



RESEARCH-AND-PRODUCTION ENTERPRISE

**TECHVAGONMASH**



**INDUSTRIAL PAINT BOOTHS**



One of the activity areas of RPE "Techvagonmash" is design and manufacture of paint booths. Our customers are large-scale enterprises of transport engineering, plants on metalware manufacture, power engineering enterprises. The booths are designed and manufactured according to the requirements of a certain customer, according to his product range and working conditions.







Research and Production Enterprise “Techvagonmash” carries out constant improvement of a structure and performance characteristics of output products. Components of leading European manufacturers (Riello, Siemens, WattDrive, Camozzi) are applied for the design of booths. Priority principle of our company activity is a principle of individual approach to every customer.

We do not just sell the equipment, we render a service package on organization of painting production:

- Perform a detail design on organization (reconstruction) of painting production;
- Design and manufacture equipment according to the range of the output products and working conditions of the customer;
- Perform supervised installation and commissioning;
- Train the personnel to work and maintain the equipment;
- Perform service maintenance.

### **Effective filtration system**

Booths filtration system is meant for application of water-based paint as well as paint based on solvents. The booth is fitted with charcoal filters for cleaning air from solvents vapor.

### **High heat power**

The power of heat generators is meant for application in climatic conditions with low air temperature (down to -40 C).

### **Reliability and operating convenience**

Electrical motors of the booth are resistant to unstable power supply. The booths are equipped with roll-down door with electromechanical drive.

### **Efficient ventilation system**

Booths ventilation system is meant for air flow speed of 0,2-0,3 m/s which guarantees high-quality coating and effective removal of paint spraying dust.

### **Operating Convenience**

The booths are equipped with roll-down door with electromechanical drive. Roll-down door with electromechanical drive.

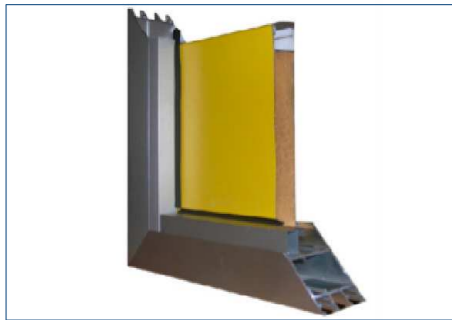
### **Advanced materials**

Working booth frame represents a supporting structure out of aluminum tubes and panels out of dual galvanized steel with polyurethane foam insulation. The panels are collected according to mortise-and-tenon principle due to which the installation of the booth takes minimum time.

Polyurethane foam has the following main advantages:

- The lowest thermal conductivity among up-to-date heat insulators. Depending on the density it makes up 0,019W/m°C.
- High durability (service life of polyurethane foam makes up more than 25 years with full retention of properties).
- Working temperature of polyurethane foam service is up to 130 °C, at short-term exposure – up to 150°C.
- Resistance to moisture attack (water absorption by weight – total 2%).
- Polyurethane foam is nontoxic and safe for a person.





**Booth frame**

The booth frame represents a supporting structure out of aluminum tubes and panels out of dual galvanized steel with polyurethane foam insulation, painted in blue or yellow color from the outside and white from the inside.



**Heat-generator**

A special set of equipment designed for cleaning, heating and air supply to the booth and then to its removal. At different process cycles or heating modes, exhaust air can partially or completely be directed back to working zones by means of regulated recirculation system. Heat generators are made out of heatproof corrosion-resistant steel 2 mm thickness. Heat generators are equipped with fans with low noise performance. Two-stage advanced (with stepless power control) burners Riello (Italy) are used as a source of heat.



**Filter plant**

It provides cleaning from the paint spraying dust and solvents (by means of activated carbon). Filter plants are equipped with low noise performance fans.



**Lift truck**

The truck is designed for lifting, longitudinal and transversal travel of one worker with tools when performing painting works of the items in the paint booth. The lift trucks move along the booth over the guiding supports fixed high up on the side walls of the booth, along the rails mounted on the floor of the booth along the side walls. The movement of the platform is provided with the pneumatic drives. As a consequence we have a long operating life and explosive safety standards observance.



**Booth lighting**

Lamps in explosion-proof housing ip65 made by Philips are installed in the booth. The lamps provide shadowless lighting 1000 lux power. Lamps design is easily accessible for maintenance, it maximally facilitates the works of the maintenance staff.



**Control system**

Booth control system is made on the basis of programmable controller. In a fire emergency the automatic fire fighting equipment switches off the booth electrical equipment (ventilation, burners, lighting), input and exhaust ventilation flaps automatically close preventing air circulation in the booth. When the ventilation is off, the compressed air supply to the booth is stopped (spray-painting devices operation is switched off).





Lift-trucks for operators



Transfer car



Transfer table, load capacity 150t



Crane

Manufacturing capabilities of our company allow the Customer to buy the equipment from a "single buyer". Apart from delivery of paint booths, we design and manufacture the following support equipment:

- charging cars;
- transfer cars with the load capacity of up to 150t;
- lift trucks for painters;
- lifting equipment for items suspension;
- we perform works on painting process robotization.



Transportation cart



Spray-painting process robotization





Research and production enterprise "Techvagonmash" has a forty-year experience of design and manufacturing of special process equipment for enterprises of transport machine building.

Our company is a legal successor of VNIPTIvagon (All-union scientific research design-technological institute of railway-car building) - head technological organization on design of transport machine building enterprises.

The main areas of the company's activity are:

- ▶ comprehensive design and equipping of transport machine building enterprises;
- ▶ design and manufacturing of special process equipment for railroad cars manufacture;
- ▶ process equipment for railroad cars repair;
- ▶ robot-operated welding centers;
- ▶ shotblasting, shotpeening equipment;
- ▶ paint booths;
- ▶ filter-ventilating equipment;



Independent audit, performed by the representatives of TÜV Rheinland (Germany) - a world leader in the sphere of quality management systems certification confirmed the compliance of the Research and Production Enterprise "Techvagonmash" quality management system to the requirements of international standard ISO 9001:2008.

## SPHERES OF OUR ACTIVITY

### MECHANIZED STORAGE SYSTEMS FOR METAL-ROLL

Mechanized storage systems is an up-to-date warehouse solution for storage of a wide range of metal-ware, its control and identification.



### SHOTBLASTING, SHOTPEENING EQUIPMENT

Equipment for cleaning of sheet and profile metal-roll, pipes, welded metalware, large-size castings.



### AUTOMATED DRILLING CENTERS

Equipment for efficient coordinate machining of items without preliminary marking and jigs application.

Operations performed: drilling, reaming, core drilling, thread cutting.



### AUTOMATION, ROBOTIZATION OF WELDING PRODUCTION

Designing and manufacture of special process equipment for automation, robotization of welding production.





**RESEARCH-AND-PRODUCTION ENTERPRISE**  
**TECHVAGONMASH**

39627 Ukraine, Poltava Region,  
Kremenchug, Poltavsky Pr. 2D,

Tel.: +38 (0536) 70-17-23, 77-69-98  
Fax: +38 (0536) 77-34-87  
E-mail: [market@tvagonm.com.ua](mailto:market@tvagonm.com.ua)  
Web: [www.tvagonm.com.ua](http://www.tvagonm.com.ua)  
[www.tvm-mc.com](http://www.tvm-mc.com)  
Our Youtube channel:  
[www.youtube.com/user/Techvagonmash](http://www.youtube.com/user/Techvagonmash)