

Hot Runner Systems



ORYCON

OUR PHILOSOPHY

Since the beginning in the United States in 1981, Orycon's philosophy has been to design, construct and offer the most innovative, reliable and highest quality Hot Runner Systems in the industry.

In addition to the performance of our products, we have always strived to offer the most direct and effective customer support, based on our vast experience and history of innovation in the field.

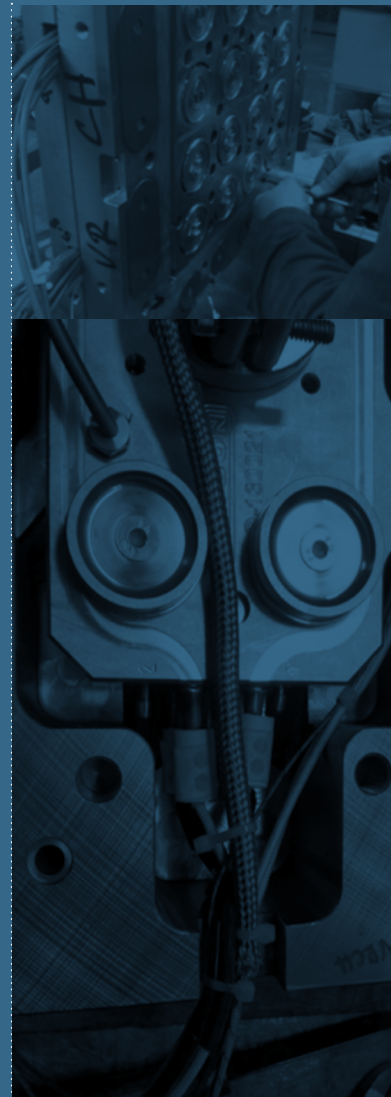
Orycon EU, based in the Czech Republic, continues that Tradition, adding specialized expertise in Engineering Resins with highly abrasive filler content and micro injection molding of sensitive materials.

We invite you to experience for yourself our service, our Hot Runner products and our way of doing business.

We know you will be pleased.

www.orycon.com

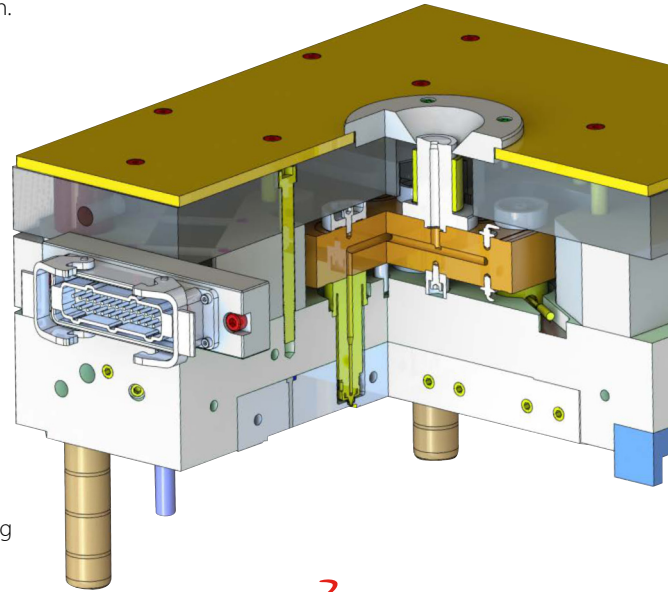
www.oryconeurope.cz



DESIGN ASSISTANCE

We recognize that the basis for every application is the design and preparation. ORYCON provides assistance with the design of standard applications as well as extraordinary applications, based on the project requirements. We work with mold designer by analyzing the feasibility of the project starting with the plastic resin to be used and assisting with the selection of the type of system best suited for the job, and then integrating the manifold to the 3D model of the mold. We supply all pertinent data, including the calculations for expansion of each relevant part and the required clearances. ORYCON uses the latest version of Solid Works for the design, but we can work with all major CAD platforms.

In order to ensure perfect performance of the system, ORYCON offers assistance with the installation of the manifold and subsequent inspection. We also offer customers mold testing in our plant, using our injection molding presses and our controllers.

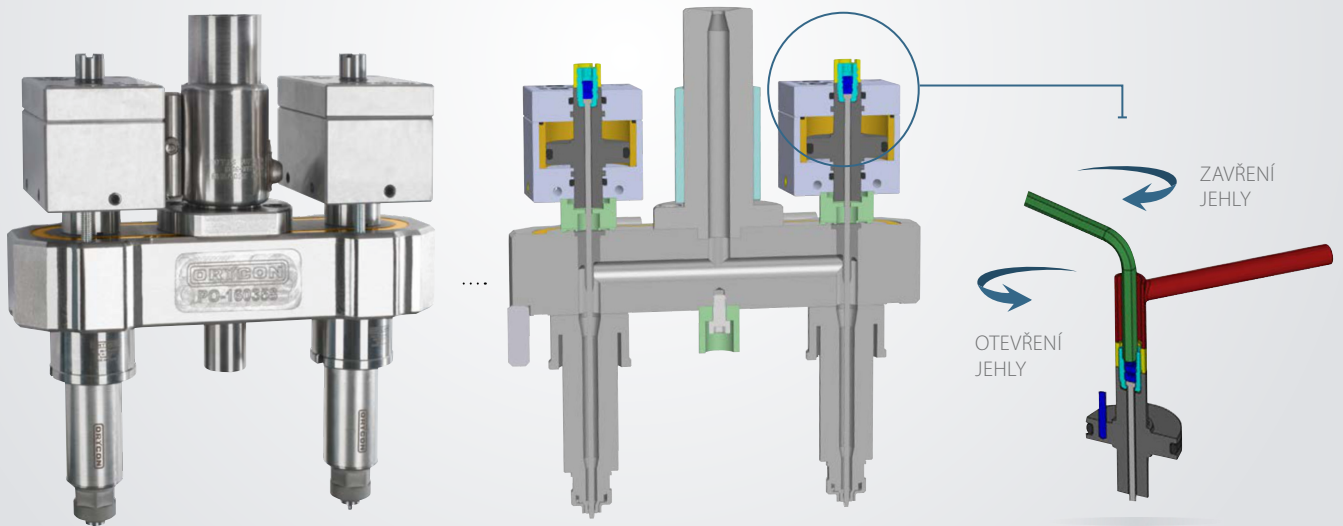


 **SOLIDWORKS**

 **SolidCAM**
The Leaders in Integrated CAM

VALVE GATE SYSTEMS

Hydraulically controlled Valve gating is supplied only as an assembly for clamp plates. Pneumatically controlled valve gating is supplied as a block mounted on the manifold. The blocks have their own cooling and are equipped with one to four cylinders controlled separately or together. Compressed air and the cooling fluid are supplied to the blocks using channels in the clamp plate. Pins can be easily adjusted without having to dismantle the mold.



NOZZLES FOR USE INDIVIDUALLY AND IN MULTI-CAVITY SYSTEMS

Orycon offers a wide range of nozzles, the use of which can be divided into several groups according to the use, part size and suitability of the physical and chemical properties of the plastic resin.

1. Flow-Through Nozzles:

Suitable for injection into a cold sub-runner or for injection directly into the part with subsequent trimming of the sprue. This group is divided into four classes according to the melt channel diameter. Sizes 5, 6, 10, 14 mm and three sub-classes with diameters of 7, 12 and 16 mm.

Custom Nozzles for special use are also available

OPEN INJECTION NOZZLES

Class - Diameter	5	6	10	14
Intermediate - Diameter	7	12	16	



2. Gating Nozzles:

These Nozzles are designed to deliver resin directly to the cavity of the mold with minimum gate vestige.

Tips are offered in beryllium copper and in carbide to handle different resins and different fillers. Orycon Gating Nozzles are also divided in 4 classes according to the body size and 4 sub-classes according to the bore diameter.

INJECTION NOZZLES WITH TIP

Class - Diameter	5	6	10	14
Intermediate - Diameter	7	12	16	



ORYCON nozzles are manufactured of either Hot Work Tool Steel or Type 420 Stainless Steel. All our nozzles are designed in such a way that each component part, including heater and thermocouple is easily replaceable. We keep a large inventory of spare parts available and ready to ship on short notice.



The heating elements for nozzles and the thermoelements are kept in store in all dimensions for the nozzles offered by Orycon; these elements, however, can be naturally used also for other applications or as spare parts for competing systems; the thermosensors are also offered in a wide range of lengths and diameters. The type of the thermosensors used for Orycon systems is "J".

MANIFOLD SYSTEMS

ORYCON manifolds are made of Stainless or Tool Steel according to the resin to be processed. The shape is selected according to the requirements and gate locations, which can vary from a simple offset for one nozzle to multiple cavity systems. The diameters and polishing of the melt channels vary according to the requirements of the molded products. The distribution systems are naturally balanced, including "In Line" systems with more than two nozzles. The basic balancing configurations of the Manifolds are: "I", "X", "H", "Y-Y", "H-H". These basic shapes can be combined to achieve larger cavitation numbers. ORYCON also manufactures Multi-Shot and Multi-Material manifolds and systems for Stack Molds.



ORYCON's manifolds are built with tubular heating elements embedded in the manifolds heater grooves and covered with swaged –in brass alloy heater covers. This gives the heaters 100% contact with the manifold and therefore optimum heat conductivity, perfect uniformity and long life. Redundant heater elements are another important feature of the Orycon manifold design.

The heaters are selected to be able to heat up the manifold individually; in the event of a heater failure the manifold is able to continue operation on a single heater. This is another example of Orycon's customer satisfaction philosophy.

In high heat applications ORYCON uses spacers which incorporate extremely effective ceramic insulators. These are used to drastically reduce the heat escaping to the clamp plate and therefore reducing the energy requirements for the Hot Runner.

These insulators can also be used in applications with commodity resins for the purpose of reducing energy consumption.



The precision workmanship, long experience, the design for easy and quick replacement of individual components and use of high-quality materials are the ingredients for the long life and trouble free operation of the ORYCON systems.

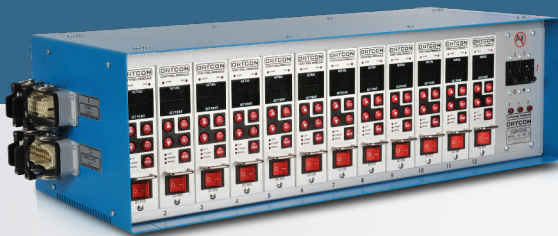
CONTROLLERS

DC 900

The DC-900 series modular controllers are designed for economy and long operating life. They are plug compatible with modules of other popular brands. The mainframes as well as the modules' chassis are built of aluminum, giving the units easy to handle yet sturdy qualities.

The DC-900 controllers are loaded with convenient and helpful features, like "soft start" for drying any moisture present in the heaters, high current limiting for protecting weak heaters before burn-out, and can be operated in manual mode by setting a percentage of power that mimics the output of power to the zone while in normal automatic operation.

Optional K or J type sensors, Celsius or Fahrenheit calibration, ampere display and easy operation make the Orycon DC-900 a useful and versatile tool for any injection molding operation.



ACCURACY

A predictive algorithm keeps the temperature within tolerance 1°C. An accurate temperature reading is ensured by the point frost to prevent misconnection. Thermocouple calibration is available in degrees Celsius and Fahrenheit.



RELIABILITY

The DC900 uses a robust physical design as well as reliable fuzzy logic software. This is a device that you can always rely on when processing plastics.



TOUGHNESS

The robust aluminum construction of the regulator ensures safe storage and protection of all regulator elements and guarantees high reliability even in demanding production conditions.



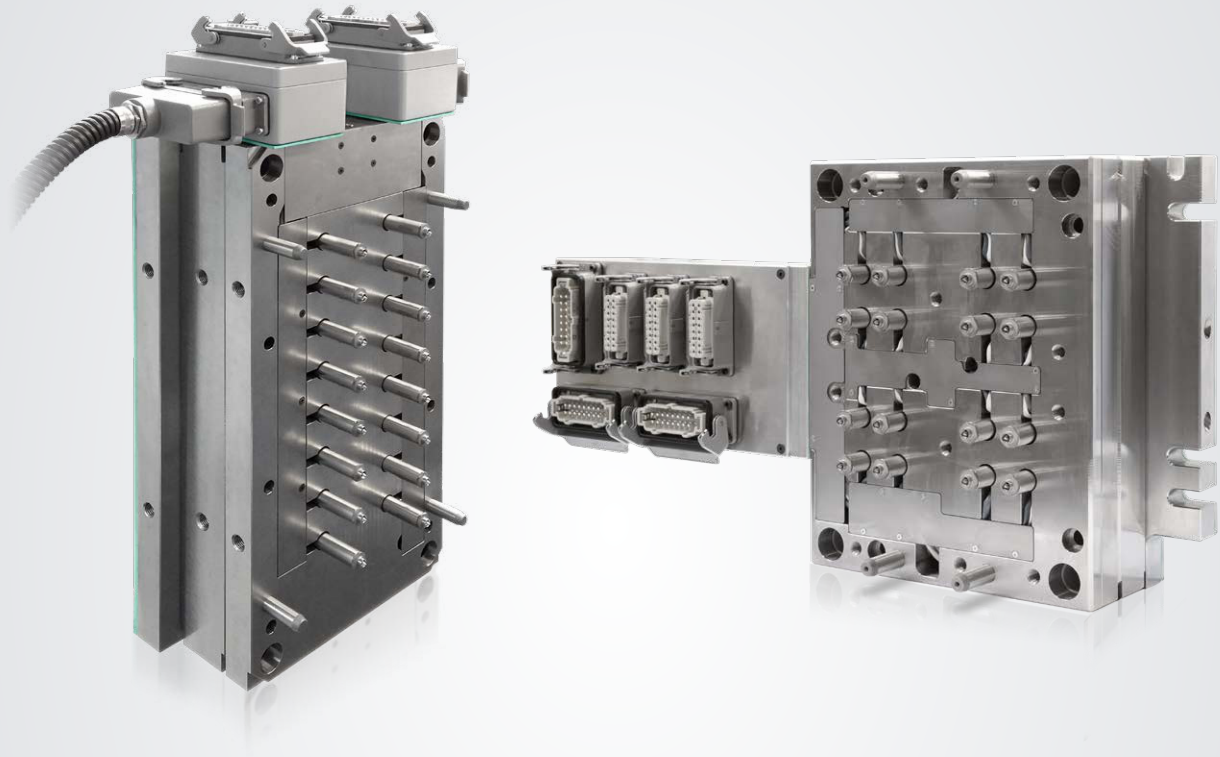
We offer production of connecting cables (**mould – controller**) to our controllers, but also by individual request of our customer in various standards. Technical support, service and spare parts in stock are a matter of course. For short-term projects or testing, where the purchase of a new controller is not economical, there is the option of temporarily renting controllers.

STAND FOR 12-ZONE CONTROLLERS



HOT HALVES

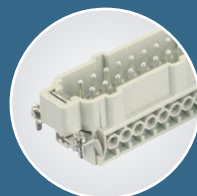
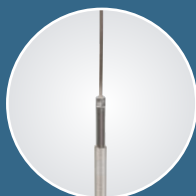
For easy installation, maintenance and guaranteed performance, ORYCON offers Complete Hot Halves pre-wired and ready to bolt-on to the cavity plates of the mold. The obvious advantage is the easy maintenance of the manifold without the need to dismantle the entire system. Hot Halves allow the replacement of individual parts of the nozzles without dismantling the entire system. An additional advantage is that by using Hot Halves the mold maker can concentrate on building the mold, save valuable time and shorten deliveries. Orycon offers Hot Halves in the single-plate version, which we originated in the late '90s, where the manifold system is mounted to the clamp plate and completely wired, or in the fully enclosed version.



The nozzle wires are run in the channels and protected with the cover plate; this solution keeps the wires from touching the manifold and makes easy to disassemble and service.

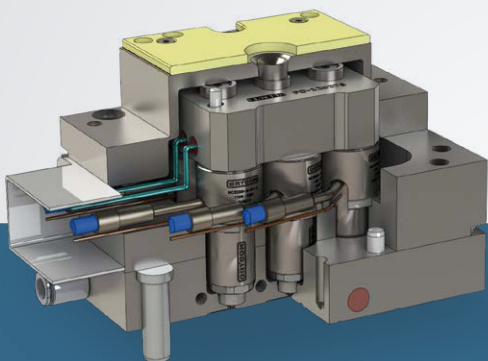
ACCESSORIES

We keep a large inventory of spare parts and accessories for our customer's convenience. From band heaters to thermocouples, connectors and replacement boards for our controllers, we make sure that any required components can ship within hours of us receiving a request.



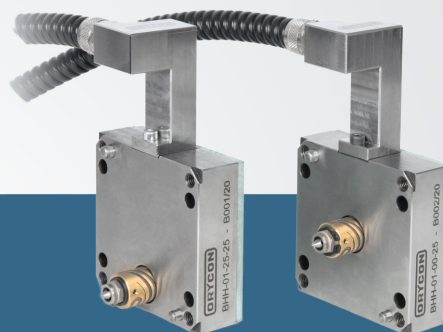
HOT RUNNER SYSTEMS FOR BABYPLAST

In close cooperation with CECHO - BOHUMIL CEMPÍREK s.r.o. we have developed Miniature Hot Runner systems and nozzles for very small molds for Babyplast injection molding presses, making it possible to optimize the temperatures for every cavity. These systems utilize the NCE 22 series nozzles and can be fitted with carbide tips. Thanks to these tips it is possible to use the ORYCON hot runner systems for engineering resins with abrasive filler and have a long life expectancy.



SIX DROP SYSTEM WITH INDIVIDUAL NOZZLE CONTROL

Very small parts made of heat sensitive resin can be molded by direct injection in multi-cavity molds. The individual tip control allows precise adjustment for optimum gate vestige without affecting the material. Carbide tips offer high resistance to abrasion by glass filled resins and also long life.



SINGLE HOT HALVES WITH THE OPTION OF ONE OR TWO ZONE CONTROL, ON-AXIS AND OFF AXIS

Advantages of these hot halves are compactness, possibility of use on various molds and very fast availability of spare parts.



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