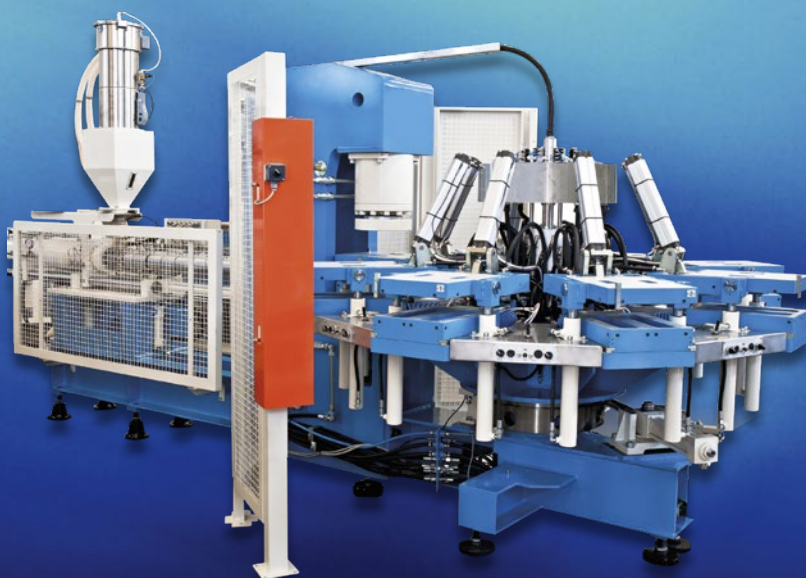




Czech manufacturer
of machines
for wax investment
casting



MODEL RANGE:
INWAX
INWAX Rotary
PVJ






www.invera.cz

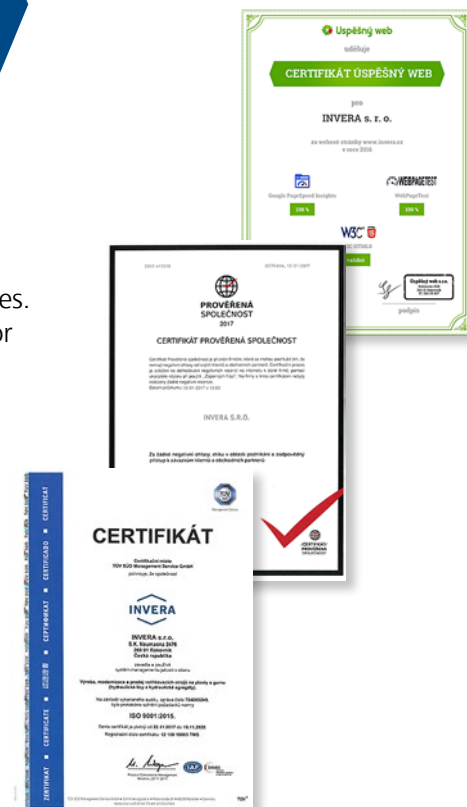
About the company:

INVERA s.r.o., Rakovník, among other activities, is involved in the production of injection molding presses for the injection of wax parts for precision casting foundries. The company builds on the knowledge and experience of people who have dealt for most of their professional careers with the design, manufacture, trade or service of injection molding machines for plastics. This is a continuation of more than 80-year tradition of injection molding machines manufacturing in Rakovník.

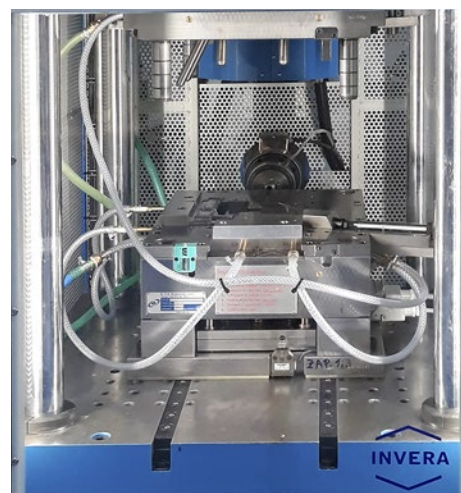
The basic motto of INVERA s.r.o. is "To offer the customer a quality product of a high technical level with full-service support. All this at an acceptable price and payment conditions compared to foreign competitors."

Therefore, the priority for long-term business plans is the quality and support of the customer. Also, for this reason, the company decided to obtain certification ISO 9001-2015 in 2002.

-  ISO certificate
-  Certified company certificate
-  Successful website certificate



Wax injection molding machine accessories:



VERTICAL INJECTION MOLDING MACHINES

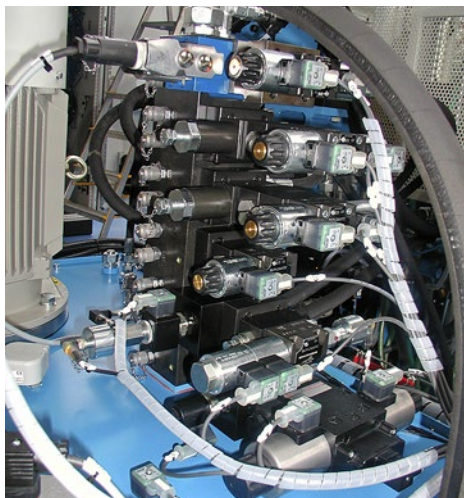
Model: INWAX and PVJ



The semi-automatic wax injection molding machines INWAX and PVJ are intended to produce wax models by injecting molten wax into the mold parting plane. The injection molding machines come with vertical construction design and with horizontal injection into the mold. A central hydraulic ejector is used to eject the final product. Injection molding machines INWAX are produced in sizes of 50t and 120t of clamping force as standard, other sizes available according to customer requirements. Injection molding machines PVJ are produced in sizes of 13 and 15t of clamping force as standard.



The injection unit is positioned horizontally and is horizontally adjustable by means of an injection console with the longitudinal grooves. The clamping mechanism of the machine is vertical with four-column design. The guiding of the moving plate is provided by bronze bushes pressed into the movable plate. The wax reservoir with the filling cylinder is located behind the injection unit and consists of two electrically heated containers of 21 dm³ each. The system allows the usage of two types of wax at the same time by simply moving the filling piston over the selected wax container, instantly reducing downtime of wax change and increasing productivity.



Features of INWAX and PVJ models are:

- Injection volume of up to 21 liters
- Injection pressure 10 MPa for INWAX presses
- Precise control of injection speed and pressure
- Injection pressure of 1.6 MPa for presses PVJ
- 10" TFT color touch control panel
- Horizontally adjustable injection nozzle
- Precise PID wax temperature control in the container
- Possibility to use two types of wax
- Electric motor equipped with frequency converter
- Automatic central lubrication system
- Proportional pressure control
- Central ejection
- Certified safety system SITEMA
- On-line error monitoring
- CE declaration of conformity

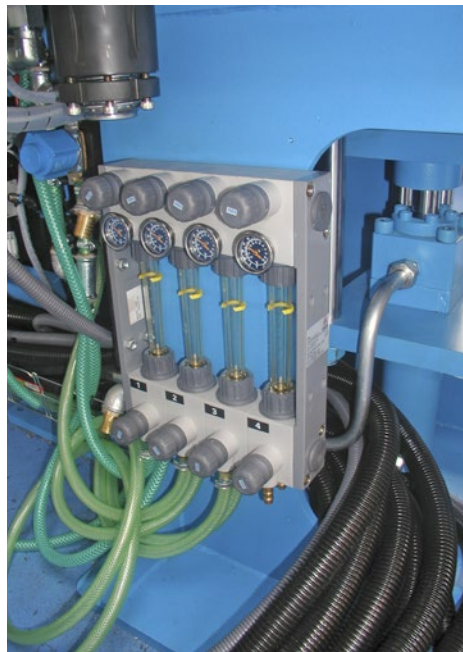
Accessories and options of model INWAX and PVJ:

- Size of clamping plates according to customer requirements
- Possibility to connect external wax fillers
- Use of servo drives in hydraulic press circuit
- Automation/robotization of the workstation, with 6-axis robots
- Ball type mold lifters for quick mold change
- Core pullers
- Insulation plates
- External industrial cooling and heating control units
- Conveyor systems
- Software customized on customer request
- Various systems of movable platens to increase productivity

The INWAX and PVJ series are fitted as standard with modern SIEMENS or Bernecker & Rainer industrial control systems with a 10" TFT color touch control panel.

The hydraulic circuit of the INWAX and PVJ machines is equipped with a frequency converter of the main electric motor or eventually with a servo drive, representing an energy saving solution with electric energy saving of 15–45%, depending on the production cycle.





CAROUSEL WAX INJECTION MOLDING PRESSES

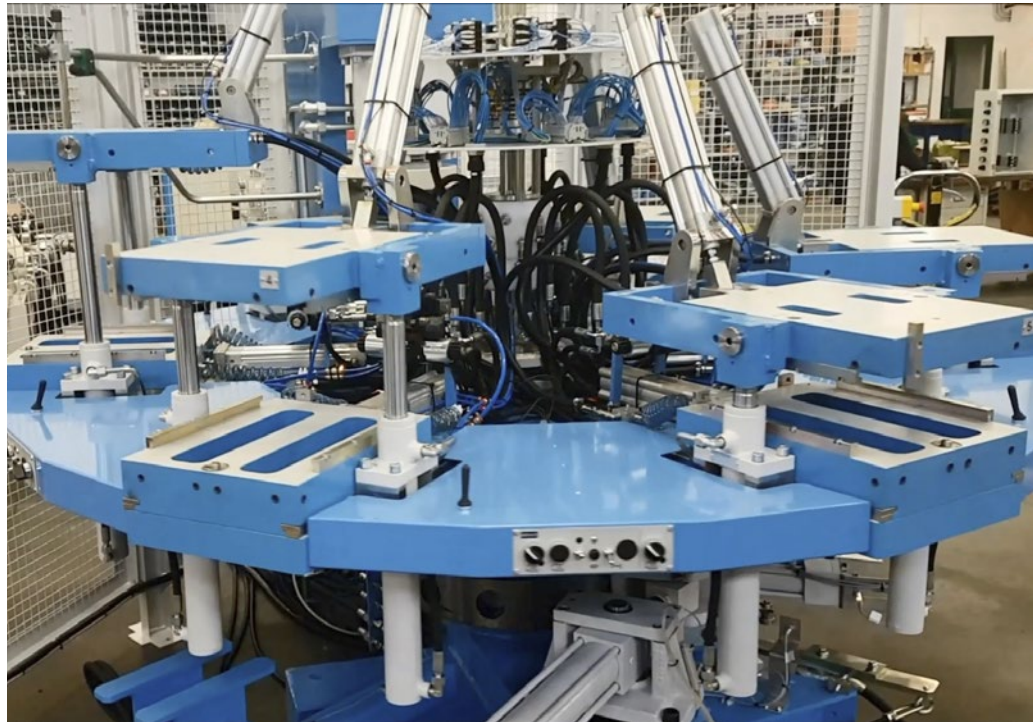
Model: INWAX Rotary

Semi-automatic wax injection machines of INWAX Rotary series are used for making wax models by the injecting of molten wax into the mold parting plane. Injection molding machines comes with the rotary carousel design and with horizontal injection unit. A hydraulic ejector is used to eject the final product.

Injection molding machines INWAX Rotary are manufactured in sizes of 6, 8, 10 or 12 molds, and possibility to fit 2 or more injection units.

The injection mechanism is positioned horizontally and is horizontally adjustable by means of the injection console and the longitudinal grooves.

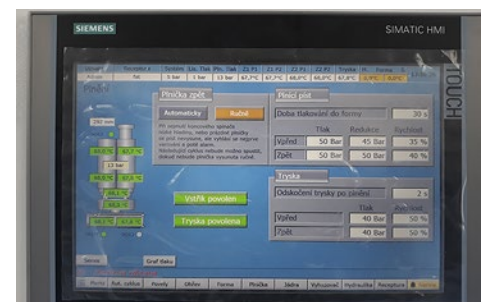
The clamping mechanism of the machine is two-column, vertical design. The wax container with the filling cylinder is placed above the injection unit and consists of two electrically heated containers of 21 dm³ each. The system allows the usage of two types of wax at the same time by simply moving the filling piston over the selected wax container, instantly reducing downtime of



wax change and increasing productivity.

The INWAX Rotary machines are fitted as standard with a modern SIEMENS or Bernecker & Rainer industrial control systems with a 10" TFT color touch control panel.

The hydraulic circuit of the INWAX Rotary presses is equipped with a frequency converter of the main electric motor, representing an energy saving solution with electric energy saving of 15 - 45%, depending on the production cycle.

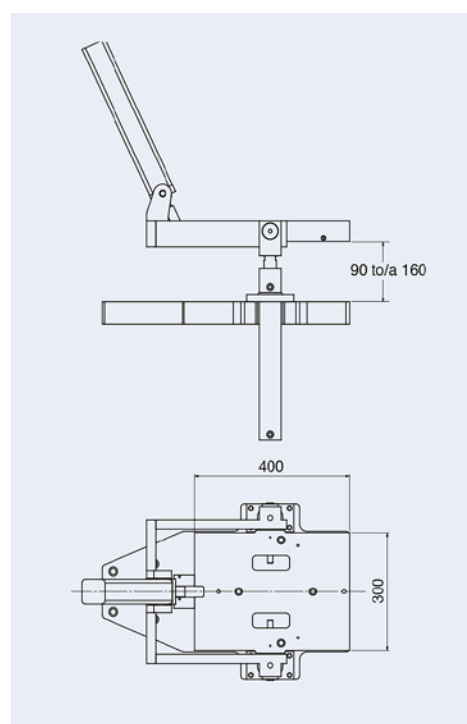
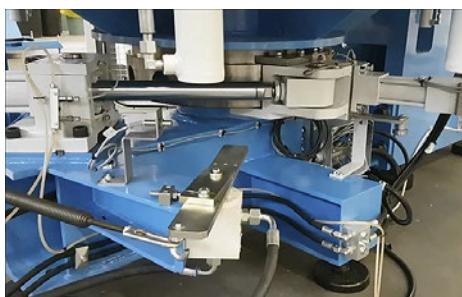


Features of the model INWAX Rotary are:

- Injection volume up to 21 litres
- Injection pressure 10 MPa,
- 6 station-carousel with locking mechanism
- Use of up to 6 different molds
- Higher productivity
- 10" TFT color touch control panel
- Horizontally adjustable injection nozzle
- Precise PID temperature control in the wax container
- Possibility to use two types of wax
- Electric motor equipped with frequency converter
- Automatic central lubrication system
- Proportional pressure control
- Each station has own ejector system
- On-line error monitoring
- CE declaration of conformity

Accessories and options of model INWAX Rotary:

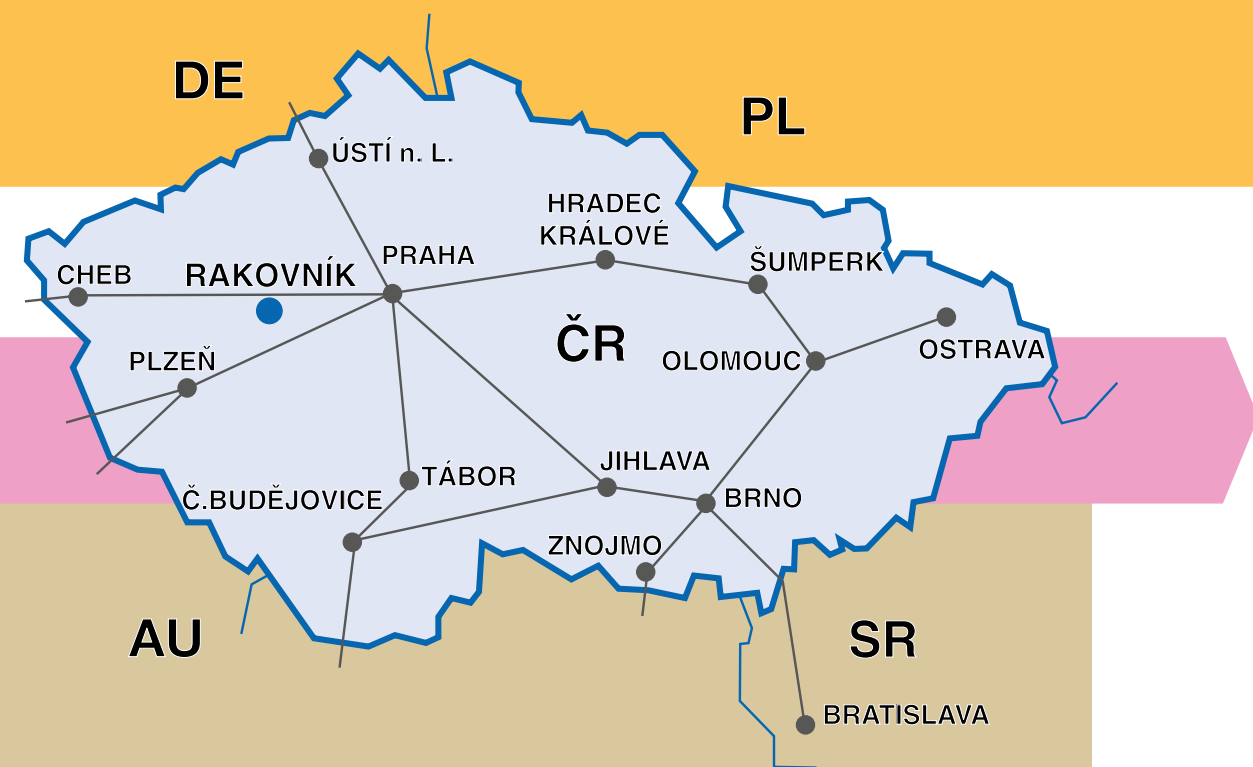
- Rotary carousel cap for 8, 10 or 12 different molds
- Possibility to equip 2 or more injection units
- Automation/robotization of the workstation with 6-axis robots
- Ball mold feeding systems
- Core pullers
- Insulation plates
- External industrial cooling and heating control units
- Conveyor systems
- Software customized on customer request



Technical parameters of basic models of presses INWAX, PVJ and INWAX Rotary:

| | | INWAX 50 | INWAX 120 | PVJ | INWAX Rotary |
|--|-----------------|----------------------------------|-----------|-----------|------------------|
| Number of clamping units – number of molds | | 1 | 1 | 1 | 6 (8, 10, 12)* |
| Clamping force | kN | 500 | 1200 | 154 | 300* |
| Maximum clamping stroke | mm | 400* | 400* | 410 | 70 Opening* |
| Maximum daylight | mm | 700* | 700* | 700 | 160 Opening* |
| Minimum mold height | mm | 300* | 300* | 290 | 90 |
| External dimension of clamping plates | mm | 820×820* | 820×820* | 840×560 | 300×400 |
| Distance between tie-bars | mm | 580×580* | 580×580* | 665×385 | 300 |
| Wax injection pressure | MPa | 0,25–1,6 | 0,25–1,6 | 0,25–1,44 | 0,25–1,6 |
| Hydraulic pressure of wax cylinder | MPa | 2,0–10,0 | 2,0–10,0 | 2,0–10,0 | 2,0–10,0 |
| Wax container volume | dm ³ | 2×21 | 2×21 | 2×21 | 2×21 |
| Wax container temperature (recommended) | °C | 62 | 62 | 62 | 62 |
| Injection barrel temperature (recommended) | °C | 58 | 58 | 58 | 58 |
| Maximum ejector force | kN | 50* | 50* | 31 | 31* |
| Ejector stroke | mm | 150* | 150* | 150 | 100* |
| Operating pressure of main hydraulic circuit | MPa | 20 | 20 | 10,0 | 20 |
| Air pressure | MPa | 0,4–0,6 | 0,4–0,6 | 0,4–0,6 | 0,4–0,6 |
| Cooling water consumption (16 °C) | l/min | cca 30 | cca 30 | cca 30 | cca 30 |
| Recommended oil | | OH-HM 46, OH-HM 68 or equivalent | | | |

Technical parameters marked * can be chosen according to the customer's requirements.



INVERA s. r. o.®
 S. K. Neumanna 2476
 269 01 Rakovník, Czech Republic
<http://www.invera.cz>
 e-mail: invera@invera.cz

Tel.: 00420 313 515911
 Tel.: 00420 313 512430
 IČO: 47535920
 DIČ: CZ47535920