



**SPUN 2,000**

**HYBRID PVD COATING SYSTEM M-ARC 2/6**

Sputtek HYBRID PVD COATING SYSTEM Specifications:



**SPUTTEK INC. Toronto, Canada**  
110 Sharer Road, Woodbridge,  
ON, Canada L4L 8P4

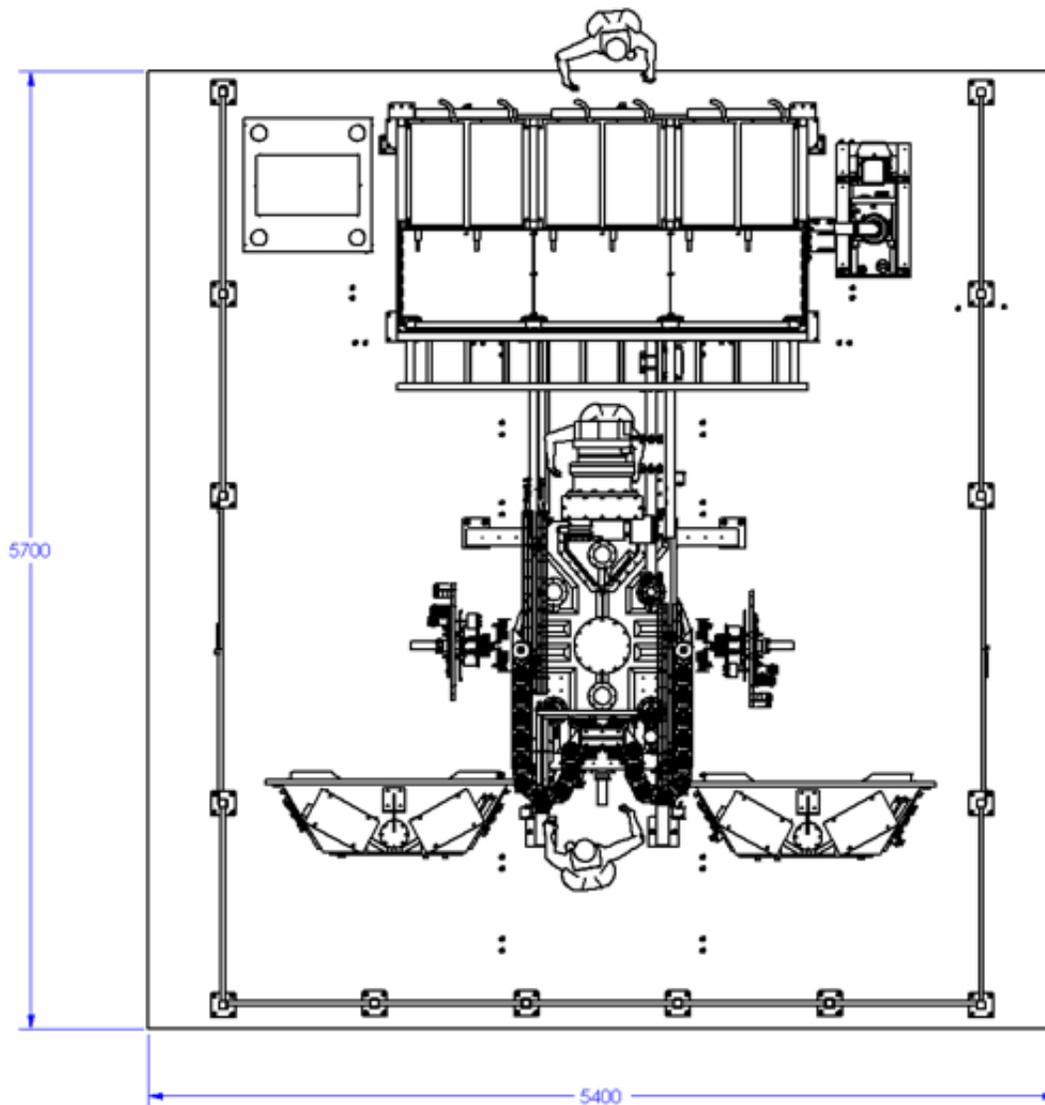
Phone (416) 213-9833 info@sputtek.com  
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**Over 30 Years of  
Quality Services**



### 1) LAY-OUT with utilities



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### Utilities Required:

	455 KVA; 3 Phases + Neutral + protective earth, 3 x 460 V (+61000010%)
Working gases	N2, Ar, C2H2, H2, O2
Cooling water (1-2)	400 l/min; 22-24°C, particle free, pressure: 5 to 6 bars, hardness 7°DH, Ph neutral value
Compressed air (4)	
Exhaust pipe (5)	
	For each inlet for all utilities see drawing
Internet connection	

## 2) General data

### A) Features of the mechanical vacuum system:

AISI 304 octagonal vacuum chamber with 1300 mm internal diameter and 1360 mm internal height.

- 8 flanges on 4 walls of the chamber, in two levels, size: Diameter 234 mm.
- ISO 320 flange for the turbopump.
- ISO 100 for carousel conveyor electrical feedthrough element.
- Carousel extractable. Table diameter 1100 mm with 6 satellites 330mm. Each satellite is extendable to 6 smaller subsatellites
- Cooling system with cooling channels.
- 1x Turbomolecular magnetic pump 3200 l/s ISO-F 320 (Osaka);
- 1x Two-stage rotary pump 96 m3/h, KF 40 (Edwards);
- 1x ISO-F 320 Gate Valve for turbo (VAT);
- 1x Angle valve KF63; 1x Angle valve KF40; 1x Angle valve KF25; 2x Angle valve KF16;(VAT)
- 3x Pirani gauge PIR-T0-1 KF16 (Kurt J Lesker);
- 1x Penning gauge AIM-X –KF25 (Edwards);
- 6x Gas mass-flow controllers for gases.



## B) Features of the electric system:

4x 15 Kw Infrared Electric heaters,  
2x 10 Kw Advance Energy Magnetron DC/Pulsed power supply,  
1x 30 Kw Bias DC/Pulsed power supply.  
4x Thermocouples with fixed position and fixed dummy,  
350 KW installed power,  
1x Control Panel with PLC (Siemens),  
1x HMI Comfort with 19" touch screen (Siemens),  
1x JB for gas equipment – 1 pc  
1x JB for Ignition system - 1pc  
12x Miller XMT-350 Power Supply  
1x supporting rack  
1x uninterruptable power supply

## C) Features of the coating system

1x Loading Table diam. 1100 with 6 satellites dia. 330 mm  
6x circular DC Cathodic Arc sources with a target diameter 172 mm.  
2x circular DC Magnetron sources with a target diameter 203 mm,  
8x Air rotary shutter ISO 63,  
6 primary anodes,  
4 secondary anodes,  
1x set of internal protective shields,  
Effective Coatings area: D 1050 x 900 mm.

## 3) Materials delivered with the system

- Spare parts of mechanical and vacuum components.
- Spare parts of electrical components,
- 4 Ti targets for cathodic Arc sources and
- 2 Ti targets for Magnetron Sputtering sources.
- User manual with technical drawings,
- CSA brand in compliance with the regulations in force,
- Software for coating processes control.



#### 4) Utilities supplied by customer

- 3x460V – 400A Electric current
- 6-7 bar Compressed air
- 3-4 bar Water
- Nitrogen
- Hydrogen
- Argon
- Acetylene
- Oxygen
- Exhaust line for the pumping system

#### 5) Acceptance Test

- The customer must supply the necessary material for the acceptance test.
- The supplier will carry out the running hard coating tests at his own premises.
- The supplier will carry out the running hard coating tests at customer facility after PVD system installation.

#### 6) Packaging, transport

- The system packaging is on the supplier.
- The system transport is on the customer.

#### 7) System

The PVD COATING SYSTEM STM 1060 1PL will include:

- Software for Coating process control
- 6 x Target Titanium Grade 2 for Arc source
- 2 x Target Titanium Grade 2 for MS



## 8) Warranty

Warranty will be in force for 12 months.

## 9) Optional

Additional PVD system spare parts and components like Loading table, Cathodic Arc Source, Sputtering source, set of spare shields, satellites and sub-satellites, tools holders will be supplied per separate quotation(s) and order (s).

Extended warranty and technical support are available under separate Service Agreement.

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