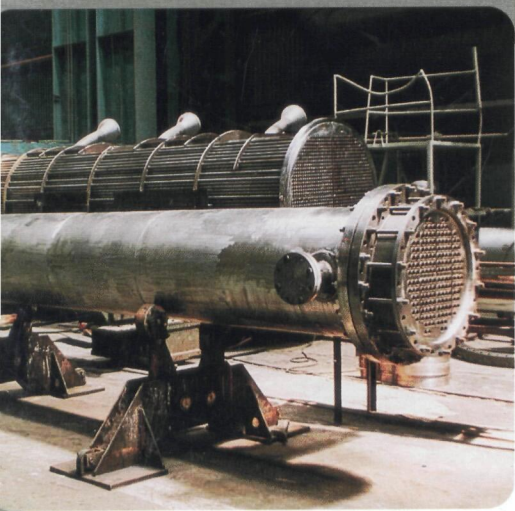
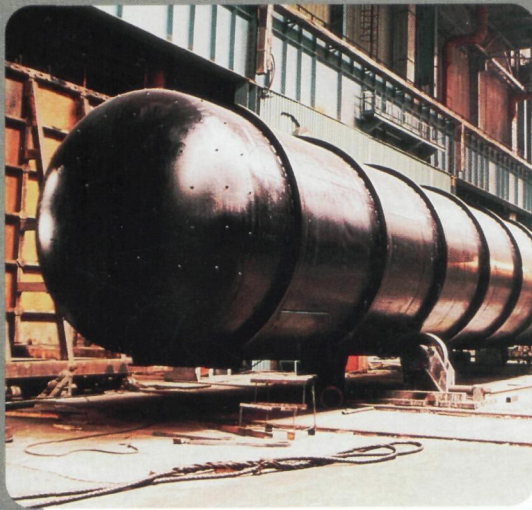


# ATOMMASH







## **“ATOMMASH” OPEN JOINT STOCK COMPANY IS THE LARGEST MACHINE BUILDING ENTERPRISE OF RUSSIA**

It was founded in 1976 as an enterprise specialized in production of equipment for NPP of electric/heat supply in Russia and abroad.

After introducing and developing market relations in Russia “Atommash” works has been diversifying.

The optimum application of production facilities makes it possible to master production output of equipment for metallurgy, petroleum and gas-refining industries, construction industry and agriculture.

Equipment manufactured at “Atommash” works is used at enterprises of different industries in Russia, CIS, Bulgaria, Germany, Cuba, Czech, China, Indonesia and other countries.

The wide spectrum of transport communications enables “Atommash” to make shipment to clients located in various regions of the country and in the world.

Production manufactured by “Atommash” is delivered by railway, trucks and by water.



**Shipment of heat  
exchanging equipment  
in the port**



**The square in front  
of the office/household  
building and entrance**





Production potentials of the enterprise are determined by unique metal cutting, forming, heat-treatment, welding equipment, made in Russia and abroad, located in the production building which are 42 m wide and 30 m up-to-hook high. Multi-purpose machines make it possible to machine large-sized pieces without changing their position.

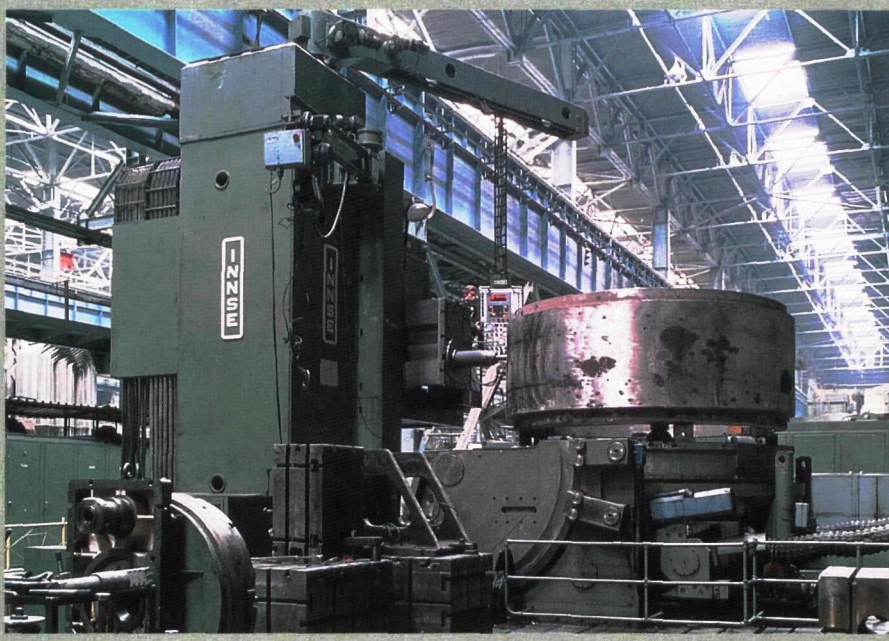
We are able to produce items of wall thickness from 1 mm up to 400 mm, of diameter up to 6 m, of length up to 80 m, of weight up to 1000 t meeting the highest quality requirements.

Enterprise laboratories are fitted out with equipment of foreign and domestic firms which are leaders in the field of non-destructive and other laboratory controls.

Cranage of the enterprise has lifting capacity up to 1200 tons in the production shops and at the port.

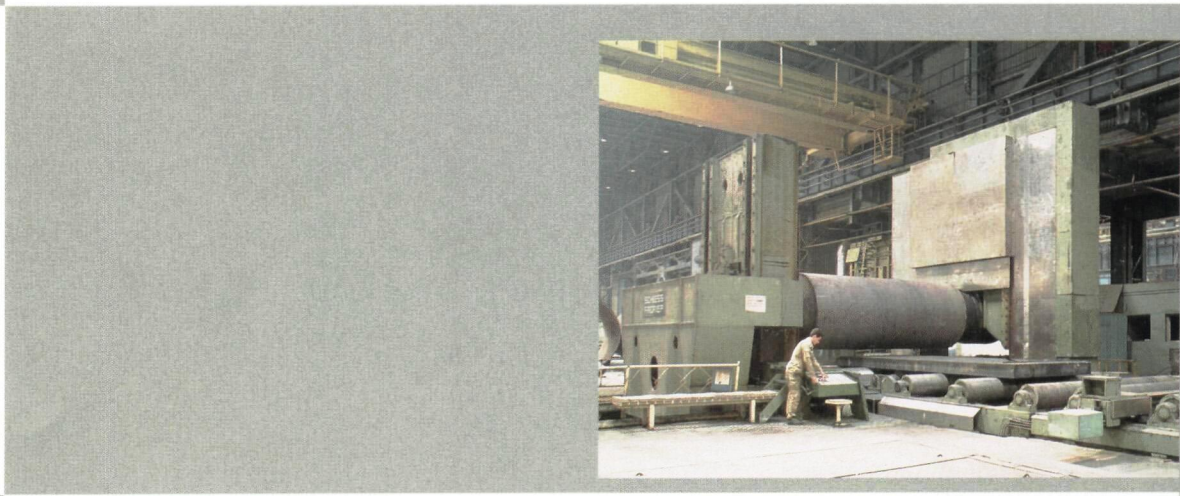
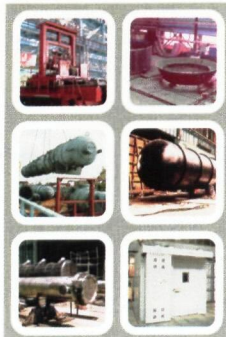


**Preparation of steam generator shell for radiographic examination**

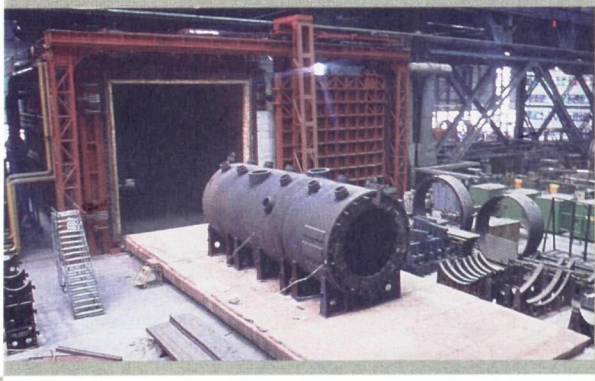


**Machining of nozzle area at INNCE boring and milling machine**

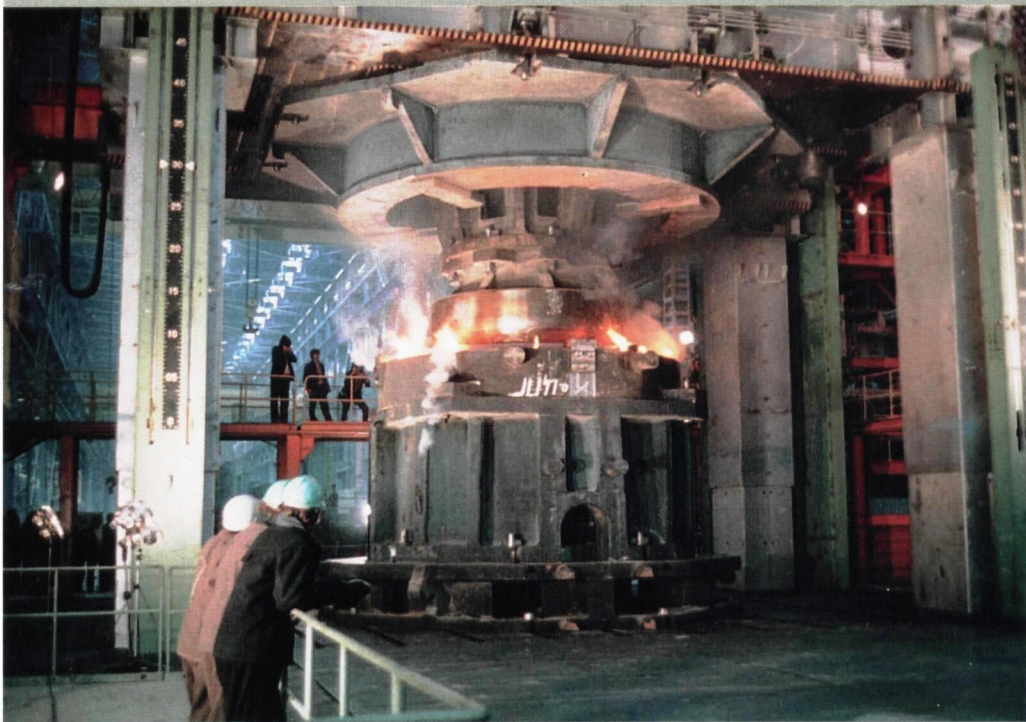




**"Verrina" bending machine**



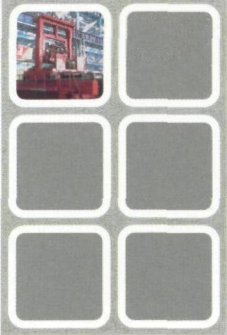
**Heat treatment of steam generator vessel**



**Forming of a bottom at the Japanese press**







## EQUIPMENT FOR POWER GENERATING

Since 1993 AOOT "Atommash" is the head enterprise for complete delivery of nuclear power plants equipment constructed both in Russia and abroad.

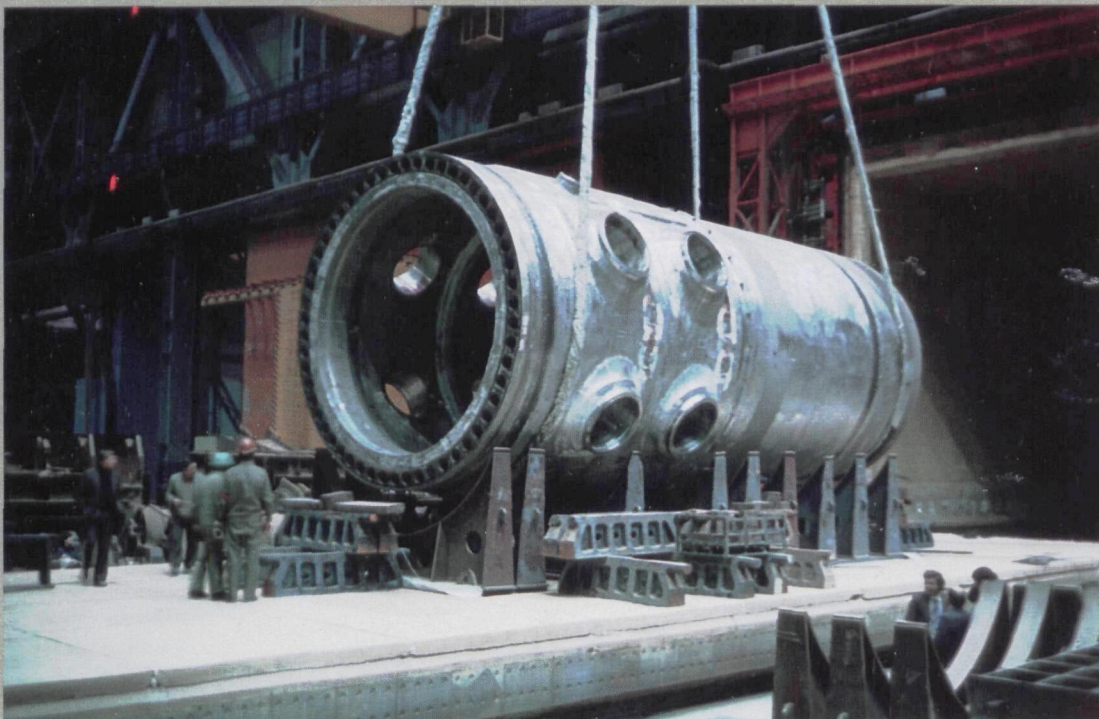
**We are able to produce the following equipment:**

**For NPP with PWR reactors:**

- complete power reactor units;
- steam generators;
- equipment for repairing reactors and steam generators;
- power nut tightening devices;
- pressurises;
- Core Emergency Cooling Systems;
- refuelling machines;
- internal transport equipment;
- storage equipment;
- biological shielding equipment;
- heat exchanging equipment;
- equipment for special water purification and treatment;
- separators-superheaters;
- some types of accessories.



**Shipment of steam generator vessel by a special transport means**



PWR-1000 reactors are used at NPP's: of Russia (in Balacovo, Novovoronezh, Kalinin); of Ukraine (Zaporozhye, Rovno, Khmel'nitsk, in Crimea).

The equipment of "Atommash" works was delivered for NPP's abroad, including:

"Juragua" - Cuba,  
 "Stendal" - Germany,  
 "Kozlodoi" - Bulgaria,  
 "Lyaonin" - China

**Reactor shell preparation for heat treatment**





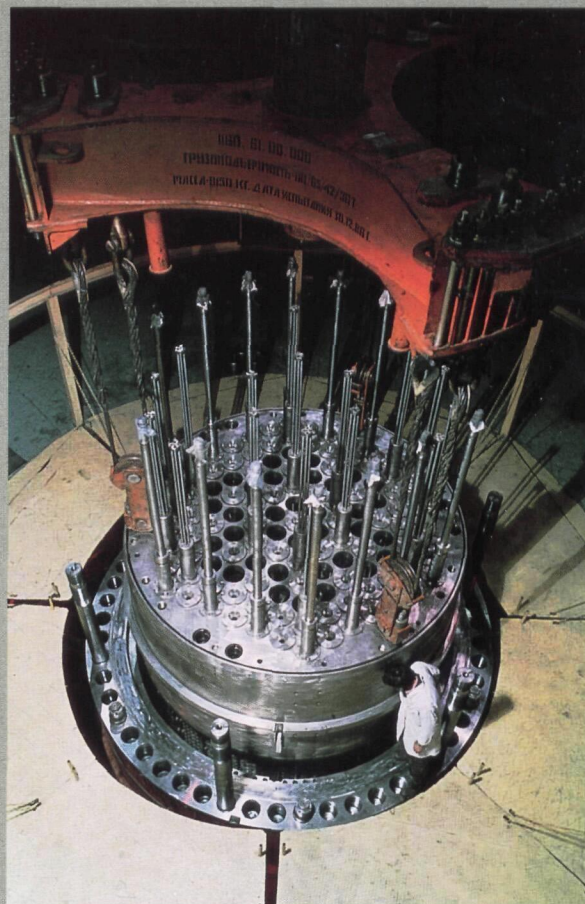
## EQUIPMENT FOR POWER ENGINEERING

### For AST nuclear plants including:

- reactor equipment;
- storage equipment;
- internal transport equipment;
- gate equipment;
- refuelling machine;
- biological shielding equipment;
- equipment for reactors maintenance.

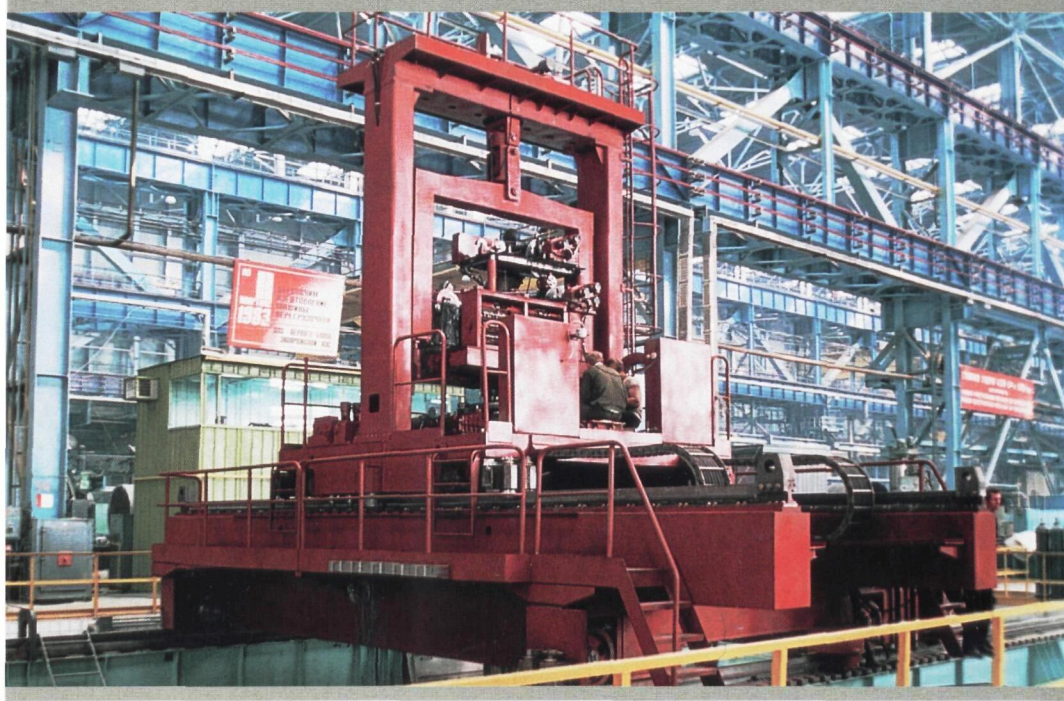
### For nuclear power plants with BN-800 breeder reactor including:

- reactor equipment including safeguard vessel;
- internal transport equipment;
- equipment for heating and storage of heat-transfer agent;
- biological shielding equipment;
- equipment for assembling and erection of reactor equipment.



The vessels of reactor plant AST-500, gate equipment and biological shielding equipment was delivered for Gorkovskaya and Voronezhskaya NPP's.

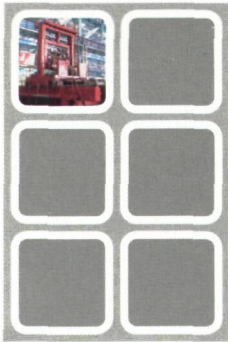
**Control assembly of PWR-1000 reactor at the test stand**



**MPS-1000 refuelling machine**







## EQUIPMENT FOR POWER ENGINEERING

### For thermal power stations including:

- high pressure cylinders for different types of boilers;
- evaporators and heating sections;
- high/low pressure heaters;
- deaerators;
- ejectors;
- water heater;
- blocks of filters for water purification and treatment;
- some types of accessories.



Specialists meeting  
in the technical  
director's office



Workshop overview





## EQUIPMENT FOR ENTERPRISES OF FUEL AND ENERGY COMPLEX

### Our range for petroleum and gas-refining industries:

Various columns including:

- stabilisation column K-101;
- absorbers and desorbers K-102, K-103, K-301, K-305;
- separators and fractionating columns.

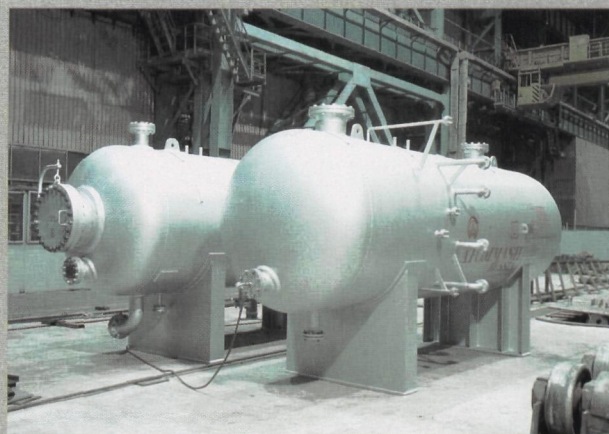
Diameter of items manufactured are from 600 mm up to 6500 mm and the length is up to 60000 mm.

Vessels for storage and transportation of petroleum and gas products overall dimensions limits.

We use carbon, low-alloyed and corrosion-resistant stainless steels.

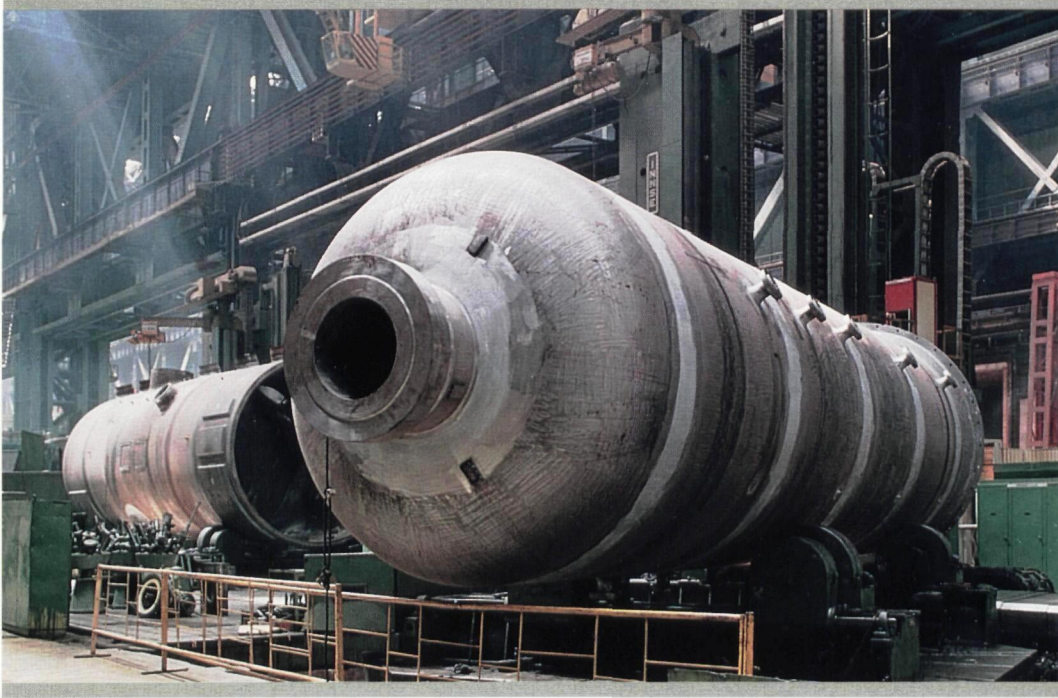
AOOT "Atomash" manufactures and delivers pressure vessels in accordance with requirements of ASME Code, "U1" and "U2" stamps.

I-200 gas scrubber and I-100 separator manufactured in accordance with requirements of ASME Code under contract placed by "Technics Offshore Engineering"-firm, Singapore



Equipment produced by "Atomash" is used at petroleum and gas-refining enterprises in Orenburg, Astrakhan, Nizhnekamsk, Novokuibyshevsk, Vladimir, Volgograd, Yaroslavl, Perm and other towns of Russia and CIS countries, in Singapore and Indonesia.

Manufacture of reactor hydrocracking of petroleum products

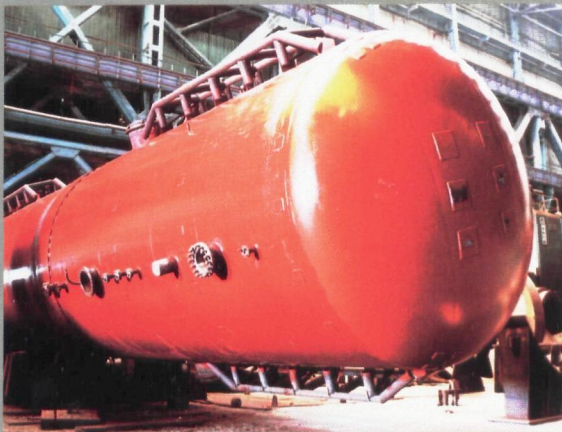






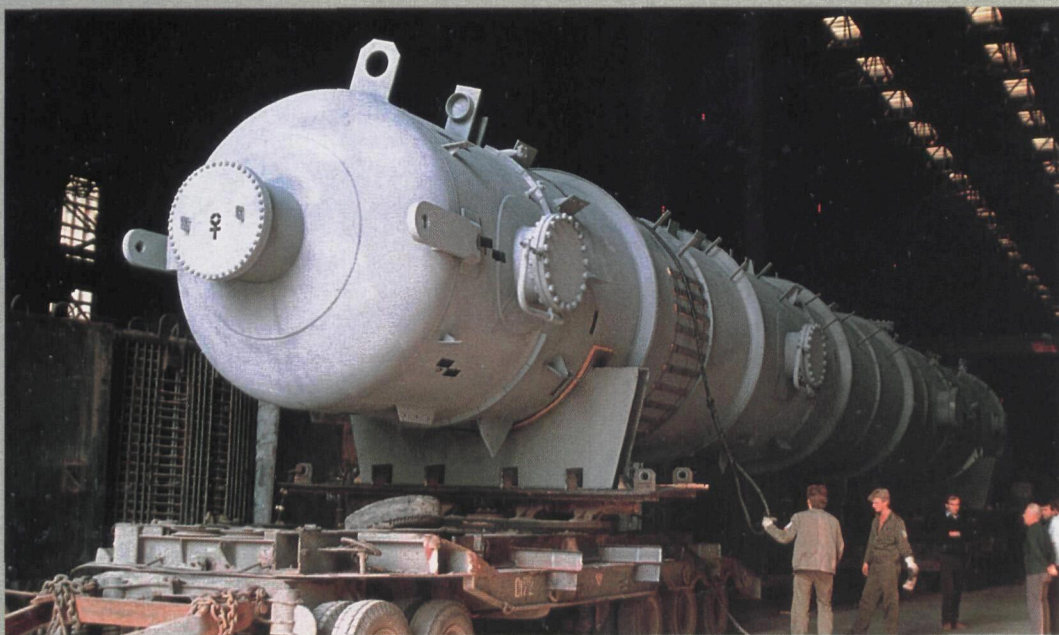
**For petroleum and gas extracting industry we are mastering the output of the following equipment:**

- УНЦ 50x25312 oil-field pumps;
- set of ГОГРП 105/50 equipment for hydroblasting at gas and oil wells;
- Christmas Tree equipment for wells including:
  - ПФА 105/50 Christmas Tree of wellhead;
  - АУ 105/50 Christmas Tree of wellhead;
- wearing parts and spare parts for petroleum and gas-refining equipment including:
  - КПЦ 70/50 cylindrical-plug taps;
  - КШБ 70/50 quick-assembly hinge bends;
  - СБТ 70/50 quick-assembly pipe connections;
  - КРМ1-120/70 pump's valves and others.



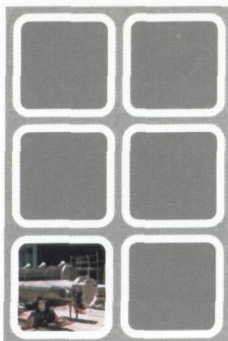
Complete ГП1410 gas separating plant for casing-head gas cleaning on a well is used at "White Tiger" oil field in Vietnam.

**Tank for petroleum products storage of volume up to 600 m<sup>3</sup>**



**Loading of fractionating column on special transport in a workshop**





## HEAT EXCHANGING EQUIPMENT

### Our production range includes:

- shell-and-tube heat exchanger (all versions of designs including for gas and oil production);
- with stiff tube bundles;
- with floating heads;
- with U-tubes;
- double pipe (single flower and multiflower);
- air-cooling equipment;
- heater of condensed feed water for low and high pressure stage (mainly for power generation).

Heat exchanging equipment was delivered to central heat and electric power station of Verkhnyaya Pyshma, Perm and also to nuclear power plants of Russia and other countries.

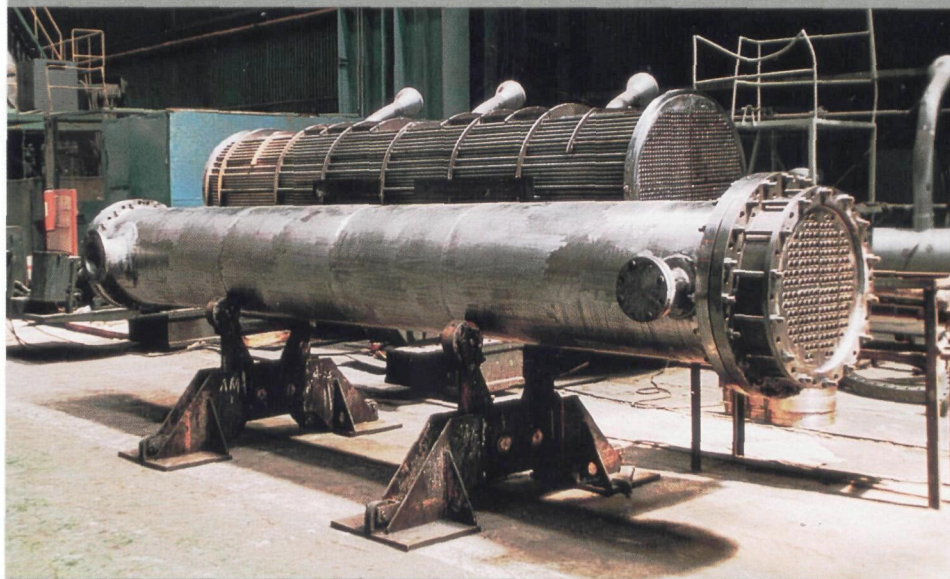
Air cooling equipment and heaters manufactured at "Atommash" works are used at "Uralsktromed" integrated iron-and-steel works in Cherepovets.

### Assembling tube-bundles of a heat exchanger



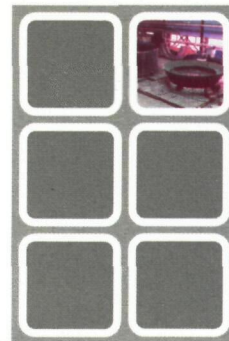
Shell-and-tube heat exchangers are used at enterprises of oil-refining and chemical industries in Dzerzhinsk, Novomoskovsk, Novokuibyshevsk, Moscow and other towns of Russia and CIS, in Indonesia.

### Heat exchanger for Indonesia





## EQUIPMENT FOR METALLURGY AND MINING INDUSTRIES



AOOT "Atommash" is a supplier of equipment for metallurgic works.

**We can manufacture the following equipment:**

### **For metallurgic works:**

- converter shells of capacity up to 400 t. with supporting ring and drive;
- blower for feeding oxygen into converter;
- mixer shells;
- equipment for extra-furnace steel treatment;
- teeming ladle cars, slag cars, ladles;
- charging machines installed on the shop floor;
- heat exchanging equipment;
- rolls for installation of continuous steel casting including sleeved ones.

### **For heat-treating furnaces:**

- frames for furnaces.

### **For rolling mills:**

- roller tables;
- rollers for hot rolling.

### **For coke-producing plants:**

- coke pushers;
- coke quenching cars;
- charging equipment;
- door-removing machines and others.

**AOOT "Atommash" produces for the mining industry:**

- jigging machines;
- ball mills;
- laminated thickeners.



### **Jigging machine frames**

Equipment produced by AOOT "Atommash" is used at the mining and processing enterprises of Krivoi Rog, Yakutia, Orenburg and others.



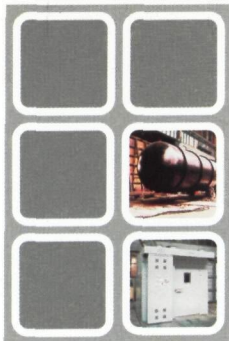
### **Manufacturing of converter shells of diameter up to 10 m for steel works of Novolipetsk**

Equipment produced by AOOT "Atommash" is used at metallurgic enterprises of Novolipetsk, Magnitogorsk, Oskol, Cherepovets, Saint Petersburg, Novokuznetsk, Volkhov and others.



### **Rollers for continuous steel casting unit for integrated iron and steel works of Cherepovets**





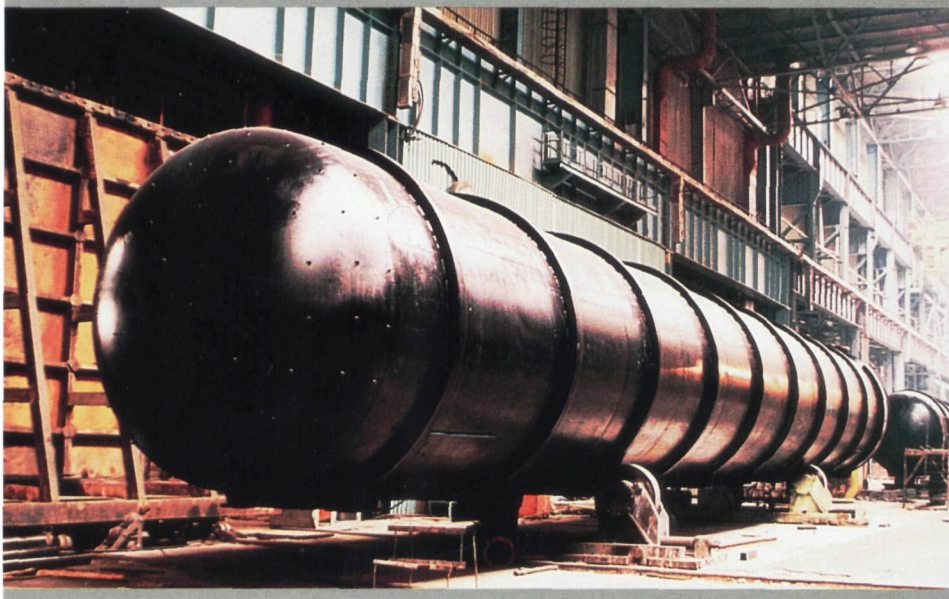
## PRODUCTION EQUIPMENT FOR DIFFERENT INDUSTRIES

### For building industry enterprises:

- autoclaves for thermal humid treatment of building materials providing operative pressure up to 1,2 MPa at a temperature up to 200°C;
- complete sets of equipment for production of building materials of cellular concrete;
- complete sets of equipment for production of blocks, bricks and tiles;
- tanks of various capacity;
- multizone resistance furnaces with microprocessor control systems for heat-treatment of composite materials.



Press for bricks  
fabrication

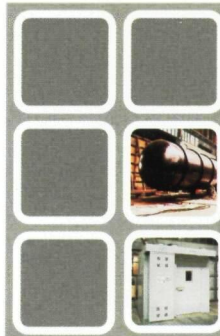


Autoclave systems were delivered by building industry enterprises of Moscow, Kazan, Kiev and Kharkov.

An autoclave for heat  
and humidity treatment  
of building materials



## PRODUCTION EQUIPMENT FOR DIFFERENT INDUSTRIES



### For aluminium industry:

- cathode housing of electrolyser;
- steel structures of electrolyzers.

### For agrarian industrial complex:

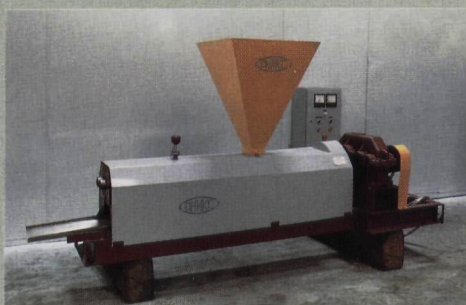
- small size ovens for bakeries of output capacity of 800 kg bread per shift;
- extruders for vegetable oil production of the output capacity of 50 l per hour operated with use of waste free production processes;
- complete sets of meat processing equipment of output capacity up to 200 kg per hour of meat products.



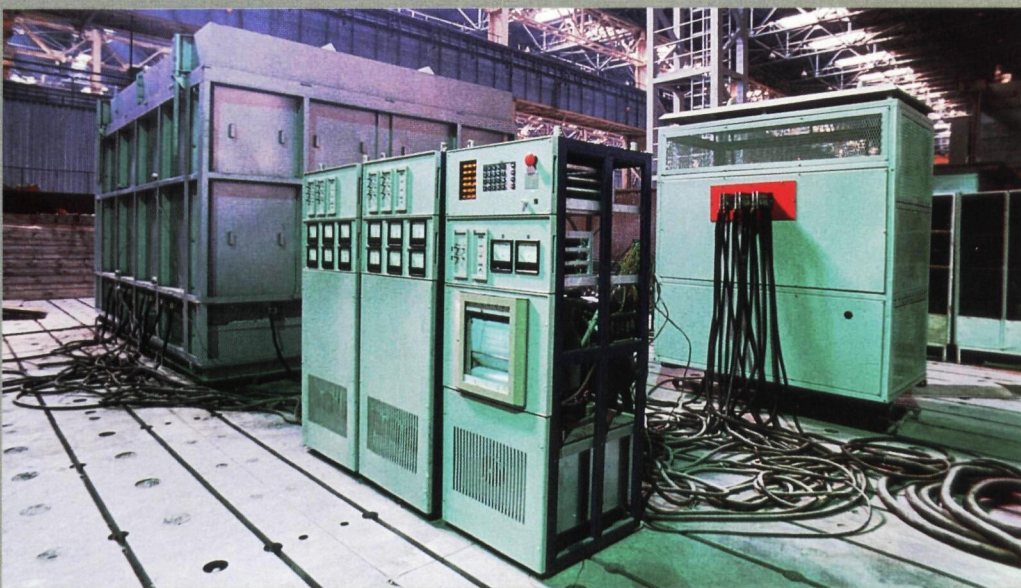
Cathode housing of electrolyser



Small size oven for bakeries



Extruder for vegetable oil production



Multizone resistance furnace with control system, Moscow, "Graphit" - research institute





## WE PRODUCE

### CONSUMERS GOODS

Consumers goods market is supplied with trailers for motor cars, dishes made of faience with manual paintings made in gloss paints and glaze, kitchen wooden utensils and motor cars spare parts.

#### Cargo trailer for motor car

Used by automobilists of Russia, CIS countries, Poland, Bulgaria and others.



#### Plates, dishes and kitchen utensils made of faience



### FOR NON-TRADITIONAL POWER GENERATION

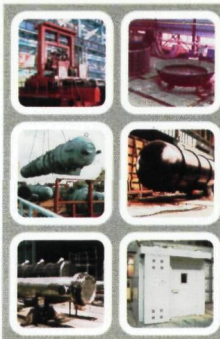
- components of "Raduga-1", "Raduga-250" wind power plants of 1000 and 250 kw accordingly;
- water desalinating units with output 25 and 50 m<sup>3</sup> per hour;
- sewage purification equipment:
- radial settlers of diameter from 25 to 50 m with slime pumping plant provide sewage purification of mechanical impurities and oil-products;
- purification-works for industrial, agroindustrial and domestic sewage's;
- filters and filters blocks including trap-filters and ion exchangers.



"Raduga-1" wind power unit is operated by "Kalmenergo", Elista-sity



## QUALITY



Our quality principle is simple: **quality is assured in our products** beginning from the technical documentation elaboration and ending production delivery to customer.

**Quality system of enterprise** conforms to international standards requirements and is assured by:

- **enterprise management policy** in the sphere of production quality;
- **"Quality inspection programs"** for production;
- high professional level of the staff implementing the QP;
- **modern controlling and testing** equipment made in Russia and abroad.

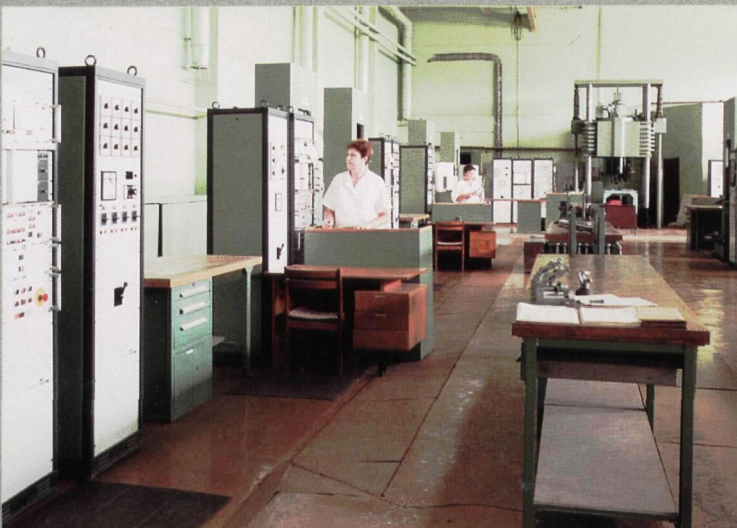
**Quality system of "Atomash" is certified and confirmed by:**

- Gosgortekhnadzor Licences of Russia of designing and manufacture of object boiler inspection and lifting structures;
- Gosatomnadzor Licences of Russia of designing and manufacture of nuclear energy objects equipment;
- Licences of educational activity rights (industrial training);
- State Standards System of Russia;
- Trade Standards System;
- Quality assurance program for manufacturing equipment in accordance with ASME Code ("U1" and "U2" stamps) which is certified by USA National Committee for boilers and pressure vessels;
- ISO 9000 Norms which are being implemented;
- preparative works for ASME Code certification of production under "N" stamp.



**We are sure in our production quality** and ready to take into consideration all Customer's wishes.

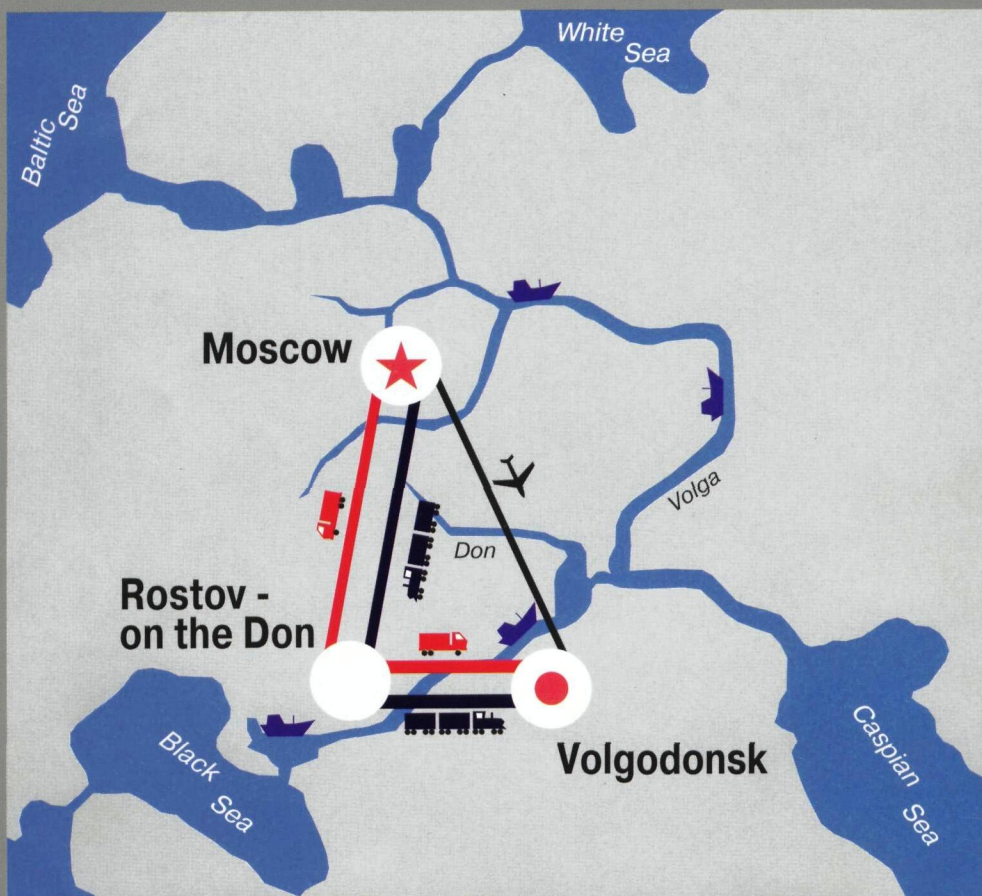
**ASME Certificate and Stamp**



We use the equipment of "Krautkraemer", "Reichert", "Camebax", "LECO", "ARL" firms and others and we have "Linatron" accelerators, "Arasko" X-ray apparatus, ultrasonic test equipment, complex laboratory of mechanical testing of "MFL" firm and other equipment for control and testing.

**Quality controls performed in the Central Laboratory**





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