

HIGH PERFORMANCE COATING EQUIPMENT

YOUR PARTNER WHEN IT IS ALL ABOUT PERFORMANCE



A GLOBAL NETWORK TO SUPPORT OUR CUSTOMER

OPTIMIZE PERFORMANCE

Innovative Technology:

- High Pulsed Power Supply Technology: High Ionization offers an optimization of the coating structure and properties
- Etching Technology: Plasma Booster to achieve excellent adhesion
- Modern Arc Technology : Flexible Magnet System automatically adjusted to the target material to obtain high, precise and homogeneous dense coating.



TOOLING TECHNOLOGIES

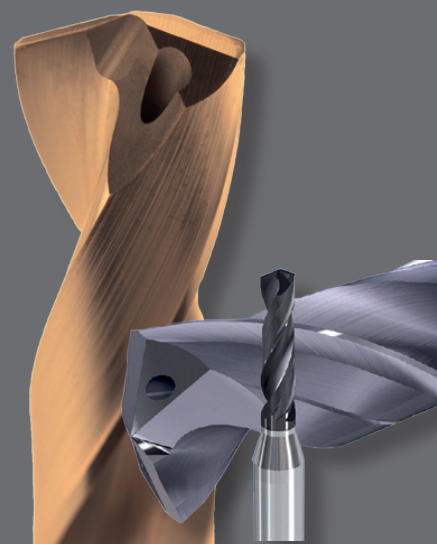
HIGH PULSED ARC TECHNOLOGY

HP 800 - HP1500

HIGH-PERFORMANCE PVD COATING SYSTEM



	HP 800	HP 1500
Usefull volume	Ø 420 mm x 700 mm	Ø 650 mm x 700 mm
Load	400 kg	1200 kg
QTY / batch: End Mill Ø 10 x 70 mm	648	864
Cycle times	4 h	5 h
Nb HP Arc sources	2 or 4	4
DC and High Pulse Arc	✓	✓
Hybrid DuplexTechnology	✓	✓



OPTIMIZE PRODUCTIVITY

Short cycle time
Optimized fixturing



TOOLING TECHNOLOGIES

PVD HARD COATING SYSTEMS



	MpC 500	MpC 600	MpC 1000	MpC 1500	MpC 2500
Usefull volume	Ø 350 x 500 mm	Ø 450 x 500 mm	Ø 650 x 500 mm	Ø 650 x 1140 mm	Ø 900 x 1140 mm
Load	150 kg	400 kg	1000 kg	1500 kg	3000 kg
QTY / batch End Mills Ø 10 x 70	360	576	864	1782	2376
Cycle time	3,5	3,5 h	4,5 h	6 h	7h
# of sources*	1 to 3	2 or 4	4	6	6-8
Technology					
ARC	✓	✓	✓	✓	✓
ARC / Sputter hybrid		✓	✓		
Duplex (PN + Hard coating)	✓	✓	✓	✓	✓
Sputter	✓	✓	✓		

*depending on coating type and configuration

Easy to operate



Precise



Short cycle time



Low running cost



Local support



Affordable



OPTIMIZE HARDNESS



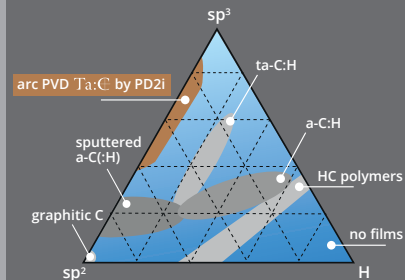
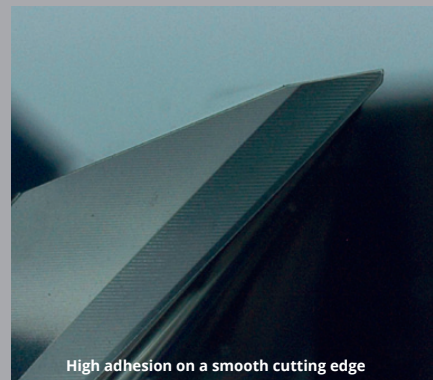
TOOLING TECHNOLOGIES

Ta:C SUPER HARD CARBON



	MpC 500 Ta:C
Usefull volume	Ø 450 mm H 200 - 400 mm
Load	150 kg
QTY / batch End Mills Ø 70 x 10	432
Cycle time	5 - 8 h
# of sources*	1 or 2
Hard Carbon Technology	Ta:C

*depending on technology and configuration



Types of DLC Coatings



OPTIMIZE SURFACE



PLASMA SURFACE TECHNOLOGIES

DLC, DUPLEX & PLASMA NITRIDING



	MpC DLC 500	MpC DLC 700	MpC DLC 1000	MpC DLC 1200	Duplex DLC	Puls Plasma Nitriding
Available Technologies	Hybrid PVD-PeCVD				Hybrid Plasmanitriding + PeCVD	Active Screen
Usefull volume	Ø 550 mm x 500 mm	Ø 620 mm x 650 mm	Ø 800 mm x 650 mm	Ø 800 mm x 900 mm	Ø 600 up to Ø 800 mm x 700 up to 1000 mm	Ø 600 up to Ø 1500 mm H 700 up to 2000 mm
Cycle times	2 - 4 h	4 - 8 h	5 - 8 h		Depending on nitriding depth	Depending on nitriding depth
Coatings	a-C:H, a-C:H:Me, a-C:H:X	a-C, a-C:Me, a-C:H, a-C:H:Me, a-C:H:X			Plasmanitriding, Duplex DLC	Plasmanitriding
Properties	Friction reduction, corrosion protection, wear protection				Fatigue and wear protection, friction reduction, excellent corrosion protection	High heat resistance, fatigue and wear resistance
Applications	Automotive, aircraft, hydraulic, textile, plastics molds, tooling, medical, decorative					Automotive, aircraft, hydraulic, textile, molds & dies, tooling

**OPTIMIZE
QUALITY**



EDGE PREPARATION TECHNOLOGIES

STREAM/DRAGINISH & MICROBLASTING

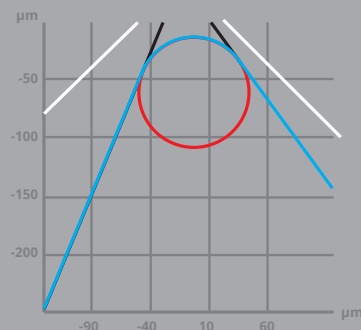
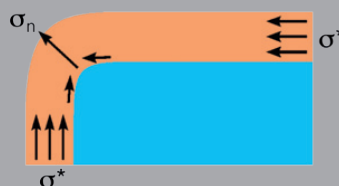


STREAM- & DRAGFINISH

	PARDUS 4H 12T DF	PARDUS 4H 20T SF/DF	PARDUS 6H 30T SF/DF	PARDUS 4H2C	PARDUS ROBOT
# of tools / cycle	12	20	30	20 - 30	100 - 144 pcs. / hr. (polishing & edge preparation)
Cycle time: polishing / edge prep / honing	3 - 8 min. / 6 - 20 min. / 45 min.	2 - 5 min. / 3 - 12 min. / 10 - 20 min.	2 - 5 min. / 3 - 12 min. / 10 - 20 min.	2 - 5 min. / 3 - 8 min. / 10 min.	
# of heads / automatic containers	3 / 1	4 / 1	6 / 1	4 to 6 / 2	
Option		Angle head			
Technology					
Dragfinish	✓	✓	✓	✓	✓
Streamfinish		✓	✓	✓	✓
Wet Dragfinish			✓	✓	

MICROBLASTING

	SAT 2	SAT 4
Satellite	2	4
Automation for cutting tools	✓	✓
Additional manual operation for dies	✓	✓
Laser measurement for nozzle adjustment	✓	✓
# of nozzles*	2 to 3	3 to 4



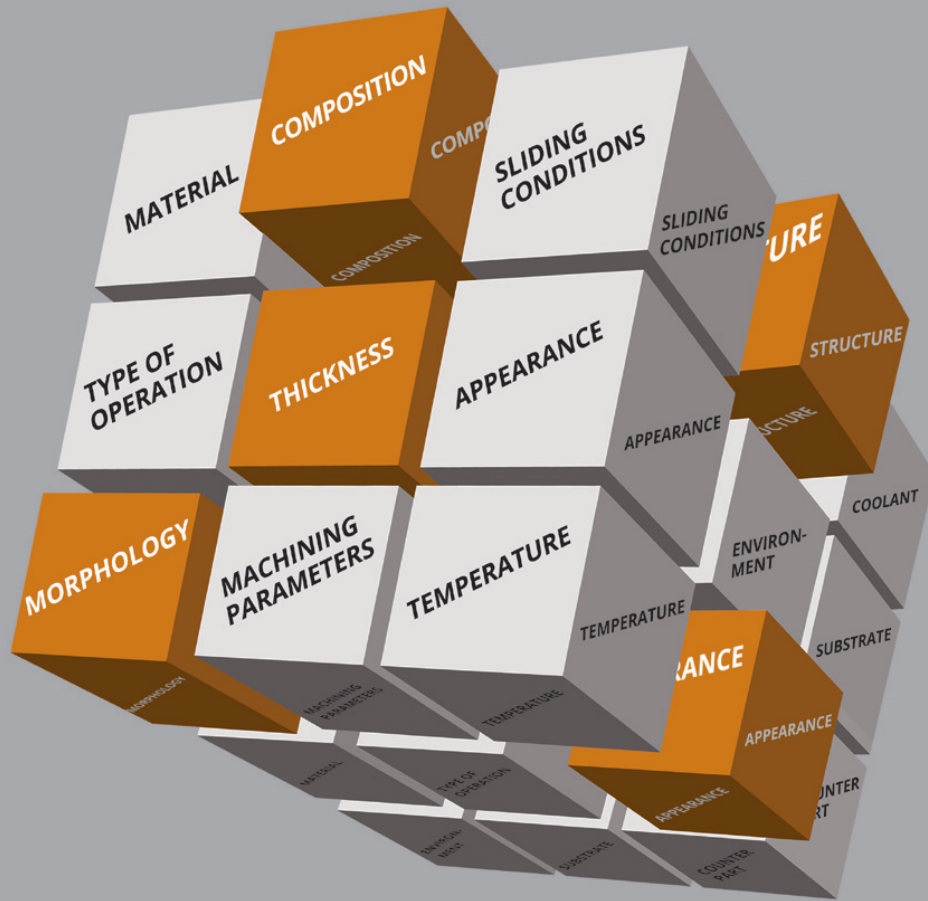
*depending on technology and configuration

OPTIMIZE SUCCESS

We strive for the perfect solution which will offer our customers the decisive, added value for themselves and their product



COATINGS



Input parameters
application

Actuating variables
coating

Cutting

Mold & Dies

Components

PD2i offers the full range of coatings from
multipurpose to customer engineered,
dedicated solutions



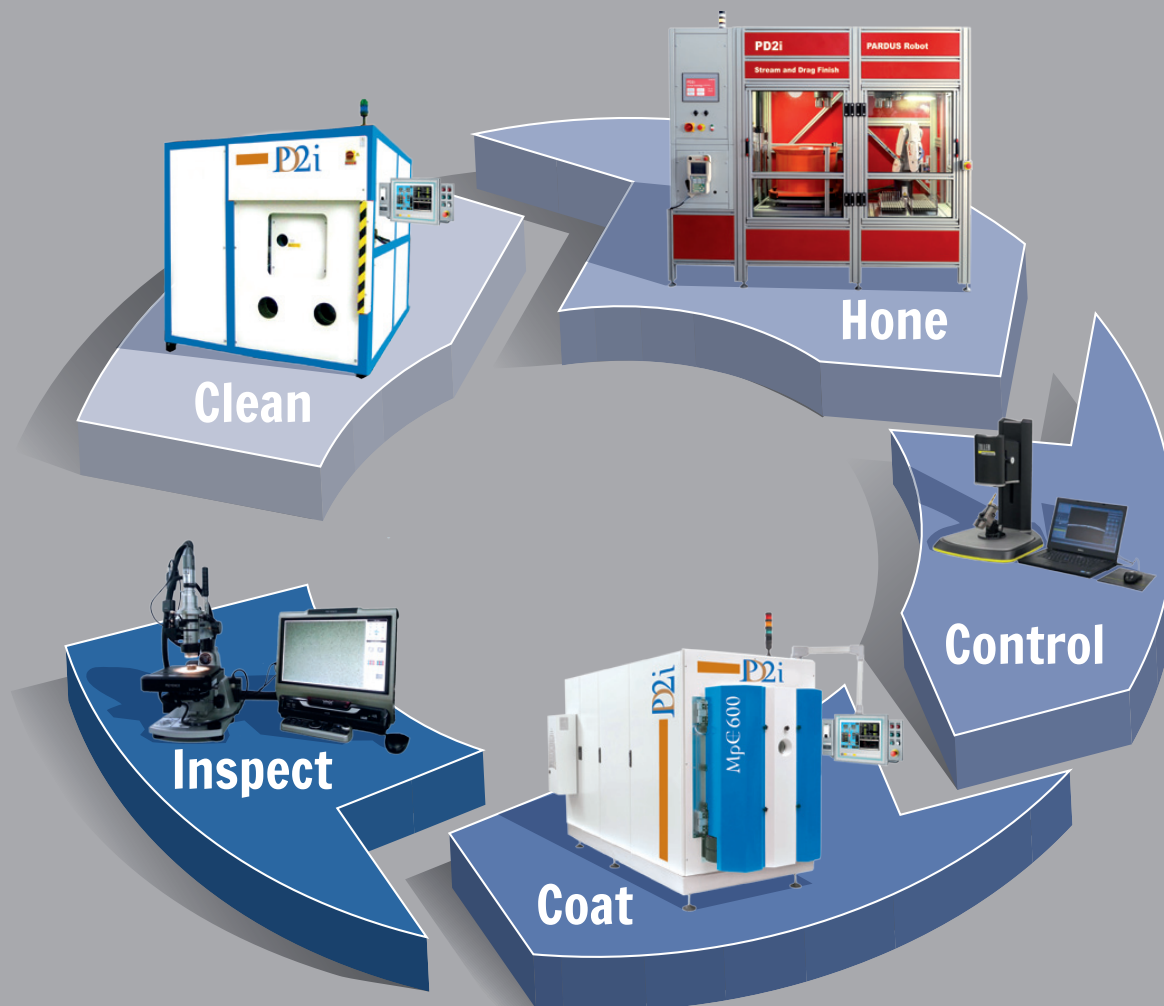
EXPERTISE - STRIVING FOR EXCELLENCE

From application
knowledge to effective
and efficient solutions

Everything at PD2i starts with an in-depth analysis of the application. Once the requirements are completely understood, PD2i starts developing the best solution for the specific case from individual machines to complete turnkey operations.

TURN KEY SOLUTIONS

Only a holistic coating solution is the key to successfully achieving outstanding performance



Easy to operate

Flexible

Affordable

Fast

Efficient

A GLOBAL NETWORK TO SUPPORT OUR CUSTOMER

Shaped by us with more
than 30 years experiences
in thin film coating

PD2i is a leading supplier of high performance PVD and PeCVD coating equipment and technology.

PD2i was founded by industry veterans Dr. Pierre Collignon and Dirk Haack. Their vision was to build a company that would manufacture equipment and accessories for customers needing innovative, thin film coating equipment. From the beginning they realized the equipment must not only provide world class coatings backed with innovative technology, but it had to be on a common, user friendly platform which would be easy for the customers to understand and maintain. This philosophy has carried them to the forefront of the industry.

When you partner with PD2i (PD = Partner Development) they will provide what you need in equipment, technology and support and you can concentrate on growing your core business!

Your problem in surface treatment is our challenge.



AFTER SALES SUPPORT

Spare Parts

If you are serious about providing your customers with continued, high performance coatings, you will need more than only the equipment and technology. Our support for the equipment is grounded in the experience of our dedicated staff of technicians, engineers and R & D. The common platform used to build our equipment has minimized the number of spare parts needed. We provide on line support, as well as field technicians for training, troubleshooting and routine maintenance. Need a proprietary coating for a specific application? R & D will work with you for the best solution.

Our staff stands ready to help you succeed.



"Give a man a fish and he will eat for a day. Teach him to fish and he will eat for a lifetime."

CUSTOMER TRAINING AND KNOW HOW TRANSFER

Comprehensive training and documentation is part of each single PD2i equipment build and transferred to customer. The first training takes place at PD2i's facility in Germany. The second training is carried out at our customer's production site after installation.

The training includes operating the machine as well as application specific knowledge. Training for turnkey operations include all pre- and post treatment processes, quality control, workflow and administration, as well as coating development.

Guaranteed communication: We offer training in a variety of languages including English, German, French, Chinese or Korean.

Preventive Maintenance

Preventive Maintenance is a major key to a successful PVD coating operation.

The offer ranges from basic manuals and instructions to maintenance programs completely carried out by our experienced engineers.

www.PD2i.com



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