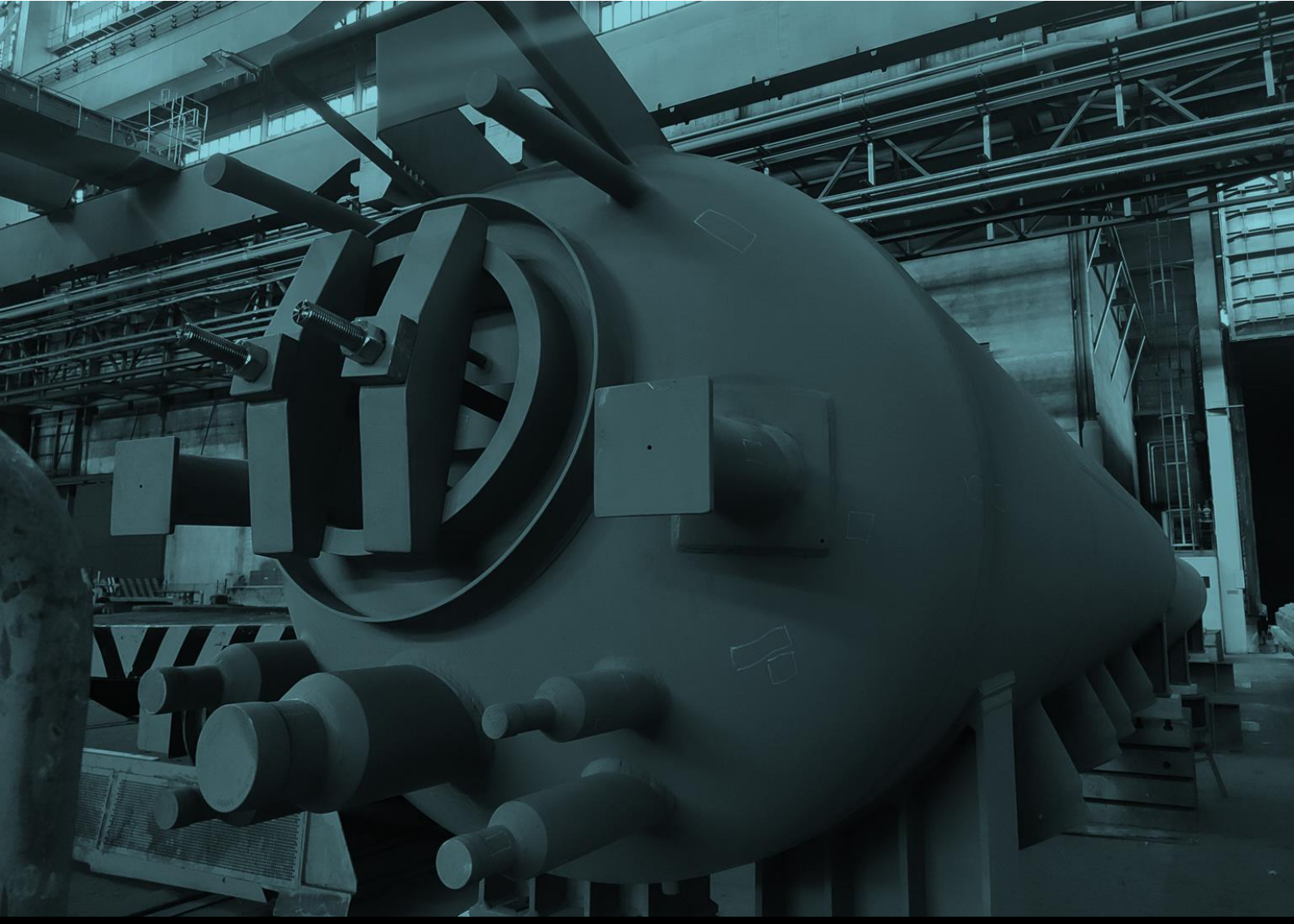


Storage Tanks
Nuclear Power Plants
Chemical & Petrochemical Industry
Heavy steel structures and bridges
Parts for steelworks
Thermal power plants
Tube bending shop

VÍTKOVICE
ENERGETICKÉ
STROJÍRENSTVÍ

Building on a long tradition

VÍTKOVICE ENERGETICKÉ STROJÍRENSTVÍ a.s. was founded in spring of 2018 and builds on a long-term tradition in production of pressure and non-pressure parts of power plants, parts for chemical and petrochemical industry, parts for steel industry and others.
In addition to the production of complete parts, we can also offer different ways of cooperation, such as plate rolling and bending, bending of pipes, welding, post weld heat treatment and machining.

1888

Construction of the building „Kotlárna" was started, and it was completed in 1890. An independent department of „Kotlárna" has been established the same year (Kesselfabrik), which was equipped with specific machines intended for production of boilers.

1978

Production of the first compensator for nuclear power plant. The nuclear programme was established – especially production of internal rings of reactor and volume compensator VVER 400 MWe.

2018

100 - years of production continues, with a focus on production of pressure systems for power plants including boiler drums, components for nuclear power plants, storage tanks and parts for metallurgical industry.

Storage Tanks

We offer a production of storage tanks for storing liquified gases and their gaseous phases, chemicals and liquids. A total of 95 tanks have been manufactured since 1990.

The tank volumes range between 300 m^3 up to 125 000 m^3. We can produce pressure storage tanks, spherical storage tanks, cylindrical storage tanks, cylindrical mounded storage tanks, non-pressure storage tanks and high capacity storage tanks.

Pressure and non-pressure storage tanks

We offer design of pressure and non-pressure vessels and systems mainly for power industry. Each delivery of pressure vessels is done according to our own design or design provided by our customers. These vessels consist of cylindrical shell, heads and nozzles. We can offer these vessels from carbon steel material or stainless steel, we also have experience with double walled pressure vessels.

Spherical storage tanks

We offer storage tanks with fixed roof or floating roof. The shell of the tank is delivered in segments to site (on pallets), the remaining components in transportable parts. We also offer production of protecting well and steel structures for the tanks, such as ladders and platforms. We can offer these tanks from carbon steel material or stainless steel. Spherical storage tanks are used for storing of petrol, hydrogen, LPG, ammonia and propane-butane.

High capacity storage tanks

We offer production with or without plate protecting well, with single or double-walled bottom, with self supporting fixed roof, with floating single board or double board roof. Since 1990 our company has manufactured 42 pcs of high capacity storage tanks. Delivered were to companies such as SLOVNAFT, a.s., Wassertechnik Salzburg, CTR Kralupy. These tanks are used for storing of crude oil, mazut, water and other liquids.

Cylindrical storage tanks

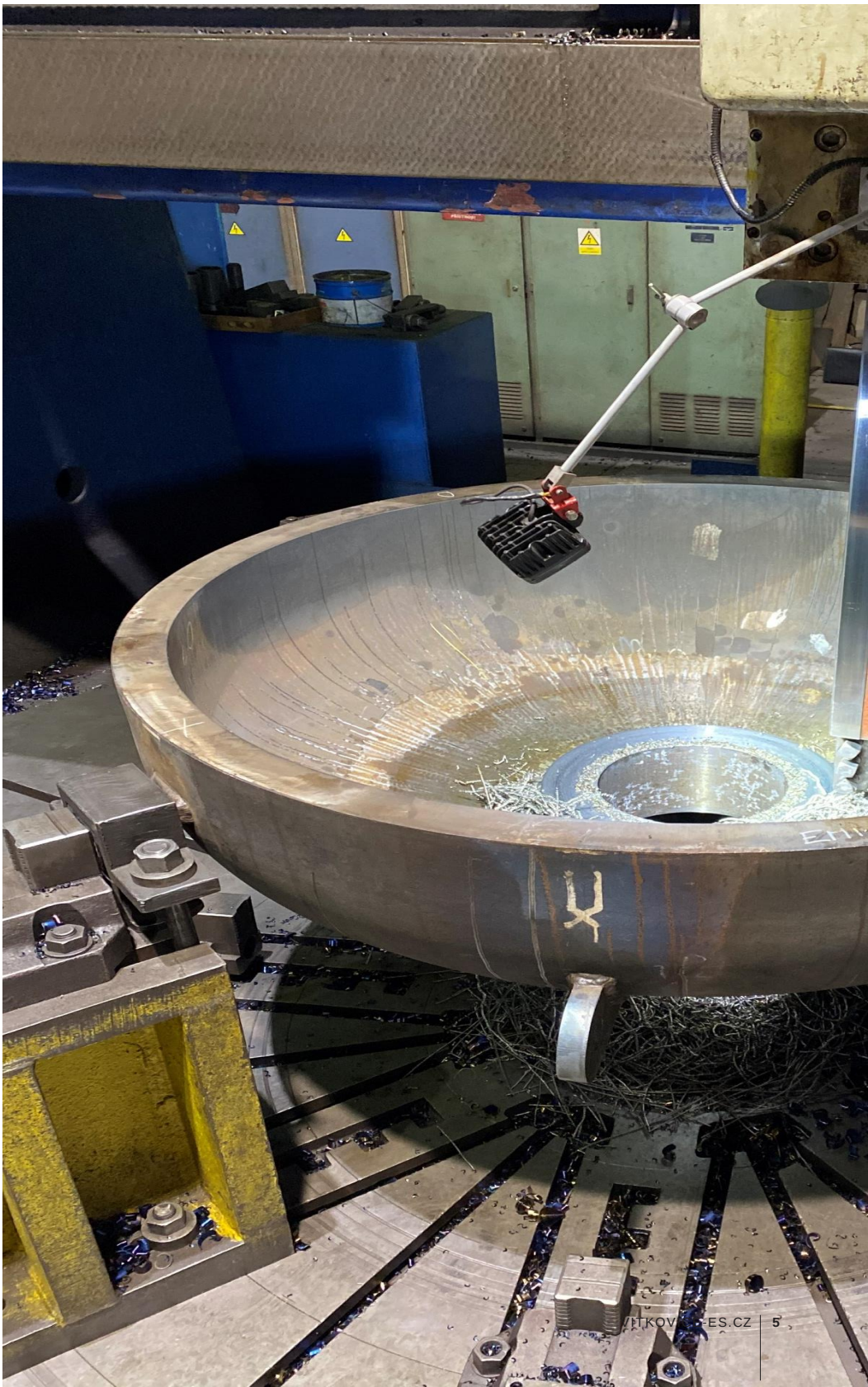
These type of tanks are used for storing liquified gases and their gaseous phases, chemicals or liquids (ammonia, oil, LPG, sodium hydroxide). Since 1990 our company has manufactured more than 26 pcs of these types of storage tanks. Delivered of cylindrical storage tanks were within Czech Republic and Slovakia.

Power industry & Nuclear Power

VÍTKOVICE ENERGETICKÉ STROJÍRENSTVÍ a.s. is the holder of certificates for production of pressure parts and piping systems acc. to PED 2014/68/EU, EN 13445, EN 13480, EN 12952, EN 12953, AD 2000 HP0/W0, EN765-4, ASME U, U2, S.

In nuclear power sector we offer production of pressure parts, heat exchangers, steam generators, high pressure and low pressure heaters for secondary circuit, replacement tube bundles of low pressure heaters, pressure vessels (volume compensators, drainage coolers) and spare parts for nuclear power plants.

Production of parts in power industry includes boiler drums, internal and external piping, steam headers, water, steam and gas turbine casings, inlet and outlet parts of water turbines, pressure penstocks and distribution branches, spare parts and components for power plants, heating surfaces (such as super-heaters, economisers, flue gas coolers, air preheaters and other parts).



1. Rotating column 2. Boiler drum
3. Cooling water piping 4. Low pressure heater 1200


1


2


3


4

VÍTKOVICE ENERGETICKÉ STROJÍRENSTVÍ a.s. has many years of experience in power and nuclear power industry. For production of boiler drums, we are not limited by length of the shell including the heads. We have experience with production of boiler drum in length of 25 meters long. We offer production of internals, post weld heat treatment and supervision of Notified body. We can also supply to our customers spare parts, such as manhole covers and connecting material (including manhole gaskets).

In the past we have successfully manufactured High pressure heaters (HPH) and Low pressure heaters (LPH) for Russian nuclear power market, including machining and drilling of tube sheets.

We regularly supply pressure and non-pressure parts of boilers, economisers, superheaters, air preheaters and injectors to our main customers, which are used in many power plants throughout Europe.

Tube bending shop

We bend tubes, pipes and profiles by both cold and hot bending process. We produce also pressure and non-pressure parts and whole units. We offer automated and manual welding, machining, post bend heat treatment, sand blasting, metallic painting and surface treatment.
Pipe systems acc.to ČSN 13 2604, for piping acc.to ČSN 13 1020 and ČSN 13 1030. Tube coil systems of steam boilers (former industrial sector standards acc.to ON 07 0627 and ON 07 0629), according to drawing documentation and requirements of the customer. We also have certificates acc.to DIN - AD W0 / TRD 100, ISO 9001, ASME.

1. Bending with induction heating 2. Tube bends 3. Tube bends 4. Cold pipe bending


1


2


3


4

Welding:
Automated
- methods 141, 142 (Polysoude)
- Operator qualification acc. to EN ISO 14732, PED 2014/68/EU, AD2000-HP3

Manual
- methods 141, 111, 135
- welder's qualifications acc. to EN ISO 9606-1, PED 2014/68/EU, AD2000-HP3
- Machinery: equipment ESAB, EWM, Fronius, Alfa, etc.

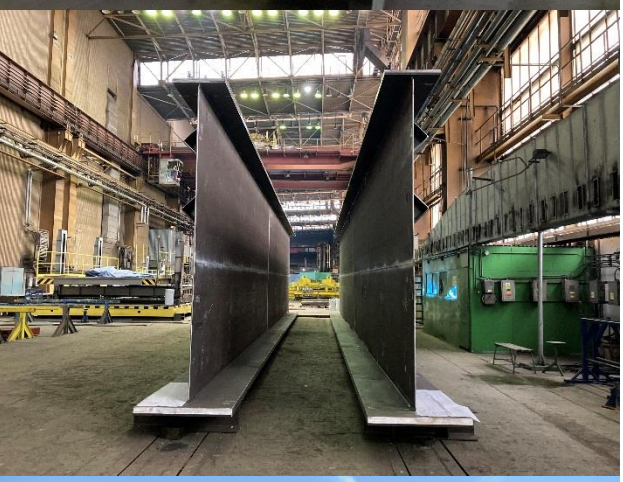
Cold bending – machinery:
- XOT 50, XOT 110, XOTH 114 A
- Perfekt WE 60, NC Perfekt W 40
- H273
- Bending machine XZP 50/7
- Bending machine CNC 76 TB

Hot bending – machinery:
- EOS 630 – Induction bending machine

Heavy steel structures and bridges

Steel structures are the basis of many buildings, such as bridges, hangars, factory halls, power plants and also stadiums.

Our company continues the long tradition of handicraft production of steel structures and bridge structures.



Production program

The production program presents a wide range of designs for specific areas of use:

- road bridges
- pipeline bridges
- footbridges
- constructions for energetics (supporting columns and boiler grates)
- technological construction
- civic facilities construction

We offer complete production of steel structures and bridges.

The workplace for the production of heavy steel structures has 80 x 15 m and is equipped with two cranes with a capacity of 50 t.

This means that we can produce a part weighing up to 100 t. The monthly production capacity is 200 t.

We cover the production process of steel structures from the beginning to the end with our own capacities. We laser cut metal sheets, prepare weld edges, bend material ourselves. We weld both manually and automatically under flux.

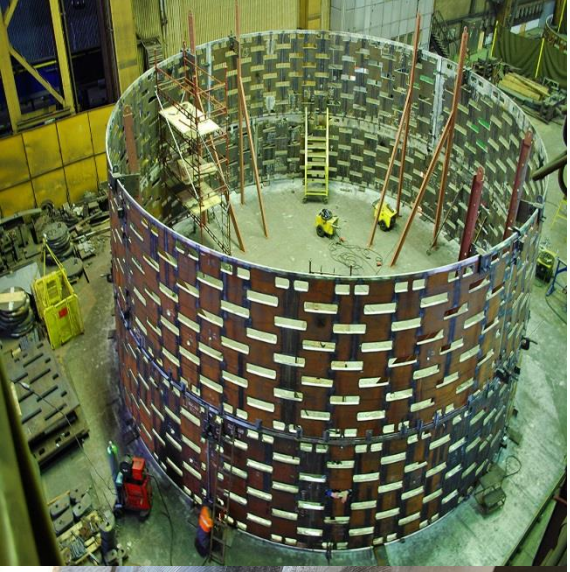
On our milling and planing machines we can prepare both weld bevels and friction joint surfaces of steel structures. If necessary, the weldment can be annealed to release internal stress.

We provide the necessary inspections and tests of edges, surfaces and welds with our own efforts and with the help of an external accredited laboratory.

Of course, there is also blasting and corrosion protection. Everything is under one roof without the product leaving the roofed parts of our production.

Other products for the industry

VÍTKOVICE ENERGETICKÉ STROJÍRENSTVÍ a.s. offers production parts for other industrial sectors, especially parts for steel industry.



Blast Furnace Shells

Our biggest success was production of blast furnace shell for the Russian company PAO Severstal. The shell has been delivered to site in reinforced segments including surface protection. VÍTKOVICE ENERGETICKÉ STROJÍRENSTVÍ a.s. is capable to deliver all segments of the blast furnace such as the bottom, base ring, segments of the shell itself, tuyeres, coolers and openings (including machining), nozzles, flanges and top cone.

Material hoppers

Hoppers are delivered at site in transportable segments. We can also weld anchors, which are often required by our customers. Material hoppers are used for storage of liquids, powders and other materials, which are mainly used in agriculture, building industry, chemical and petrochemical industry, food industry, power sector, environmental industry etc.

Ladles

We have experiences with deliveries of whole ladles with weights of 90 t, 175 t, 200 t and 250 t. We can also assure partial deliveries of parts such as ladle shell with spigot, ladle lid, tilting system, gas mixing system, foldable stand for ladle, reinforcing ring, ladle suspension system etc.

Parts of electric arc furnaces

We deliver mainly parts for vertical industrial furnaces used in oil refineries and chemical industries, its advantages are simple installation, maintenance and small area. We also supply parts for Indus-trial shaft furnaces and parts for special industrial furnaces.

Machinery

Overview of our core machinery

Cutting machine OMNICUT 4600 CNC

- 2 machines on common track for cutting of plates th. 4 – 300 mm
- work width of the table 3 600 mm, length 24 000 mm
- plasma cutting (air-plasma source Hypertherm HPR 260)
- oxy-fuel cutting – natural gas, oxygen
- length of cutting on both machines 16 000 mm

Milling machine for weld edges EDGEMILL

- max. length of machined plate 12 200 mm and thickness 300 mm
- two pieces milling machine bed with frame cross section
- head with holding hydraulic cylinder joined with two stand
- milling head with convertible spindle about 127 mm - micrometrical
- tilting up to 35 ° above and under plane of table

Bending machine SCHIESS FRORIEP

- pressure for rolling 45 000 kN
- max. width of plates 3 600 mm
- diameter of top changable roll 960 mm, 1 250 mm, 1 600 mm
- hot and cold rolling
- parameters of rolling are determined by calculation based on grade of material, width of rings, thickness of plate and inside diameter

Bending machine FACCIN 4 HEL

- four-cylinder rolling machine for plates
- max. thickness of plates 40 mm
- max. width of plates 4 000 mm
- diameter of top roll 560 mm
- parameters of rolling are determined by calculation based on grade of material, width of rings, thickness of plate and inside diameter

Vertical boring mill SKD 50

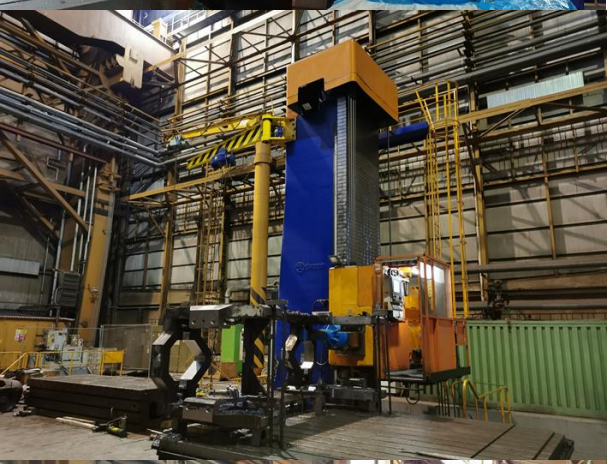
- two-stand vertical boring mill (Caroussel)
- max. diameter of workpiece/machining 5 000 mm
- max. height of workpiece 4 000 mm
- max. load of work bench 90 t

Vertical boring mill SK 16

- max. diameter of workpieces is 1 620 mm
- biggest height of workpiece 1 000 mm
- diameter of clamping table 1 620 mm
- max. load of work bench 5 t
- continuously variable speed in 4 rows from 3,55 – 150 sp./min.

Horizontal milling and boring machine WEQ 200 NC

- table traverse travel - axis X = 19 500 mm
- headstock vertical travel - axis Y = 5 000 mm
- spindle stroke = 2 000 mm
- max. spindle speed 630 sp./min.
- max. workpieces weight (rotating table) 60 t



Horizontal milling and boring machine WRD 150 CNC

- table traverse travel - axis X = 13 500 mm
- headstock vertical travel - axis Y = 3 500 mm
- spindle stroke = 800 mm
- max. spindle speed 2 500 sp./min.
- max. workpieces weight (rotating table) 35 t

Horizontal milling and boring machine W 200 HC

- table traverse travel - axis X = 16 000 mm
- headstock vertical travel - axis Y = 4 000 mm
- spindle stroke = 2 000 mm
- max. spindle speed 800 sp./min.
- max. workpieces weight (rotating table) 100 t

DOOSAN PUMA 400 LA

- swing over bed 700 mm
- swing over saddle 590 mm
- max. turning diameter 570 mm
- max. turning length 2 129 mm
- max. workpieces weight without using tailstock 400 kg
- max. workpieces weight using tailstock 1 600 kg
- chuck size (3 jaws) 305 mm
- spindle speed 30 – 3 000 r./min.

Anealing furnace LOI No.2

- dimensions of furnace area – width x height x length 6 000 x 5 000 x 13 000 mm
- max. temperature of HT 1 100 °C
- weight of batch 100 t
- heat power 80 °C/h to 800 °C
- cooling power 60 °C/h to 300 °C

Anealing furnace LOI No.3

- dimensions of furnace area – width x height x length 6 000 x 6 000 x 20 000 mm
- max. temperature of HT 850 °C
- weight of batch 300 t
- heat power 70 °C/h to 800 °C
- cooling power 60 °C/h to 300 °C

Electrical furnace

- dimensions of furnace area – width x height x length 1 000 x 1 000 x 2 000 mm
- max. temperature of HT 1 100 °C

Hydraulic press CTL 600

- max. working power for 1 upper ram 300 t (for both 600 t)
- lift of the upper ram 1 000 mm
- max. working power for side ram 80 t and lift 1 000 mm
- max. working power of ejector 80 t and lift 500 mm
- unloading of press 2 000 mm

COLD BENDING - MACHINERY

XOT 50, XOT 110 , XOTH 114 A

- min. ø of pipe 12 mm
- max. ø of pipe 108 × 4,5 mm
- thickness of the wall cross-section of the module in bending Wmax = 33 cm^3
- min. diameter of bend 40 mm
- max. diameter of bend 600 mm
- max. angle of bend 180 °
- distance of straight part between bend 2 × D

H273

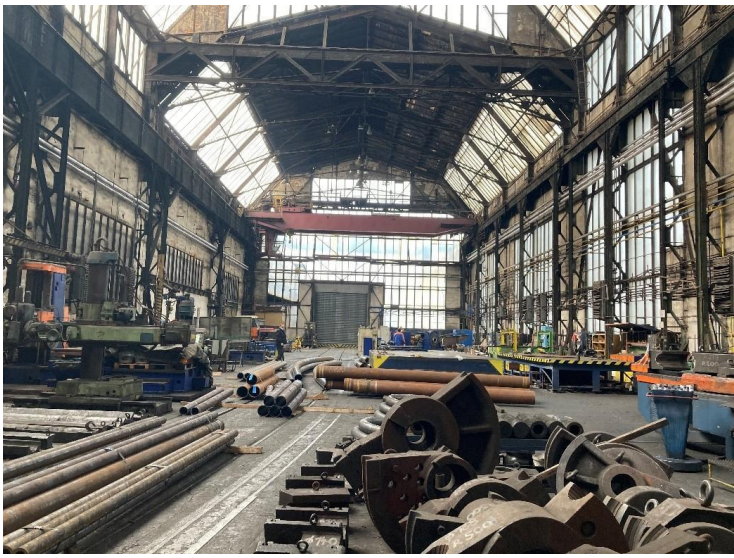
- min. ø of pipe 108 mm
- max. ø of pipe 219 × 10 mm
- thickness of the wall cross-section of the module in bending Wmax = 350 cm^3
- min. diameter of bend 2,5 × D (350 mm)
- max. diameter of bend 900 mm
- max. angle of bend 180 °
- min. distance of straight part between bend 2 × D (Smaller distance needs to be discussed)

Bending machine CNC 76 TB

- min. ø of pipe 20 mm
- max. ø of pipe 63 × 5 mm
- thickness of the wall cross-section of the module in bending Wmax = 12,5 cm^3
- min. diameter of bend 40 mm
- max. diameter of bend 200 mm
- min. angle of bend 1,2 × D
- max. angle of bend 210 °
- min. distance of straight part between bend 80 mm (Smaller distance needs to be discussed)

Perfekt WE 60, NC Perfekt W 40

- min. ø of pipe 25 mm
- max. ø of pipe 63 × 5 mm
- thickness of the wall cross-section of the module in bending Wmax = 12 cm^3
- min. diameter of bend 1 × D (35 mm)
- max. diameter of bend 300 mm
- max. angle of bend 210 °
- min. distance of straight part between bend 80 mm (Smaller distance needs to be discussed)



HOT BENDING - MACHINERY

EOS 630 - induction bending machine

- min. ø of pipe 89 mm
- max. ø of pipe 630 × 4,5 mm
- thickness of the wall cross-section of the module in bending Wmax = 4500 cm^3 (50 mm)
- min. diameter of bend 2,5 × D (600 mm)
- diameter of bend in jaws up to 90 ° 600 - 1000 mm
- diameter of bend in jaws up to 180 ° 1000 - 3250 mm
- distance of straight part between bend 450 mm
- max. length of arch 4700 mm
- max. length of clamped pipe 8000 mm
- in additional device from 2,5 × D max. 219 × 10 up to 90 °
- from 350 up to 600 mm max. 324 × 8 ... up to 100 000 mm

We have been operating since 1828

Wherever people need clean water, control energy, bridge valleys or use the wealth of the earth, we are there. We help create, build and manufacture. In 70 countries on all continents, we represent unique knowledge, technology and committed professionals that you have been able to rely on for more than 190 years. #wearewitkowitz

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