RADIATION MONITOR «YANTAR-1P3»

Is used at PEDESTRIAN and POST/BAGGAGE checkpoints

Detection thresholds, no more than

Width of the search area 1.5 m	
Cs - 137	80 kBq
Co - 60	40 kBq
Ba - 133	65 kBq
Pu	0.3 g
U	10 g
Pu shielded	52 g

Note: Pu - sample of highly-enriched Pu-239, U - sample of highly-enriched U-235

Detection channels		gamma, neutron
Gamma detector		1 plastic 4.6 L
Neutron detector		2 counters 0.6 L each
Parameters of the search area[1]	Width	1.5 m
	Height	2 m
Speed of the controlled object		5 km/h
Power consumption		45 W
Operating temperature		From -50°C to +50°C
Overall dimensions of a pillar		542x1853x201 mm
Weight		145 kg

Detection probability of the given masses of nuclear materials is 0.5 at level of confidence 95%, maximum background intensity 20 μR/h and maximum false alarm rate 1/1000

Note:

- Can be supplied with an identification module

- Can be supplied without neutron channels

RADIATION MONITOR «YANTAR-2P»

Is used at PEDESTRIAN entry control points

Detection thresholds, no more than

Width of the search area 3 m	
Cs - 137	44 kBq (11 kBq)
Co - 60	23 kBq (7 kBq)
Ba - 133	35 kBq (11 kBq)
Pu	0.3 g
U	10 g
Pu shielded	52 g

*Note:*Pu - sample of highly-enriched Pu-239, U - sample of highly-enriched U-235

Detection channels		gamma, neutron
Gamma detector		4 plastics, 4.6 L each
Neutron detector		8 counters 0.3 L each
Parameters of the search area	Width	3 m
	Height	2 m
Speed of the controlled object		5 km/h
Power consumption		60 W
Operating temperature		From -50°C to +50°C
Overall dimensions of a pillar		680x2080x255 mm
Weight		500 kg

Detection probability of the given masses of nuclear materials is 0.5 at level of confidence 95%, maximum background intensity 20 μR/h and maximum false alarm rate 1/1000

Note: Sensitivity of gamma channel can be increased with replacement of gamma detector: 4 plastics, 7.1 L each (this modification does not have a neutron channel)

- Can be supplied with an identification module

- Detection thresholds at the 0.7 m search area are shown in brackets

- Can be supplied without neutron channel

RADIATION MONITOR «YANTAR-PB»

Is used at PEDESTRIAN and POST/BAGGAGE checkpoints

Detection thresholds, no more than

Width of the search area 1.5 m	
Cs - 137	25 kBq
Co - 60	13 kBq
Ba - 133	20 kBq
Pu	0.15 g
U	6 g
Pu shielded	35 g

Note: Pu - sample of highly-enriched Pu-239, U - sample of highly-enriched U-235

Detection channels		gamma, neutron
Gamma detector		1 plastic 4.6 L
Neutron detector		3 counters 0.6 L each
Parameters of the search area[1]	Width	1.5 m
	Height	0.7 m

Speed of the controlled object	5 km/h
Power consumption	45 W
Operating temperature	From -50°C to +50°C
Overall dimensions of a pillar	2750x1898x572 mm
Weight	170 kg

Detection probability of the given masses of nuclear materials is 0.5 at level of confidence 95%, maximum background intensity 20 μR/h and maximum false alarm rate 1/1000

Note: Can be supplied without neutron channel

CONTAMINATION PROBE «IRS-02A»

PURPOSE
Checking of cash for radioactive contamination
APPLICATION:
Banks, offices. The device is to be mounted in the desk of the cashier-operator

FEATURES

- Type of radiation: gamma, beta
- Possible setting of the alarm threshold
- Sound and visual alarm
- Possible connection of detectors into the network via the RS - 485 channel

TECHNICAL DATA:

Beta flux density measurement range, $min^{-1}cm^{-1}$	$10 - 10^4$
Detected beta radiation energy range, MeV	0,15 - 3,5
Detected gamma radiation energy range, MeV	0,06 – 1,5
Sensitivity against Sr-90 + Y-90, $pulse/cm^2$	0,5
Sensitivity against Cs-137, (pulse/s)/(μSv/h)	1,0
Overall dimensions, mm	220 x 145 x 85
Weight, kg	3

NEUTRON SEARCH DETECTOR «NSD-A03»

PURPOSE

- Search for neutron sources
- Search for Pu contamination
- Inspection of nuclear waste
- Monitoring of neutron radiation fields

DETECTORS

- Neutron detector: 6 ^{3}He counters in polyethylene moderator
- Gamma detector: CM counter

APPLICATION:

The major application area is the control for illicit trafficking of nuclear materials. The device can be used at customs checkpoints, airports, special processes, etc.

BASIC DATA

Absolute neutron efficiency of the detector (for fission spectrum), $s^{-1}cm^{-2}$	20
False alarm rate, per 10 min	1
Dust and moisture protection	IP54
Operating temperatures, °C	- 20 + 50

Continuous operation, h	16
Weight, kg	5
Overall dimensions, mm	300 x 150 x 200

FEATURES:

- Advanced functions of search for and localization of radiation sources
- Measurement of gamma radiation EDR to ensure safety of personnel
- Operation of all functions with five buttons
- High enviromental stability

MAIN OPERATION MODES

SEARCH

Search for neutron sources by comparing the current counting rate of the neutron detector with the threshold value with regard for statistical significance.

Characteristics:

Detection, at the distance 1m on the move at the speed 0.5 m/s af a Cf-252 neutron sorce with the neutron flux, s^{-1}	$1,5 \times 10^4$
Detection, at the distance 1m and exposure for 5 s, of a weapon grade Pu sample with the weight, g	100

DOSE RATE

Measurement of gamma and neutron EDR

Characteristics:

Radiation type	Measured quantity	Measurement range	Energy range of measured radiation, or nuclide	Basic error, %
Neutron	EDR, μSv/h	$1 - 10^3$	Pu - Be source	±40
Gamma	EDR, μSv/h	$1 - 10^4$	0,03 - 1,5 MeV	±30

Search for and localization of neutron sources with light and sound indication at frequencies proportionate to radiation intensity.

SERVICE FUNCTION:

Timer/counter mode

Set up of measurement parameters

Storage of measurement results in NVRAM

Data exchange with PC

CONTRABAND DETECTOR «DIP-A01M»

PURPOSE AND AREA OF APPLICATION

The instrument serves to detect smuggling things (weapon, explosives, drugs, foreign currency), which are placed behind panels, partitions, or within a closed space.

APPLICATION

At the security and customs inspection services

OPERATION

Operation of the instrument is based on the effect of gamma radiation back scattering. Radiation from the source penetrates the object under inspection (through the casing, packing material, partition, etc.) and scatters. Part of the scattered radiation is registered by the detector in the instrument. The intensity of the registered radiation depends on the presence of a scattering item and its properties (average density of scanned space). Intensity variations of the registered scattered radiation, whose relative values are displayed, allows judging the variations in the density of the object. Density variation in the places, where it should be invariable, is the sign that there are some smuggled things or hiding-places in the search area.

FEAUTERS

- Small size, hand-held type
- Ba-133 gamma radiation source
- Two control pushbuttons
- Automatic backlighting of display
- Sound indication
- Possibility of headphones using in noisy environment

TECHNICAL DATA

Radionuclide activity, MBq	1 - 0,1
Type of detector	Nal(TI)
Scanning depth	Up to 300
Power supply	3 ÀÀ size rechargeable batteries
Continuous operation time, h	20
Overall dimensions, mm	230 x 100 x 60
Weight, kg	1,1

COMPLETE SET

- DIP-A01 with a set of rechargeable batteries
- Charger
- Carrying bag
- Head-phones
- Instruction manual

MOBILE RADIATION MONITOR «GRANAT»

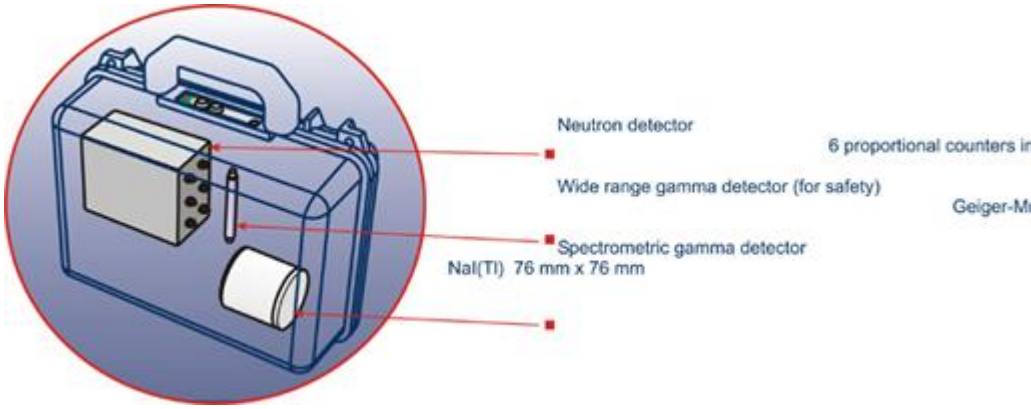
PURPOSE

Detection and identification of radioactive and nuclear materials during inspection of various sites and territories with hidden application possibility

APPLICATION

- Site inspections
- Area radiation monitoring
- Control over trafficking of nuclear and radioactive materials
- Radiation control at check points

DETECTORS



FEATURES

High sensitivity
Real-time search, localization and identification
High stability
Storage of spectrum, measurement results and GPS data
Easy to use - one hand, two buttons
Wireless data transfer

ENVIRONMENT RESISTANCE

Protection class - IP67
Temperature range -20...+50 ^{o}C

ONLINE MODE

Search of sources, classification of radionuclides in types, saving of spectra
Controlling of the device from the external panel

EXPERT MODE

Setting of measurement parameters
Viewing of identification results
Processing of spectra and using of radionuclide library

FEATURES

Energy range	0,05...3 IyA
Relative energy resolution	< 8%
Number of saved spectra	1000
Gamma channel sensitivity	detection of nuclear material causing a dose rate 0,05 μSv*h^{-1} at the detector surface
Sensitivity of neutron channel	detection of a ^{252}Cf source at 1m distance moving at 0.5 m/s and having flux density 1.5*10^{4}s^{-1}
Battery life	> 16 h
Dimensions	406*330*174 mm
Weight	< 10 kg

SET OF TECHNICAL MEANS FOR RADIOISOTOPIC THICKNESS MEASURING ASSEMBLIES «KTS-RT»

PURPOSE

Building and update of radioisotopic thickness gauges.

APPLICATION

Noncontact measuring of thickness of various items and materials. The set is intended for application as part of thickness measuring assemblies with a Cs-137 based radioisotopic source.

PRACTICAL USAGE

KTS-RT was used to build two thickness measuring assemblies for measurement of wall thickness of pipes rolled at pilger mills at Seversk Pipe Plant.

COMPONENTS

UDS-GT Plastic scintillator based gamma detecting device;
BIT-01 Thickness measuring assembly indication unit;
USP-25 Communication and power supply device.

UDS-GT provides:

Registration of gamma radiation with its conversion into pulses with pulse repetition rate of up to 6 million cps;

Count of registered pulses for the set time intervals (with a possibility to set different count intervals) and output of the values received via RS-485 interface to BIT-01;

Measurement of temperature inside the detecting unit case and transmission of its value to BIT-01;

Automatic stabilization of the detecting unit parameters to ensure the set accuracy and conversion of gamma radiation level.

BIT-01 provides:

Indication of the current estimated thickness of the measured material, temperature inside the detecting unit (UDS-GT), locking signals, self test results, values of the set parameters;

RS-232/RS-485 conversion;

Possibility to calibrate conversion of the radiation level into the thickness of the measured materials;

Data exchange with external computers;

Controlling of data output to display;

Receipt of external controlling signals.

USP-25 provides:

Power supply of the UDS-GT, BIT-01 units, from industrial AC line 220 V 50 Hz;

Conversion of RS-232/RS-485 interfaces to link UDS-GT and BIT-01.

BASIC SPECIFICATIONS

The accuracy of the thickness measurement depends on the characteristics of the radiation source used. For example, at the Seversk Pipe Plant, the assembly with a Cs-137 collimated radioisotopic source of 13.6 Ci activity ensures measurement of steel pipes wall thickness during pipe-rolling with accuracy not worse than 0.5% with the total thickness of wall varying from 10 to 60 mm.

Installation "Ideal".

"Ideal" – it is intended for receiving environmentally friendly, physiologically useful and biologically valuable drinking water from a water supply system.

Installation carries out:

- Water destruction, change of oxidation-reduction potential about its approach to the value corresponding to the internal circle of the person;
- Destruction and suppression of reproduction of microorganisms (full microbiological cleaning), improvement of organoleptic properties of water;
- Removal of phenols, nitrates and nitrites, destruction hlororganik;
- Water purification from chlorine, chlorine - and the containing floras of pesticides, phenols, the heavy metals, the dissolved iron, rigidity salts;

Water is suitable for the use in the raw, in it microcells necessary for an organism remain, the biological value of water promoting improvement of a metabolism in a human body is increased.

Destrukturization of water occurs in the diaphragm electrolyzer where it passes oxidation and restoration stages in anode and cathodic cameras of the electrolyzer.

Ions of heavy metals are neutralized and turn into biologically inactive and nontoxical forms, characteristic for their natural existence in the nature.

Besides, only in the Ideal installation without any chemical additives, at preservation of full biocompatibility, water turns into the effective antioxidant promoting, normalization of functions of cellular membranes of a human body.

Water consistently passes 3 modules of processing of water in the Ideal installation:

1. Module of polymeric cleaning:

- cleaning of mechanical particles more than 3.5 microns in size;
- sorption and cation-exchange on porous monolithic polymer;
- deferrization;
- destruction of microorganisms by means of active silver.

The filtering element of the filter is made on conversion technology on the basis of the porous monolithic polymer possessing at the same time properties of the microfilter, an active sorbent and the cation exchanger. Entered into a filter body silver gives additional bactericidal effect.

Water purification in the module happens in two stages:

Mechanical cleaning. Twisting labyrinths of a time of the polymer, the having sizes about 3.5 microns, mechanically detain insoluble impurity: rust, insoluble chemical compounds, sand, clay, microseaweed, oil products, etc.

Chemical cleaning. The main functional property of this ion-exchange polymer is its chemical activity, allowing to connect and by that to clear water of chlorine, chlorine - and the containing fluorine of pesticides, phenols, heavy metals, etc. Thus, in water there is calcium necessary for an organism and magnesium.

Due to ion-exchange properties salts of rigidity and the dissolved iron are removed from water of salt of heavy metals.

At the expense of the developed internal surface of a microporous material chlorine and organic compounds is removed.

The active silver entered directly in a cartridge prevents reproduction of the filtered bacteria and an intestinal stick.

2 . Electrochemical module (the diaphragm electrolyzer).

The module provides change of oxidation-reduction potential with approach it to the value corresponding to the internal circle of the person, additional destruction and suppression of reproduction of microorganisms, improvement of organoleptic properties of water, destruction hlororganik.

Water is exposed to oxidizing destruction in electric field between electrodes.

The electrochemical module doesn't contain filters or sorbents. In it the microorganisms which were in water aren't late and don't collect, and ions of heavy metals are neutralized and turn into biologically inactive and nontoxical forms, characteristic for their natural existence in the nature.

It allows to normalize power balance of a human body and to provide favorable conditions of course of all vital biological processes.

3 . Mineralogical module.

Mineralogical water purification is carried out.

The cartridge of the module consists of two fillers:

- zeolites - aluminosilicates natural and artificial;
- the activated coconut coal, impregnirovanny silver;

Depending on specific conditions in the Ideal installation it is possible to use different modifications of filters in which other cartridges or elements for removal of concrete specific pollutants can be established.

Productivity of 60, 120 liters in hour. Installation power consumption – 1 W on water liter.

Installation "Redo"

It is intended for receiving the ionized water solutions (EVR).

Electrical processing of water solutions is carried out by impact of electric current on two liquid systems divided among themselves by a special diaphragm therefore receive two types of preparations: sour - in the anode camera - (EVR-A) and alkaline - in the cathodic camera - (EVR-K) solutions.

By means of diaphragm electrolyzers it is possible to receive two types of technological solutions from weak water solution of salt of chloride of sodium or potassium chloride (the best option for plants): EVR-A and EVR-K, widely used for disinfection and sterilization in any area

EVR-A (disinfectant) - solution with the maintenance of an active oxidizer of 250-350 mg/litre, with positive value of the oxidation-reduction potential (ORP) to +1200мВ and pH from 2 to 6.

EVR-K (powerful biostimulator) - solution, with negative value of ORP within-300 ÷-800 mV and pH 9-13.

Installation allows to receive the following solutions:

- neutral anolyte (5 pH 7)
- anolyte (2 pH 5)
- catholyte (9 pH 12)

EVR-A possesses active bactericidal properties and is a pure anti-septic tank and preservative with properties inherent in it to slow down activity of live organisms and plants.

EVR-K possesses biological activity of a growth factor of activity of live organisms and plants. Besides, EVR-K possesses the increased dissolving and extracting ability.

The specified EVR biological properties were investigated and tested by many scientists regarding preparation of nutritious solutions for plant growing, for storage of various products, for a cattle and bird poyeniye, for preparation of the forages stimulating an additional weight and reducing incidence of animals.

Preparation EVR-K in a live organism behaves as a stimulator of biological processes, being in a metastable state and bearing in itself a certain excess of potential energy, promotes improvement of ion-exchange processes in a live organism.

Besides in EVR-K concentration of the dissolved oxygen decreases, and it has basic value for establishment in cages and fabrics of optimum value of the oxidation-reduction potential influencing speed of course of biochemical reactions.

And very important quality of these solutions - ecological safety as concentration of active ingredients small and in the course of a natural relaxation appear within norms on drinking water.

Installation power consumption – 150 W.

Productivity: on biocidal solution 30 and 60 of liters at an o'clock, on washing solution of 30 liters in hour.

Installations are certified in Russia, Germany, the USA, the Republic of South Africa.

Standard complex of water treatment.

The complex is intended for finishing to requirements of sanitary standards of Russia of indicators of drinking water regarding disinfecting and concentration of the weighed substances.

Specifications:

Complex productivity on conditioned water, m3/hour (m3/days) - 35 (800)

Mode of disinfecting of water - continuous, round-the-clock, automatic

GPH-D installation productivity on active chlorine, kg/days - 25

GPH-D installation productivity on solution of hypochlorite of sodium, l/days - 4500

Concentration of active chlorine in solution of hypochlorite of sodium, g/l - 6

Specific costs of salt of 1 kg of active chlorine, kg - 7

Operational range of temperature of air, ^{0}C - 5-35

Supply voltage of the GPH-D installation of - 380 V, 50 Hz

Total maximum power consumption of a complex, kW - no more than 10

The space occupied by a complex, sq.m - 30

Number of the service personnel on change, the people - 1

The complex consists of power supply and management system and three functional contours:

• contour of production of disinfecting reagent;

• water purification contour from mechanical impurity;

• contour of disinfecting of water.

All a contour are united in uniform system of water treatment.

A part of a complex are:

1. Installation block electrolysis GPH-D water disinfecting.
2. The water purification filter from mechanical impurity on the basis of modern technologies – disk filters and membrane ultrafiltration.
3. Pump dosing.
4. The measuring and regulating equipment.
5. Pump of the return water supply.
6. Capacity of storage of disinfecting reagent
7. The control panel with a set of cables and adaptations.
8. Filter of thin cleaning.

"IDEAL-OFIS" installation.

"Ideal office" – it is intended for receiving environmentally friendly, physiologically useful and biologically valuable drinking water from a water supply system at offices, industrial premises of the enterprises and the organizations, in educational institutions, banks, hospitals, etc.

The technology of the Ideal office installation is based on the basic Ideal model.

Installation is mounted in the pipeline of cold water of the centralized system of drinking water supply.

Technical indicators:
Number of modules of water purification, piece - 3
The recommended speed of a filtration, l/h - 60
Pressure in a water supply system, atm. - 1,5÷3,5
Working pressure, atm. no more than - 1
Temperature of cooling of water at the exit, °C - 4÷10
Temperature of heating of water at the exit, °C - 80÷95
Temperature given on water purification, 0C, no more than - 40
Volume of an account tank, l of Cold water – 2, Hot water - 2
Guaranteed life of work of one set of sorbents (for the water containing pollution no more than 2 maximum concentration limits), l - 7000

Food from an electric network - 220B; 50 Hz
Dimensions, cm 30 x 35 x - 100
Power consumption, W, no more electrochemical processing - 15
cooling – 100
heating – 450

Small fountain of «The School Student — the Ideal» drinking water.

Installation is intended for receiving environmentally friendly, physiologically useful and biologically valuable drinking water from a water supply system in educational institutions.
The technology of the Ideal office installation is based on the basic Ideal model. The fountain is made of materials and the devices allowed for use by Ministry of Health of Russia.
The case is executed without acute angles for safety of pupils. The top part of the fountain is executed from food stainless steel.
Small fountain use in educational institutions will allow to avoid the intestinal diseases connected with inadequate quality of water in system of water supply.

GPH-D electrolysis installation.

The GPH-D electrolysis installation is intended for receiving disinfecting reagent - solution of hypochlorite of sodium. Sodium hypochlorite – a strong oxidizer, by bactericidal efficiency and influence on quality of the conditioned water corresponds to effect of the liquefied chlorine, chloric lime and others the containing chlorine of reagents.

Installation can be used for chlorination of drinking water, water disinfection in the pool, disinfection of water supply systems at water treatment stations, for disinfecting of sewage, including biologically cleared.
Installation works by the principle of electrolysis of solution of chloride sodium in the single-chamber electrolyzer. The hypochlorite which was formed in the course of electrolysis of sodium continuously is dosed in conditioned water. Installation consists of the block of preparation of solution of salt, the electrolyzer, the control unit and the pulse power unit. The electrolyzer consists of the electrolysis camera of a cylindrical form and the package of electrodes placed in it.
Technical characteristics:
Installation productivity on active chlorine - 5 kg/days;
Specific costs of salt of 1 kg of active chlorine – 7 kg;
Concentration of active chlorine in hypochlorite solution – 3,5 g/l;
Power consumption - 1,2 kW10

Thermo furnace of fast pyrolysis of firm hydrocarbonic connections (TBP TUVS).

The TBP TUVS destroys the solid household waste (SHW): municipal, industrial, agricultural, medical, fallen animals and others using ecologically safe technology with receiving at the exit of thermal and electric energy.

Basis of the technological line is the TBP TUVS vibration vortex with the bottom stream air blasting and selection of pyrolysis gas with the subsequent return to a high-temperature zone of burning.

Burning of SHW happens at temperatures more than 850^0C to catching of departing pyrolysis gases and their return for reburning in a zone of high temperatures (more than 1200^0C) that excludes formation of toxic waste in combustion gases.

The applied technical solutions allowed to create the technological line with the lowest emissions, processing the wide list of materials.

The modularity of TBP TUVS allows to change consumer properties of a product at the request of the customer at the time of its production and to increase, or to change its opportunities in use.

At the request of the Customer, TBP TUVS can be completed with knot of processing of ashes, mix of glass and minerals in production of construction materials.

The TBP TUVS complexes are made by the principle of "full technology" as a factory product, pass tests in shops of the producer.

TBP TUVS allow to process at the same time some types of carboniferous raw materials in mix at the minimum sorting of garbage that positively affects power balance of installation.

The main working zone of the reactor has working temperature 850 – 1100^0C with that allows to emit completely carbon with efficiency of 98-99% and to process some types of dangerous wastes.

In the TBP TUVS installation the technological line working in a waste-free cycle is used and doesn't do harm to environment. Measurements of the emissions made on operating installations, show emissions much below than the most strict international norms.

The chemical composition of the cindery rest which is forming in the course of conversion, depends on raw materials structure. In solid household waste mercury lamps, batteries and other subjects containing heavy metals meet. In the course of research of ashes it is established that the volatile compounds representing health hazard of the person at conversion form the connected forms of salts. Also, it is established that the glass containing in garbage, promotes vitrification of heavy metals and their preservation.

On June 19, 2013 practical certified tests of TBP TUVS ended.

On these tests of TBP TUVS I showed the practical results exceeding everything the international standards on ecology:

- concentration of flying ashes and harmful substances in leaving combustion gases doesn't exceed maximum permissible concentration;
- the content of carbon monoxide in combustion gases of a copper less than 0,05% on volume at 17% of CO_2;
- the content of flying ashes in combustion gases behind a copper less than 3,5 g/m3 at 7% of CO_2;
- the sanitary protection zone on the basis of the conducted researches makes 10 m from an emission point that corresponds to the 5th class of danger;
- dioxine + фураны makes 2*10-6 - 5,6*10-10.

Advantages of new technology:

1. Universality - two-phasic thermo-destruction of SHW and obtaining thermal and electric energy.
2. Allows to utilize corpses of fallen animals, medical waste.
3. High profitability and energy efficiency.
4. The complex is mobile and is mounted "in the field".
5. The minimum quantity of ashes - ≤ 1% of the processed volume.
6. It isn't required big capital expenditure.
7. Minimization of emissions in the atmosphere.
8. Processing of small and large-size SHW.
9. Possibility of formation of dioxine is excluded.

Technical characteristics of the thermo-furnace productivity – 120 tons per day:

- The total amount of the thermo-reactor, cubic meter - 8,4;
- Installation weight (without container), kg – 9500;
- Overall dimensions (without smoke removal system), m – 20x13x4,5;
- Thermal power, MWt – 11,75;
- The consumed electric power, kW - 35÷55;
- Consumed air, m3/hour – 20 000;
- The area the general, sq.m - 80-90;
- M height – 5,0;
- Ashes, % - ≤0,6;
- Concentration of dioxine in emissions – traces;
- Sewage, m3/hour - No.

For utilization of thermal energy of TBP TUVS is completed with the boiler with the pipe generator of steam with a power of 2 (10) MWt of thermal energy;

For obtaining electric energy of TBP TUVS is completed with one or several parovintovy cars with power from 400 to 1000 kW.

The TBP TUVS is issued in three options - stationary furnaces: with a productivity of 5000 kg/h (120 tons per day) and 2000 kg/h (24 tons per day), mobile installation with a productivity of 2000 kg/h (24 tons per day).

The thermofurnace of utilization of biological and medical waste (BM-150)

BM-150 is intended for burning of organic hydrocarbonic compounds of 100 kg at an o'clock at a temperature of 650-1000^{0}C.

Sterilization of flue gases is carried out by an electric heating element 1050^{0}C.

Technological process of thermo-utilization of organic waste consists:

- Raw materials sterilization at 200^0C 10 min.;
- Pumping out and dehydration at 200^0C 20 min.;
- Thermo-destruction) of 650-1000^0C 30 min.

Pumping out by means of the ejector and air supply in the thermo-utilization is carried out by the membrane pump. Heating elements, the case of the thermo-utilization and air ducts are made of heat resisting steel. Thermal insulation is executed by a silica cloth.

Concentration of flying ashes and harmful substances in leaving combustion gases doesn't exceed maximum permissible concentration the Mass of rotting substances in ashes no more than 0,5%. The content of flying ashes in combustion gases no more than 5 g / мн3 at 7% of CO_2.

Technical BM-150 parameters:

- Productivity on raw materials, kg/h – 100;
- The consumed electric power, kW*hour:
  Nominal - 2,5;
  Maximum - 9,5;
- Ashes, percent no more – 2;
- The volume of technological capacity, l – 150;
- The volume of a deep freeze of storage of technological capacities, l – 420;
- Temperature in a deep freeze, ^{0}C-18;
- Temperature of a sterilizer of flue gases, – 1050^0C;
- Temperature of sterilization and raw materials pumping out – 200^0C;
- Thermo-destruction temperature - 650-1000^0C;
- Number of technological capacities, piece – 3;
- Productivity of the membrane pump, CBM/hour – 300;
- Pressure of the membrane pump, bar – 3;
- Residual pressure of the ejector, bar - 0,65;
- Overall dimensions of the thermo-furnace, m - 1,2×0,6×2,2;
- The electric power – 380;
- Operating mode, hour/days – 24;
- Time between failures, hour - 20 000;
- Service conditions, -40 … +50^0C.