

Patented Portable HVOF Termika-3

We tender portable HVOF installation Termika-3 of small and mean power for sale. As has shown long-term experience it differs from existing on the market today that it is easy to use, compact and reliable

All complete set of the Termika-3 places in one portable brief-case. The design is kept small and simple, yet it produces the same coatings as systems costing ten times as much. The brief-case contains all you will need, except the gases and powders. It is possible to deposit different powders with size of grains up to 50 microns. The output on an operational mode implements turn of one handle. The opening-up and start of the Termika-3 takes up to 15 min. The characteristics of received coatings correspond to HVOF and FS standard technologies.

Amon gour customers firms from

Japan, Vietnam, India, Taiwan, Singapore, USA, Russia and go on.

The HVOF gun Termika-3 is the portable, mobile equipment for deposition of coatings from different powder materials by a method HVOF.

PRINCIPLE OF OPERATION: the formation of coatings on surfaces work-pieces is made by heating up to a ductile condition of fragments of a powder material given from a feeder in the burner, and boost them up to speeds of 500-700m/sec in hyper-thermal (2850-3000 C) flow of a gas burner.

The process of deposition of coatings can implement as in manual, and engine modes (on a lathe or special manipulator).

Main specifications of Termika-3:

Fuel: Propane, oxygen

Pressure: oxygen-0,8-1,0 MPa

propane-0.6-0.8 MPa

The consumption:-oxygen ~150 L/min

Propane ~60 L/min

Cooling : air ,pressure-0,6 MPa

Air flow-350-400 L/min

Productivity of a spraying:

Carbides-1,5 kG/h

Steel and alloys-1,8 kG/h

Other fuels that may be used - MAPP (CHEMTANE-2) LPG

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1. This is the body of the powder feeder.

It contains the controls to regulate powder flow, air delivery to the enclosed vibrator assembly, and the flow of carrier gas, which moves the powder. You can see the powder canister rising from the feeder body. It is possible to attach a much larger powder feeder for fixed in-place production applications.



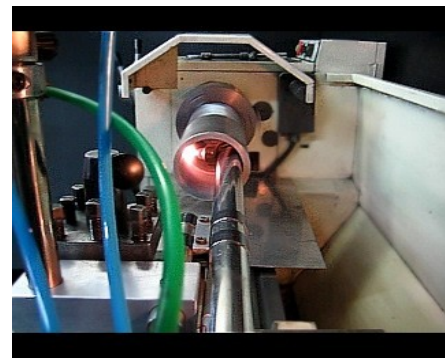
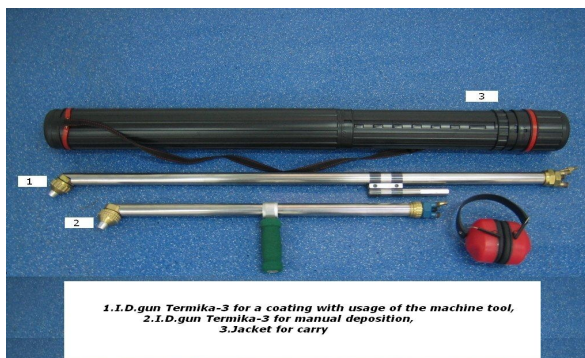
2. Gas Manifold Assembly and Controls.



3. Outside Gun of Termika-3.



4. I.D. Gun of Termika-3.



5. All elements of HVOF Termika-3.



I. D. portable HVOF gun

I.D. (Internal Diameter) portable HVOF gun is intended for deposition of coatings on internal surfaces (min.dia 82 mm).

The gun uses a 60-degree spray angle, will operate in an ID as small as 120 mm (5 inches). It will traverse 1,000 mm (39+ inches) or 2,000 mm (78+ inches), if you can enter the workpiece from both ends-it is an extra option.

We believe that this is unique HVOF I. D. spraying system with such parameters.

I.G. guns is made in two versions:

- for deposition with usage of the machine tool,
- for manual deposition .

Examples of usage of I. D. portable HVOF gun

- Elements a landing gear of an airplanes,
- Internal surface of barrels of extruders,
- Internal surfaces of tubes,
- Internal surfaces of vessels for grinding and stirring of materials.

Surface Roughness of Coatings

Kind of deposition	Kind of coating	Rz	Ra		
O.D. deposition before mechanical treatment	WC-17Co	3.4	2.5	Standard	2-3
	CrC-NiCr	6.4	1.2		
	Cr	3.9	0.8		
O.D. deposition after mechanical treatment	WC-17Co	0.9	0.1	Standard	0.1-0.2
	CrC-NiCr	1.1	0.2		
	Cr	0.8	0.1		
I.D. deposition before	WC-17Co	9.0	0.9	Standard	2-3

mechanical treatment	CrC-NiCr	9.8	1.3		
	Cr	4,3	0.85		
I.D. deposition after	WC-17Co	0.7	0.1	Standard	0.1-0.2
mechanical treatment	CrC-NiCr	1.6	0.2		
	Cr	0.8	0.1		

Test adhesion was produced by ASTM C633 standard:
 (ASTM C633 - 01(2008) Standard Test Method for Adhesion or Cohesion Strength of Thermal Spray Coatings)

Results for Diamalloy 2006 **80-90 Mpa**

Microhardness

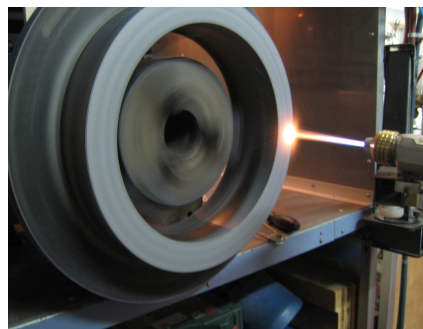
Kind of deposition	Kind of coating	HV200	HV300	Standard
		average		
O.D. deposition	WC-17Co	888	1050-840	827
	CrC-NiCr	966		
	Cr	881		
I.D. deposition	WC-17Co	883	930-820	827
	CrC-NiCr	982		
	Cr	882		

Coefficient of powder using for WC+Co+(Cr) **70-80%**

Example of using



In Taiwan



In Israel