

oerlikon
balzers

INVENTA

Step into a new dimension
in PVD Arc Technology



Revolutionary PVD Arc Technology gives you unmatched performance and results

The INVENTA system offers a state-of-the-art solution with Advanced Arc Technology (AAT). This innovative technology provides unparalleled versatility thanks to the perfectly tuned interaction between its trigger and high-end arc source design, and the quickly adjustable electromagnetic field.

These essential components have been significantly enhanced to make the INVENTA an efficient, reliable and productive system and to enable uniform coatings. AAT gives you better-quality coatings than ever before.



ADVANCED ARC TECHNOLOGY



HIGH-END ARC SOURCE DESIGN

- High-end design allows wide variety of target materials
- Increased coating uniformity
- High coating efficiency
- No moving parts – improved stability and flexibility

QUICKLY ADJUSTABLE ELECTROMAGNETIC FIELD

- Different target materials in one target – bi-material target
- High utilization of target material (up to 60%)
- Simple transition to various coating structures
- Controlled discharge voltage enables reproducible coating structure

NEW TRIGGER

- Fast trigger frequency for a specific coating structure (nano-/multi-layer)
- Maintenance-free and almost no wear
- New position prevents droplets from reaching the substrate

FUTURE-READY COATING ARCHITECTURES

Quick and easy change of the coating structure, supports new coating architectures

PRODUCTIVITY INCREASE & COST SAVINGS

Increased loading capacity, higher deposition rate, enhanced target utilization and shorter batch times

VERSATILE MULTI-MATERIAL TARGET CONCEPT

Supports a variety of coating structures from gradient to multi-/nano-layer coatings

ENERGY & RESOURCE EFFICIENCY

Lower energy consumption and efficient cooling/heating system

PREVIOUS GENERATION COMPATIBILITY

Compatible with accessories including carousels, fixtures, loading tables and cart system

ADVANCED CHAMBER DESIGN

Three sources for superior coating quality, up to eight target materials, and simplified target exchange process



See AAT
in action

INVENTA kila



The future of coating is yours with Advanced Arc Technology

The INVENTA system is a true game-changer that transforms your PVD coating process, delivering unmatched efficiency, quality and sustainability. Experience the impact of increased productivity and reduced costs while ensuring superior performance. Discover the future of PVD Arc technology and take your coating operations to new heights with INVENTA.



COATER TECHNOLOGY

- New Arc source and trigger technology
- State-of-the-art hardware and software
- Flexible flange and shutter concept
- Options: Vacuum Metal Ion Etching (VMIE)



COATING INNOVATIONS

- Quick and easy change of the coating structure
- Improved coating efficiency: more material is deposited on the substrate

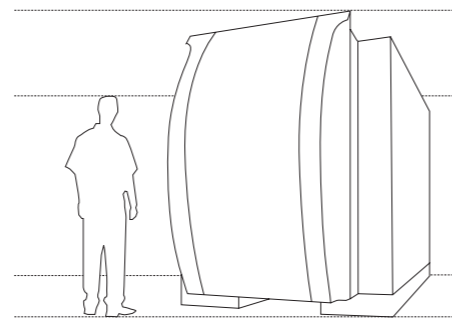


COST SAVINGS & PRODUCTIVITY INCREASE

- Higher loading capacity (25%)
- Higher deposition rate per line (~50%)*
- Higher target utilization (up to 60%)*
- Lower Total Cost of Ownership (10 - 20%)*
- Less energy consumption (20%)

* depending on type of coating

	INNOVENTA kila	INVENTA kila
Swing diameter	703 mm	703 mm
Coatable height	400 mm	500 mm
Max. loading capacity	720 kg	720 kg
Technology	Arc	Arc
Magnet system	VMS	AAT
Etching	Side-Etching Technology (SET)	SET, Vacuum Metal Ion Etching (VMIE)



DIMENSIONS

Length: 4923 mm
 Width: 2338 mm
 Height: 2705 mm
 Footprint: 10 sqm
 Weight: 7800 kg **

** without loaded carousel

INVENTA kila



Versatility to meet the highest demands:

- The perfect fit in PVD coating applications
- Perfectly sized for most production requirements
- Up to 5 batches per day
- Evaporation of up to 8 target materials per batch
- Three Arc sources for increased coating efficiency
- Available for nitride- and oxide-based coatings

Sustainability features:

- Lower energy consumption (~ 20%)
- Less material waste due to higher target utilization
- Less water consumption through optimized cooling water circuit



INVENTA kila

4–5 batches per day
 Typical process times: 4–6 hours



INVENTA kila: the successor to INNOVENTA kila

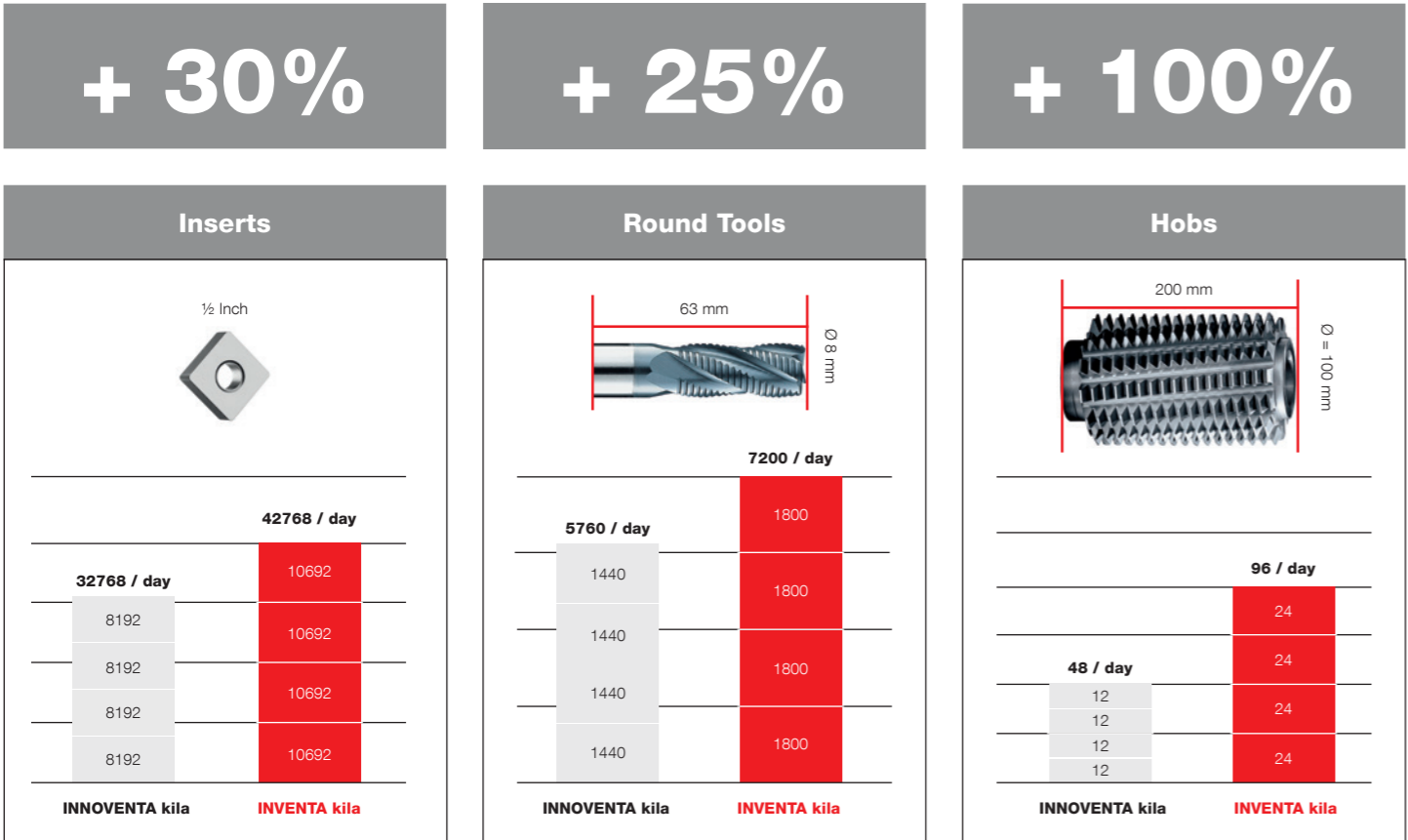
The INVENTA kila replaces the INNOVENTA kila coating system and offers 25% more loading capacity with less maintenance and many new features. Of course we will continue to offer maintenance, spare parts and customer service for the INNOVENTA.

OUTSTANDING PRODUCTIVITY GAINS

Boost your efficiency and productivity when coating cutting tools.

Key features of the INVENTA kila are integrated Advanced Arc Technology (AAT) and a higher loading capacity than its predecessor, giving you higher productivity in coating applications involving indexable inserts, round tools or hobs.

- HIGH hardness
- HIGHER loading capacity (25%)
- HIGHER deposition rate per line
- HIGHER target utilization (up to 60%)
- LOWER Total Cost of Ownership (TCO)



Comparison of coatable tool quantities
INNOVENTA kila – INVENTA kila

HIGH-PERFORMANCE COATINGS

Experience established and future high-performance coatings with INVENTA's new PVD Arc technology.

Your customers have enjoyed positive results with many of our high-performance coatings, which are proven in various machining applications. Integrating these tried-and-trusted coatings into the INVENTA system will give your customers

even higher productivity. Plus, you'll be ready for future coatings which will boost performance and productivity even further across multiple machining applications, benefiting both your coatings operations and end users.

COATING	Coating material	Coating hardness H_{T1} [GPa]	Compressive stress [GPa]	Max. service temperature [°C]	Coating temperature [°C]	Coating color
BALINIT® LATUMA	AlTiN-based	35 +/- 3	-3 +/- 1	1,000	< 500	gray
BALINIT® ALCRONA PRO	AlCrN-based	44 +/- 4	-3.5 +/- 1	1,100	< 500	bright gray
BALINIT® TISAFLEX	AlTiN/TiSiXN	38 +/- 5	-5 +/- 1	1,100	< 600	bronze
BALINIT® ALNOVA	AlCrN-based	38 +/- 3	-3.5 +/- 1	1,100	< 500	light gray
BALINIT® DURANA	AlTiN/TiSiXN	37 +/- 3	-3.5 +/- 1	1,000	< 500	bronze
BALINIT® PERTURA	AlTiN-based	35 +/- 3	-4 +/- 1	1,000	< 600	aubergine gray





Up and running!

Our global After Sales organization gives you services and products for every aspect of your coating equipment.

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