"SouzEnergo" Concern is a diversified company that specialized in manufacture and supply of pipe fittings, power, industrial, technological, energy-saving equipment and recycling of secondary resources. Our enterprises supply products for thermal and nuclear power engineering, metallurgy, oil and gas, chemical, mining, cement industries.

Foundation of the company was preceded by creation of the Trading House "Souzproduct" in 1996 committed to sale and supply of pipe fittings. Steadily growing sales contributed to the company development and strengthening of its market position, allowed to move to a qualitatively new level of efficient management. The new strategic goal to produce and sell own products has been successfully implemented with the acquisition of industrial assets and creation of an integrated management structure.

"SouzEnergo" Concern was founded in 2002 with aim of consolidation of large industrial enterprises in Severodonetsk and Dnipro, the Valve Industry Institute and some scientific and production instrument engineering divisions.

The next step to expand and diversify our business was construction of the cullet processing plant in Novomoskovsk in 2005 and creation of the UTILTY company - a unique enterprise in its kind of activity in the CIS countries.

At the present time the production assets of "SouzEnergo" Concern are presented by "SOUZENERGOMASH" enterprise, which production facilities are located in the cities of Dnipro and Severodonetsk.

Our representative offices operate in Russia, Kazakhstan and Georgia in the cities of Moscow, Belgorod, Astana and Tbilisi.

Accumulated for many years experience in process equipment manufacturing, engineering, design, installation and commissioning works, turnkey facilities construction, harmonized cooperation of the management company and manufacturing plants allows us to deliver quality products and carry out high complexity tasks within the terms claimed by customers. Respect and attention to all the partners allowed us to win the confidence of our businesses.

We have a successful and fruitful experience in the supply of equipment to more than 30 countries, including Pakistan, India, Vietnam, Iran, Cuba, Belarus, Kazakhstan, Moldova, Georgia, Russia. The range of the deliveries is constantly expanding.

Concern "SouzEnergo" is always ready to consolidate the efforts to solve problems in the manufacture of equipment, implementation of complex projects and construction of a high degree of complexity objects.

The mission of the "SouzEnergo" Concern is manufacture and supply of high-quality products, provision of services based on our own design and manufacturing capacities, advanced scientific and technological achievements and the global engineering experience.

A fundamental principle of our work is determination and understanding the needs and expectations of the consumers.

Our business philosophy is mutually beneficial long-term partnerships.
Quality management system

The activity of our company is carried out through a system of interrelated processes, aimed at continuous improvement of the quality management system with a mandatory provision and confirmation of products compliance to legislative and regulatory certification and safety requirements.

A quality management system has been implemented and certified within the "SouzEnergo" Concern. The system is now successfully operating for customer satisfaction and delivery of quality products.

The "SouzEnergo" Concern is a supplier of SOE "NAEC Energoatom" and has all the technical possibilities for manufacturing and assuring the quality of equipment supplied to nuclear power plants.

Satisfaction of consumers requests by meeting all the requirements for the production, design and development of new equipment, compliance with technical conditions and quality process management have become the basis of the "SouzEnergo" business philosophy.

Managers of the "SouzEnergo" Concern constantly carry out activities related to the business processes and effective functioning of the quality management system according to the applicable international standards.

To carry out measurements and quality control there are certified laboratories functioning at all the production facilities of "SouzEnergo" Concern.

We perform measurements during the following control and test types:
- Incoming inspection of materials, components and equipment;
- Visual and measurement control;
- Capillary testing;
- Radiographic testing;
- Ultrasonic testing;
- Magnetic particle inspection;
- Mechanical tests;
- Metallographic examinations;
- Intergranular corrosion resistance tests;
- Steelloscopic tests;
- Tightness test;
- Spectral analysis;
- Chemical analysis;
- Determination of material hardness.

All products are certified and supplied with the declarations of conformity and certificates of conformity according to the applicable technical regulations on safety and the European directives.

Engineering Department

The Engineering department is active in design and development of a competitive high-tech equipment on the basis of process research, development of new calculation methods and introduction of advanced designs and technologies using the latest advances in science and technology.

Our design engineers carry out research and development in the field of power engineering, metallurgy, petrochemical and gas industry.

The Engineering Department offers:
- Design and development of industrial valves and processing equipment, including customized to the customers needs;
- Designing and manufacturing of steam coolers for pressure-reducing desuperheating stations integrated in the steam and hot water pipelines;
- Development of technical documentation for manufacturing of pipe fittings;
- Development of documentation for manufacturing of elements for various purposes pipelines;
- Drafting and compilation of working documentation for the manufacture of steel structures;
- Technical expertise of pipe fittings to determine the actual state and the remaining service life of the key parts and components;
- Technical expertise of the valve drive elements;
- Introduction of new products including development, manufacturing and testing stages;
- Upgrade of serial fittings and components.
**PRODUCTION**

“SOUZENERGOMASH” is one of the largest machine-building enterprises in Ukraine, the main production asset of the “SouzEnergo” Concern, which has production facilities in Dnipropetrovsk and Severodonetsk.

The products are manufactured according to the customer requirements and applicable operating standards, regulations and directives of Ukraine, CIS countries and the EU.

Product quality is ensured by the technological capabilities of the equipment, highly qualified personnel, multistage process control, which is confirmed by a standardized certificate or a registration certificate of the standard type. The manufacture is certified to ISO 9001:2008 and is fully compliant with national and international standards. Implemented internal quality control system ensures compliance of products with the requirements of DSTU, DSTU GOST, GOST, DSTU U, PNAEG RD.

We have combined our best technology, expertise and experience of our employees in order to keep pace with the times and to carry out any complexity degree of such fields as:
- Foundry;
- Forming;
- Machining;
- Welding and welding;
- Heat treatment;
- Product laboratory testing;
- Product assembly and testing;
- Engineering services.

The foundry is equipped with a yard, modeling, molding and shot blasting machinery; steel furnaces, ladles, thermal furnaces.

Forming operations are carried out with presses and forging equipment using preheated in the heating furnace billets. Machining is performed in metalworking centers with numerical control as well as with specialized and universal equipment of different purposes: boring, revolving, turning, milling, drilling machines. Sheet metal is processed with milling machines of different capacities.

The company has a procurement department provided with plasma cutting machine, guillotines, shears, saws and flanging machines.

Pipes are processed with benders, in preheated by induction or cold state, and a fin forming machine. Welding and welding are performed using build-up machines, fully- and semi-automatic welding machines.

“SOUZENERGOMASH” has a complete production cycle, the company's products are accessible at affordable prices not only domestic but also foreign buyers. High product quality, timely order execution, pre-sale preparation of the products and convenient delivery logistics are integral parts of the customer services.

“SouzEnergo” Concern produces pipeline fittings of different purposes and sizes, heat-and-power equipment, boilers, industrial and technological equipment for metallurgy, nuclear and thermal power plants, chemical, oil and gas industries.

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**PRODUCTS**

We offer you the list of our major products and services. We also manufacture pipe fittings and industrial machinery according to drawings and requirements of the customer, and we develop design and technological documentation if demanded as well.

**PIPELINE FITTINGS**
- General purpose industrial pipeline fittings;
- Power engineering pipeline fittings;
- Segment (leaf) gate valves for steel industry;
- Fittings for oil and gas industry;
- Fittings for nuclear power plants.

**General purpose industrial pipeline fittings:**
- Steel wedge valves DN 50-1200 PN 16-25 kgf/cm²; DN 50-600 PN 40 kgf/cm²; DN 50-500 PN 63-80 kgf/cm²; DN 50-250 PN 160-250 kgf/cm²; DN 50-2600 PN 1-10 kgf/cm²;
- Check valves and sealing valves PN 100-1200 PN 16-160 kgf/cm²;
- Check valve gates DN 50-1200 PN 16-80 kgf/cm²;
- Disk and sealing pivot gates DN 200-1600 PN 0.05-25 kgf/cm²;
- Cut-off valves.

**The main line of our work is design and development of power industry pipeline fittings:**
- Cast wedge valves for water and steam DN 100-450 PN 40-380 kgf/cm², t 280-560°C with electric, manual, bevel or cylindrical gear actuator types;
- Check valves for water and steam DN 6-80 PN 100-380 kgf/cm², t 280-560°C with electric, manual, bevel or cylindrical gear actuator types;
- Pulse valves DN 20 and larger, PN 0.8-42 kgf/cm², t up to 450°C;
- Cast steel check valves DN 20-400 PN 100-380 kgf/cm², t up to 560°C;
- Safety valves DN 125-400 PN 40-250 kgf/cm², t up to 560°C;
- Control valves DN 10-350 PN 100-380 kgf/cm², t up to 560°C;
- Steam coolers DN 50-1000 PN up to 250 kgf/cm², t up to 560°C;
- Water level indicators DN 10-20 PN 25-155 kgf/cm², t 450°C.

**Services:**
- Production and kitting of pipeline fittings, elements of reducing units, reducing and cooling units, high-speed reducing and cooling systems according to the customer requirements;
- Complete supplies of fittings and fitting parts and components (spare parts, including seals) and accessories;
- Development of engineering, design and technical documentation for revision, repair, testing, commissioning and operation of the valves.
- Technical expertise of fittings to determine the actual state and the rest service life of the key parts and components;
- Inspection, testing, repair and maintenance of valve actuators;
- Fabrication of original fitting units and parts;
- Valve testing;
- Improvement of the standard valves and components in accordance with new standards and quality requirements.

Each product is accompanied by a quality certificate of the manufacturer.
POWER INDUSTRY EQUIPMENT

Pipelines and pipeline elements:
- Pipelines and pipeline elements made of pearlitic and austenitic steel grades including:
  - Straight sections;
  - Bends;
  - T-branches;
  - Adapters;
  - Supports and suspensions, including those of spring type;
  - Compensating pieces for pipelines of various types;
  - Units with diaphragms, nozzle units.

Boilers, spare parts and components for boilers:
- Industrial water boilers of up to 20 MW thermal capacity, complete sets;
- Water heaters of KVGVM (PTVM) series within the volume of the main mounting blocks;
- Steam boilers of DKVA-10-23 (39) type; TP-35, TP-20, B-35-40, K-35-40 types; BK2-75-39, E-3-40 types;
- Boiler drums and pressure vessels (working pressure 4.0 MPa);
- Boiler heating surfaces (screens, water economizers, superheaters, air heaters, collectors, steam coolers) with a productivity of 630 t/h, or up to 2500 t/h for the direct-flow design;
- Steam heaters for heating networks, heat exchangers of various types;
- LDPE, HDPE and MDPE spirals of all types;
- Spare parts for draughting equipment and centrifugal pumps;
- Processing equipment, gas cleaning and tank equipment;
- Heating surface pins;
- Scaffolds for installation works.

Dynamic power engineering equipment:
- Wheels for smoke exhaustors;
- Mill exhaustors;
- Hot blast fans.

Spare parts for smoke exhaustors and fans: blades of different impellers, vanes of straightening machines, straightening machines flaps, fore parts, vane, cast and forged hubs (centers), rotors, shells.

Foundry products:
- Lining plates for tumbling mills (SH 10, SH12, SH16, SH32, SH50, SH50A);
- Lining plates for cement mills;
- Burner nozzles of high-temperature alloys;
- Carbon steel casts;
- Stainless steel casts;
- Casts of gray cast iron with nodular graphite;
- Casts of copper alloys.

Liner bolts:
- M20-M42 liner bolts with nuts for mounting of ball mill lining, up to 300 mm long, made of steel 3 or steel 20 grade.

Products made of finned tube:
- Tubes of pearlitic and austenitic steels, of 18 - 89 mm diameter, up to 11 m long, fin pitch of 4 to 10 mm, fin height 8-25 mm.

Tanks, reservoirs, containers:
- Any dimensions according to the specifications and drawings of the customer.

Services:
- Installation, repair and improvement of steel structures and tubular boiler parts, heat-recovery boilers, self-contained steam superheaters and economizers, centrifugal pumps;
- Installation, repair and reconstruction of steam and hot water boilers, pressure vessels, heat exchangers;
- Precommissioning of steam and hot water boilers, waste heat boilers, steam and hot water pipelines, and steam and gas turbines running on different fuels;
- Rebuilding and modernization of cooling towers implementing an ejection cooling technology;
- Industrial construction.

NUCLEAR POWER ENGINEERING EQUIPMENT:

Pipeline fittings made of pearlitic and austenitic steel grades, of the types and groups 2B11a, 2B11c, 2B12c, 3C12a, 3C12c according to OTT-87, meeting the requirements of PN AE G-7-008-89, which are manufactured in accordance with the regulatory guidelines set out in the PR-D.06.555-16, including:
- Pressed and welded shutters
  - DN 50-800 PN 16 kgf/cm², 25 kgf/cm², 40 kgf/cm²;
  - Pressed and welded shutters
  - DN 150-250 PN 10 kgf/cm²;
  - Pressed and welded shutters
  - DN 400-600 PN 6 kgf/cm²;
  - Pressed and welded shutters
  - DN 800-1000 PN 4 kgf/cm²;
  - Forged rotary gates
  - DN 50-200 PN 25 kgf/cm², 40 kgf/cm²;
  - Back valves
  - DN 200-800 PN 25 kgf/cm², 40 kgf/cm², 110 kgf/cm²;
  - Pivot disk gates
  - DN 150-1000 PN 10 kgf/cm², 25 kgf/cm².

Products of foundry and forging and pressing division are manufactured according to standard documentation (see Annex 9 PN AE G-7-008-89).
- Cast parts weighing up to 3000 kg;
- Forged parts weighing up to 300 kg.
The **UTILITY company** is a glass processing business of the «SouzEnergo» Concern, implementing a comprehensive approach in cullet processing including collection, further processing and sale of the clean cullet directly to glassworks.

**Our mission is to achieve a synergy of the environmental benefit and economic viability.**

UTILITY was the first and only company in Ukraine and the CIS, which has introduced a European technology for the processing and cleaning of recycled glass, and in December 2008 put into operation the first in the CIS and the only Ukrainian cullet cleaning plant. Our products meet the requirements of leading European and global glass manufacturers. European production equipment, innovative technical solutions and the use of the most modern optical separators allows us to prepare the cullet ready for direct use in the glass furnaces batching.

Our strategy, which we are strictly following aimed at meeting the needs of its partners, is “waste as a source of raw materials for an assured future.”

An extensive experience has been accumulated in glass cullet collecting and processing. The **UTILITY** subdivisions cooperate with large and small local cullet collectors all over Ukraine. We are interested in each vendor, regardless of the glass volume: would be less than a ton or a number of wagons. We extract and process secondary raw materials for further recycling in the production.

The glass recycling process at the **UTILITY** factory is a completely closed technological cycle excluding waste formation. The process is based on the “dry cleaning” procedure, which eliminates the use and pollution of water. The technology does not require natural gas, what is a guarantee of CO2 emission reduction.

Our company is a full member of the following two Glass Industry Federations: FERVER (European Federation of Glass Recyclers, Brussels, Belgium) and Glass Industry Business Association “Glass of Ukraine” (Kiev, Ukraine).

Detailed information is available on the web at [www.stekloboy.com](http://www.stekloboy.com)
One of the «SouzEnergo» Concern activities is a nuclear instrument engineering, which is carried out by SPC “Spectrum”.

SPC “Spectrum” was founded in 1988 by a group of researchers of the Nuclear Research Institute of NAS of Ukraine, who had been engaged in the instrument engineering problems of nuclear radiation protection of for decades.

SPC “Spectrum” has been successfully cooperating for many years with all the nuclear power plants of Ukraine in the development, manufacture and supply of gamma and beta spectrometers, as well as the repair of electronic equipment, which is a part of the spectrometric channel, including expensive semiconductor detectors of any manufacturer.

The gamma and beta spectrometers are equipped with shield-chambers of the original design, developed and manufactured by the Concern. These spectrometers have successfully passed state tests and are included in the State Register of Ukraine. Equipment manufactured by the «SouzEnergo» Concern is being supplied to Japan where it is used to implement the safety measures at the "Fukushima-1" nuclear power plant.

Experts of SPC “Spectrum” are carrying out commissioning of all supplied equipment directly in the consumer’s workplace. The operating personnel receives full training according to the individual courses.

Stationary gamma radiation spectrometer (single-channel) SEG-50 (Ge). Single-channel gamma spectrometric complex SEG-50 (IP), complete with a detector made of high purity germanium (HP-Ge) is designed for precision measurement and research in nuclear spectroscopy studies in specialized laboratories. The complex allows to accurately determine the volumetric and specific activity of gamma-emitting nuclides in the energy range of 40 keV to 100 000 keV.

Stationary gamma spectrometers SEG-50 (Cs). Single-channel gamma spectrometer installation SEG-50 (Cs), equipped with a scintillation detector based on the crystal NaI (TI), is designed to determine the specific activity of gamma emitting radionuclides in water, food, soil and building materials samples with a low content of radionuclides.

Stationary single-channel beta spectrometer SEB-50 (phoswich). Single-channel spectrometer beta SEB-50 (phoswich) is designed for determination of 90Sr isotope 90Sr and background of the activity of 40K and 137Cs in a concentrated sample. As a result of 90Sr (β-decay) (T1/2 = 28.74 years, Emax = 546.2 keV) the 90Y β-active nuclide (T1/2 = 64.10h, Emax = 2281.5 keV) is formed the emission spectrum of which gives basic information about the activity of 90Sr.

Portable gamma spectrometer MIG-051. Portable gamma spectrometer equipped with a scintillation detector based on NaI crystal (TI), it is designed to determine the specific activity of gamma-emitting nuclides in bulk samples (such as construction materials - sand, slag, brickstone, timber and in food products - cereals, beans, vegetables, fruits, seafood, etc.).

MIG-053 - compact gamma-ray spectrometer for the analysis of food and construction materials. Compact gamma spectrometer MIG-053 is designed to determine the specific activity of gamma radionuclides of natural origin (K-40, Th-Nat, Ra-Nat), as well as induces radionuclides (134Cs, 137Cs, 60Co, etc.) in food products, samples of soil and building materials. Small size and weight allow it to be installed directly on the desktop.

The “SouzEnergo” Concern has implemented a number of projects at metallurgical enterprises of Ukraine for the construction of “turnkey” gas-cleaning units, including a full product development cycle ranging from design, manufacture, supply, putting into operation up to commissioning.

In November 2005, the “SouzEnergo” Concern has organized an international scientific-practical conference dedicated to the use of electrostatic precipitators for dust removal from the flue gases of thermal power plants and steel mills, where the latest developments in this field were presented. The conference was held on the IONBLAST and IBO-CORONA technologies, presented by the German company Balcke Durr, which “SouzEnergo” concluded a cooperation agreement with. Those technologies not only provide conformity with the most stringent environmental standards, but are also reducing the energy intensity of gas-cleaning systems. Since then such systems have become available for Ukrainian consumers.

The experts of “SouzEnergo” with support of Ukrainian design institutes have conducted a research on the effectivity of dust separation taking into account the experience of operation of electrostatic precipitators in thermal power plants and steel mills, and created some advanced gas purification and waste emission recovery systems. The tests confirmed that the developed by “SouzEnergo” design of electrostatic precipitators ensure effective dust removal. A number of serious problems have been solved with that, in particular, not all the filters could clean hot process gases. Furthermore, it was required to avoid the risk of explosion as a result of high concentrations of combustible compounds in the cleaned gases.

In 2006 a suction cleaning system for emissions gases of cast houses and skip pits of blast furnaces number 1 and number 2 at the Azovstal iron and steel works has been built. The system was based on the electrostatic precipitator EA 252-3 of 200 000 m³/h capacity, which provides dust concentration of not more than 30 mg/m³ in the outlet gases. The facility is operated by an automatic control system.

In 2007, “SouzEnergo” Concern has built and put into operation two gas treatment installations for ladle furnaces in the oxygen-converter shop at Azovstal iron and steel works, where cell electrostatic precipitator - a completely new type of gas treatment unit were used. The ION BLAST technology has several advantages comparing to the traditional gas cleaning, in particular: compactness, 3 times lower weight, low power consumption, higher gas cleaning degree, natural decline in the secondary dust removal, etc.

Also in 2007, within the process of design and construction of gas treatment complex with waste heat boilers for the open-hearth furnace number 3 at Iliich Steel and Iron Works (Mariupol, Ukraine) design engineers of “SouzEnergo” have resolved the issue of explosion risk of gas-cleaning units used in the open-hearth production, and have provided recycling of the open-hearth furnace waste gas heat. The gas treatment complex has been equipped with an automatic CO explosion protection system.

In 2010-2011 “SouzEnergo” Concern has been working on construction, supply and installation for:
- Zmiiv TPP (Kharkiv region, Ukraine) - TP-100 boiler of the 200 MW unit;
- Starobeshevo TPP (Donetsk region, Ukraine) - packs of coils in the second stage of water economizer in the TP-100 boiler of 200 MW unit at station number 7;
- Iliich Steel and Iron Works (Mariupol, Ukraine) - steam pipeline from the heat station to the turbine of new turbogenerator;
- Zuzivska TPP (Donetsk region, Ukraine) - lower radiator part of the TPP-312A boiler in the unit number 2 of the 300 MW capacity.