



## xPro – L4

### Vacuum Hard Coating System With New PDA III\*-Technology and HiParc-Technology (optional)

The **xPro – L4** is the most advanced industrial large size vacuum coating system, which includes the PDA\*-technology. It is specifically designed for the deposition of high performance metallurgical coatings, such as AlCrSiN, AlTiSiN, AlCrN, AlTiN, CrN, TiC,N, TiN and many others. Such coatings are evaporated by arc onto a variety of cutting tools, dies and moulds, components and consumer products for wear, erosion and corrosion protection as well as tribological purposes. The **xPro – L4** is also in a “pulsed” high power version as **xPro – L4H (HiParc\*\*)** available, where the technology and power supply package enables faster deposition rates, shorter cycle times and significantly improved target utilisation.



## **The xPro – L4 is characterized by:**

- Robust system designed for the rigorous production environment using sophisticated vacuum coating technologies.
  - Rugged construction marked by an extremely advanced highly refined design.
  - Extreme reliability based on intelligent straightforward design and construction.
  - The broadest spectrum of coatings and coating technology available in a single system at the lowest possible cost.
  - Fully automatic, computer controlled, closed loop process control providing process repeatability, reliability and a user-friendly environment.
  - The coating industry's broadest capabilities in the smallest footprint.
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## **Technical Highlights of the xPro – L4:**

### **PDA III\*-Technology**

- PDA III\* „Plasma-Diffused-Arc“ für die Abscheidung glatter und kompakter Schichten

### **Magnetic arc confinement MACIII\***

- High target utilization
- Drastically reduced micro-particle formation

### **Short process time**

- Increased heating capabilities
- Efficient cleaning and etching cycle

### **Improved coating properties**

- Advanced interface formation
- Extremely clean process environment

### **Improved part handling and fixturing**

- Safest most manoeuvrable transport carts
- Easy to load and use carts with high load capabilities

### **Improved software design**

- Extreme ease of use
- Highly reproducible runs
- High level of flexibility for custom tailored coating solutions
- Remote control and diagnostics

### **Improved thermal management**

- Intensive water cooling
- Double walled construction

### **Most reliable components**

- Brand name components
  - Clever integration
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## System Data

|  |  |
|--|--|
| Size of vacuum chamber                         | 1,000 × 1,000 × 1,150 mm (L × W × H)   |
| Coating volume                                 | 710 × 720 mm (Ø × H)   |
| No. of rotary platform<br>(substrate carrier)  | 2  |
| Size of rotary platform<br>(substrate carrier) | 820 × 820 × 1,015 mm (L × W × H)   |
| Pumping  | 2 double stage rotary vane pumps<br>1 roots pump<br>1 turbomolecular pump                            |
| Sources  | 4 large area arc evaporators   |
| Power supplies                                 | 4 arc power supplies @ 210 A<br>optional: 400 A pulsed (HiParc**)<br>1 pc 15 kW dc bias power supply |
| Heater   | 4 pcs, rated @ 12 kW each  |
| Overall size                                   | 3,650 × 1,615 × 2,220 mm (L × B × H)   |
| Power  | 120 kW, 400 V, 3 ph + N, 50/60 Hz  |

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## System capacity

|                        |                      |
|------------------------|----------------------|
| Plasma volume          | 710 × 740 mm (Ø × H) |
| End mills Ø 4 × 50 mm  | 3,670 pcs            |
| End mills Ø 12 × 75 mm | 1,260 pcs            |
| Inserts ½" x ½" x 4 mm | 7,700 pcs            |
| Hobs Ø 80 × 80 mm      | 224 pcs              |
| Hobs Ø 100 × 100 mm    | 108 pcs              |

\* PDA = Plasma-Diffused-Arc

\*\*HiParc = High Power Pulsed Arc

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### PVT

Plasma und Vakuum Technik GmbH  
Rudolf-Diesel-Str. 7  
D-64625 Bensheim  
www.PVTvacuum.de