THE DEPARTMENT OF INJECTION MOLDING MACHINES
PLASTIC INJECTION

The modern injection molding of thermoplastics was launched in the company MEPAC CZ s.r.o. in Nebory near the town Trinec in July 2015. There are the injection molding machines of the brand Woojin PLAimmers (SELEX TH-S) in the plant now.

With the investment for injection we closed our cycle:

THE PRODUCTION AND MODIFICATION OF MOLDS - THE MAINTENANCE OF MOLDS - THE PRODUCTION OF COMPONENTS (PRESSINGS)

We offer:

- the production of plastic components for the automotive, electrical, medical and packaging industry
- the production of technical components, even for other areas
- the installation, finishing operations, completing and packaging
- the ultrasonic welding of plastics
- the production for food industry

Processed materials:

All basic types of commodity, special and engineering plastics mass, especially HDPE, LDPE, PP, PE, PS, SAN, ABS, TPE, TPU, PMMA, POM, PA 6 (up 50 GF), PA 6.6 and PA-11, PA 12, PBT, PC, and more.
MACHINERY EQUIPMENT

One of the main characteristics of our modern injection molding machines is the high stability of the production process. The connecting of the machine to LAN enables us to store data on the server. On our customer’s request, we are able to provide data on the entire production process.

The injection molding machines of the brand Woojin PLAIMM (SELEX TH-S)

- the clamping force of 50, 130, 170, 220, 280 and 650 tons
- our injection cylinder (chambers) can produce pressings with a volume of 64–3149 cm³
- our machines are equipped with the toughened chamber and screws for the processing of materials to 50% GF (see the table on p. 7)
- the hydraulic machines have servo drive
- our hydraulic injection molding machines originates from the company Dorninger Hytronics GmbH
- the control system is by B & R Corporate

The robots YUDO SONIX-810 for injection molding machines 170, 220, 280 and 650 tons

- freely programmable
- all the axes are driven by servo motors
- each robot is equipped with a conveyor belt with a length of 250 cm and a width of the cargo area of 60 cm
- the axis, C – the air, the maximum axle load, Y” with gripper is 5 kg
MACHINERY EQUIPMENT

Molecular dryers of the brand SIMATEC S.r.l with the volume 80l and 150l
- the injection molding machines and dryers are equipped with suction units by SIMATEC S.r.l
- the insulated hoppers of the brand SIMATEC S.r.l equipped with neodymium magnets

Tempering equipments from AEC’s with a heating output of 9 kW and a maximum coolant temperature of 120 °C

Two cranes with a lifting capacity up to 5 tons
- combined max 10 tons

Parameters of our injection molding machines

<table>
<thead>
<tr>
<th>machinery group</th>
<th>3 41-80t</th>
<th>4 81-140t</th>
<th>4 81-140t</th>
<th>5 141-180t</th>
<th>6 181-250t</th>
<th>7 251-499t</th>
<th>8 500-750t</th>
</tr>
</thead>
<tbody>
<tr>
<td>producer SELEX</td>
<td>TH50</td>
<td>TH130</td>
<td>TH130</td>
<td>TH170</td>
<td>TH220</td>
<td>TH280</td>
<td>DL 650 AS</td>
</tr>
<tr>
<td>air valves (pcs)</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>max injection weight PS (g)</td>
<td>59</td>
<td>133</td>
<td>208</td>
<td>208</td>
<td>398</td>
<td>482</td>
<td>2902</td>
</tr>
<tr>
<td>max injection volume (cm³)</td>
<td>64</td>
<td>145</td>
<td>226</td>
<td>226</td>
<td>432</td>
<td>523</td>
<td>3149</td>
</tr>
<tr>
<td>thickness of the mold - A</td>
<td>min. (mm)</td>
<td>130</td>
<td>180</td>
<td>180</td>
<td>180</td>
<td>200</td>
<td>250</td>
</tr>
<tr>
<td>max. (mm)</td>
<td>350</td>
<td>450</td>
<td>450</td>
<td>500</td>
<td>600</td>
<td>650</td>
<td>1100</td>
</tr>
<tr>
<td>daylight (mm) - B</td>
<td>250</td>
<td>400</td>
<td>400</td>
<td>460</td>
<td>490</td>
<td>540</td>
<td>1350-700</td>
</tr>
<tr>
<td>max. daylight (mm) - C</td>
<td>600</td>
<td>850</td>
<td>850</td>
<td>960</td>
<td>1090</td>
<td>1190</td>
<td>1800</td>
</tr>
<tr>
<td>distance between tie bar - from the top (mm) - D</td>
<td>360</td>
<td>460</td>
<td>460</td>
<td>510</td>
<td>560</td>
<td>610</td>
<td>1010</td>
</tr>
<tr>
<td>distance between tie bar - side (mm) - E</td>
<td>360</td>
<td>460</td>
<td>460</td>
<td>510</td>
<td>560</td>
<td>610</td>
<td>1010</td>
</tr>
<tr>
<td>centering ring (mm)</td>
<td>125/125</td>
<td>125/125</td>
<td>125/125</td>
<td>125/125</td>
<td>125/125</td>
<td>160/160</td>
<td>200/200</td>
</tr>
<tr>
<td>ejector stroke (mm)</td>
<td>60</td>
<td>120</td>
<td>120</td>
<td>140</td>
<td>150</td>
<td>170</td>
<td>250</td>
</tr>
<tr>
<td>ejector force (t)</td>
<td>50</td>
<td>130</td>
<td>130</td>
<td>170</td>
<td>220</td>
<td>280</td>
<td>650</td>
</tr>
<tr>
<td>core pulls (ks)</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>intrusion</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>manipulator</td>
<td>no</td>
<td>yes</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>max. injection pressure (kg/cm²)</td>
<td>2800</td>
<td>3593</td>
<td>2300</td>
<td>2300</td>
<td>2144</td>
<td>1980</td>
<td>1885</td>
</tr>
<tr>
<td>max. power (kW)</td>
<td>18,3</td>
<td>25,5</td>
<td>25,5</td>
<td>27,8</td>
<td>44,8</td>
<td>48,9</td>
<td>127</td>
</tr>
<tr>
<td>screw diameter (mm)</td>
<td>25</td>
<td>32</td>
<td>40</td>
<td>40</td>
<td>50</td>
<td>55</td>
<td>90</td>
</tr>
<tr>
<td>hardened chamber/screw</td>
<td>yes/50% GF</td>
<td>yes/30% GF</td>
<td>yes/30% GF</td>
<td>yes/50% GF</td>
<td>yes/50% GF</td>
<td>yes/50% GF</td>
<td>yes/30% GF</td>
</tr>
</tbody>
</table>
THE PRODUCTION OF THE MOLDS AND TOOLS

We offer a complete design and manufacture of injection molds, tools for cutting and bending of components for the rubber and automobile according to technical documentation and 3D models since the year 2004. For the production of the molds we use a high-quality material and components that guarantee reliability and a long tool life. Using the latest software we prepare a complete design documentation for the production of molds and tools.

Our tool room is fully equipped with production machines, CAD and CAM systems, metering systems. These allow production, repair and modification of molds of the highest quality.

We offer:

- the production of the molds up to 3500 kg
- the manufacture of the molds for plastic PET bottle blowing
- the production of new serial molds
- the production of the molds of small-series
- the production of the development prototypes
- creating models CAD - SOLID WORKS, programming CAM - HSM WORKS
- reverse engineering - Geomagic Design X (3D models creation from scanned data)
- input format: PARASOLID IGES, STEP

The workshop equipment:

- CNC milling center MCFV 1060 TREND - 3 machines
- CNC excavation MITSUBISHI, type EA12 - 2 machines
- CNC wirecutter Mitsubishi, type FA20-S Advance
- CNC electrode production D442
- 3D measuring machine Miracle LEADER NC8107, including the laser scanner
- surface grinders and rollers
- NC milling machine and lathe
- the spotting presser REIS
- the laser systems for welding (type ACP), the lasers for engraving (type HXP, HCP)
- TIG and MIG welding
- the lapping machine KEMET 15
SERVICE OF THE MOLDS AND THE TOOLS

Owing to many years of our experience we provide for our customers the highest level of maintenance services including the repair of the tools and the molds.

In case of damage of the pressure tools we can provide: welding, finishing, engraving, alignment and polishing (mirror polish) of the damaged area. We are also able to produce a new shape based on the 3D data and insert this into the mold.

We offer:

- fixing of the molds to 7000 kg
- laser welding, engraving, hardening
- TIG welding, MIG
- polishing to a mirror shine
- grinding, turning
- spotting tools and molds
- metal coating
- training and consultancy
WELDING – POLISHING - ENGRAVING

Laser welding
We have 20 laser systems for welding ACP, assessed at the International Fairs, in our workplaces. We can weld on damaged shapes of small and large molds with the weighing 10 tons and even more, the tools for cutting and bending. We also provide subsequent working and spotting. Our laser systems are mobile, so we can weld directly at the customers.

Polishing to a mirror shine
We polish and renew the injection and blow molds, the tools for cutting and bending and the special tools according to our customer requirements up to a mirror shine. These operations are performed also on the surfaces with high demands for the dimensional accuracy and compliance of a complicated shapes. During polishing we keep the geometry of the shapes with high precision.

Laser engraving
We use the systems for engraving of the series HXP and HCP. We constructed the system engraving (HCP20), which has been awarded several times at the international fairs and is patented. It is the unique mobile system for engraving.

- we can mark and engrave a large molds directly at customers
- we can mark ceramics, plastics (even of two components), metals, composites and many others
- we can engrave a injection and blow molds and their parts, tools for cutting and bending, electrodes for EDM drilling tools, special parts and more
3D INSPECTION - SCANNING - MODELLING

We also make very precise measurements and scanning in the air-conditioned laboratory. For 3D measurements we use the measuring machine Leader NC8107 Miracle. Complete implementation of reverse engineering is done with the software, Geomagic Design X, that operates on the basis of the point clouds or multi-angle meshes which transforms into useful forms of parametric models for further processing in the CAD software, or for creating drawings.

- the laser scanner and CCD optical camera, with scanning accuracy 0.02mm
- the machine has a measuring range of X: 800 mm Y: 1000 mm Z: 700 mm
- the machine table load capacity is 1000 kg
- the CMM metrology software, with the Rational-DMIS
- export of data to a file .xlsx, .csv, igs
- outputs for text and graphic protocols, PDF and QDAS
- rational DMIS CAD allows the measurement of models

MEPAC CZ BET ON THE PRECISELY WORK DONE AND PROFESSIONAL TEAM

The company MEPAC CZ, s. r. o. operates in the field of precise engineering, manufacturing and repairing of injection and blow molds, molds for die casting and the cutting or bending tools in the Czech Republic, Slovakia and Poland since 1995.

We offer a wide range of tools, equipment and consulting services. We provide maintenance services, services in the field of precision welding (including laser welding), polishing to a mirror shine, renovation of damaged shapes or modifications of molds. We produce the specific tools, molds or equipment, precision CNC machined parts in series, e.g. for the aviation industry. We produce plastic components for the automotive, electrical, medical and packaging industries as well as technical moldings for other areas.

- our company is certified with ISO 9001 since 2008
- the Innovative company Moravian-Silesian Region 2013
- the finalist in the category of The Innovative Star in the Czech Innovation Competition 2014
- the Award for contribution to the development of the Moravian-Silesian Region 2014
THE DEPARTMENT OF INJECTION MOLDING

ISO 9001
Registered
Quality
Management

HEAD OFFICE TŘINEC
Nebory 547
739 61 Třinec
www.mepac.cz
tel.: 00420 558 348 112
mob.: 00420603 515 357 (shop)
mob.: 00420776 086 591 (shop)
mob.: 00420773 784 101 (workshop)
e-mail: info@mepac.cz

BRANCH OFFICE – VSETÍN
Průmyslový areál
Jasenice objekt 6
755 01 Vsetín
tel.: 00420 571 417 771
mob.: 00420 739 075 567 (workshop)
mob.: 00420 739 366 619 (workshop)
mob.: 00420 739 453 809 (shop)
mob.: 00420 608 710 904 (shop)
e-mail: info.vsetin@mepac.cz

BRANCH OFFICE – VRBNO
Zlatohorská 648
739 26 Vrbno p. Pradědem
tel.: 00420 554 725 305
mob.: 00420 603 507 946 (shop)
mob.: 00420 739 204 755 (shop)
mob.: 00420 775 569 917 (workshop)
fax: 00420 554 725 035
e-mail: info.vrbno@mepac.cz

BRANCH OFFICE – POLSKO
Czechowice-Dziedzice
tel.: 0048 910 085 519
mob.: 0048 513 041 157
e-mail: bak@mepac.cz

Foreign offices:
Slovakia - MEPAC SK, s.r.o., subsidiary company, Kotešová, www.mepac.sk
Germany - ToolyTech Jena, www.toolytech.de/
Portugal - Quada Laser Portugal, Marinha Grande