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«M- Konstruktor» is the biggest metal supplier
in Pskov region/Russian Federation.

<http://m-konstruktor.ru/>

Molds for microtunneling pipes: application

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- ✓ «M- Konstruktor» provides concrete microtunneling pipes concrete molds production according to technical requirements (width 1 000, 1 200, 1 400, 1 600, 1 800, 2 000 mm, depth 3 000).
- ✓ Microtunneling is a process of underground utility systems trenchless pipe laying, which is widely spread in metropolitan cities and historical centers, where cut-and-cover utility system laying is impossible to implement. Microtunneling is used for city water-supply facilities, sewage systems, power and heating networks. Furthermore, microtunneling has gained widespread in: construction of oil and gas pipelines, airport underground utility systems, railway and road construction, as well as holding-up significant width underground tunnels.

Concrete product working method

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Concrete product working method consists of the following steps:

✓ 1. Form preparation

The form is installed on the fixed stand, attached to the floor. After that the pan and inner mold line are installed. They both are set up on the stand by an alignment post. Then the outer mold line is installed fixed by flapjacks (10 pcs) against the pan. After the outer mold is fixed, tremblers must be placed on three depth levels (low, middle and upper) to maintain systematic pervibration. The next step is installation of a protective valve, which keeps the inner part of the device from concrete mixture penetration.

✓ 2. Mold casing

The process of concrete casing is identified by the work of the tremblers on adequate casing levels, from low to upper chord. 100 mm before the concrete reaches the upper edge of the mold; the upper ring is installed to shape the edge of the pipe. The tremblers are taken off of the device after the casting process is finished. The mold is then transferred into the steam-curing chamber.

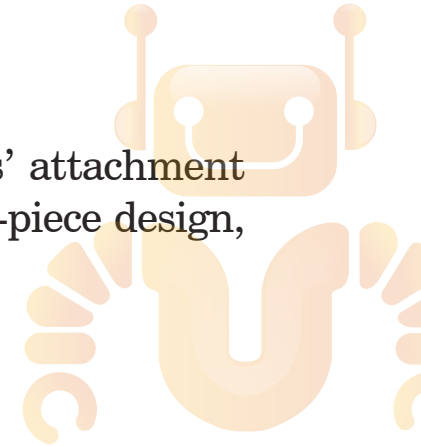
✓ 3. Form removal

When the concrete gains stripping strength, the mold needs to be transferred to demoulding operation area. The demoulding operation area has to be equipped with hydroelectric station. Inner mold line cylinders must be connected to hydroelectric station and head-board of the inner form-building unit must be set in motion thus minimizing its section. Then the inner form-building unit must be taken out of the product, outer mold needs to be opened by unscrewing the machine screws and the product must be transferred to the final finishing area. It must be noticed that readjusting bandage traverses with various size kits are needed for canting and transferring.

Machine structure: outer mold line duty

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- ✓ Generally, the outer mold line is produced from structural and flat steel.
- ✓ The outer line is equipped with special locks, which are fixing it to the stand. Tremblers' attachment areas are located all over the surface of the outer mold line. The outer mold line is a two-piece design, which is adjusted by special locks and guiding rails to control the needed size.



Machine structure: outer mold line duty

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- ✓ The inner form-building unit is produced from flat steel. It is equipped with guard cam and a hydraulic line. When the cam is moved the section of the internal core be minimized.
- ✓ The cam is moved by 2 hydraulic cylinders emplaced in the low and upper part of the mold. The machine is supplied with water torrent dividing circuits, which support synchronized operation of the hydraulic cylinders. Moreover, the mold is equipped with a high-pressure hose and quick-disconnect connectors.

Machine structure: pan and fixed stand

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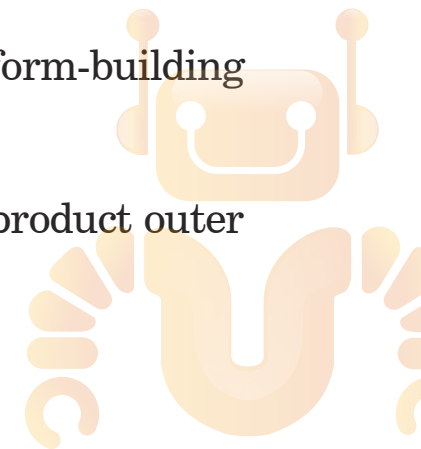
- ✓ The pan spots the centre position of the outer mold line. It is supplied with special extra rubber based sealer to exclude any possibility of concrete mix outflow and to prevent spalls.
- ✓ The stand is a welded metal frame. It is designed to install the pan and inner form-building unit, fixing their position from one another. The stand is fixed to the floor by ground bolts through special bores.



Machine structure: jack and ring

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- ✓ The jack is a metal frame, which prevents concrete mix from getting into the cavity of the form-building unit. The jack is also designed for forwarding concrete.
- ✓ The ring of the machine is produced from flat steel and is designed for molding concrete product outer edge.

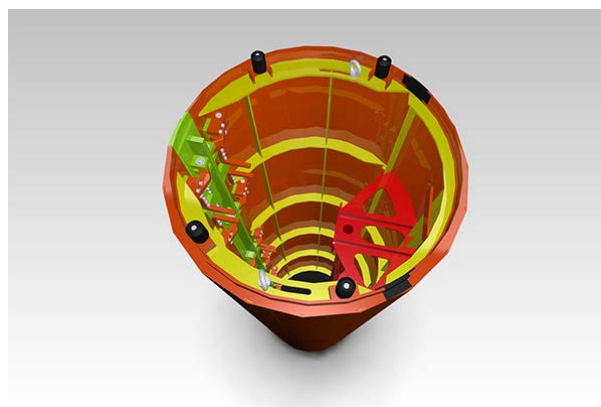


3D machine layouts for microtunneling

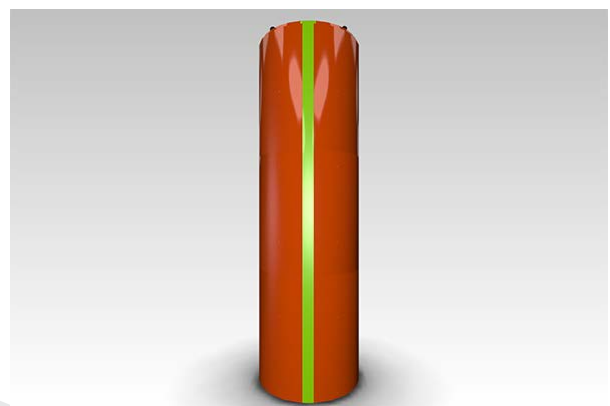
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Outer mold line



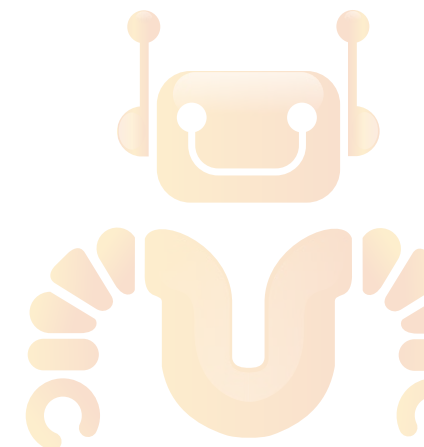
Inner mold line



Inner mold line

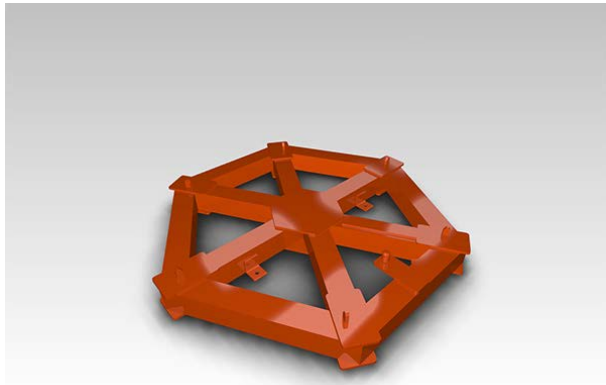


Grasping jaws

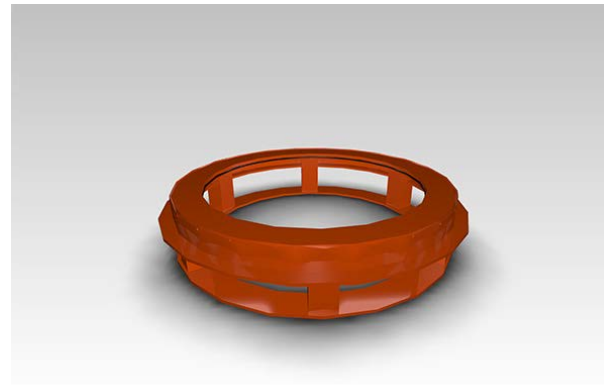


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Fixed stand



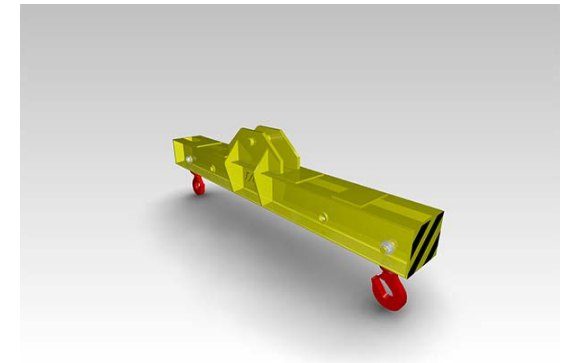
Pan



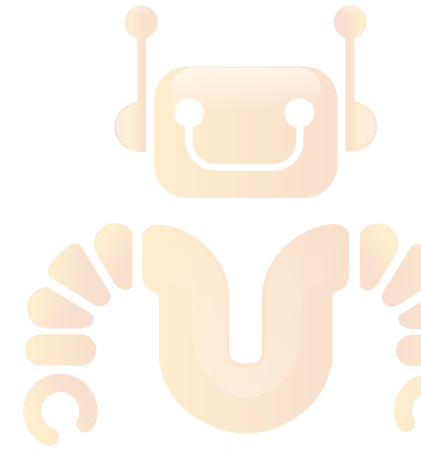
Upper ring



Jack



Traverse



Contact information

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If you need to consult upon a certain project or need to calculate the price of your order, please do not hesitate to contact us via the most convenient way for you.

- ✓ Office address: Russian Federation, Pskov region, Velikiye Luki, Novoseleninskaya st. 15
- ✓ Contacts:
 - +7(811-53)6-10-05;
 - +7(911)893-41-04;
 - +7(916)977-16-44
- ✓ E-mail: info@m-konstruktor.ru

