ENGINEERED SOLUTIONS
Rotary Cutters

Rotary cutting solutions for the converting industry

HYPERION
Materials & Technologies
WELCOME TO HYPERION

Hyperion Materials & Technologies is an engineering company with more than six decades of experience in hard and super-hard applied materials, including cemented tungsten carbide, diamond, and cubic boron nitride (CBN). Hyperion’s products are engineered to increase productivity and improve performance of our customers’ products.

HYPERION

We are over 1,600 people dedicated to creating solutions for your hard and super-hard material needs through partnership, innovation, and invention. Hyperion’s offering includes materials for rotary cutters, mining, oil and gas, metal cutting, hot rolls for the steel industry, can tooling, metal forming, and a wide range of wear protection applications.

Our global manufacturing and supply chain organization is supported by in-house tungsten carbide and diamond manufacturing.

Hyperion’s technical expertise and global manufacturing facilities are a foundation from which a network of local sales and customer service teams support our customers in the development of effective solutions.

OUR COMMITMENT

Hyperion is committed to focusing on our customer’s productivity, adapting our products and resources to match our customers’ requirements, and being responsive to market changes and trends. Please contact your local Hyperion sales person for all of your rotary cutter needs.
ADDED VALUE CUTTING SOLUTIONS

Hyperion Materials & Technologies has dedicated production, maintenance, sales, and customer service sites to assist customers across the world. We act locally; we think globally.

For over 30 years, Hyperion has been contributing to the evolution of the disposable hygiene market, making it possible to cut any shape, at increasing speeds, with long lasting performance.

In an ever-challenging world, both end-users and machine makers are constantly turning to Hyperion to develop reliable and high performing cutting solutions for increased productivity and continuous generation of savings.

Today, Hyperion is helping customers in their most challenging projects, providing cutting solutions from the entry level up to the premium market. Through strong customer relationships and innovative partnerships, we aim to contribute to our customer’s success.

WORLD PRESENCE
SOLUTIONS THAT GENERATE SAVINGS

Through a deep assessment of the converting line process and the running conditions of the cutting unit, Hyperion can help identify the main drivers that generate savings and propose the solutions that solve your technical and financial needs, ensuring the best customer experience.

Ensure running at the highest speed as possible, as well as identifying the main factors that can contribute to reliably maintaining converting speed.

Reduce waste by examining the cutting parameters that can contribute to the highest conversion efficiency.

Maximize overall equipment effectiveness (OEE) by developing smart cutting solutions to optimize the frequency and duration of machine stops.

Ensure long-lasting and repeatable performance by manufacturing user-friendly units and perfectly sharpened tools.
YOUR PRODUCTS, OUR SOLUTIONS

Through our deep understanding of the rotary cutter industry and our customers’ applications, Hyperion enables customers to excel in their daily production challenges. We design and manufacture precision cutting solutions suitable to many different applications.

HYGIENE

BABY CARE
Open diapers
Baby pants

FEM CARE
Panty liners
Sanitary napkins

ADULT CARE
Light incontinence products
Heavy incontinence products

MEDICAL, PACKAGING, COMPOSITES, AND OTHER

Hyperion’s technical experts are available to partner with our customers in the development of special applications using a rotary cutting concept.
DISCOVER OUR SOLUTIONS
TOGETHER WE CAN FIND THE MOST SUITABLE SOLUTION TO YOUR NEEDS

Hyperion has structured its product offering to make it easy to find the solution to your needs. No matter which technology you use in your converting line or the specific application requirements, you can find the most suitable cutting design supporting your daily production challenges.

EXTENSIONS

Hyperion offers the customer the possibility to upgrade each cutting model with features that are specific to their needs and to add value to their selected solution.

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EXTENSIONS compatibility:

- **HTC** for high performance at high speed through cutting and vibration control
- **IQUT** for predictive maintenance, performance follow-up, reduced down times, and continuous learnings
- **HELCUT** for performance and reliability with cutting profiles mainly oriented in cross direction
- **A-FLEX** for quick anvil change allowing reduced downtimes and user friendliness
PRODUCT LINES
Different needs require different product lines. Hyperion has developed flexible solutions, with product lines adapted to the customer’s converting technologies.

EXPERT
Cutting challenges are often critical for the overall converting line productivity, especially for premium machines with high production capacity and using advanced raw materials, yet demanding superior efficiency. For more than 30 years, Hyperion’s Expert product line has addressed the most demanding customer needs and contributed to the generation of continuous savings. The well-known and historical Expert product line includes premium carbide technology and a robust design for high efficiency and technological machines.

BRIDGE
For entry-level to medium speed machines, steel may limit performance, while use of premium carbide technology might only be suitable on a long-term need. Hyperion’s Bridge product line is the right link between steel and carbide technologies. The Bridge product line offers customers the opportunity to discover the superior performance of the carbide technology by reducing the initial investment and granting a performance/investment ratio suitable to the machine technology where the cutting solution is installed.

PLATFORMS
Each product line includes some platforms to allow that Hyperion, together with the customer, select the most suitable configuration for the specific converting process.

MODULAR
Hyperion gives customers access to a range of pre-designed and pre-engineered cutting solutions, available for both Bridge and Expert product lines and suitable for most current converting processes. Customers can benefit from robust, reliable, and user-friendly designs and early and easy unit integration into existing or new machines. In addition, the operational learning curve is short.

CUSTOM
Hyperion is always striving to answer each customer’s need by developing dedicated rotary cutting solutions, which can be suitable to demanding applications or special machine processes, whether it is an existing or a new converting line. As an added benefit of the Expert product line, customers can benefit from an ad-hoc design fully integrated in their particular machine process creating optimized output.
MODELS
Within each platform, Hyperion Materials and Technologies gives customers access to different models of cutting solutions, each of them suitable to solve specific customer needs.

REGULAR
Hyperion’s state-of-the-art cutting solution is suitable for many different applications and provides all the necessary features and components to allow you to reliably run at the targeted speed and ensure the highest performance.

Hyperion’s patented PBA solution is especially suitable for the production of baby and adult pants. It uses a controlled interference system that results in a compact and light weight cutting solution with an outstanding lifetime.

PBA - Positive Bending Anvil
Hyperion’s patented PBA solution is especially suitable for the production of baby and adult pants. It uses a controlled interference system that results in a compact and light weight cutting solution with an outstanding lifetime.
MODELS

SLEEVE
Hyperion’s Sleeve patented solution allows for extreme flexibility and quick format change. It is suitable for femcare and baby ear cuts. The Sleeve technology allows customers to optimize their total investment while maintaining outstanding cutting performance.

- Flexibility
- Investment
- Performance
- Easy size change

APPLICATIONS
- Babycare backear, frontear, and tape cut
- Femcare
- Adultcare light incontinence
- Other applications

BENEFITS
- Optimization of replacement parts
- Easy and quick format change for multi-size machines
- High productivity through reduced machine downtime
- Reduced re-sharpening and transportation costs through limited size and weight

ACCESSORIES
Hyperion Materials & Technologies can supply a full range of accessories for cutters, anvil, and complete cutting units suitable to each model and to specific line processes.

This includes:
- Felts, scrapers, and oil rollers (with optional remote controlled system) for the proper cleaning of cutter and anvil while running
- Shock absorbers to prevent damages to cutter and anvil due to rebounds during production caused by web control issues (misalignment, web desynchronization, thick parts going through the tools, etc.)
- Tuned mass damper system to increase cutter and anvil lifetime
- Web deflectors to prevent the web going through the bearer rings
- Air manifolds with easy and quick removal for cleaning
- Vacuum pipes and dead plates system suitable for perfect trim removal and product flow
- Air pressure regulator system for accurate pressure control
- Plexiglass protection to increase operator’s safety and prevent damage to tools.

For MODULAR frame design, some accessories can be quickly available with a plug and play design. Other accessories can be designed specific to customer needs.
EXTENSIONS

HTC
Hyperion’s patented HTC technology is specifically suitable for improving cutting stability and reliability in processes running at high speed or in challenging cutting conditions. It includes a dampening device able to stabilize the cut and thus enhance cutting performance.

· Vibration damping system to protect anvil and cutting edge.
· Tuned mass damper to ensure a stable cut.
· Specific vacuum system design for perfect trim and pad control.
· Automatic pressure and cutting performance records for each tool.
· Detailed cutting parameters monitoring for cutter and anvil.
· Thresholds settings and automatic alarms.
· Standalone usage or communication with machine PLC through main protocols.
· Integrated touchscreen (option).
· Stable cut at high speeds or in critical cutting conditions.
· Longer cutter and anvil lifetimes (30% to 50%).
· High and reliable performance reducing machine downtimes and spare part and maintenance needs.

IQUT
Embracing the trend of Industry 4.0, Hyperion has developed an intelligent cutting solution able to measure and monitor the parameters that have an influence on the cutting performance. Hyperion’s patented IQUT technology includes embedded and external sensors to monitor the cutting conditions and give the customer the ability to perform preventative maintenance, thus optimizing the OEE and generating continuous savings.

· Long production runs through pro-active interventions.
· Reduced machine stops through preventive maintenance.
· Efficiency improvement through continuous learning.
· Statistical analysis through accurate data recording.
EXTENSIONS

HELICUT
Hyperion’s patented Helicut technology is suitable for cutting profiles that are oriented in the cross direction compared to the material flow, thus requiring high cutting forces and generating vibrations. With Helicut, the cutting process becomes smoother and performance is greatly enhanced.

- Adapted especially to straight cut applications; also can be adapted to shaped profiles.
  - Helicoidal shape of the cutting profile around the circumference of the cutter, compensated by a tilt angle on the cutting unit.
  - Reduced cutting forces proportional to the tilt angle.

- Perfect straight cut, even on long edges.
- Smooth cut and no vibrations ensure long lasting performance for both cutter and anvil.
- High efficiency reduces machine downtimes and spare part and maintenance needs.

A-FLEX
Hyperion’s A-flex technology allows customers to quickly replace the anvil without disassembling the unit from the line. This solution reduces the downtimes and optimizes the need for spare parts, thus generating savings.

- Quick anvil change system.
- Control from operator side only.

- Up to 80% time saving for anvil change.
- Higher productivity through reduced machine downtime.
- Higher conversion efficiency through lower waste after machine re-start.
- Optimization of the spare part needs.

- User-friendly locking/unlocking and sliding tray.
- No need to remove the frame from the line.
As a rotary cutting solution provider, Hyperion Materials & Technologies places the utmost importance on the quality of the supplied components. This includes, among other factors, the choice of the most appropriate materials, the respect of tight geometric tolerances, and the design of a user-friendly unit.

Providing superior tools is only one part of the success. The rotary cutting unit needs to be integrated with the entire converting process, and, above all, it needs to be operated daily to achieve the highest productivity. The interaction of the rotary cutting unit with the converting process and operators is another important success factor.

Hyperion works closely with customers to provide a high level of technical and manufacturing support, with the ultimate goal of generating savings throughout the product life cycle. Learn more about our engineering, after-sales, recycling, and maintenance services.

### ENGINEERING

- Design and development of cutting solutions through state-of-the-art 3D CAD systems
- Cutting profile geometry analysis and optimization
- Raw material cutting characterization
- Raw material porosity characterization
- Airflow analysis through computational fluid dynamics (CFD) simulations
- Structural analysis through finite element analysis (FEM) simulations
- Vibration analysis and modeling
- Dedicated test bench for full validation of developed solution
- Central R&D support for carbide expertise.
DISCOVER OUR SERVICES

AFTER-SALES
- Start up assistance
- Operator and maintenance training
- Advanced engineering training
- On-site technical assistance, trouble shooting, and follow-up
- Technical expertise on Hyperion and non-Hyperion solutions on dedicated test bench
- On-site cutting solution audit
- User manuals.

RECYCLING
Sustainability and environmental performance are important drivers for most companies. Hyperion can partner with our customers to recycle most carbide materials. In addition to the environmental benefits, customers can reduce their obsolete stocks while at the same time create a source of income.

Hyperion makes recycling easy for you. We will handle the entire process, from the collection of the material to the issuance of payment.

MAINTENANCE
Performance and tool lifetime are important to our customers. Cutters re-sharpened and anvils re-ground by Hyperion have the same performance as brand new ones. Hyperion re-sharpening and re-grinding capabilities allow our customers to maximize the life and performance of their tools. Our sharpening precision and consistency guarantee the best possible results between re-sharpenings.

In addition, our tight tolerances ensure the strictest minimum diameter reduction for both cutters and anvils, which leaves more material for future re-sharpenings, thus maximizing the total lifetime of the tools.

Cutters and anvils are only a part of the cutting application. Hyperion also provides frame maintenance to keep your complete converting line in running order.

Hyperion has maintenance centers in Europe, Asia, and the Americas. Our stringent quality standards ensure consistent quality for our customers, regardless of where they may be located or which Hyperion re-sharpening center they utilize.

Please contact your Hyperion sales person for solutions to all your rotary cutter needs.