



group of companies



Road marking machinery equipment and materials production





STiM was founded in 1998 within the Brest Free Economic Zone, which is situated near the border between Belarus and the European Union. The company has a huge advantage in its logistical position: one of the main European east-west transportation corridors, the E30 M1 road (soon to be Paris-Berlin-Moscow-Vladivostok transportation corridor), runs through the region. Our beneficial geographical position and our ability to combine Western technologies and Belarusian ingenuity have defined the company's successful development during the last 20 years. During this period of time, STiM has gradually evolved from being a small family firm into a multinational company with a broad network of operations. STiM currently has several subsidiaries, such as STiM-Moscow (Russia), Kontur (Poland) and STiM-Ukraine.

### **OUR COMPANY**

STiM was created to focus on the problems relating to horizontal road marking. Our research and expertise led to the creation of our own product lines with all the necessary machinery, equipment and materials for effective horizontal road marking. All the technologies we use are tested by the experimental marking team using up-to-date scientific knowledge and equipment. STiM group of companies has a broad range of products and expertise, including:

- Road marking machinery, equipment and materials production
- Road construction and maintenance
- Asphalt and concrete production
- Construction of housing and offices

### **OUR PARTNERSHIPS**

International relations and the communication of experience contribute to the reinforcement of STiM's authority within the field, helping our specialists to keep up with the latest engineering and technical solutions in the sector and promoting mutually beneficial partnerships. STiM Company is a member of «Lifeline Association» (Stowarzyszenie «Linia Zycia») in Poland and «Intergovernmental Council of the CIS Road Officers» in the Russian Federation.

The company's goodwill and image depend on its ability to produce high-quality, successful products and services. The core of any company is its employees, who determine the company's production and capabilities, and are the reason of successful goal achievement.

### **OUR SERVICES**

Our engineers can design any additional option according to the individual needs of each client. In addition, we offer high-quality postproduction service and technical assistance. Our transportation department provides «door-to-door» delivery of our goods to the customer.

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## Traffic paint

### Traffic paint "Kontur"

"Kontur" traffic paint is designed to be used with glass beads for marking roads with insufficient lighting. It is based on acrylic resin with the mix of solvents.composition of which guarantees quick drying and long-lasting stable whiteness. It is applied onto a dry and clean surface at the temperature of not less than 5 °C.

Road marking performance (glass beads consumption - 250 gr/m<sup>2</sup>)  
Qd >100  
RL > 250  
SRT ≥0.50

#### Application data

Pneumatic or airless machinery  
Paint filter 60 mesh  
Temperature: from +5°C to +30°C  
Humidity: no more than 85%

#### Specification

Density: 1.6 ± 0.05  
Solid content: 77 ± 2%  
Whiteness: 91-93% (white), ≥ 65% (yellow), ≥ 30% (orange), ≥ 10% (black)  
Drying time: 10 min at 20°C and 65% humidity  
Recommended glass beads consumption: 200-250 gr/m<sup>2</sup>  
Recommended paint consumption: 600-700 gr/m<sup>2</sup>

Package: 30 kg pail

Available paint colors: white, yellow, orange, black.



### Traffic paint "Kontur ECO"

"Kontur Eco" is the ecologically clean road marking material of excellent quality. It is solvent-based paint with quick drying time and long-lasting stable whiteness. It's proven by BAST (German Federal Highway Research Institute) certification compliance.

Road marking performance (glass beads consumption 250 gr/m<sup>2</sup>)  
Qd >100  
RL >250  
SRT ≥ 0.50

#### Application data

Pneumatic or airless machinery  
Paint filter 60 mesh  
Temperature: from +5°C to +35°C  
Humidity: no more than 85%

#### Specification

Density: 1.6 ± 0.05  
Solid content: 76 ± 1%  
Whiteness: 91-93% (white), ≥ 65% (yellow), ≥ 30% (orange), ≥ 10% (black)  
Drying time: 15 min at 20°C and 65% humidity  
Recommended glass beads consumption: 200-250 gr/m<sup>2</sup> Recommended paint consumption: 600-700 gr/m<sup>2</sup>



# Reflective Glass Beads “Steklosfera”

Reflective glass beads are used for dropping onto the road markings made with paint, thermoplastic, cold plastic and spray plastic to provide night visibility by retroreflecting the headlight beams in the dark. Reflective glass beads are applied using road marking machines or by hand.

Size grade of glass beads is selected in accordance with the type of material used (paint and plastic). For thin-layer paint and spray plastic marking, 100-400 µm, 100-600 µm, 212-850 µm and 250-850 µm size grades are used, for thick-layer marking, 250-850 µm and higher size grades are used.

Glass beads are treated with special solutions that improve their properties (improve adhesion to the marking materials, reduce caking and enhance floating properties).

The glass bead surface may have adhesion, floating and moisture-proof treatment or a combination thereof.

For thin-layer marking, adhesion, floating, and moisture-proof treatment is used, while for thick-layer marking, moisture-proof and adhesion treatment is used.

Recommended bead consumption: 350-450 g/m<sup>2</sup>



## Basic Specifications::

Appearance	homogenous light free-flowing mass
Surface treatment:	
adhesion treatment	A
moisture-proof treatment	G
floating treatment	F
Percentage of defective glass beads, max	20%
Percentage of foreign particles, max	3%
Index of refraction, min	1.5
Resistance to water and calcium chloride solution	+

**Packing:** Bags with PE lining, 25 kg.

Glass beads must be stored in closed containers in storage areas to protect from moisture.

**Warranty:** 36 months from date of manufacture.



# Road Marking Machine “Kontur 30”

WALK BEHIND MARKING EQUIPMENT AND MACHINERY



This machine is designed for manual horizontal airless road marking with paint. Airless marking method allows achieving ultimately even edges of the applied lines.

Rear paint gun allows for achieving a straighter line during marking. The machine has a good maneuverability due to a front turning wheel. The small dimensions of the machine and its maneuverability allow marking within the city without interfering with the traffic of urban transport. During application of longitudinal lines on straight road stretches, the fixation of the turning wheel in the middle position is provided for operator's convenience. The marking of continuous and intermittent lines can be carried out in manual mode with remote control of the gun button. Road marking machine can serve as a source of compressed air for technological purposes (to mix the components with an air-driven agitator). Careful selection of components ensures reliability and long service life of the equipment. The machine is equipped with components of world leading companies - Graco, SMC, Festo, Fini, Kamber.

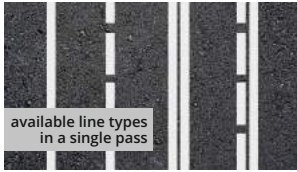
**Additional Options:** extension cable for the hand paint gun (40 cm)

## Basic Specifications:

Spraying type	Airless
Engine power, max	6.5 h.p. (4.8 kW)
Fuel type	gasoline (e92)
Compressor output	540 l/min
Paint pump rated capacity	4.7 l/min
Operating speed	2-5 km/h
Line width, max	20 cm
Operating paint pressure, max	125 bar
Paint tank capacity (standard paint container is used)	30 kg
Overall dimensions (length x width x height):	
working position	2.5 x 0.9 x 1.1 m
transportation position	1.7 x 0.9 x 1.1 m
Curb weight	122 kg
Personnel	1 person







available line types  
in a single pass

# Road Marking Machine "Kontur 50"

## WALK BEHIND MARKING EQUIPMENT AND MACHINERY

This machine is designed for longitudinal and transverse horizontal airless road marking with paint with simultaneous dropping on reflective glass beads. This is the smallest machine in its class. Small dimensions allow markings within the city without interfering with the city traffic. The machine is equipped with hydraulic drive and marking remote control console M21 for easy longitudinal markings.

### Standard Equipment:

Hydraulic drive;  
M21 remote control console.

### Additional Options:

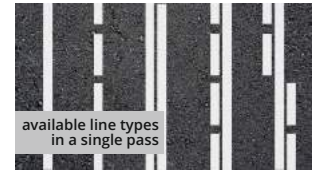
Extension cable for the hand paint gun (40 cm);  
18 l removable tank.

### Basic Specifications:

Spraying type	Airless
Engine power, max	13 HP (9.6 kW)
Fuel type	gasoline (e92)
Compressor output (Fini)	380 l/min
Paint pump rated capacity (Graco)	7.5 l/min
Operating speed	2-5 km/h
Transport speed, max	8 km/h
Road marking accuracy in automatic mode	±1 cm
Operating paint pressure, max	125 bar
Paint tank capacity (standard paint container is used):	30 kg
Glass bead tank capacity	25 kg
Maximum operating road gradient	20%
Overall dimensions (length x width x height):	
working position	3.0 x 1.2 x 1.3
transportation position	2.2 x 1.2 x 1.3
Curb weight	385 kg
Personnel	1 person



## Road Marking Machine "Kontur 100"



This machine is designed for horizontal airless road marking with paint with simultaneous dropping on reflective glass beads in streets, parking areas and industrial sites. One load of paint is enough to apply 200 m<sup>2</sup> of markings. The width of 1.3 m allows using the machine without interfering with the city traffic.

### Standard Equipment

- three pairs of paint and bead guns (Kamber);
- marking remote control console M12;
- paint flow sensor;
- two flashing beacons lights;
- operator's working station light;
- right remote marking unit;
- telescopic sight;
- hand paint gun (hose 10m, Graco).

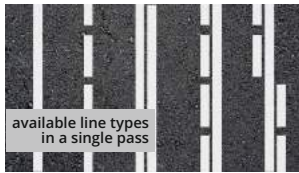
### Additional Options

- up to five pairs of paint and bead guns (Kamber);
- left remote marking unit;
- hand air gun for cleaning working attachments;
- photo sensor of the beginning of the line (can be mounted on any gun).

### Basic Specifications:

Spraying type	Airless
"Briggs & Stratton" engine power, max	23 h.p.
Fuel type	gasoline (e92)
Paint pump rated capacity	9.5 l/min
Operating speed, max	6 km/h
Transport speed, max	9 km/h
Road marking accuracy in automatic mode	±1 cm
Paint tank capacity	100 kg
Glass bead tank capacity	30 kg
Maximum operating road gradient	20%
Overall dimensions (length x width x height):	
working position	4.4 x 1.3 x 2.1 m
transportation position	2.8 x 1.3 x 2.1 m
Curb weight	980 kg
Personnel	1 person





# Road Marking Machine "Kontur 300"

ROAD MARKING MACHINERY ON SPECIAL SELF-PROPELLED CHASSIS

This machine is designed for horizontal airless road marking with paint with simultaneous dropping on reflective glass beads in crowded city streets. A paint tank big enough for 600 m<sup>2</sup> of markings also allows marking on highways.

The width of 1.3 m allows using the machine without interfering with the city traffic.

### Standard Equipment:

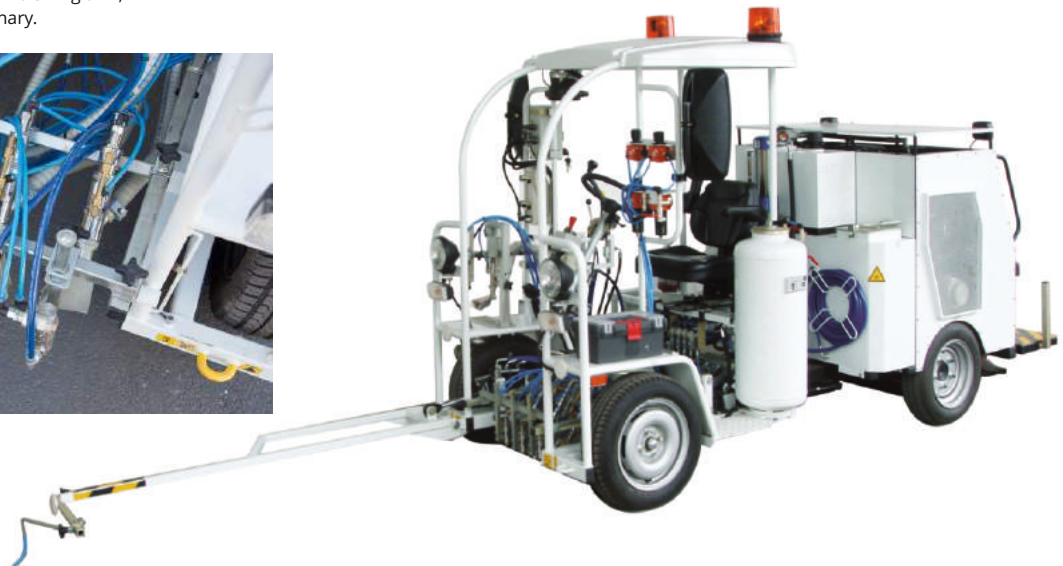
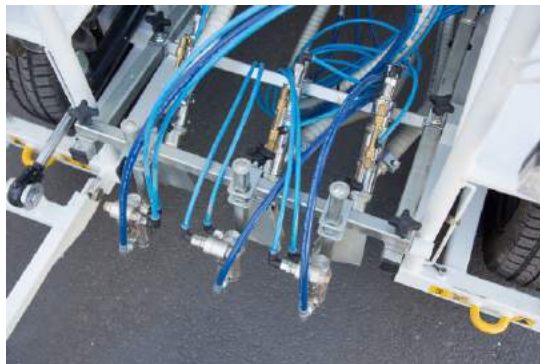
- three pairs of paint and bead guns (Kamber);
- marking remote control console M12;
- paint flow sensor;
- two flashing beacons lights;
- operator's working station light;
- right remote marking unit;
- telescopic sight with hydraulic ascend/descend;
- hand paint gun (hose 10m, Graco);
- rear working stationary traffic cone platform.

### Additional Options:

- additional pair of paint and bead guns (Kamber);
- left remote marking unit;
- hand air gun for cleaning working attachments;
- photo sensor of the beginning of the line (can be mounted on any gun);
- extension cable for the hand paint gun (40 cm);
- remote button, duplicating "Start" button on the marking control console;
- "Pass This Side" sign (700mm) on a swing arm;
- seat on the rear working stationary.

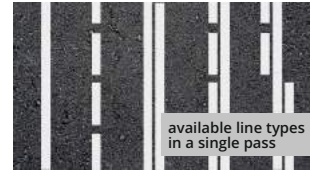
### Basic Specifications:

Spraying type	Airless
"Kubota" engine power, max	33 h.p. (24.5 kW)
Fuel type	diesel
Operating speed	2-7 km/h
Transport speed, max	12 km/h
Road marking accuracy in automatic mode	±1 cm
Paint tank capacity	300 kg
Glass bead tank capacity:	100 kg
Maximum operating road gradient	20%
Overall dimensions (length x width x height)	3.2 x 1.3 x 2.1 m
Curb weight	1300 kg
Gross weight	1900 kg
Personnel	2 persons



# Road Marking Machine "Kontur 600"

ROAD MARKING MACHINERY ON SPECIAL SELF-PROPELLED CHASSIS



This machine is designed for horizontal airless road marking with paint with simultaneous dropping on reflective glass beads in crowded city streets. A paint tank big enough for 1200 m<sup>2</sup> of markings also allows marking on highways. The width of 1.3 m allows using the machine without interfering with the city traffic.

### Standard Equipment:

- three pairs of paint and bead guns (Kamber);
- marking remote control console M12;
- paint flow sensor;
- two flashing beacons lights;
- operator's working station light;
- right remote marking unit;
- telescopic sight with hydraulic ascend/descend;
- hand paint gun (hose 10m, Graco);
- rear working stationary traffic cone platform.

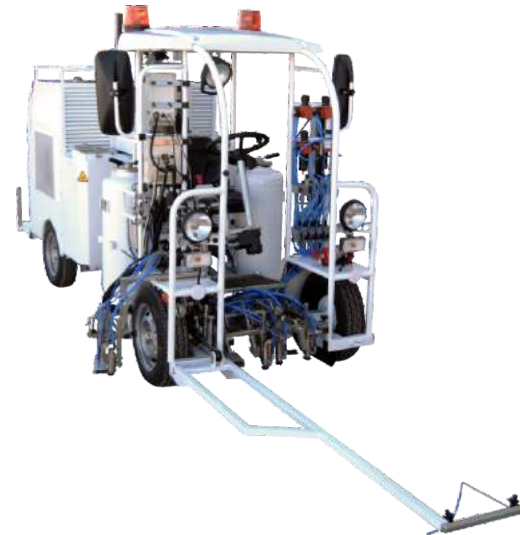
### Additional Options:

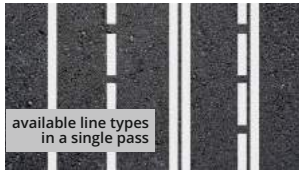
- up to five pairs of paint and bead guns (Kamber);
- left remote marking unit;
- hand air gun for cleaning working attachments;
- photo sensor of the beginning of the line (can be mounted on any gun);
- extension cable for the hand paint gun (40 cm);
- remote button, duplicating "Start" button on the marking control console;
- "Pass This Side" sign (700mm) on a swing arm.



### Basic Specifications:

Spraying type	Airless
"Perkins" engine power, max	61 h.p. (44.7 kW)
Fuel type	diesel
Operating speed	3-7 km/h
Transport speed, max	12 km/h
Road marking accuracy in automatic mode (length)	±2 cm
Paint tank capacity	600 kg
Glass bead tank capacity	170 kg
Compressor output	540 l/min
Paint pump capacity (Graco)	26 l/min
Maximum paint pressure	130 bar
Maximum operating road gradient	20%
Overall dimensions (length x width x height)	3.4 x 1.3 x 2.1 m
Curb weight	1700 kg
Gross weight	2600 kg
Personnel	2 persons





available line types  
in a single pass

# Road Marking Machine “Kontur 650K”

ROAD MARKING MACHINERY ON SPECIAL SELF-PROPELLED CHASSIS

This machine is designed for horizontal airless road marking using modern one-component quick drying traffic paints along with reflective glass beads. The dimensions and characteristics of the machine make it possible to effectively use it for road marking both within the city and on the main roads. The use of a hydraulic drive allows smooth adjustment of the working and transport speeds of the machine with a high degree of stability. One load of marking material is enough to apply 1600 m<sup>2</sup> of markings.

#### Standard Equipment:

- marking remote control console M12;
- hand paint gun (hose 10 m, Graco);
- operator assistant's platform with traffic cone racks;
- two pairs of paint and bead guns (Kamber);
- Festo pneumatic equipment..

#### Additional Options:

- up to three pairs of paint and bead guns (Kamber);
- hydraulically operated brush;
- “Pass This Side” sign (700mm) on a swing arm;
- hand air gun for cleaning working attachments;
- photo sensor of the beginning of the line (can be mounted on any gun);
- extension cable for the hand paint gun (40 cm);

#### Basic Specifications:

Spraying type	Airless
Engine power, max	44 kW (61 h.p.)
Engine fuel type	diesel
Fuel tank capacity	75 l
Transportation speed	12 km/h
Operating speed	2-7 km/h
Tank capacity:	
paint	800 kg
glass bead	600 kg (2x300kg)
Compressor output	700 l/min
Hydraulic paint pump capacity (Graco)	26 l/min
Maximum operating road gradient	20%
Personnel	2 persons
Overall dimensions (length x width x height)	4.3 x 1.5 x 2.2 m
Gross weight	2150 kg
Gross weight	3300 kg



# Road Marking Machine "Shmel 12A"

(Isuzu NPR 75 chassis)



Road Marking Machine "Shmel 12A", with the increased volume of paint loading, is the ideal solution for marking on highways. The use of ISUZU chassis ensures a greater reliability, while state-of-the-art equipment helps to achieve top performance.

## Standard Equipment:

- hydraulic-lift left-side marking unit with two pairs of paint and glass bead guns (Kamber);
- hydraulic-lift right-side marking unit with one pairs of paint and glass bead guns (Kamber);
- marking remote control console M12;
- paint flow sensor;
- digital speedometer in the cabin;
- beam-type beacon light on the cabin, two front lower strobe lights, two point-type beacon lights on the tent frame, strobe lights on the marking units;
- glass bead motion sensor;
- intercom system;
- "Video marker" system;
- "Pass This Side" sign (700mm) on a swing arm;
- hand paint gun (40 cm extension cable, 10 m hose, Graco);
- headlights to illuminate the marking units at night;
- paint loading pump (output 50 kg/min, Graco);
- hand air gun for cleaning working equipment.

## Additional Options:

- illumination of operator's seat;
- equipment set for using two different traffic paint colours;
- additional pair of paint and glass bead guns (Kamber);
- pedal, duplicating "Start" button on the marking control console;
- photo sensor of the beginning of the line (can be mounted on any gun);
- additional third marking unit at the rear part of the machine;
- rear working stationary traffic cone platform (exclude the possibility of installing additional third marking unit at the rear part of the machine);
- cluster "Pass This Side" sign (1.050 x 1.050 mm, cluster 200 mm) - instead of standard "Pass This Side" sign (700mm);
- "LIS" Re-stripping System for the right-side marking unit;
- equipment set for use of 98:2 spray cold plastic (single line);
- equipment set for use of 98:2 spray cold plastic (double line);
- hand bead gun (6 m hose, Kamber).

## Basic Specifications:

Spraying type	Airless
"Kubota" engine power, max	33 hp
Fuel type	diesel
Road marking accuracy in automatic mode	±1 cm
Road marking speed:	
single solid line speed (width 15 cm, 800 g/m <sup>2</sup> )	10.8 km/h
double solid line speed (width 15 cm, 800 g/m <sup>2</sup> )	5.5 km/h
Maximum road marking speed	15 km/h
Compressor output (Fini)	540 l/min
Paint pump rated capacity (Graco)	26 l/min
Operating paint pressure, max	130 bar
Tank capacity	
paint, max	1840 kg
glass beads, max	610 kg
Chassis fuel type	diesel
Overall dimensions (length x width x height)	
working position (two marking units both side)	9.4 x 3.9 x 3.0 m
transportation position	6.9 x 2.3 x 2.9 m
Curb weight	5050 kg
Gross weight	7500 kg



## General information

This is an ecologically safe material that doesn't contain organic solvents. Plastic's hardening on the road surface occurs as a result of chemical reaction of polymerization. Before application, plastic is mixed with the initiator of polymerization reaction. The polymerization initiator comes in the material delivery set, in the amount of 3% of the plastic's mass, reflective glass beads (425-850 µm or 600-1400 µm) also come in a set in the amount of 10% - 30% of the cold plastic's mass. The optimal material consumption is 4 - 7 kg/m<sup>2</sup> at the thickness of the formed marking equaling 2- 7 mm. During structural marking the material consumption goes down in the amount of up to 30%, depending on the extent to which the road surface would be covered with the material.

## Equipment for marking application

The equipment is designed for preparing the material (mixing with the reaction initiator) and application of the prepared material through the extrusion method (during structural application), or with the help of a tray (during solid line application) During structural application, application of chaotic drops is possible as well as application of drops in a chess board order. During solid line application, creation of a comb is possible with a thickening of up to 6 mm, that allows to receive a better noise effect which is used to indicate dangerous road stretches (edge line).

## Technical specifications:

Density	1.8 ± 0.05
Content of non-volatile agents	no less than 90%
Whiteness	
white	> 85%
yellow	> 60%
red	> 25%
Hardening time	20 min at 20 °C and 65% humidity
Recommended glass beads consumption	400-450 gr/m <sup>2</sup>
Recommended glass beads size	425-850 µm
Application temperature	+0 to +35°C
Package (pail)	25-35 kg



# Road Marking Machine "Kontur 90 HP"

ROAD MARKING MACHINERY ON SPECIAL SELF-PROPELLED CHASSIS



The machine is designed for horizontal road marking with modern one-component cold plastic and reflective glass beads. The machine can apply the following types of lines: smooth, structured chaotic, structured drops. The machine is self-propelled and controlled by walk-behind operator.

The marking unit is equipped with quick-detachable applicators for structural lines. Rib-line marking is applied with the help of pull-behind trays. Cold plastic is mixed with hardener by a dynamic agitator directly before application on a road surface. Dosing of components is done in the automatic mode.

Plastic consumption depends on the marking type and structural marking pattern and ranges from 1.5 to 6 kg/m<sup>2</sup>. The marking unit with the applicator and bead gun is mounted on the right side of the machine.

Cleaning of the agitator and the applicator is controlled through the operator's panel and requires minimal attention.

Reflective glass beads are applied on the line with an automatic glass bead gun with an adjustable diffuser directly during marking.

#### Standard equipment:

- marking unit;
- one applicator to choose (applicator size to be specified in the order);
- automatic glass bead gun;
- marking control console M21;
- technological machine control console;
- cold plastic tank with hand agitator;
- hardener tank;
- wash tank;
- pneumatic and electronic control elements;
- telescopic sight.

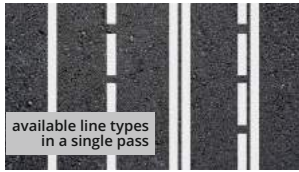
#### Basic Specifications:

"Vanguard" engine power	16 hp
fuel type	gasoline
Operating speed, max	5 km/h
Line width	10-25 cm
Tank capacity:	
cold plastic (with hand agitator)	150 kg / 83 l
glass beads	25 kg / 18 l
hardener (stainless steel container)	10 l
solvent	10 l
Compressor output (Fini)	400 l/min
Maximum operating road gradient	20 %
Personnel	2 persons
Overall dimensions (length x width x height):	1.9 x 1.1 x 1.2 m
Weight	530 kg

Structure line







available line types  
in a single pass

# Road Marking Machine “Kontur 650 HPE”

LONGITUDINAL ROAD MARKING MACHINERY

This machine is designed for thick-layer horizontal road marking using modern two-component cold plastic along with reflective glass beads. The machine can apply following types of lines: smooth, structured chaotic and structured drops. Two quick-detachable applicators allow for the application of single or double lines.

Cold plastic is mixed with hardener by a dynamic agitator directly before application on a road surface. Dosing of components is done in the automatic mode.

Plastic consumption depends on the marking type and ranges from 1.5 to 6 kg/m<sup>2</sup>. The marking unit with the applicator is mounted on the right side of the machine. It can be reinstalled from one side of the machine to another for up to 30 minutes, if works done by a crew of 2 people.

Cleaning of the agitator and the applicator is automatic, controlled through the operator's panel and requires minimal attention.

## Standard Equipment

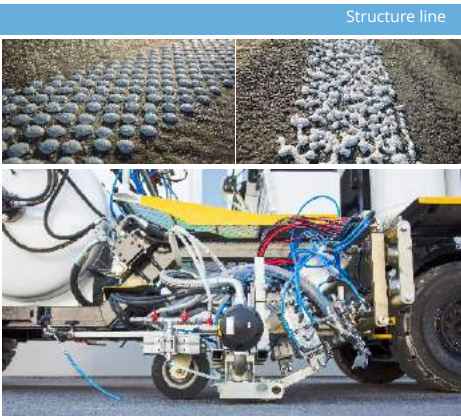
- hydraulic pumps (Danfoss)
- marking remote control console M12;
- two flashing beacon lights;
- telescopic sight with manual ascent/descent;
- operator assistant's platform with traffic cone racks.

## Additional Options

- hydraulically operated brush;
- “Pass This Side” sign (700mm) on a swing arm;
- telescopic sight with hydraulic ascent/descent;
- hand air gun for cleaning working equipment;
- pneumatic agitator;
- wash tank.

## Basic specifications:

“Kubota V2403” engine power, max	44 kW
Engine fuel type	diesel
Fuel tank	75 l
Transportation speed	12 km/h
Operating speed	1-5 km/h
Possible line width	100-400 mm
Tank capacity:	
cold plastic (with dynamic agitator)	850 kg
glass beads	200 kg (2x100 kg)
hardener (stainless steel container)	30 l
solvent	30 l
Compressor output (Fini)	860 l/min
Maximum operating road gradient	20%
Personnel	2 persons
Overall dimensions (length x width x height):	4.3 x 1.5 x 2.2 m
Curb weight	2200 kg
Gross weight	3500 kg



Structure line



## Road Marking Machine “Shmelok HP”

WALK BEHIND MARKING EQUIPMENT AND MACHINERY



This walk behind road marking machine is designed for thick-layer horizontal road marking as a smooth line or as an irregular-profile line (rib-line) using prepared cold plastic with the possibility of spraying with reflective glass beads.

The machine is equipped with detachable marking units that do not need any tools for replacement. At the same time, a spraying unit can be switched over to match a specific marking unit.



### Basic Specifications:

Possible line width*	100, 120, 150, 200, 240, 400, 500 mm
Marking speed	2-5 km/h
Glass bead tank capacity	25 kg / 16 l
Cold plastic container diameter	200-280 microns
Line thickness	1.5-3.0 mm
Overall dimensions (length x width x height):	
working position	2.0 x 0.8 x 1.1 m
transportation position	1.2 x 0.8 x 1.1 m
Machine weight (without the marking unit and detachable parts)	105 kg
detachable unit weight	5 kg
Personnel	2 persons

\*Detachable unit size to be specified in the order



## Road Marking Machine “Shmelok HP Structure”

WALK BEHIND MARKING EQUIPMENT AND MACHINERY

This machine is designed for horizontal structural road marking using solvent-free liquid resin cold plastic. The plastic to be applied is prepared at the site right before the application.

The application is carried out through the plastic tray gate valve by spraying the material that comes in contact with a spiked shaft. The drop-on glass beads are applied simultaneously with cold plastic.

### Standard Equipment

- quick-detachable trays for plastic;
- glass bead tank;
- glass bead application system;
- sight.



### Basic Specifications:

Line width and type (depending on the tray)	10-50* cm
Adjustable drop-on glass beads width	10-50* cm
Material consumption	2.5-5.3 kg/m <sup>2</sup>
Glass bead tank capacity	10 l
Overall dimensions (length x width x height):	
working position	1.9 x 0.9 x 1.1 m
transport position	1.1 x 0.7 x 1.1 m
Weight	72 kg
Personnel	2 persons

\*Detachable unit size to be specified in the order



# Thermoplastic for Horizontal Road Marking

**Features:** Available in white, yellow, and orange colours. After curing, thermoplastic forms a thick opaque highly durable coating. It is intended for use on roads with asphalt-concrete and cement-concrete surface.

**Application:** In its original form, thermoplastic is a particulate mixture and is to be melted to achieve necessary state. Upon reaching the melting temperature of 180–210 ° C, the material must be mixed at the same temperature for 1.5 hours before application until complete melting and homogenization of all polymers. Marking should be performed in dry weather onto dry road surface free from dirt, dust, sand and oil at ambient temperature not lower than + 5 ° C and not higher than + 30 ° C and relative humidity of 80%. The road surface temperature must be at least + 10 ° C. Do not mark road surfaces installed or surface-treated earlier than two months before marking. Do not mark asphalt-concrete surface if bitumen exudation is over 50% of the total coating area. Thermoplastic consumption ranges from 400 to 1,200 kg/km, depending on the road type (traffic intensity), surface coating condition, lines type and surface treatment.

**Bead Consumption:** 200–700 g/m<sup>2</sup>.

**Methods of Use:** Thermoplastic is applied mechanically using special road marking equipment or manually using hand thermoplastic applicators.

**Packing:** PE bags, 25 kg.

**Transport and Storage:** Store and transport in tightly closed container at a maximum temperature + 30 ° C. Avoid direct sunlight. Thermoplastic is not a hazardous substance and is not classified under the rules of hazardous goods transportation.

**Shelf Life:** 12 months from date of manufacture. ISO 9001 certified.

## Basic Specifications:

Colour	white, yellow, orange
Diffuse reflection coefficient (brightness, whiteness):	
for white colour, min	80%
for yellow colour, min	40%
for orange colour, min	30%
for red colour	Not standardized
Softening temperature (ball and ring method), min	80°C
Curing time:	
up to grade 3	15 min
up to grade 5	25 min

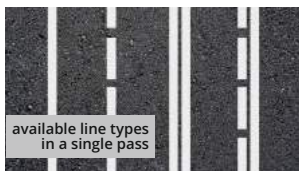


## Plastic Application Equipment “Volokusha” 10, 15, 20, 30, 40, 50

“Volokusha” is a hand marking device for applying plastics for transverse horizontal road marking. The equipment is produced in six sizes with a width of applied line equaling 100,150, 200, 300, 400 and 500 mm.



available line types  
in a single pass



available line types  
in a single pass

## Road Marking Machine "Kontur 700 TP"

LONGITUDINAL ROAD MARKING MACHINERY

This machine is designed for thick-layer horizontal road marking onto cement-concrete and asphalt-concrete roads. The machine performance is 2000 m<sup>2</sup>/day.

The extruder is designed for application of road marking with thermoplastic. Right after the extruder, glass bead guns are installed for application of reflective glass beads. The unit allows for application of lines with the width of 5 to 50 cm, in various combinations. The extruder comes as a standard with ten valves with a width of 5 cm. According to the customer's requirements the width and the number of valves can be changed. The valve opening control system allows for application of solid lines and rumble strips, lines of variable profiles and patterns.

An extruder, a broom and an operator's seat can be installed on either side of the machine: left or right.

### Standard Equipment

- marking remote control console M12;
- sight with a hydraulic drive;
- extruder for application of smooth line up to 500 mm;
- backlight for the marking unit and the operator's workplace during night work;
- "Pass this side" sign (700 mm);
- brush for road cleaning;
- remote button duplicating "Start" button on the marking control console.

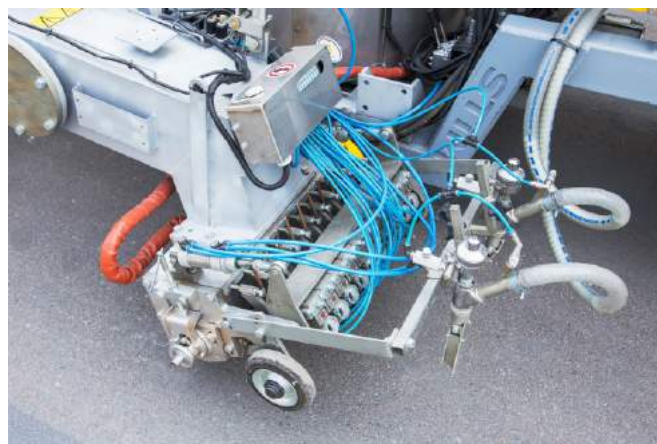
### Additional Options

- extruder for application of smooth and structured lines;
- joystick for remote control;
- hand air gun for cleaning working attachments.

### Basic Specifications:

"Kubota" engine power, max	63 kW
Engine fuel type	diesel
Fuel tank	100 l
Transportation speed	12 km/h
Operating speed	1-5 km/h
Automatically maintained temperature of plastic	180-210°C
Burner fuel consumption	3.8 l/h
Line width	5-50 cm
Line thickness	2.0 - 4.0 mm
Tank capacity:	
thermoplastic	700 kg / 350 l
glass beads	190 kg
Maximum operating road gradient	20%
Personnel	2 persons
Overall dimensions (length x width x height):	5.5 x 2.2 x 2.7 m
Curb weight	3500 kg
Gross weight	4 050 kg

Structure line



## Preheater "Volcano 1600"

The set of equipment is used for melting of thermoplastic by heating it in thermotanks with liquid fuel burners. The heat emitted by the burners is carried out by thermal transfer oil. Melting of thermoplastic and maintaining the set temperature is done in automatic mode and provided by an autonomous power unit.

The use of oil jacket and hydraulically driven agitators ensures uniform heating of the thermoplastic throughout the hole volume.

The set of equipment is mounted on a single frame to be installed on a truck platform.

The equipment is designed for melting of thermoplastic powder for road marking with machines as well as hand marking devices.



### Basic Specifications:

Number of thermo tanks	2
Thermoplastic tank volume	800 l
Maximum load of thermoplastic	1600 kg
Total thermoplastic tank volume	1600 l
Total load of thermoplastic	3200 kg
Thermal oil tank capacity	420 l
Number of oil burners (Beckett ADC)	2
Burner output, max	2 x 50 kW
Burner fuel type	diesel
Burner fuel consumption, max	9.5 kg/h
Burner voltage	12 V
Engine power (Kubota Z602)	10,8 kW
Engine Displacement	0,599 l
Generator	60 A
Engine fuel tank capacity	90 l
Oil tank capacity	60 l
Overall dimensions (length x width x height)	4,3 x 2,4 x 2,7 m
Weight (without material), max	3050 kg

### Standard Equipment

- Laser pointer thermometer Testo 830-T1
- Propane burner GV-3-R with a gas hose
- Flashing beacon light SLO 30 12V
- Ladder 2.1 m

## Preheater “Volcano 3000”

Volcano 3000 is mounted on 12-15 t trucks and used to melt thermoplastic material for road marking. Melting of thermoplastic and maintaining the set temperature is done in automatic mode. The set of equipment includes a thermo tank equipped with a heat and temperature maintaining system, a power module, an automatic control system and chute to drain molten plastic.

### Standard Equipment

- Laser pointer thermometer Testo 830-T1
- Propane burner GV-3-R with a gas hose
- Flashing beacon light SLO 30 12V
- Ladder 2.1 m

### Basic Specifications:

Number of thermo tanks	1
Thermoplastic tank volume	1500 l
Maximum load of thermoplastic	3000 kg
Number of oil burners (Beckett SDC)	1
Burner output, min	80 kW
Burner fuel type	diesel
Burner fuel consumption, max	11.4 l/h
Burner fuel tank capacity	140 l
Engine power (Kubota Z602)	10.8 kW
Engine fuel type	diesel
Engine fuel tank capacity	60 l
Overall dimensions (length x width x height)	4.4 x 2.3 x 2.2 m
Weight (without material)	3400 kg



## Preheater “Volcano 5000”

Volcano 5000 is mounted on 12-15 t trucks and used to melt thermoplastic material for road marking. Melting of thermoplastic and maintaining the set temperature is done in automatic mode. The set of equipment includes a thermo tank equipped with a heat and temperature maintaining system, a power module, an automatic control system and chute to drain molten plastic.

### Standard Equipment

- Laser pointer thermometer Testo 830-T1
- Propane burner GV-3-R with a gas hose
- Flashing beacon light SLO 30 12V
- Ladder 2.1 m

### Basic Specifications:

Number of thermo tanks	1
Thermoplastic tank volume	2750 l
Maximum load of thermoplastic	5500 kg
Number of oil burners (Beckett SDC)	1
Burner output, min	120 kW
Burner fuel type	diesel
Burner fuel consumption, max	11.4 l/h
Burner fuel tank capacity	150 l
Engine power (Kubota Z602)	11.6 kW
Engine fuel type	diesel
Engine fuel tank capacity	60 l
Overall dimensions (length x width x height)	4.4 x 2.3 x 2.6 m
Weight (without material)	4400 kg



## Road Marking Machine "Kontur 700 HPK"



available line types  
in a single pass

This machine is designed for road marking using two-component cold plastic (98:2) or fast drying paint onto cement-concrete and asphalt-concrete road. It can be used in a moderate climate with the ambient temperature of 5-30 and relative air humidity of no more than 85%. Reflective glass beads can be incorporated in both marking materials.

The machine can apply the following types of lines: smooth, structured chaotic and structured drops. The line type and width depend on the replaceable applicator (to be specified when ordering).

The machine applies a double line with cold plastic or paint in a single pass.

### Standard Equipment:

- marking remote control console M12;
- marking unit with changeable applicators;
- two pairs of paint and bead guns (Kamber);
- hydraulically operated brush;
- Festo pneumatic equipment;
- sight with a hydraulic drive;
- backlight for the marking unit and the operator's workplace during night work;
- "Pass this side" sign (700 mm);
- remote button duplicating "Start" button on the marking control console;
- 2 (two) applicators for Cold Plastic application.

### Additional Options:

- joystick for remote control;
- hand air gun for cleaning working attachments;
- up to 3 (three) pairs of paint and bead guns (Kamber);
- photo sensor of the beginning of the line (can be mounted on any gun);
- extension cable for the hand paint gun (50 cm).

### Basic Specifications:

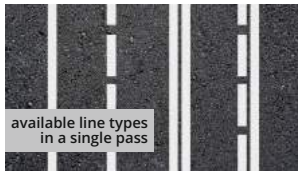
"Kubota" engine power, max	63 kW
Engine fuel type	diesel
Fuel tank	100 l
Transportation speed	12 km/h
Operating marking speed	
paint	2-8 km/h
cold plastic	1-5 km/h
Line width (cold plastic)	10-40 cm
Line width (paint)	5-40 cm
Tank capacity:	
cold plastic	1000 kg / 530 l
paint	700 kg / 435 l
glass beads	190 kg
hardener	30 kg / 30 l
solvent	25 kg / 30 l
hydraulic liquid	75 l
Compressor output (Fini)	700 l/min
Hydraulic pumps (Danfoss)	
Maximum operating road gradient	20%
Personnel	2 persons
Overall dimensions (length x width x height):	5.9 x 2.0 x 2.7m
Curb weight	3500 kg
Gross weight	4750 kg



Structure line







available line types  
in a single pass

## Road Marking Machine "Kontur 700 TPK"

This machine is designed for horizontal highway road marking onto asphalt-concrete and cement-concrete roads with modern thermoplastics and one-component fast-drying paint using reflective glass beads. Paint marking unit consists of a tank, a paint pump and a set of paint guns. The paint tank is equipped with a horizontal agitator. The machine is equipped with two paint guns and two glass bead guns that are mounted onto a movable carriage. The carriage allows for applying paint marking on the left side of the machine as well as on the right side of the machine. Thermoplastic marking is performed by the extruder. Right after the extruder, glass bead guns are installed for application of reflective glass beads. The block allows for application of lines with the width of 5 to 50 cm, in various combinations. The extruder comes as a standard with ten valves with a width of 5 cm. According to the customer's requirements, the width and the number of valves can be changed. The valve opening control system allows for application of solid lines and rumble strips, lines of variable profiles and patterns.

### Standard Equipment:

- marking remote control console M12;
- sight with a hydraulic drive;
- extruder for application of smooth line up to 500 mm;
- 2 (two) pairs of paint and bead guns (Kamber);
- hydraulically operated brush;
- remote button duplicating "Start" button on the marking control console;
- backlight for the marking unit and the operator's workplace during night work;
- "Pass this side" sign (700 mm).

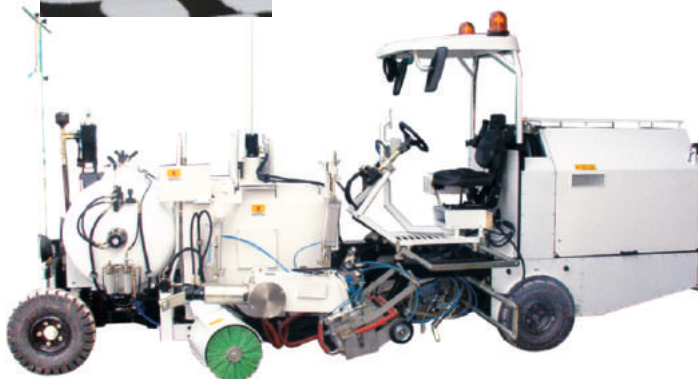
### Basic specifications:

"Kubota" engine power, max	63 kW
Engine fuel type	diesel
Fuel tank	100 l
Transportation speed	12 km/h
Maximum operating road gradient	Operating speed: 1-5 km/h
Automatically maintained temperature of plastic	180-210°C
Burner fuel consumption	3.8 l/h
Line width (thermoplastic)	5-50 cm
Line thickness (thermoplastic)	2.0 - 4.0 mm
Line width (paint)	10-20 cm
Tank capacity:	
thermoplastic	700 kg / 350 l
paint	560 kg / 350 l
glass beads	190 kg
Maximum operating road gradient	20%
Personnel	2 persons
Overall dimensions (length x width x height)	5.7 x 2.2 x 2.7 m
Curb weight	3500 kg
Gross weight	4050 kg

### Additional Options:

- extruder for application of smooth and structured lines;
- joystick for remote control;
- hand air gun for cleaning working attachments;
- up to 3 (three) pairs of paint and bead guns (Kamber);
- photo sensor of the beginning of the line (can be mounted on any gun);
- extension cable for the hand paint gun (50 cm).

Structure line



## Road Marking Machine "Kontur 900"



This machine is designed for the road marking with different types of material applications. Kontur 900 can be equipped with three changeable modules that are intended for the road marking application with a certain type of material: paint, cold plastic or thermoplastic. The module is a complete set of painting equipment and tanks that are installed on the same frame. The module replacement is performed by the road marking team.

### Standard Equipment:

- one plug-in module (optional);
- marking remote control console M12;
- hydraulic steering;
- sight with a mechanical drive;
- backlight for the marking unit and the operator's workplace during night work;
- brush for road cleaning.



### Technical specifications of the machine and modules:

"Kubota" engine power	63 kW
Fuel type	diesel
Transport speed, max	12 km/h
Compressor capacity, max	677 l/min
Glass bead tank capacity	330 l
Maximum operating road gradient	20%
Overall dimensions (length x width x height)	5.5 x 2.3 x 2.6 m
Gross weight	up to 6700 kg
Personnel	2 persons

### Additional options:

- sight with a hydraulic drive;
- sign with the bypass direction;
- vacuum pumping system for glass beads;
- platform for an auxiliary worker and road cones;
- glass beads gund with a system for adjusting the consumption of glass beads;
- tank for two fractions of glass beads;
- any type of colour in RAL scale.
- screw compressor with capacity up to 3000 l / min \*
- electronic speed control system
- a system for application of preliminary marking

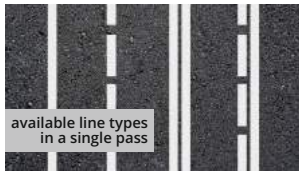
\* option is obligatory if the machine is equipped with 900MT module with "Spray-thermoplastik" option

### Structure line



### Modules:

Module type	900MT	900MX	900MK
Type of marking material	thermoplastic, spray-thermoplastic	cold plastic, spray-plastic cold application	paint, spray-plastic cold application
Material tank capacity	450 l	450 l	450 l
Hardener tank capacity	-	45 l	45 l
Solvent tank capacity	-	45 l	45 l
Width of applied double lines	up to 150 mm	up to 150 mm	up to 200 mm
Width of applied single lines	up to 500 mm	up to 300 mm	up to 300 mm
Types of applied lines	smooth, pointed	smooth, pointed, chaotic	smooth



available line types  
in a single pass

## Road Marking Machine “Kontur 1500”

New road marking machine «Kontur 1500» is designed for the road marking with different types of material applications. «Kontur 1500» can be equipped with three changeable modules that are intended for the road marking application with a certain type of material: paint, cold plastic or thermoplastic. The module is a complete set of painting equipment and tanks that are installed on the same frame. The module replacement is performed by the road marking team.

### Standard Equipment:

- one plug-in module (optional);
- marking remote control console M12;
- hydraulic steering;
- sight with a hydraulic drive;
- backlight for the marking unit and the operator's workplace during night work.

### Additional options:

- brush for road cleaning;
- sign with the bypass direction;
- vacuum pumping system for glass beads;
- platform for an auxiliary worker and road cones;
- glass beads guns with a system for adjusting the consumption of glass beads;
- tank for two fractions of glass beads;
- any type of color in RAL scale.

### Technical specifications of the machine and modules:

Engine's type	Kubota, diesel
Engine power	74 kW
Generator	140 A
Compressor type	screw compressor
Compressor capacity	up to 3000 l/min
Maximum working road grade	20%
Travel speed	12 km/h
Tank capacity for a glass beads	330 l
Overall dimensions	5,5 x 2,3 x 2,6 m
Gross weight	up to 5 800 kg



Structure line



### Modules:

Module type	1500MT	1500MX	1500MK
Type of marking material	thermoplastic, spray-thermoplastic	cold-applied plastic	paint, spray-plastic cold application
Capacity for material	750 l	850 l	850 l
Capacity for hardener	-	55 l	55 l
Capacity for wash fluid	-	55 l	55 l
Width of applied double lines	up to 150 mm	up to 150 mm	up to 200 mm
Width of applied single lines	up to 500 mm	up to 300 mm	up to 300 mm
Types of applied lines	smooth, pointed	smooth, pointed, chaotic	smooth

## Road Marking Re-stripping System "LIS"

"LIS" unit is designed for automatic renewal of old road marking. It re-stripes center and edge lines. It can be mounted on "Shmel" or "Kontur 650K" road marking machines.

The unit shows stable performance at night as well as in daylight.



### Basic Specifications:

Scanned zone width	700 mm
Recognized zone width	80 - 200 mm
Acceptable wear of the marking to be renewed	70%
Transverse repetition accuracy (at a speed of 3-12 km/h)	10 mm
Longitudinal repetition accuracy	50 mm
Painting guns, pairs	2
Road marking speed	3-15 km/h
Operating paint pressure	130-140 bar
Control operating air pressure	6.0-6.5 bar
Gross weight	60-120 kg



# Marking Gun Remote Control Console M12

## Basic features

- marking remote control console is designed to work as part of any road marking machines;
- can control operation of five paint and five bead guns;
- all types of marking preset for 5 national standards;
- five preset languages;
- can be programmed for the use with any marking machines with any location of guns and sensors;
- marking speed of up to 25 km/h;
- operator pre-selects marking conditions (longitudinal/city, longitudinal/highway, edge marking, free mode);
- one window displays all possible standard modes for the selected conditions;
- marking mode can be changed in the process just by hitting a button;
- high contrast 5.7" colour display;
- user-friendly menu and 10 soft keys for fast selection of an operation mode or setting. Each mode enable a dedicated window with specific information;
- context clues in major modes and complete integrated user manual;
- unique restriping method, using a photo sensor of beginning of the line to correct geometric defects of previous marking;
- unique method for correcting marking cycle parameters;
- pre-marking mode;
- can adjust cycle parameters "on the fly";
- marking control based on preset speed and specific paint consumption limits;
- marking simulation mode for operator control and training;
- marking machine service needs alerts;
- current specific paint consumption control (kg/m<sup>2</sup>);
- step by step control of all marking parameters;
- total paint consumption measured per phase/day;
- marking length measured per phase/day;
- total marking area measured per phase/day;
- automatically saved statistics per phase/day;
- integrated GPS/GLONASS receiver to accurately record the time and geographical location of each marking step in the statistics;
- brief summary statistics, marking area and paint consumption report can be viewed on the display for each marking type.



Following performance statistics for each work phase is stored in the nonvolatile memory:

- geographic GPS coordinates of the machine (movement route);
- date, exact start and end time for each marking type;
- marking material;
- marking type;
- length of each marking type;
- total length of the stroke and the area of each marking mode;
- marking area per phase;
- paint consumption per phase;
- marking width;
- average travel speed (km/h);
- contract number;
- road number,
- lane number etc.

Marking gun remote control console M12 is designed to work as part of any road marking machines. Performance statistics for each work phase is stored in the nonvolatile memory. Information is automatically transferred to the server in real time via an integrated GSM modem. The user can view statistical reports on a computer/tablet in any place and print the tables, if necessary. The data is displayed in a convenient way and can be exported to MS Excel. The user selects the report table type (step by step detailed statistics per day or summary statistics per marking type). The program also allows you to watch the travel and operating route on the electronic map, with marking mode indication.

## Heat Blasting Machine “Suhovei”

The heat blasting unit is designed for fast heating of the road surface. It can be used for drying the surface before road marking or heating asphalt joint edge during road construction work.

During road marking, the unit is used for melting ready-shape thermoplastic patterns right on the road surface.

### Basic Specifications:

Heat source	LNG
Air stream temperature	up to 1 300°C
Heating gun hood dimensions (length x width):	0,6 x 0,6 m
Overall dimensions (length x width x height)	1.3 x 0.6 x 1.2 m
Gross weight (without gas tank)	70 kg



## Marking Removal Machine “Bobr”

This machine is the most efficient machine for a quick removal of paint, thermoplastic and marking tape off the road surface.

### Basic Advantages:

- high efficiency and low price;
- quick removal of old marking in the operating range of 200 mm, to the depth of 0-1 mm in a single pass at a speed of 0.3-0.9 km/h;
- minimal contact with the road markings, which prevents grooves with sharp edges or false markings;
- one set of cutters can be used long enough to remove a line 12.000 m long. Cutter service cycle depends on the operator's experience, road surface type and the type of markings to be removed;
- quick cutting part replacement on site;
- cutting control system adjusts the cutting depth and eliminates contact with the road surface, which increases performance and extends cutter service cycle;
- high maneuverability due to rotating rear wheels;
- one-man operation;
- comfortable working conditions due to the minimum noise, dust and vibration levels;
- easy to transport and prepare for work.

### Standard Equipment:

- steel frame and rugged protective rubber casing;
- quick-mounted parking brake;
- anti-vibration dampers;
- “Honda” gasoline engine;
- carbide cutters;
- cutting depth control system;
- removable loads for easy loading.

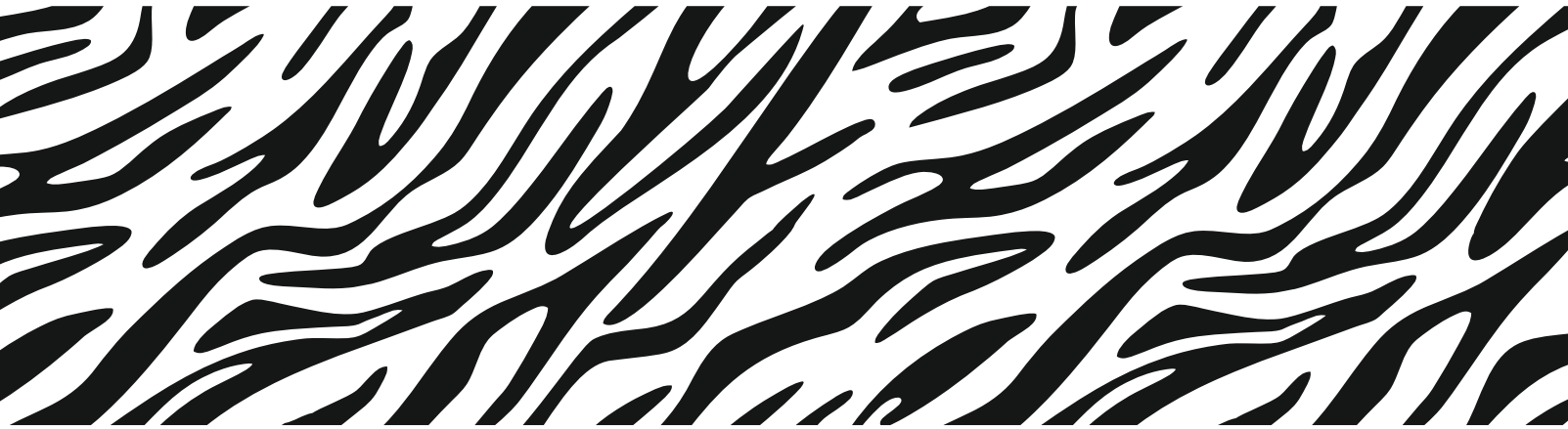


### Basic Specifications:

“Honda” engine Fuel type	gasoline
Width of marking removal (cutter grip)	200 mm
Marking removal working speed	0.3 - 0.9 km/h
Cutter service cycle, max	12 km (1500 m <sup>2</sup> )
Operating weight	186 kg
Overall dimensions (length x width x height)	1.1 x 0.7 x 1.1 m
Personnel	1 person



*Everything for road marking!*



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