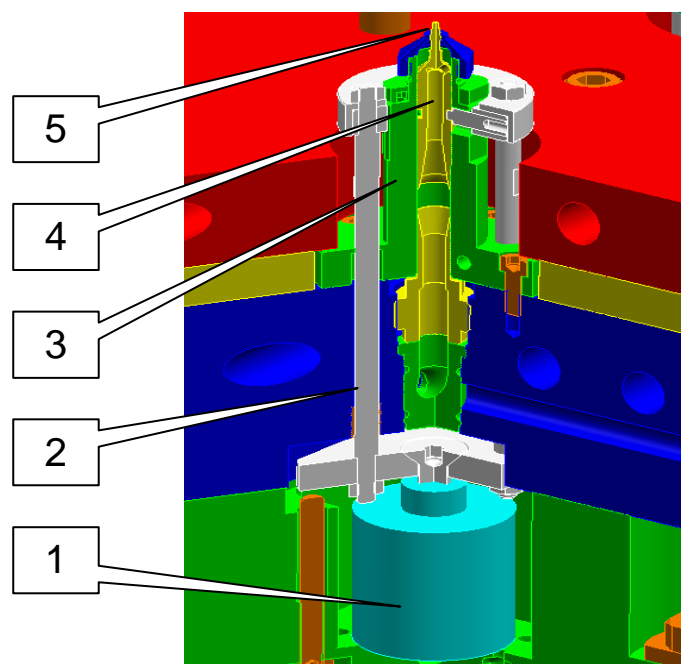
template enabling an easy and fast changing of the nozzle position. After adjusting the nozzle, it needs only to be secured from outside against being twisted. This is realized by means of a locking screw. The exact function of the cold runner system is visualized in detail on the virtual show platform, [www.desma.biz](http://www.desma.biz).

### **Cure time reduction with controlled shear heat input through the *FlowControl*<sup>+</sup> cold runner system**

Another highlight was the *FlowControl*<sup>+</sup> cold runner system that enables a controlled shear heat input into the compound. Hence, this is the first cold runner which permits considerable cure time reductions. Here, cure time savings of 25 % have already been achieved in the seal sector.

The principle of this cold runner system is based on the tried and tested and DESMA patented *FlowControl* cold runner which has already been successfully established in the market for many years. This *FlowControl* cold runner allows for the injection volumes per nozzle to be adjusted separately right at the machine control and for an article direct injection without runner loss. The *FlowControl*<sup>+</sup> variation presented now enables a variable adjustment of the opening stroke per nozzle, what results in a shear heat input at the nozzle tip. This is therefore the first cold runner system in the market with which a cure time reduction is feasible.

By means of a hydraulic cylinder (1) and push rods (2) a slide nozzle (4) – guided in the temperature-controlled nozzle holder (3) – is moved at the end of which a cone (5) seals up directly in the mould.



The patented DESMA *FlowControl* cold runner system



Image: Functional picture *FlowControl* nozzle



Image: *FlowControl*<sup>f</sup> cold runner with 4 nozzles for active shear heat input>

The functional models of the *FlowControl* and the standard cold runner systems also clearly demonstrated the mode of operation and the cost-saving potentials for new and existing productions.



**Image:** Sectional models/ functional models of the different cold runner systems at the IRC 2009

Further topics were of course the current machine developments. The new D 969.400 Sealmaster for example with large opening strokes, fast travel movements and injection pressures up to 3,500 bar.

This horizontal machine especially developed for the seal industry excels in a very deflection-resistant clamping unit. The large opening stroke furthermore provides best conditions for an efficient 2-deck article production with a centrally located cold runner system.



**Image:** DESMA 969.400 Sealmaster

By request, DESMA provides comprehensive information material which offers detailed documentations about the potentials in the usage of the **FlowControl<sup>+</sup>** nozzle technology to

reduce cure time, cost-cutting potentials through conversion of production processes, break-even point definition when applying a 2-deck article production and about the complete training program for staff qualification.

In DESMA's capacity as a certified training supplier with courses all about rubber processing, it is possible to refund up to 80 % of the qualification costs through the European Social Fund. Thus, perfect opportunities are given to train staff suitably in times like these to make them fit for the future.

Detailed information on all presentations of DESMA can be ordered on DVD under [www.desma.biz](http://www.desma.biz). For further novelties please see our virtual show booth under <http://www.desma.biz/initiative/virtual.htm>