AEROSPACE

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SILMAX®

PFERD

QUALITY AS A STANDARD

Silmax è un'azienda italiana leader nella produzione di utensili da taglio, con una lunga storia e una forte propensione all'innovazione grazie a moderni impianti e tecnologie di ultime generazioni.

Da oltre 50 anni Silmax si distingue per precisione, passione e professionalità.

Silmax is an Italian leading cutting tools manufacturer, with a long history and strong attitude to innovation thanks to modern machines and last generation technology.

Since 50 years Silmax is known for precision, passion and professionality.

Silmax ist ein führendes italienisches Unternehmen in der Herstellung von Zerspanungswerkzeugen mit einer langen Geschichte und einer großen Passion für Innovation dank moderner Systeme und Technologien der neuesten Generation.

Seit über 50 Jahren zeichnet sich Silmax durch Präzision, Leidenschaft und Professionalität aus.

Silmax est une entreprise italienne leader dans la production d'outils de coupe, avec une longue histoire et une forte propension à l'innovation grâce à des installations modernes et des technologies de dernière génération.

Depuis plus de 50 ans, Silmax se distingue par sa précision, sa passion et son professionalisme.

LA NOSTRA STORIA
OUR HISTORY / UNSERE GESCHICHTE / NOTRE HISTOIRE

1819	Paul Alessio inizia a forgiare i suoi primi utensili. La piccola officina si chiama **"L'Usine"**.	Paul Alessio begins to forge his first tools. The small workshop is called **"L'Usine"**.	Paul Alessio beginnt seine ersten Werkzeuge zu schmieden. Die kleine Werkstatt heißt **"L'Usine"**.	Paul Alessio commence à forger ses premiers outils. Le petit atelier s'appelle **« L'Usine »**.
1955	Sotto la guida di Enrico M. Fumagalli l'**"Usine"** riprende l'attività produttiva.	Under the controlof Enrico M. Fumagalli, the **"Usine"** resumed its tool production.	Unter der Leitung von Enrico M. Fumagalli nimmt die **"Usine"** die Produktionstätigkeit wieder auf.	Sous la direction de Monsieur Enrico M. Fumagalli, **« L'Usine »** reprend son activité de production.
1975	"L'Usine" diventa **Silmax, una moderna SPA**.	"L'Usine" becomes the **modern Silmax, SPA**.	Aus "L'Usine" wird **Silmax, modernes SPA**.	« L'Usine » devient **Silmax, une SPA moderne**.
1984	Joint-venture Silmax Spa **Balzers AG**.	Joint-venture Silmax Spa **Balzers AG.**	Joint-venture Silmax Spa **Balzers AG**.	Joint-venture Silmax Spa **Balzers AG**.
2005	Silmax celebra i suoi **50 anni**.	Silmax celebrates its **50th birthday**.	Silmax feiert seine **50 Jahre**.	Silmax fête son **50e anniversaire**.
2012	Vengono inaugurate le sedi commerciali in **India**, **Cina** e **Germania**.	New commercial branches open in **India**, **China** and **Germany**.	Verkaufsbüros in **Indien**, **China** und **Deutschland** werden eröffnet.	Des bureaux de vente sont inaugurés en **Inde**, en **Chine**, en **Allemagne**.
2013	Silmax inaugura il **nuovo centro di rivestimento**.	Silmax **new plant for PVD coating**.	Silmax eröffnet das **neue Zentrum der Beschichtung**.	Silmax inaugure un **nouveau centre de revêtement**.
2019	**Silmax 200 anni!**	**Silmax 200 years!**	**200 Jahre Silmax!**	**Silmax fête son 200 anniversaire!**
2021	**5 nuove rettifiche** e **1 nuovo impianto PVD**.	**5 new grinding machines** and **1 new PVD unit**.	**Fünf neue Schleifmaschinen** und **ein neues PVD-System.**	**5 nouvelles rectifieuses** et **1 nouveau système PVD**.
2022	Silmax continua la sua storia e il suo **sviluppo** sempre attenta a mantenere alta la qualità dei suoi prodotti e la soddisfazione dei suoi clienti.	Silmax continues its history and its **development**, always careful to maintain the high quality of its products and the satisfaction of its customers.	Silmax setzt seine Geschichte und **Entwicklung** mit dem Ziel fort, die hohe Qualität seiner Produkte und die Zufriedenheit seiner Kunden zu halten.	Aujourd'hui, Silmax poursuit son histoire et son **développement** en veillant toujours à maintenir en haute la qualité de ses produits et la satisfaction de ses clients.
2023	**Silmax Precision Tools (Wuxi) Co., Ltd - Cina** Apertura del sito produttivo a Wuxi City e per la produzione degli utensili standard e speciali per il crescente mercato locale.	**Silmax Precision Tools (Wuxi) Co., Ltd - China** Opening of the production site in Wuxi City for the manufacturing of standard and special tools for the growing local market.	**Silmax Precision Tools (Wuxi) Co., Ltd - China** Eröffnung des Produktions-standorts in Wuxi City für die Herstellung von Standard- und Spezialwerkzeugen für den wachsenden lokalen Markt	**Silmax Precision Tools (Wuxi) Co., Ltd - Chine** Ouverture d'un site de production en Wuxi City pour la production d'outils standards et spéciaux destinés au marché local en expansion.
2024	**Maggio – Accordo con il gruppo August Rüggeberg GmbH & Co.** KG. La multinazionale tedesca entra nel capitale del Gruppo Silmax con l'obiettivo di diventare u n player globale nel settore degli utensili da taglio di alta precisione.	**May - Agreement with the August Rüggeberg GmbH & Co. KG Group.** The German multinational company entered the capital of the Silmax Group, with the aim of becoming a global player in the sector of high precision cutting tools.	**Mai - Vereinbarung mit der August Rüggeberg GmbH & Co. KG.** Das international ausgerichtete Unternehmen mit Stammsitz in Deutschland steigt in das Kapital der Silmax-Gruppe mit dem Ziel ein, gemeinsam zu wachsen, Synergien zu nutzen und sich zu einem Global Player im Bereich hochwertiger Zerspanungswerkzeuge zu entwickeln.	**Mai - Accord avec le Groupe August Rüggeberg GmbH & Co. KG.** La multinationale allemande est entrée dans le capital du groupe Silmax avec l'objectif de devenir un acteur mondial dans le domaine des outils de coupe de haute précision.
2025	**Silmax Tools India Pvt Ltd** Apertura del sito produttivo a Bangalore per la produzione degli utensili standard e speciali per il crescente mercato locale.	**Silmax Tools India Pvt Ltd** Opening of a manufacturing site in Bangalore for the production of standard and special tools for the growing local market.	**Silmax Tools India Pvt Ltd** Eröffnung einer Produktionsstätte in Bangalore für die Herstellung von Standard- und Spezialwerkzeugen für den wachsenden lokalen Markt.	**2025 Silmax Tools India Pvt Ltd** Ouverture d'un site de production à Bangalore pour la production d'outils standards et spéciaux destinés au marché local en expansion.

CATALOGHI SILMAX
SILMAX CATALOGUES / SILMAX-KATALOGE / CATALOGUES SILMAX

NEW **HM Metallo duro**
HM Carbide

Frese per stampi
Mold End Mills

Foratura
Drilling

NEW **Silsaving**
Silsaving

NEW **HSS Acciaio super rapido**
HSS High Speed Steel

Punte a cannone
Gun Drills

Maschi
Taps

Soluzioni per impeller
Impeller solutions

Microutensili
Micro tools

UN APPROCCIO ESG
AN ESG APPROACH / EIN ESG-ANSATZ / UNE APPROCHE ESG

Il gruppo Silmax ha sempre adottato un approccio **ESG (Environmental, Social, and Corporate Governance)** che considera prioritari la **sostenibilità ambientale** e il **benessere dei dipendenti e dei clienti**. La società ha intrapreso un percorso virtuoso con l'adozione di iniziative che consentono di ricondurre a criteri di misurazione oggettivi e condivisi le attività.

Da un punto di vista operativo le attività svolte riguardano **impatti diretti** con adozione e miglioramento continuo di climate actions in termini di **riduzione dell'emissione di CO_2**. Significativi sono anche gli **impatti indiretti** ottenuti con lo sviluppo di strumenti informatici che riducono al minimo gli spostamenti dei dipendenti.

La circolarità dei prodotti Silmax è certificata attraverso l'adozione di un **carbon footprint report** e la predisposizione di una classificazione della **Product Carbon Footprint** che può essere integrata nella scheda prodotto.

The Silmax Group has always adopted an **ESG (Environmental, Social, and Corporate Governance) approach**, which considers **environmental sustainability** and **well-being of employees and customers** as a priority. The company has started a virtuous path by adopting initiatives that allow to base its activities on objective and shared measurement criteria.

From an operational point of view, the activities carried out regard **direct impacts**, with the adoption and continuous improvement of climate actions in terms of **CO_2 emission reduction**. Significant **indirect impacts** are also obtained through the development of IT tools that can minimise employees' travels.

The circularity of Silmax products is certified through the adoption of a **carbon footprint report** and the creation of a **Product Carbon Footprint** classification, which can be integrated into the product technical data sheet.

Die Silmax-Gruppe **hat immer einen ESG-Ansatz (Umwelt, Soziales und Corporate Governance)** verfolgt, der ökologische **Nachhaltigkeit und das Wohlergehen von Mitarbeitern und Kunden als Priorität betrachtet**. Das Unternehmen hat einen guten Weg eingeschlagen, indem es Initiativen ergriffen hat, die es ermöglichen, seine Aktivitäten auf objektive und gemeinsame Messkriterien zu stützen.

Aus operativer Sicht haben die durchgeführten Aktivitäten **direkte Auswirkungen** mit der Einführung und kontinuierlichen Verbesserung von Klimaschutzmaßnahmen im Hinblick auf die Verringerung der CO2-Emissionen. Erhebliche **indirekte Auswirkungen** werden auch durch den Einsatz von IT-Tools erzielt, die die Reisetätigkeit der Mitarbeiter auf ein Minimum reduzieren können.

Die Kreislauffähigkeit von Silmax-Produkten wird durch einen Bericht über den CO_2-Fußabdruck und die Klassifizierung des Carbon Footprints von Produkten zertifiziert, die in das technische Produktdatenblatt integriert werden kann.

Le groupe Silmax a toujours adopté une **approche ESG (Environnementale, Sociale et de Gouvernance)** qui considère la **soutenabilité environnementale** et **le bien-être des employés et des clients** comme une priorité. L'entreprise s'est engagée dans une voie vertueuse, en adoptant des initiatives qui permettent de fonder ses activités sur des critères de mesure objectifs et communs.

D'un point de vue opérationnel, les activités réalisées regardent les **impacts directs**, avec l'adoption et l'amélioration continue d'actions climatiques en termes de **réduction des émissions de CO_2**. Des **impacts indirects** significatifs sont également obtenus par le développement d'outils informatiques qui peuvent minimiser les déplacements des employés.

La circularité des produits Silmax est certifiée par l'adoption d'un **rapport sur l'empreinte carbone** et la création d'une classification de l'empreinte carbone des produits, qui peut être intégrée dans la **Fiche Technique du Produit**.

AEROENGINE
Aerospace by Systems

10

AIRFRAME
Aerospace by Systems

30

AEROSPACE

Benvenuti nell'innovazione dell'utensileria aerospaziale con Silmax

La lavorazione nell'industria aerospaziale richiede soluzioni e innovazioni tecnologiche all'avanguardia. È fondamentale sviluppare metodi tecnicamente ed economicamente validi per lavorare nuovi materiali in modo affidabile e preciso.

Il **Gruppo Silmax** vanta una lunga esperienza nel settore aerospaziale, collaborando con le principali aziende a livello mondiale , contribuendo con soluzioni efficienti e innovative ai loro progetti più importanti.

La competenza ingegneristica di Silmax, grazie alla continua attività di ricerca e sviluppo, trasforma idee innovative in soluzioni competitive per la produzione in serie di materiali avanzati come superleghe, titanio, acciai legati, alluminio, magnesio e materiali compositi. Questi materiali, utilizzati in componenti critici, richiedono utensili di altissima qualità e precisione, che Silmax è in grado di fornire sia attraverso soluzioni standard sia con utensili speciali appositamente progettati.

Siamo orgogliosi di presentare il nostro nuovo catalogo tecnico dedicato al settore aerospace, che guida l'utente nella scelta dell'utensile più adatto. Il catalogo presenta una suddivisione del velivolo in due macrosistemi: **motore e parte strutturale**, dettagliando per ognuno i componenti caratteristici. Per ogni componente vengono illustrate le nostre soluzioni per le diverse lavorazioni significative.

Con **oltre 2.000 nuovi articoli, suddivisi in 50 famiglie**, il catalogo rappresenta la nostra risposta più completa e competitiva alle richieste del settore, sempre più orientato a soluzioni innovative, efficaci ed efficienti dal punto di vista produttivo. Gli utensili presenti a catalogo e online offrono un'ampia personalizzazione in termini di tipologia utensile, gamma diametri, raggi e collarini.

Welcome to the innovation of aerospace tooling with Silmax

Machining in the aerospace industry demands cutting-edge solutions and continuous technological advancements. Developing technically and economically efficient machining methods for new materials—while ensuring process reliability and accuracy—is a key success factor.

Silmax Group boasts extensive experience in the aerospace sector, collaborating with leading companies worldwide and contributing efficient and innovative solutions to their most important projects.

Through continuous research and development, **our engineering expertise** transforms innovative ideas into competitive solutions for the solid machining of advanced materials, including superalloys, titanium, high-alloy steels, aluminum, magnesium, and composites. These high-performance materials, used in critical components, require exceptionally precise and high-quality tools—solutions that Silmax delivers, both as standard products and custom designs.

We are proud to introduce our new technical catalog dedicated to the aerospace sector, designed to help users select the most suitable tools. The catalog organizes aircraft components into two main categories: **engines and structural elements**, detailing key parts within each. For every component, we outline our recommended tooling solutions for various essential machining operations.

With **more than 2,000 new articles, across 50 product families**, the catalogue represents our most comprehensive and competitive response to the demands of the industry, which is increasingly oriented towards innovative, effective and productive solutions.

Willkommen zur Innovation von Werkzeugen für die Luft- und Raumfahrt mit Silmax

Die Zerspanung in der Luft- und Raumfahrtindustrie erfordert modernste Lösungen und kontinuierliche technologische Weiterentwicklung. Die Entwicklung technisch und wirtschaftlich effizienter Bearbeitungsverfahren für neue Werkstoffe bei gleichzeitiger Gewährleistung der Prozesssicherheit und -genauigkeit ist ein wesentlicher Erfolgsfaktor.

Die **Silmax-Gruppe** verfügt über umfangreiche, langjährige Erfahrung im Bereich der Luft- und Raumfahrt, arbeitet mit führenden italienischen und internationalen Luftfahrtunternehmen zusammen und trägt zu deren wichtigsten Projekten bei.

Das **technische Know-how von Silmax** setzt dank kontinuierlicher Forschung und Entwicklung innovative Ideen in wettbewerbsfähige Lösungen für die Zerspanung von Werkstoffen wie Superlegierungen, Titan, hochlegierte Stähle, Aluminium, Magnesium und Verbundwerkstoffe um. Diese Werkstoffe, die in kritischen Komponenten zum Einsatz kommen, erfordern Werkzeuge von höchster Qualität und Präzision – Lösungen, die Silmax sowohl als Standardprodukte als auch als kundenspezifische Sonderanfertigungen bereitstellt.

Wir sind stolz darauf, Ihnen unseren neuen technischen Katalog für die Luft- und Raumfahrt vorzustellen, der Sie bei der Auswahl der am besten geeigneten Werkzeuge unterstützt. Der Katalog unterteilt Flugzeugkomponenten in zwei Hauptkategorien: **Triebwerke und Strukturelemente**, wobei die wichtigsten Teile in jeder Kategorie aufgeführt sind. Für jedes Bauteil skizzieren wir unsere empfohlenen Werkzeuglösungen für verschiedene wichtige Bearbeitungsvorgänge.

Mit **über 2.000 neuen Artikeln in 50 Produktfamilien** stellt dieser Katalog unser bisher umfassendstes und wettbewerbsfähigtes Angebot für die Luft- und Raumfahrtindustrie dar, in der Individualisierung und hohe Leistungsfähigkeit an erster Stelle stehen. Das Sortiment bietet umfangreiche individuelle Anpassungsmöglichkeiten in Bezug auf Werkzeugtyp, Durchmesseroptionen, Radien und Halsfreischliff.

Bienvenue dans l'innovation de l'outillage aérospatial avec Silmax

La fabrication dans l'industrie aérospatiale exige des solutions et des innovations technologiques de pointe. Il est essentiel de développer des méthodes à la fois techniquement et économiquement viables pour usiner de nouveaux matériaux avec fiabilité et précision.

Le Groupe Silmax bénéficie d'une longue expérience dans le secteur aérospatial, et travaille avec des entreprises de premier plan dans le monde entier, apportant des solutions efficaces et innovantes à leurs projets les plus importants.

Grâce à une activité continue de recherche et développement, **l'expertise en ingénierie** de Silmax transforme des idées novatrices en solutions compétitives pour la production en série de matériaux avancés, tels que les superalliages, le titane, les aciers alliés, l'aluminium, le magnésium et les matériaux composites. Ces matériaux, utilisés dans des composants critiques, nécessitent des outils de la plus haute qualité et précision, que Silmax est en mesure de fournir, tant par des solutions standard que par des outils spéciaux conçus sur mesure.

Nous sommes fiers de présenter notre nouveau catalogue technique dédié au secteur aérospatial, conçu pour guider l'utilisateur dans le choix de l'outil le plus adapté. Ce catalogue propose une classification de l'avion en **deux systèmes principaux** : le moteur et la structure, en détaillant les composants caractéristiques de chacun. Pour chaque composant, nos solutions adaptées aux différents processus d'usinage clés sont illustrées.

Avec **plus de 2 000 nouveaux articles, répartis en 50 familles,** le catalogue représente notre réponse la plus complète et la plus compétitive aux demandes de l'industrie, qui s'oriente de plus en plus vers des solutions innovantes, efficaces et productives. Les outils présents dans le catalogue et en ligne offrent une large personnalisation en termes de type d'outil, gamme de diamètres, rayons et colliers.

Vantaggi Competitivi di Silmax

Il Gruppo Silmax si distingue nel settore aerospaziale per diversi vantaggi competitivi:

Qualità e Precisione

Gli utensili Silmax sono sinonimo di altissima qualità e precisione e garantiscono prestazioni eccellenti anche nelle applicazioni più critiche.

Innovazione Continua

Grazie alla costante attività di ricerca e sviluppo, Silmax è in grado di trasformare idee innovative in soluzioni pratiche e competitive.

Personalizzazione

Silmax offre un'ampia gamma di utensili personalizzabili, permettendo ai clienti di scegliere soluzioni su misura per le loro esigenze specifiche.

Collaborazioni Strategiche

La lunga esperienza e le collaborazioni con le principali aziende aeronautiche italiane e internazionali permettono a Silmax di essere sempre all'avanguardia nel settore.

Efficienza e Affidabilità

I processi produttivi ottimizzati e l'uso di tecnologie avanzate garantiscono efficienza e affidabilità nella produzione di utensili.

Vi invitiamo a esplorare le nostre soluzioni e a scoprire come possiamo supportare il vostro successo nel settore aerospaziale. Con utensili che incarnano la nostra passione per l'innovazione e la qualità, Silmax si propone come partner per raggiungere nuovi traguardi, volando sempre più in alto.

Silmax's Competitive Advantages

The Silmax Group stands out in the aerospace sector thanks to several key advantages:

Uncompromising Quality and Precision

Our tools ensure top-tier accuracy and performance, even in the most demanding applications.

Continuous Innovation

Ongoing research and development allow us to turn groundbreaking ideas into practical, high-performance solutions.

Customization

We offer a broad selection of customizable tools, enabling clients to find the perfect fit for their specific needs.

Strategic Collaborations

Our long-standing collaborations with leading Italian and international aeronautical companies position us as a trendsetter in the aerospace industry.

Efficiency and Reliability

Optimized production processes and cutting-edge technology ensure maximum efficiency and reliability in tool manufacturing.

We invite you to explore our solutions and discover how we can help drive your success in the aerospace industry. With tools that embody our passion for innovation and quality, Silmax is your trusted partner in reaching new heights.

Die Vorteile von Silmax

Die Silmax-Gruppe zeichnet sich in der Luft- und Raumfahrt durch mehrere zentrale Leistungsmerkmale aus:

Qualität und Präzision

Unsere Werkzeuge gewährleisten höchste Qualität, Präzision und Leistung, selbst bei den anspruchsvollsten Anwendungen.

Kontinuierliche Innovation

Kontinuierliche Forschung und Entwicklung ermöglichen es uns, innovative Ideen in praktische, leistungsstarke Lösungen umzusetzen.

Individualisierung

Wir bieten eine breite Auswahl an Sonderanfertigungen, die es unseren Kunden ermöglichen, die perfekte Lösung für ihre spezifischen Bedürfnisse zu finden.

Strategische Kooperationen

Unsere langjährige Zusammenarbeit mit führenden italienischen und internationalen Luftfahrtunternehmen positioniert uns als Vorreiter in der Luft- und Raumfahrtindustrie.

Effizienz und Zuverlässigkeit

Optimierte Produktionsprozesse und modernste Technologie sorgen für maximale Effizienz und Zuverlässigkeit in der Werkzeugherstellung.

Entdecken Sie jetzt unsere Lösungen und erfahren Sie, wie Sie mit Silmax an Ihrer Seite Ihren Erfolg in der Luft- und Raumfahrtindustrie steigern.
Mit Werkzeugen, die unsere Leidenschaft für Innovation und Qualität verkörpern, ist Silmax Ihr zuverlässiger Partner, um das nächste Level zu erreichen!

Les avantages compétitifs de Silmax

Le Groupe Silmax se distingue dans le secteur aérospatial par plusieurs avantages concurrentiels:

Qualité et Précision

Les outils Silmax sont synonymes de la plus haute qualité et précision, garantissant des performances excellentes même dans les applications les plus critiques.

Innovation Continue

Grâce à une activité constante de recherche et développement, Silmax est capable de transformer des idées innovantes en solutions pratiques et compétitives.

Personnalisation

Silmax offre une large gamme d'outils personnalisables, permettant aux clients de choisir des solutions sur mesure pour leurs besoins spécifiques.

Collaborations Stratégiques

La longue expérience et les collaborations avec les principales entreprises aéronautiques italiennes et internationales permettent à Silmax de rester à la pointe du secteur.

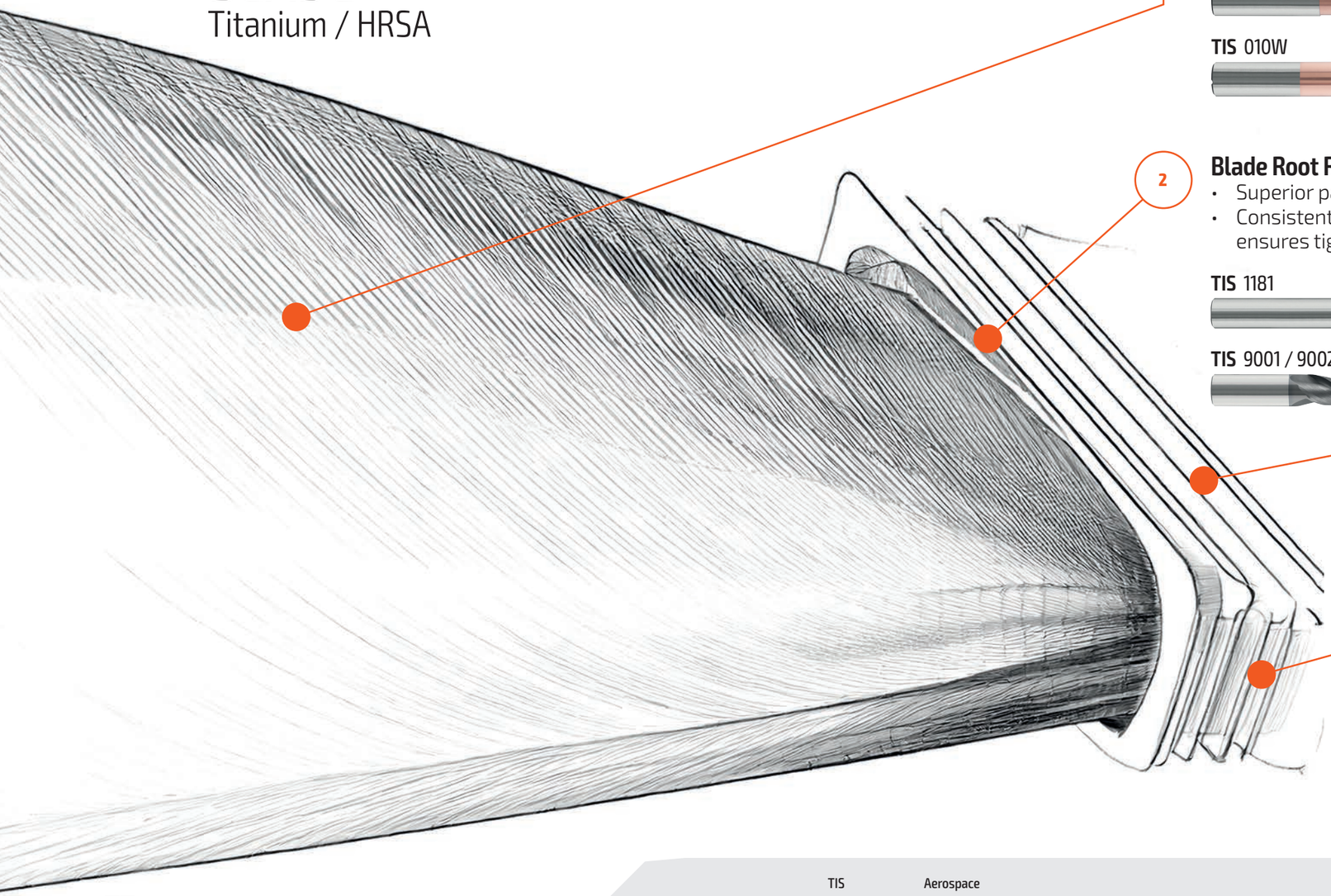
Efficacité et Fiabilité

Les processus de production optimisés et l'utilisation de technologies avancées garantissent efficacité et fiabilité dans la fabrication des outils.

Nous vous invitons à explorer nos solutions et à découvrir comment nous pouvons soutenir votre succès dans le secteur aérospatial. Avec des outils qui incarnent notre passion pour l'innovation et la qualité, Silmax se propose comme partenaire pour atteindre de nouveaux objectifs, en volant toujours plus haut.

AEROENGINE

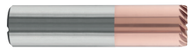
S TURBINE BLADE
Titanium / HRSA



1 Airfoil Milling
- High-precision cutting for accurate aerodynamic profiles
- Consistent tool performance ensures tight tolerances
- Optimized tool geometry ensures smooth surface finish

TIS 009W

TIS 010W



2 Blade Root Radius Milling
- Superior part finishing
- Consistent tool performance ensures tight tolerances

TIS 1181

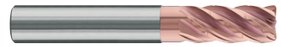
TIS 9001 / 9002 / 9003 / 9004 / 9005

3 Blade Root Profile Milling
- Optimized tool geometry for each specific application
- High process reliability

SPECIAL

4 Shoulder Milling
- High axial and radial accuracy for precise 90° shoulders
- Optimized tool geometry ensures smooth surface finish

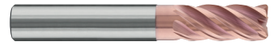
TIS 1285R / 1385R / 1585R



TIS 1386R / 1586R

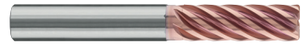
TIS 1387R / 1587R

TIS 1285F / 1385F / 1585F



TIS 1386F / 1586F

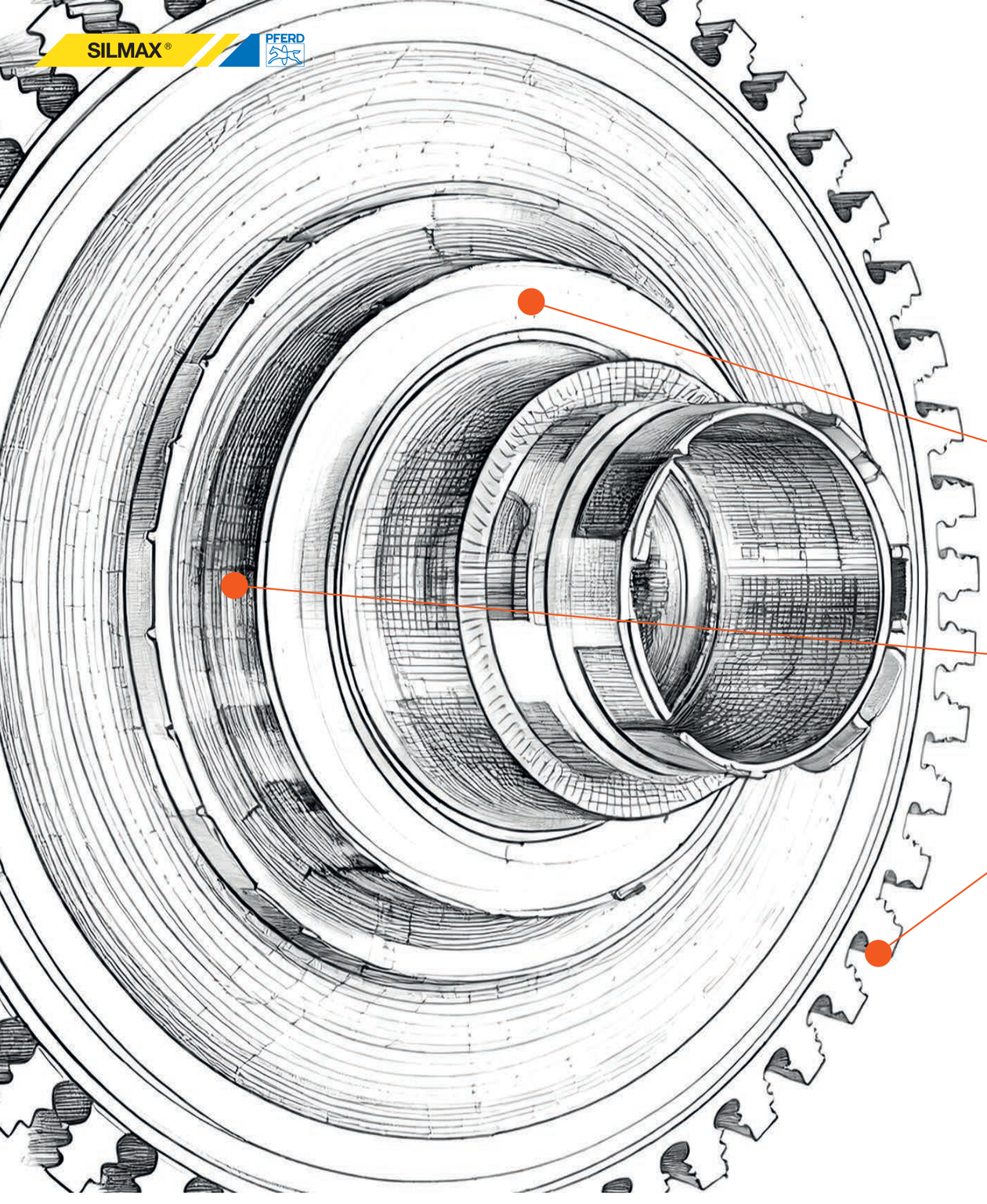
TIS 1387F / 1587F



Scansiona il Qr-code per consultare i parametri di lavoro.
Scan the Qr-code to view the working parameters.
Scannen Sie den QR-Code, um die Schnittwerte anzuzeigen.
Scannez le code Qr pour visualiser les paramètres de fonctionnement.

TIS Aerospace

TIS Special tools Aerospace



S TURBINE DISC
HRSA

1

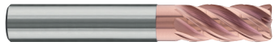
Drilling
- Optimized point geometry for precise hole positioning
- Enhanced chip evacuation for improved process stability

PHM 3030U / 3031U / 3050U / 3051U / 3081U

2

Dynamic Milling
- High chip removal rate for faster machining
- Stable cutting process for consistent results

TIS 1285R / 1385R / 1585R



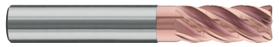
TIS 1386R / 1586R

TIS 1387R / 1587R

3

Contouring
- Efficient roughing for high material removal rates
- Precision finishing ensures superior surface quality

TIS 1285R / 1385R / 1585R



TIS 1386R / 1586R

TIS 1387R / 1587R

TIS 1285F / 1385F / 1585F

TIS 1386F / 1586F

TIS 1387F / 1587F

Scansiona il Qr-code per consultare i parametri di lavoro.
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Scannez le code Qr pour visualiser les paramètres de fonctionnement.

PHM TIS Aerospace

S

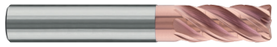
BLISK HIGH TEMPERATURE

HRSA

1 Dynamic Milling

- High chip removal rate for faster machining
- Stable cutting process for consistent results

TIS 1285R / 1385R / 1585R



TIS 1386R / 1586R

TIS 1387R / 1587R

2 Blade Pre-Finishing and Finishing

- Optimized cutting edge for superior surface quality
- Consistent tool performance ensures uniform blade profiles

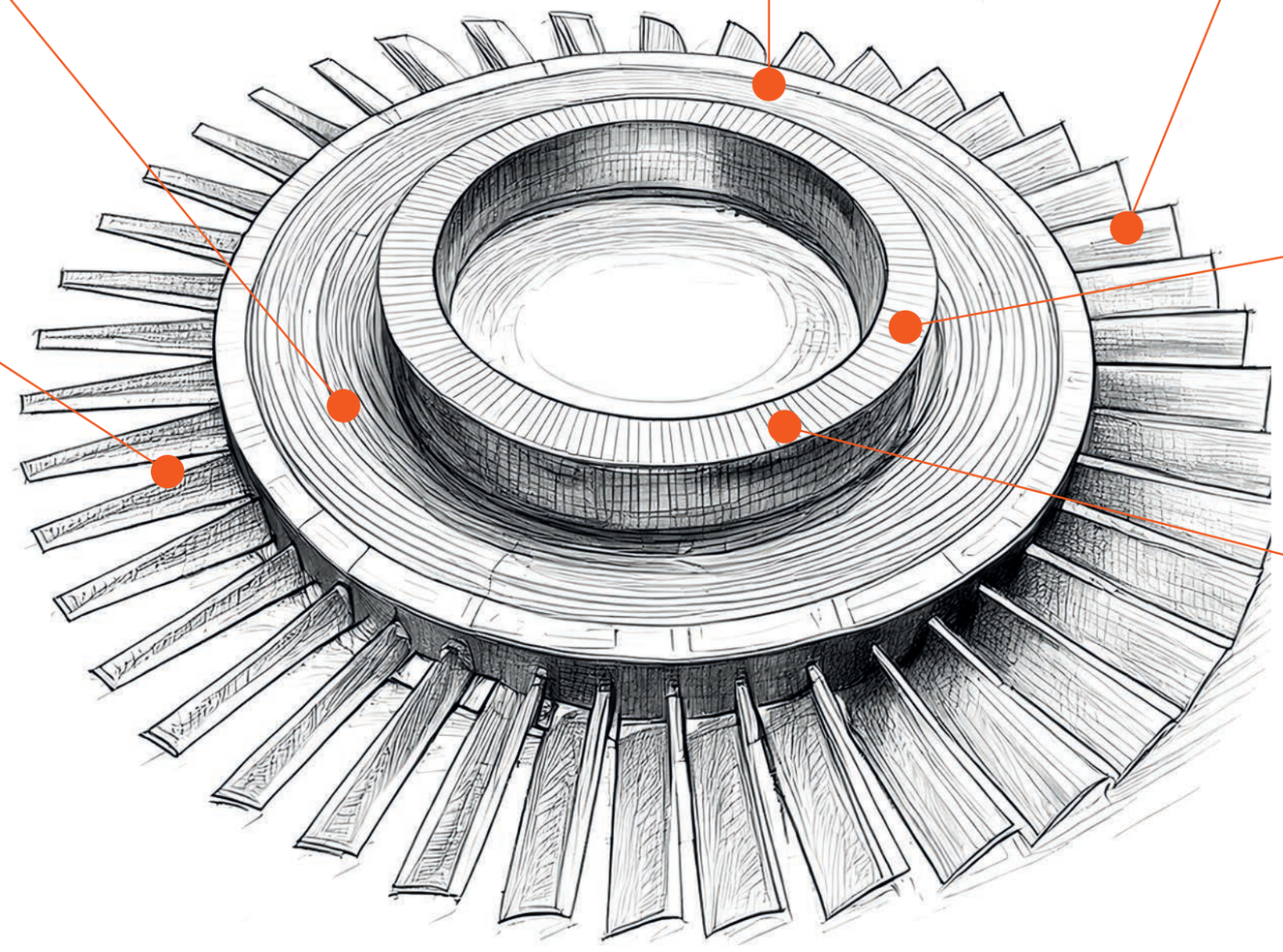
TIS 1181

TIS 9001 / 9002 / 9003 / 9004 / 9005

TIS 1285F / 1385F / 1585F

TIS 1386F / 1586F

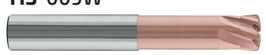
TIS 1387F / 1587F



3 Plunge Milling and High feed

- Efficient material removal for reduced cycle times
- Robust tool design ensures stability in aggressive cuts

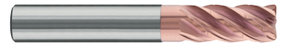
TIS 009W



4 Rough Hollowing

- High material removal rate for efficient cavity machining
- Optimized tool geometry for enhanced chip evacuation

TIS 1285R / 1385R / 1585R



TIS 1386R / 1586R

TIS 1387R / 1587R

5 Drilling

- Optimized point geometry for precise hole positioning
- Enhanced chip evacuation for improved process stability

PHM 3030U / 3031U / 3050U / 3051U / 3081U

6 Chamfering

- Superior part finishing
- Flat tip geometry for programming accuracy

ALH 0364

ALH 0365

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Scannez le code Qr pour visualiser les paramètres de fonctionnement.

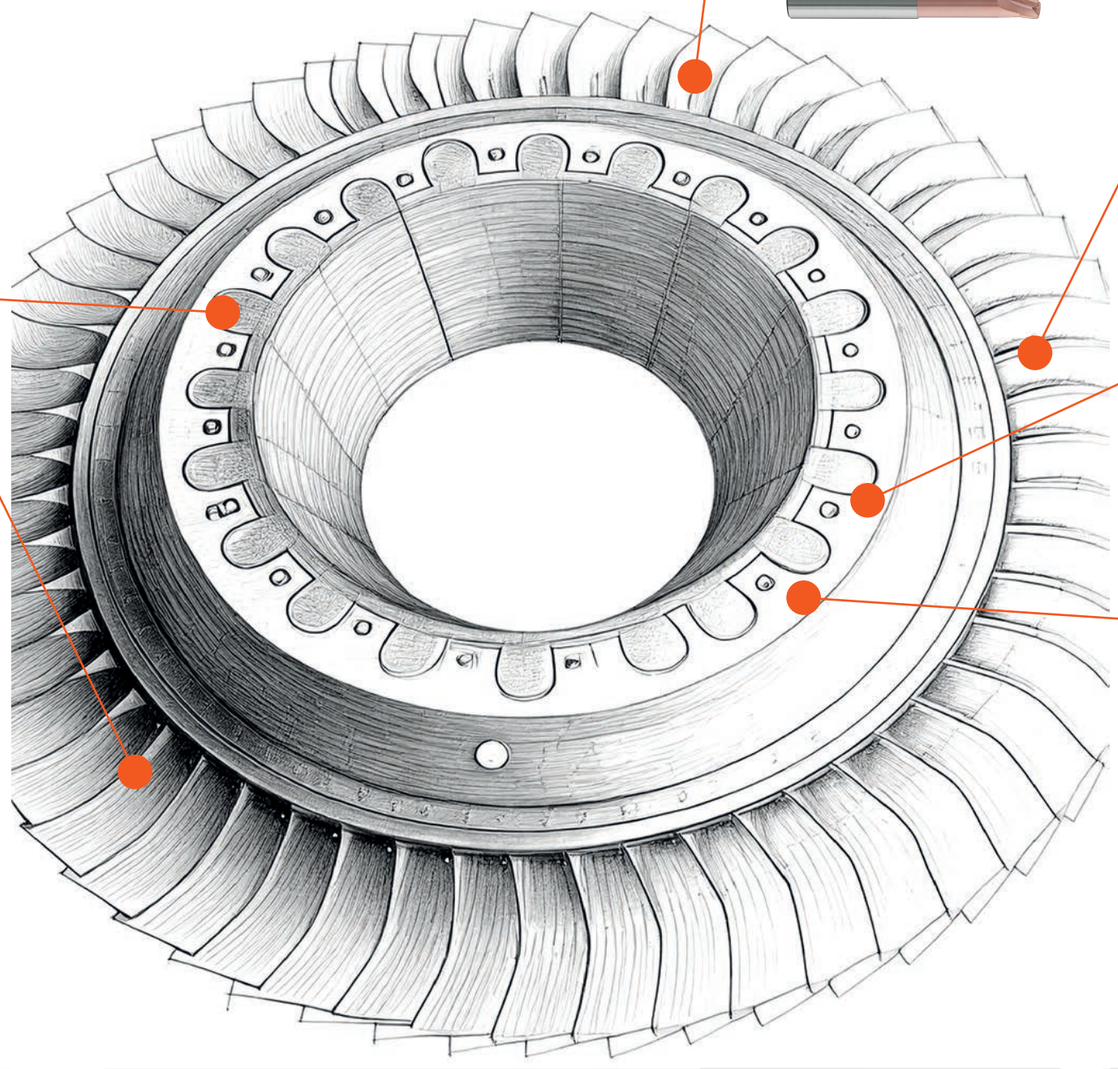
TIS Aerospace

TIS PHM ALH Aerospace

S

BLISK LOW TEMPERATURE

Titanium



1 Dynamic Milling

- High chip removal rate for faster machining
- Stable cutting process for consistent results

TIS 1285R / 1385R / 1585R

TIS 1386R / 1586R

TIS 1387R / 1587R

2 Blade Pre-Finishing and Finishing

- Optimized cutting edge for superior surface quality
- Consistent tool performance ensures uniform blade profiles

TIS 1181

TIS 9001 / 9002 / 9003 / 9004 / 9005

TIS 1285F / 1385F / 1585F

TIS 1386F / 1586F

TIS 1387F / 1587F

3 Plunge Milling and High feed

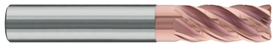
- Efficient material removal for reduced cycle times
- Robust tool design ensures stability in aggressive cuts

TIS 009W

4 Rough Hollowing

- High material removal rate for efficient cavity machining
- Optimized tool geometry for enhanced chip evacuation

TIS 1285R / 1385R / 1585R



TIS 1386R / 1586R

TIS 1387R / 1587R

5 Drilling

- Optimized point geometry for precise hole positioning
- Enhanced chip evacuation for improved process stability

PHM 3030U / 3031U / 3050U / 3051U / 3081U

6 Chamfering

- Superior part finishing
- Flat tip geometry for programming accuracy

ALH 0364

ALH 0365

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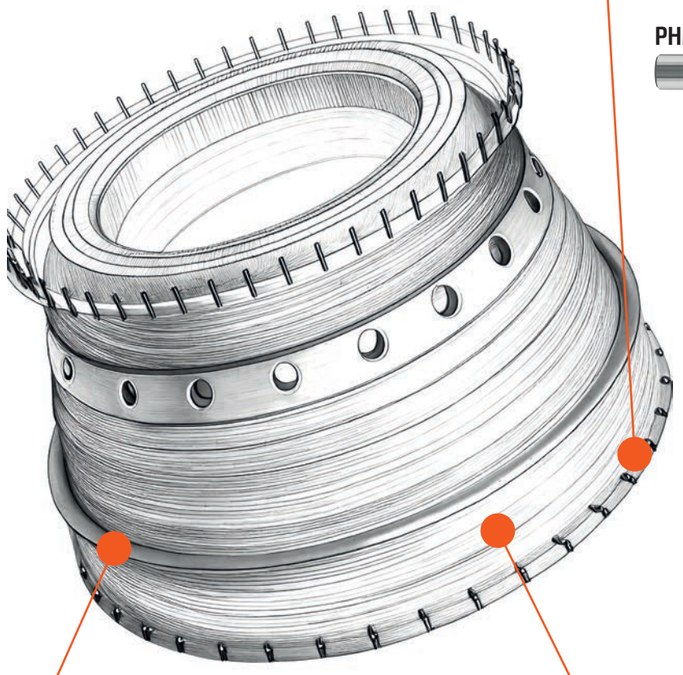
TIS Aerospace

TIS PHM ALH Aerospace

S FAN CASING
Titanium



1 Edge preparation
- Extended reach for complex internal geometries
- CNC machining for the maximum process repeatability

ALH 0366

ALH 0367

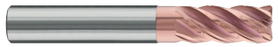
ALH 0368

2 Drilling
- High chip removal rate for faster machining
- Optimized point geometry for precise hole positioning
- Enhanced chip evacuation for improved process stability

PHM 3030U / 3031U / 3050U / 3051U / 3081U

3 Dynamic Milling
- High chip removal rate for faster machining
- Stable cutting process for consistent results

TIS 1285R / 1385R / 1585R



TIS 1386R / 1586R

TIS 1387R / 1587R

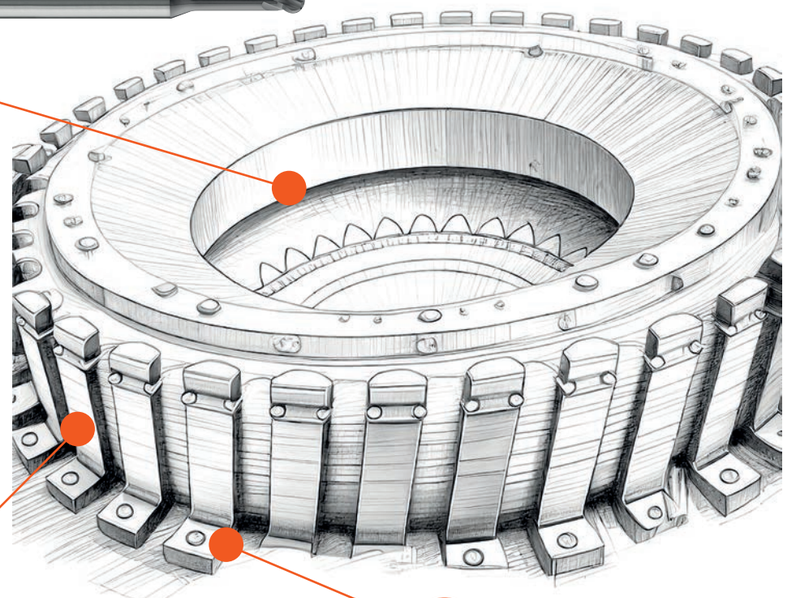
TIS ALH PHM Aerospace

S FAN DISC
Titanium

1 Internal Profile Milling
- Extended reach for complex
- internal geometries
- Optimized cutting edge ensures smooth surface finish

ALH 7740

ALH 7741



2 Facing
- Superior part finishing
- Consistent tool performance ensures tight tolerances

TIS 1285F / 1385F / 1585F

TIS 1386F / 1586F

TIS 1387F / 1587F

3 Drilling
- High chip removal rate for faster machining
- Optimized point geometry for precisehole positioning
- Enhanced chip evacuation for improved process stability

PHM 3030U / 3031U / 3050U / 3051U / 3081U

PHM TIS ALH Aerospace

S COMBUSTION CASING
HRSA

1 Boring
- High-precision cutting for optimal hole accuracy
- Stable tool design ensures consistent surface finish

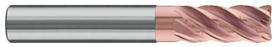
ALR 502

ALR 503

ALR 504

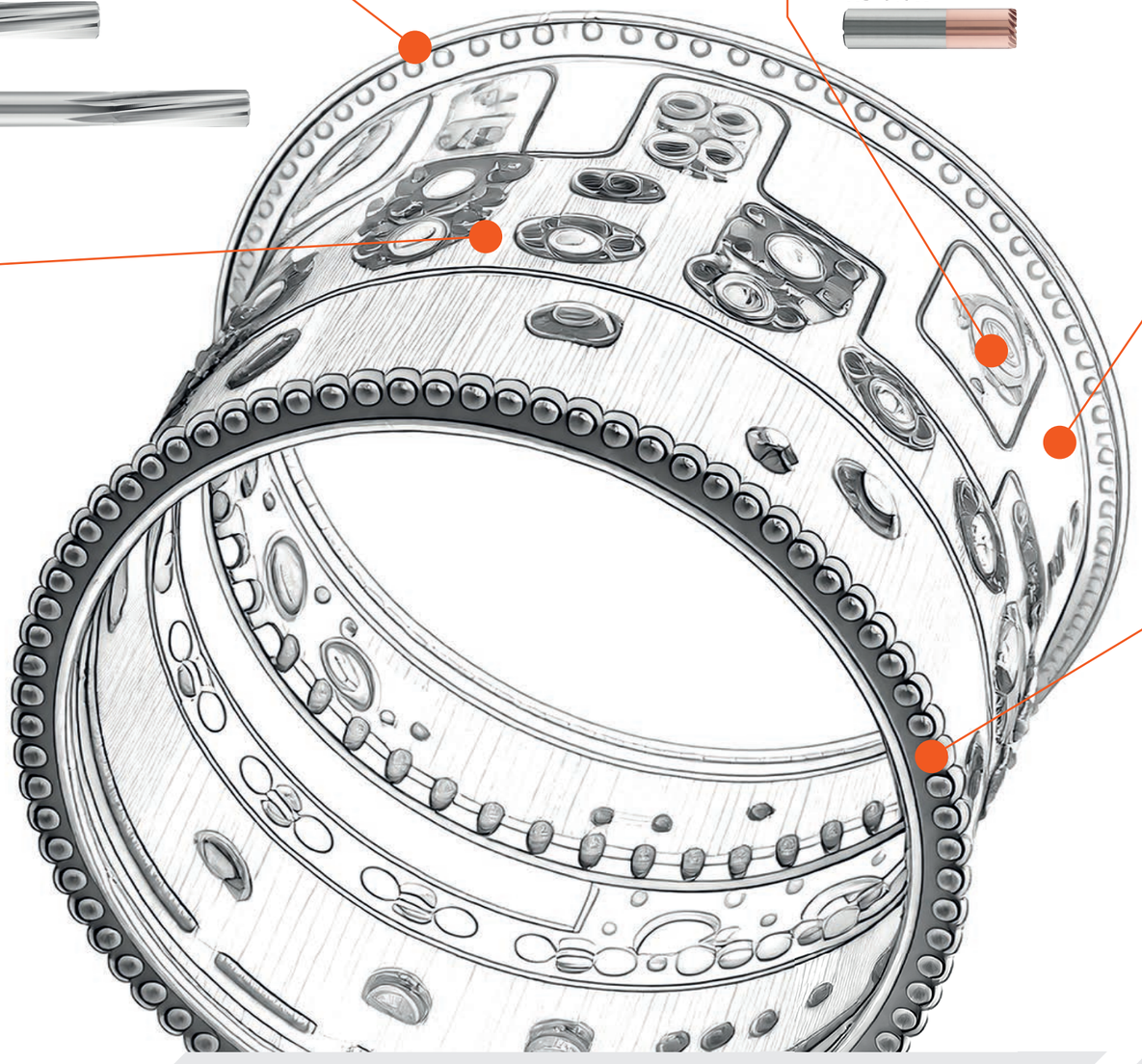
2 Rough Profiling
- Aggressive material removal for faster machining
- Robust tool design ensures stability in heavy cuts

TIS 1285R / 1385R / 1585R



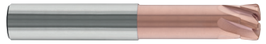
TIS 1386R / 1586R

TIS 1387R / 1587R



3 Face Milling
- High feed rates for efficient material removal
- Optimized insert geometry for superior surface finish

TIS 009W



TIS 010W

4 Finish Profiling
- Superior part finishing
- Consistent tool performance ensures tight tolerances

TIS 1285F / 1385F / 1585F

TIS 1386F / 1586F

TIS 1387F / 1587F

5 Drilling
- Optimized point geometry for precise hole positioning
- Enhanced chip evacuation for improved process stability

PHM 3030U / 3031U / 3050U / 3051U / 3081U

Scansiona il Qr-code per consultare i parametri di lavoro.
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Scannez le code Qr pour visualiser les paramètres de fonctionnement.

ALR TIS Aerospace

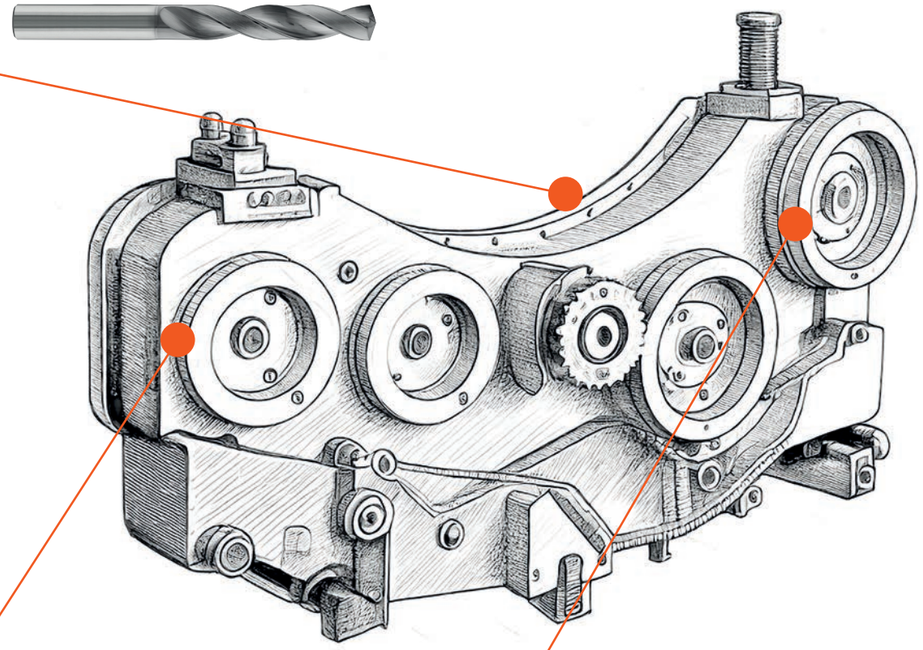
TIS PHM Aerospace

GEAR BOX
High Alloy Steel

P N S

1 Drilling
- High chip removal rate for faster machining
- Optimized point geometry for precise hole positioning
- Enhanced chip evacuation for improved process stability

PHM 3030U / 3031U / 3050U / 3051U / 3081U



2 Contouring
- High chip removal rate for faster machining
- Optimized point geometry for precisehole positioning
- Enhanced chip evacuation for improved process stability

HPC 1154

HPC 1155

HPC 1156

3 Profiling
- High chip removal rate for faster machining
- Optimized point geometry for precisehole positioning
- Enhanced chip evacuation for improved process stability

HPC 013EV

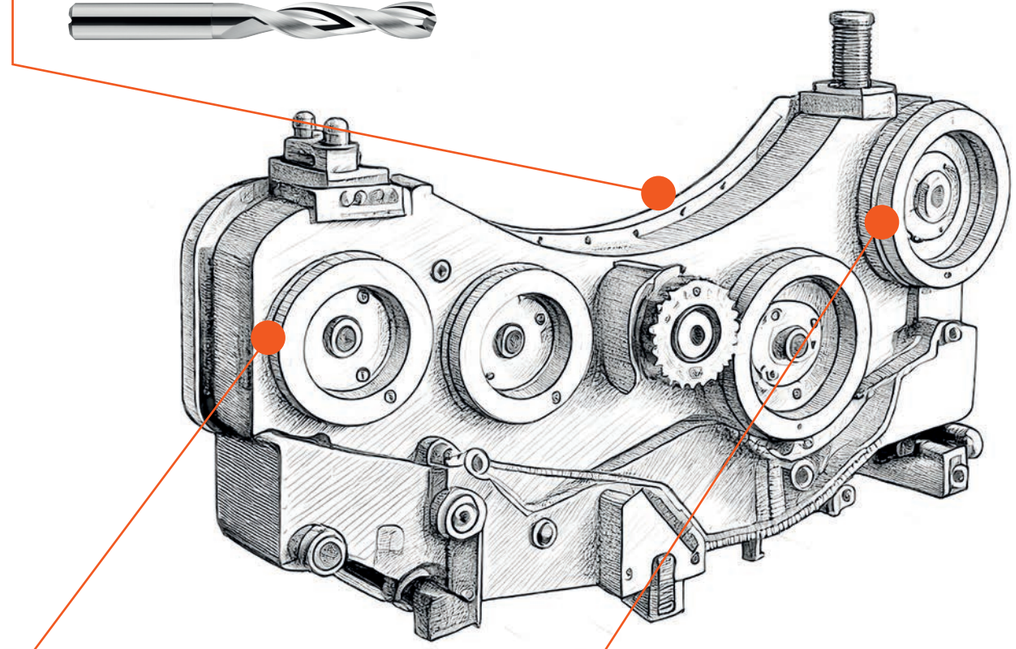
PHM HPC Aerospace

GEAR BOX
Aluminium

P N S

1 Drilling
- High chip removal rate for faster machining
- Optimized point geometry for precise hole positioning
- Enhanced chip evacuation for improved process stability

PHN 3051N / 3151N / 3201N / 3251N



2 Roughing
- High-speed machining for maximum material removal
- Optimized chip evacuation prevents built-up edge

ALU 1125

ALU 015W

ALU 016W

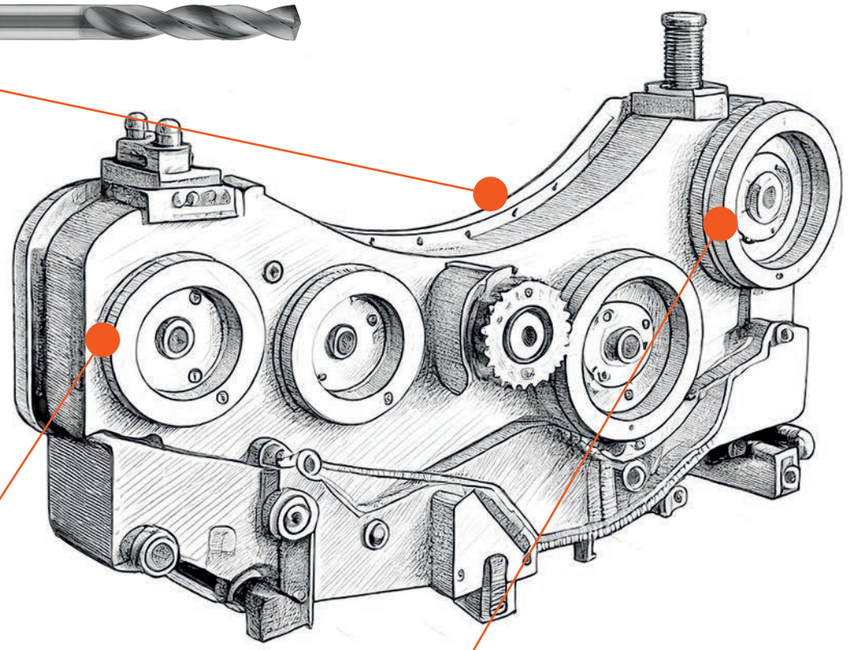
3 Finishing
- Superior part finishing
- Consistent tool performance ensures tight tolerances

ALU 1125

PHN ALU Aerospace

P N S

GEAR BOX
Titanium



1

Drilling
- High chip removal rate for faster machining
- Optimized point geometry for precise hole positioning
- Enhanced chip evacuation for improved process stability

PHM 3030U / 3031U / 3050U / 3051U / 3081U

2

Rough Profiling
- High-speed machining for
- maximum material removal
- Optimized chip evacuation prevents built-up edge

HPC 013EV

3

Finish Contouring
- Superior part finishing
- Consistent tool performance ensures tight tolerances

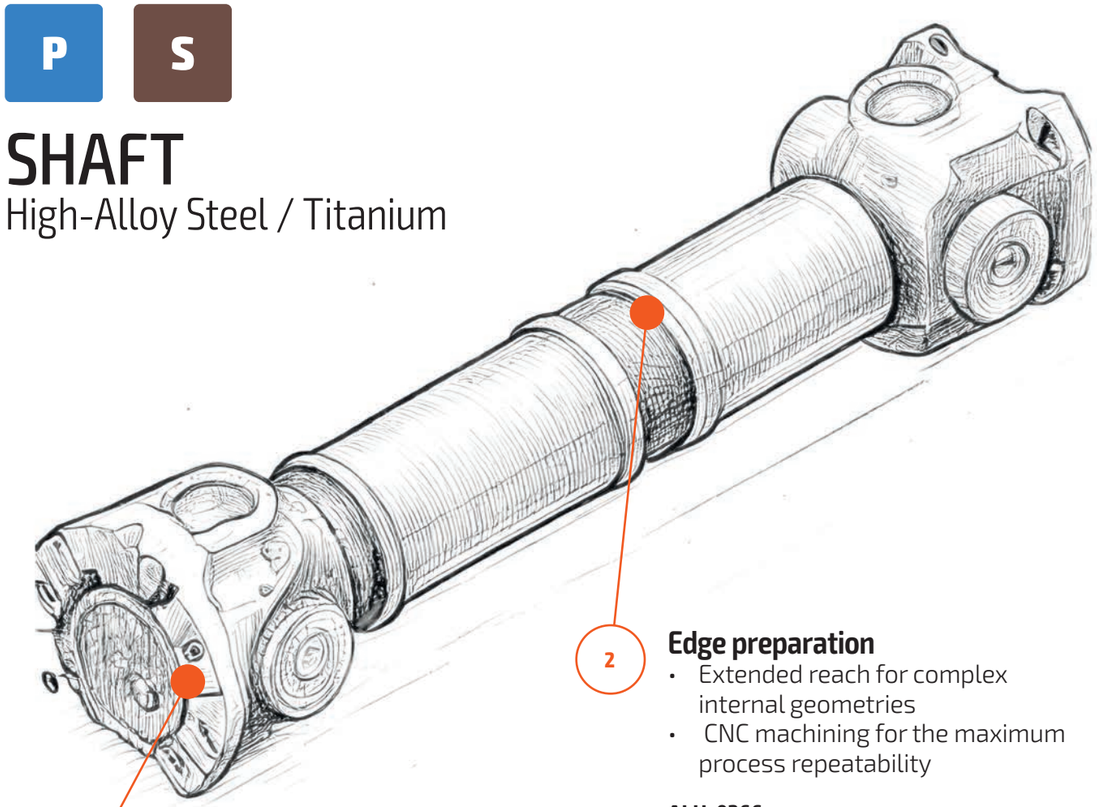
TIS 1285F / 1385F / 1585F

TIS 1386F / 1586F

TIS 1387F / 1587F

P S

SHAFT
High-Alloy Steel / Titanium



2

Edge preparation
- Extended reach for complex internal geometries
- CNC machining for the maximum process repeatability

ALH 0366

ALH 0367

ALH 0368

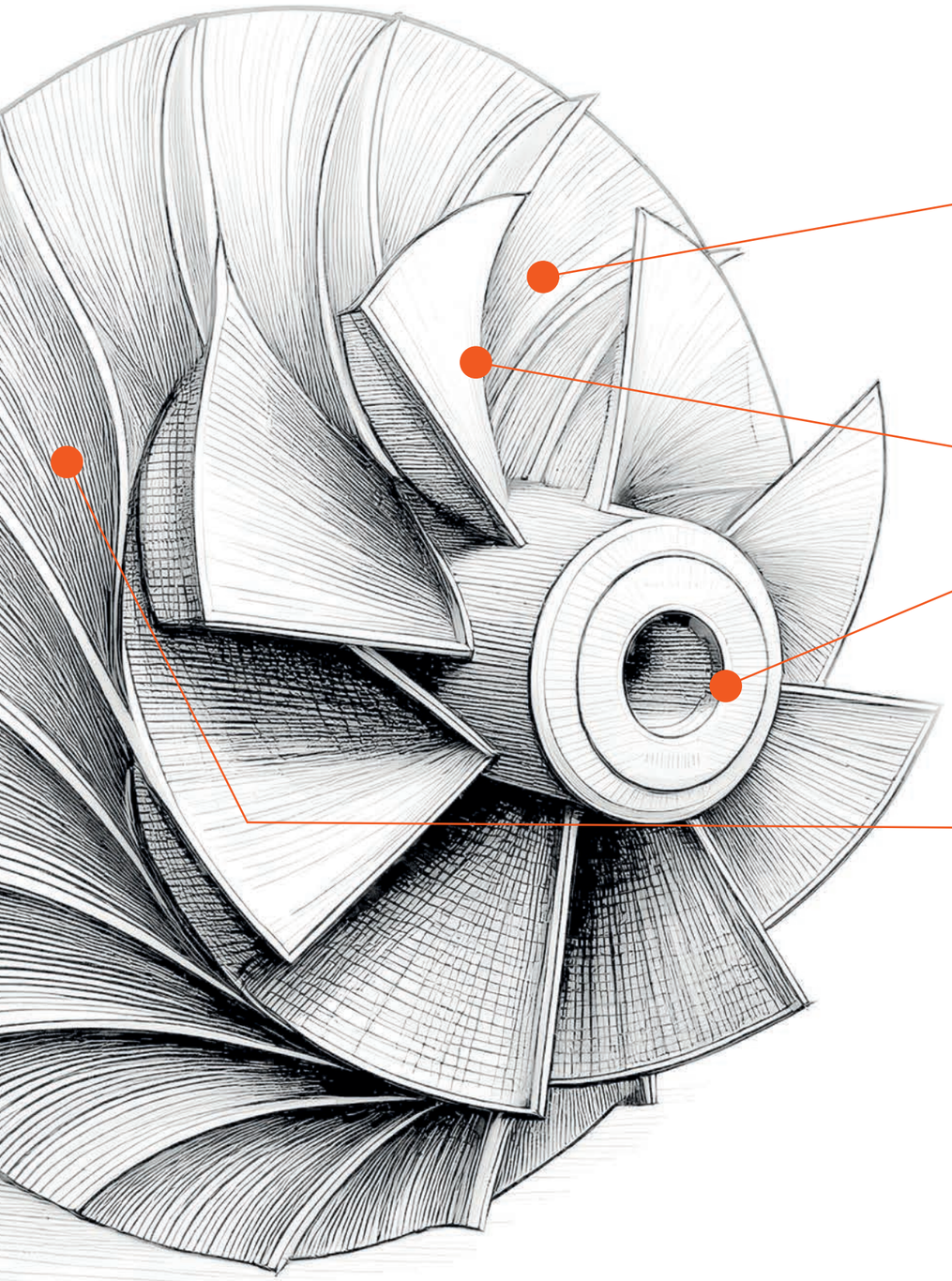
1

Drilling
- High chip removal rate for faster machining
- Stable cutting process for consistent results
- Optimized point geometry for precise hole positioning
- Enhanced chip evacuation for improved process stability

PHM 3030U / 3031U / 3050U / 3051U / 3081U

PHM HPC TIS Aerospace

PHM ALH Aerospace



1

Hub Finishing

- Optimized point geometry for precise hole positioning
- Enhanced chip evacuation for improved process stability

TIS 133

TIS 9001 / 9002 / 9003 / 9004 / 9005

2

Drilling

- Optimized point geometry for precise hole positioning
- Enhanced chip evacuation for improved process stability

PHM 3030U / 3031U / 3050U / 3051U / 3081U

3

Roughing

- High-speed machining for maximum material removal
- Optimized chip evacuation prevents built-up edge

TIS 184EV

TIS 1285R / 1385R / 1585R

TIS 1386R / 1586R

TIS 1387R / 1587R

4

Blade Pre-Finishing and Finishing

- Optimized cutting edge for superior surface quality
- Consistent tool performance ensures uniform blade profiles

TIS 1181

TIS 9001 / 9002 / 9003 / 9004 / 9005

TIS 1285F / 1385F / 1585F

TIS 1386F / 1586F

TIS 1387F / 1587F

S AUXILIARY POWER UNIT

Titanium

Scansiona il Qr-code per consultare i parametri di lavoro.
Scan the Qr-code to view the working parameters.
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TIS

Aerospace

PHM

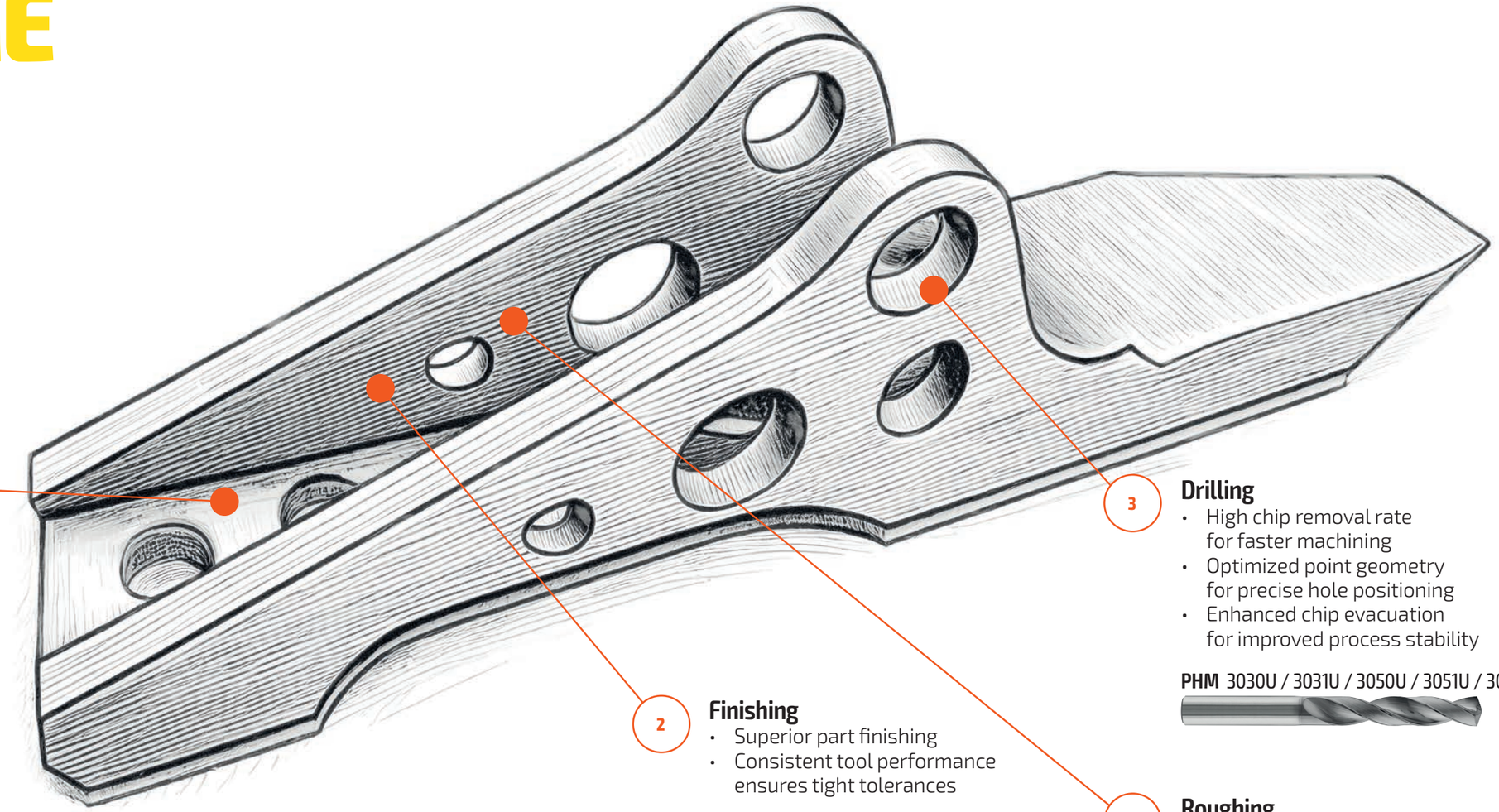
TIS

Aerospace

AIRFRAME

P N S

HINGE
High-Alloy Steel



1 Dynamic Milling
- High chip removal rate for reduced machining time
- Consistent tool engagement ensures longer tool life

HPC 113EV

HPC 1192

HPC 1193

HPC 1194

HPC 1195

2 Finishing
- Superior part finishing
- Consistent tool performance ensures tight tolerances

HPC 113EV

HPC 1155

HPC 1154

3 Drilling
- High chip removal rate for faster machining
- Optimized point geometry for precise hole positioning
- Enhanced chip evacuation for improved process stability

PHM 3030U / 3031U / 3050U / 3051U / 3081U

4 Roughing
- High-speed machining for maximum material removal
- Optimized chip evacuation prevents built-up edge

HPC 013EV

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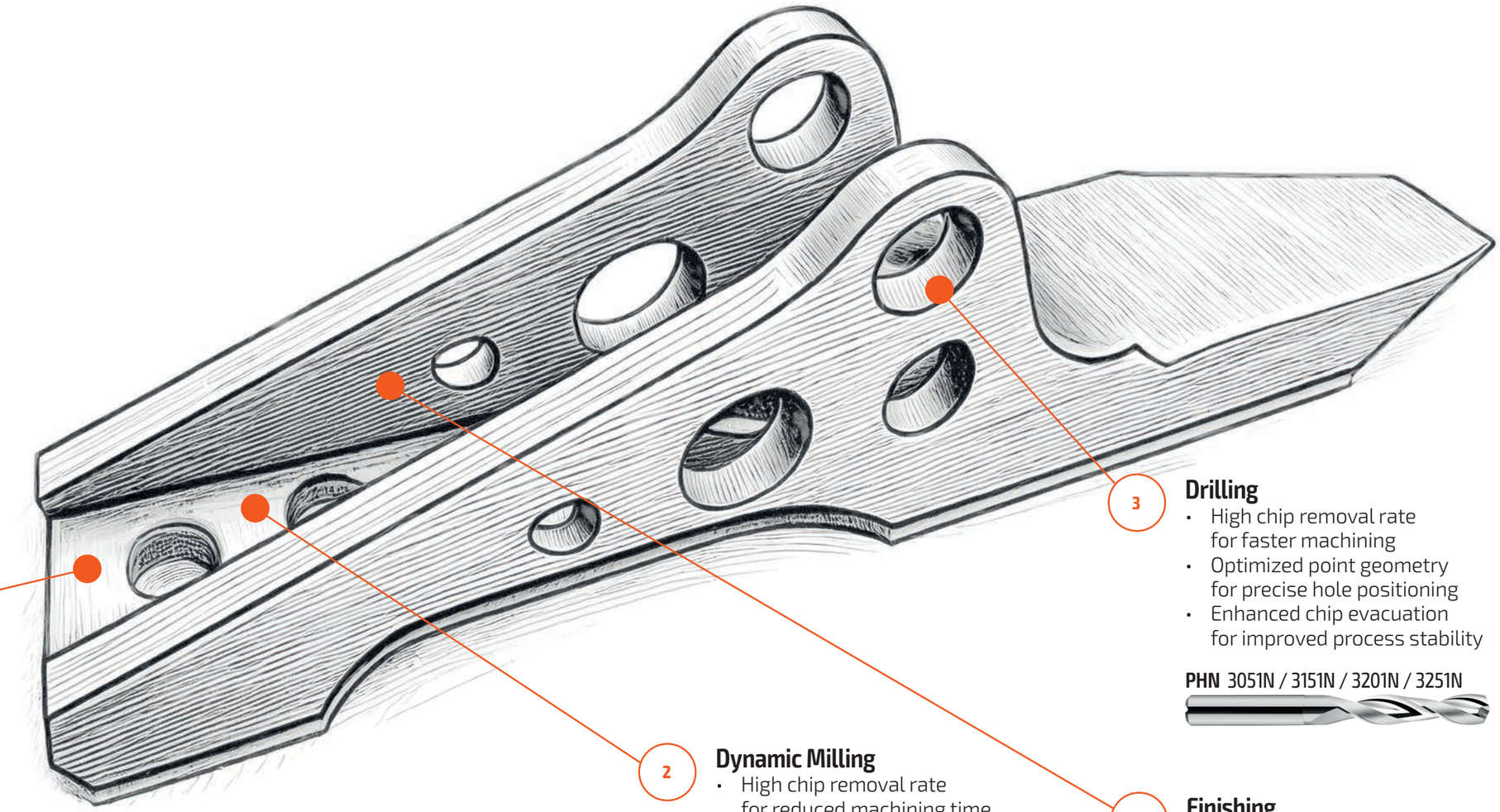
HPC Aerospace

HPC PHM Aerospace

P N S

HINGE
Aluminium



1 Roughing
- High-speed machining for maximum material removal
- Optimized chip evacuation prevents built-up edge

ALU 1126

ALU 015W

ALU 016W

2 Dynamic Milling
- High chip removal rate for reduced machining time
- Consistent tool engagement ensures longer tool life

ALU 1193A

ALU 1195A

3 Drilling
- High chip removal rate for faster machining
- Optimized point geometry for precise hole positioning
- Enhanced chip evacuation for improved process stability

PHN 3051N / 3151N / 3201N / 3251N

4 Finishing
- Superior part finishing
- Consistent tool performance ensures tight tolerances

ALU 1125

Scansiona il Qr-code per consultare i parametri di lavoro.
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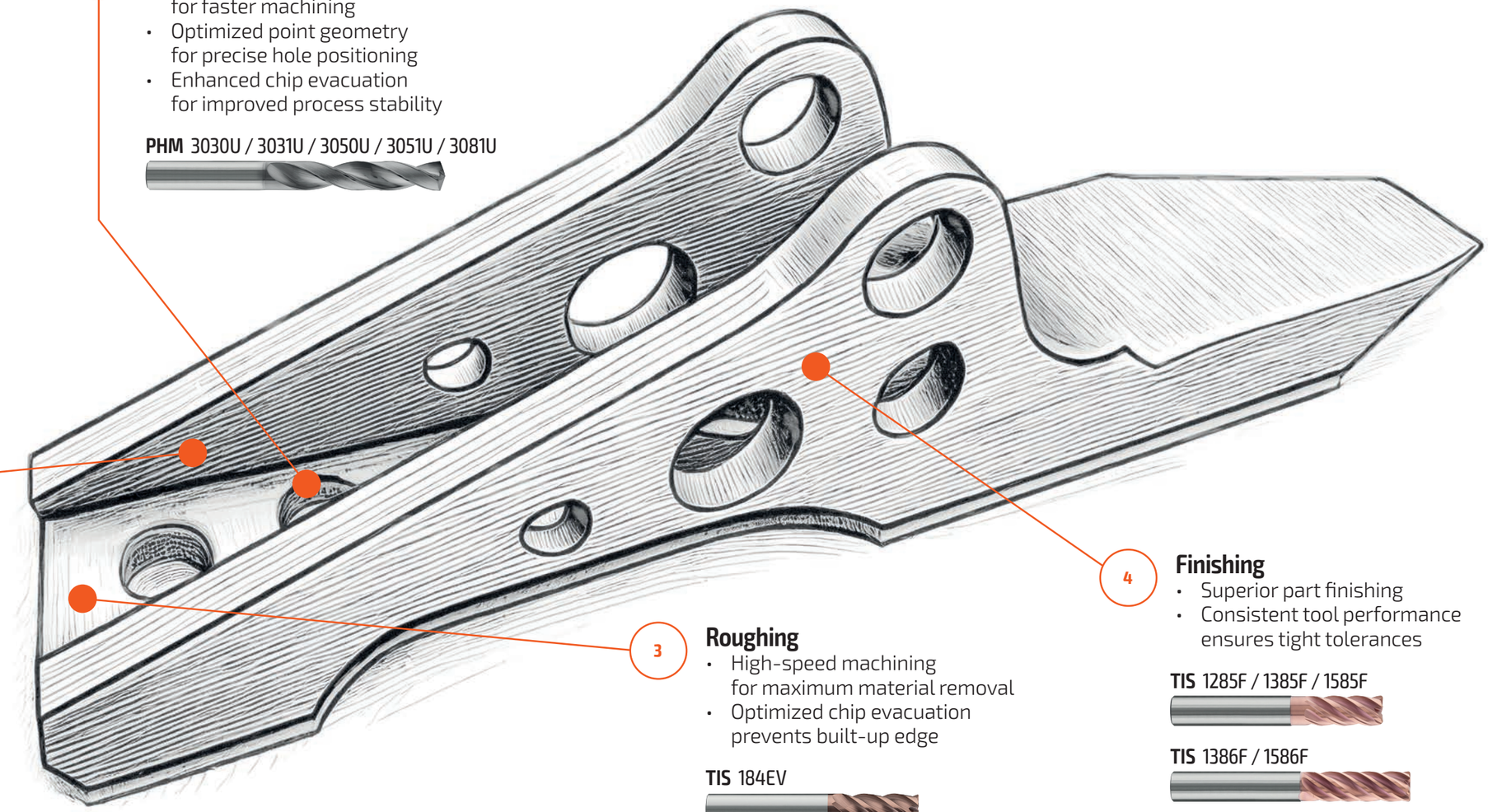
ALU Aerospace

ALU PHN Aerospace

P N S

HINGE
Titanium



1 Dynamic Milling
- High chip removal rate for reduced machining time
- Consistent tool engagement ensures longer tool life

TIS 1285R / 1385R / 1585R

TIS 1386R / 1586R

TIS 1387R / 1587R

TIS 1285F / 1385F / 1585F

TIS 1386F / 1586F

TIS 1387F / 1587F

2 Drilling
- High chip removal rate for faster machining
- Optimized point geometry for precise hole positioning
- Enhanced chip evacuation for improved process stability

PHM 3030U / 3031U / 3050U / 3051U / 3081U

3 Roughing
- High-speed machining for maximum material removal
- Optimized chip evacuation prevents built-up edge

TIS 184EV

TIS 1285R / 1385R / 1585R

TIS 1386R / 1586R

TIS 1387R / 1587R

4 Finishing
- Superior part finishing
- Consistent tool performance ensures tight tolerances

TIS 1285F / 1385F / 1585F

TIS 1386F / 1586F

TIS 1387F / 1587F

Scansiona il Qr-code per consultare i parametri di lavoro.
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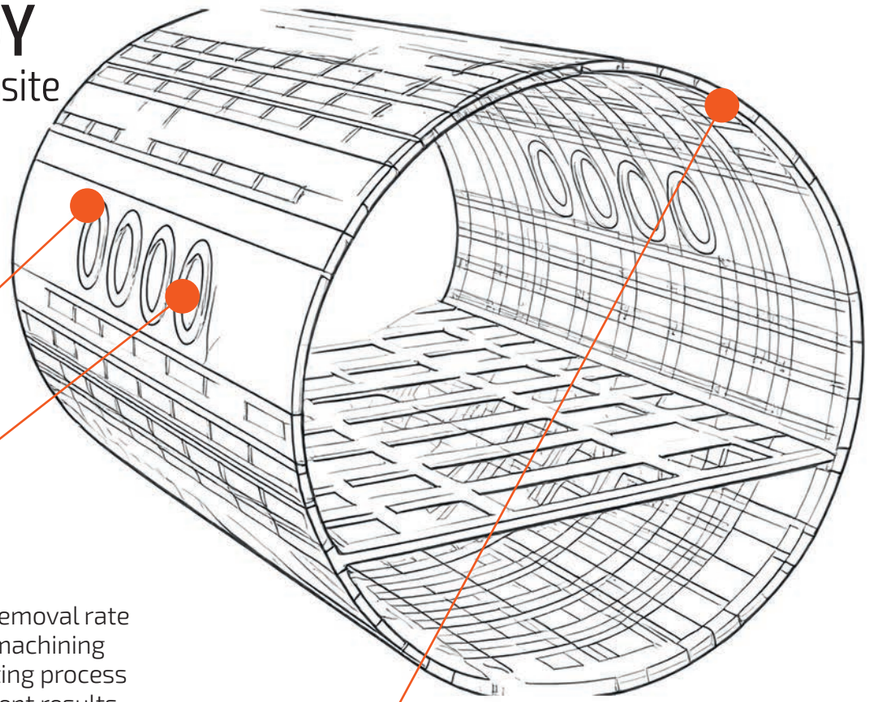
TIS PHM Aerospace

TIS Aerospace

0 BODY
Composite



1 Roughing
- High chip removal rate for faster machining
- Stable cutting process for consistent results

CMP 760

CMP 1753R

CMP 1751R

2 Drilling
- Optimized point geometry for precise hole positioning
- Enhanced chip evacuation for improved process stability

CMP 1780

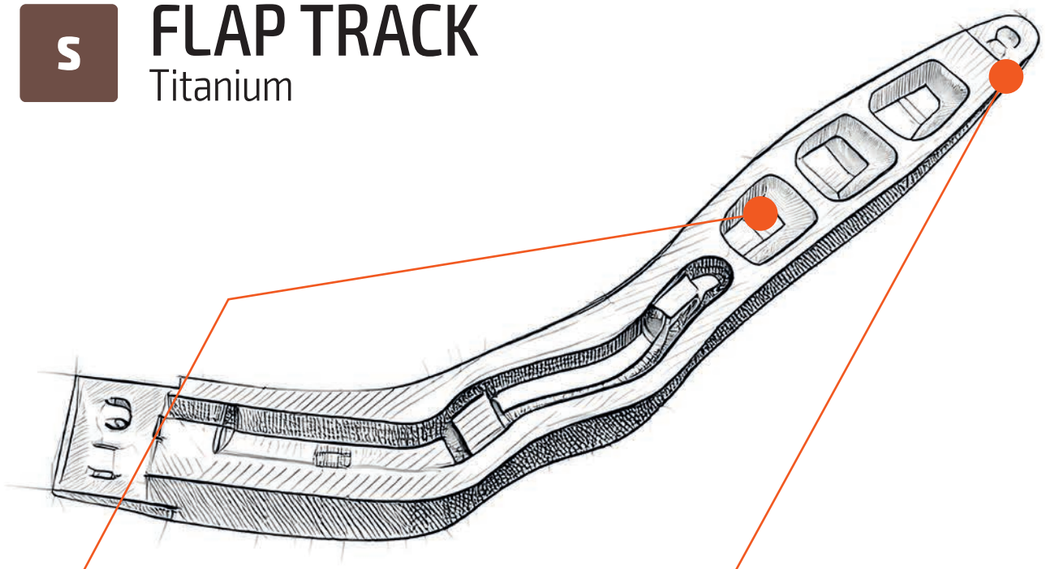
3 Plunging
- Optimized cutting edge minimizes delamination
- Controlled cutting forces for enhanced tool life

CMP 1751R

CMP 1751L

CMP 1751S

S FLAP TRACK
Titanium



1 Dynamic Milling
- High chip removal rate for reduced machining time
- Consistent tool engagement ensures longer tool life

TIS 1285R / 1385R / 1585R

TIS 1386R / 1586R

TIS 1387R / 1587R

TIS 1285F / 1385F / 1585F

TIS 1386F / 1586F

TIS 1387F / 1587F

2 Drilling
- High chip removal rate for faster machining
- Optimized point geometry for precise hole positioning
- Enhanced chip evacuation for improved process stability

PHM 3030U / 3031U / 3050U / 3051U / 3081U

Scansiona il Qr-code per consultare i parametri di lavoro.
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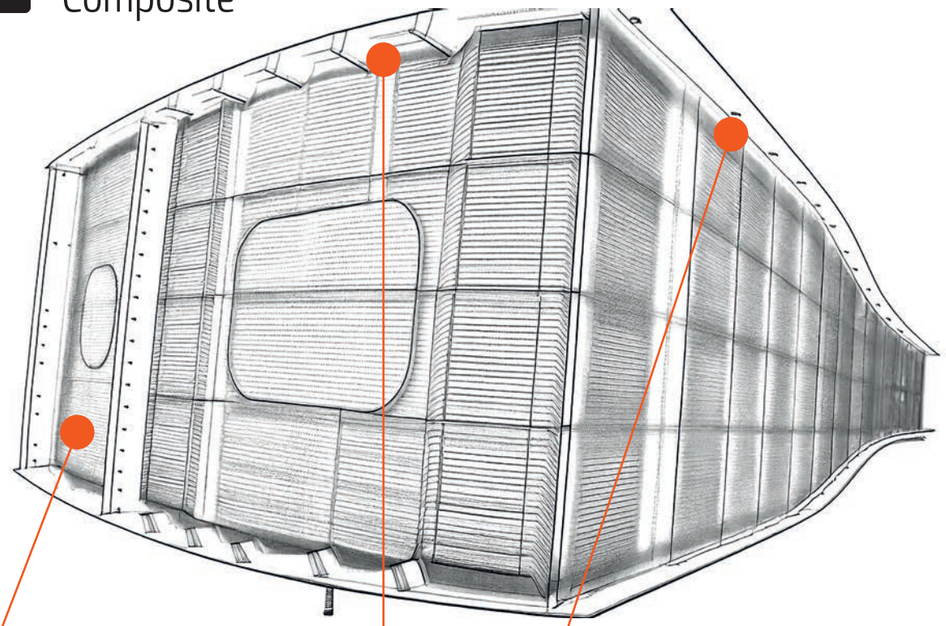
Scannez le code Qr pour visualiser les paramètres de fonctionnement.

CMP Aerospace

TIS PHM Aerospace

0 CENTRAL WING BOX
Composite



1

Roughing
- High chip removal rate for faster machining
- Stable cutting process for consistent results

CMP 760

CMP 1753R

CMP 1751R

2

Drilling
- Optimized point geometry for precise hole positioning
- Enhanced chip evacuation for improved process stability

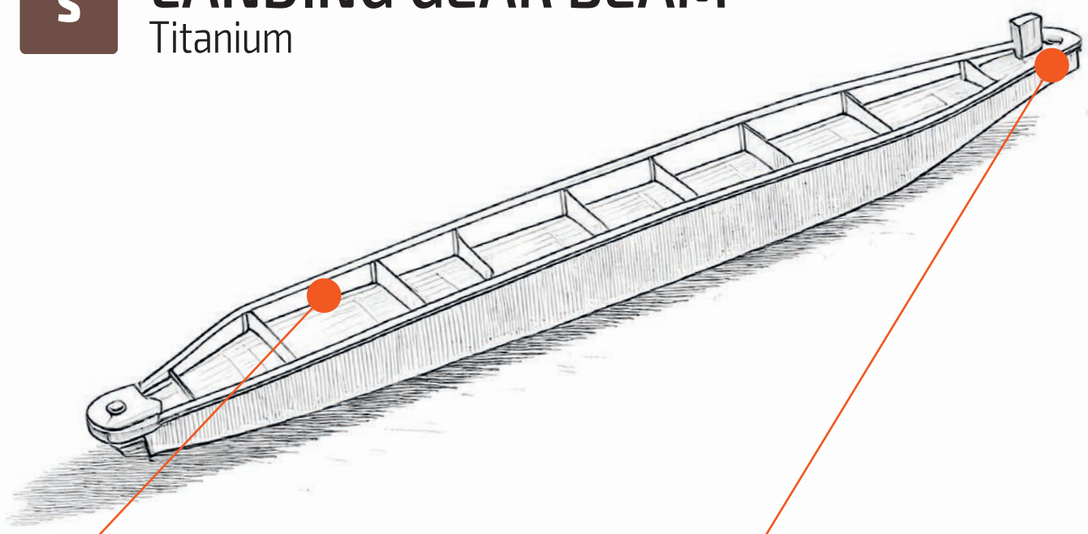
CMP 1780

3

Face Milling
- Specialized cutting edges minimize delamination and fraying
- Optimized tool design ensures smooth and precise surface finish

CMP 751

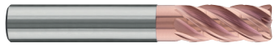
S LANDING GEAR BEAM
Titanium



1

Dynamic Milling
- High chip removal rate for reduced machining time
- Consistent tool engagement ensures longer tool life

TIS 1285R / 1385R / 1585R



TIS 1386R / 1586R

TIS 1387R / 1587R

TIS 1285F / 1385F / 1585F

TIS 1386F / 1586F

TIS 1387F / 1587F

2

Drilling
- Optimized point geometry for precise hole positioning
- Enhanced chip evacuation for improved process stability

PHM 3030U / 3031U / 3050U / 3051U / 3081U

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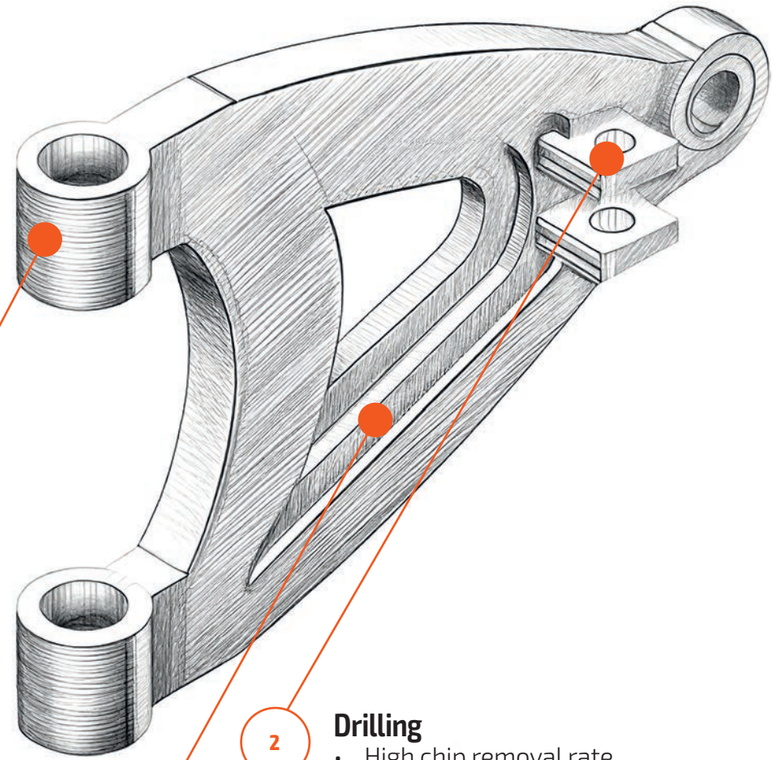
Scannez le code Qr pour visualiser les paramètres de fonctionnement.

CMP Aerospace

TIS PHM Aerospace

P S

LANDING GEAR
High-Alloy Steel



1

Finishing
- Superior part finishing
- Consistent tool performance ensures tight tolerances

HPC 113EV

HPC 1155

HPC 1154

2

Drilling
- High chip removal rate for faster machining
- High process reliability

PHM 3030U / 3031U / 3050U / 3051U / 3081U

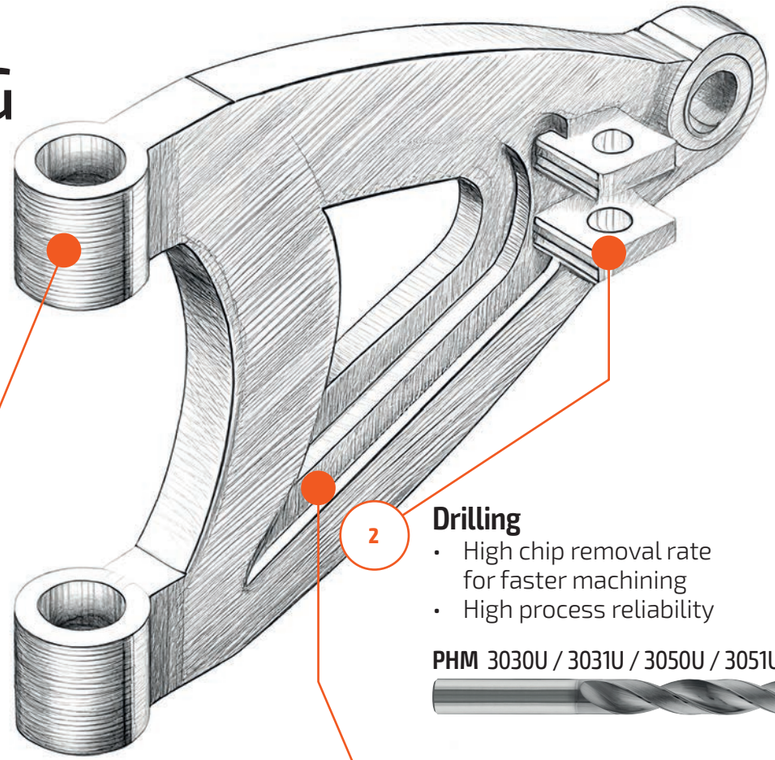
3

Roughing
- High-speed machining for maximum material removal
- Optimized chip evacuation prevents built-up edge

HPC 013EV

P S

LANDING GEAR
Titanium



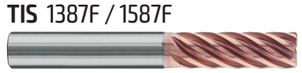
1

Profiling
- Superior part finishing
- Consistent tool performance ensures tight tolerances

TIS 1285F / 1385F / 1585F

TIS 1386F / 1586F

TIS 1387F / 1587F



2

Drilling
- High chip removal rate for faster machining
- High process reliability

PHM 3030U / 3031U / 3050U / 3051U / 3081U

3

Roughing
- High-speed machining for maximum material removal
- Optimized chip evacuation prevents built-up edge

TIS 184EV

TIS 1285R / 1385R / 1585R

TIS 1386R / 1586R

TIS 1387R / 1587R

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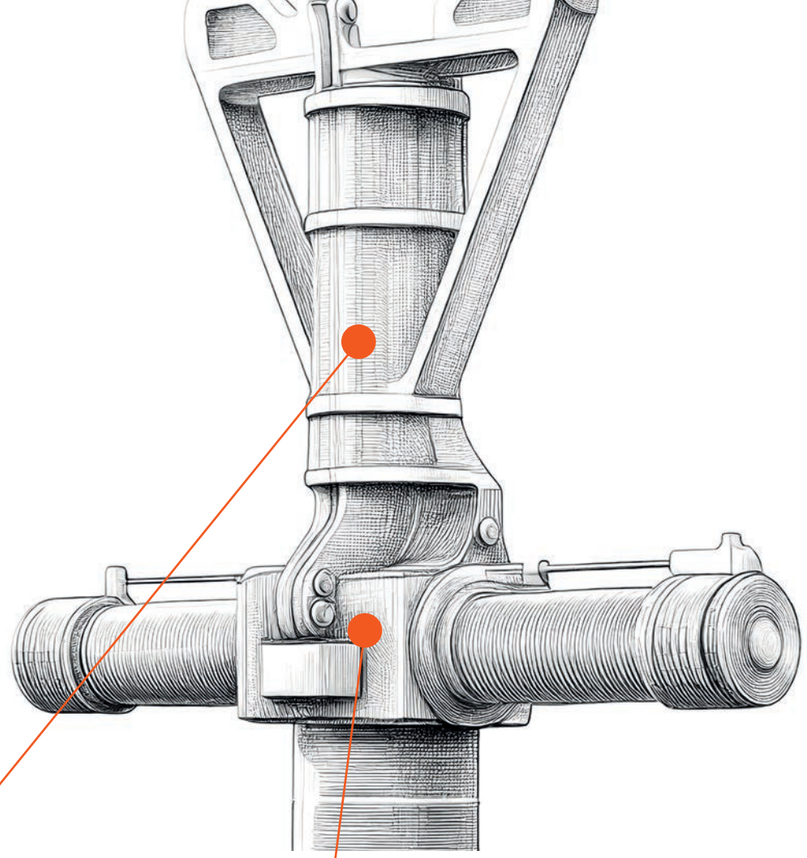
HPC PHM Aerospace

TIS PHM Aerospace

P S

MAIN CYLINDER
High-Alloy Steel



1

Profile Milling
- High chip removal rate for faster machining
- High process reliability

SPECIAL HSS

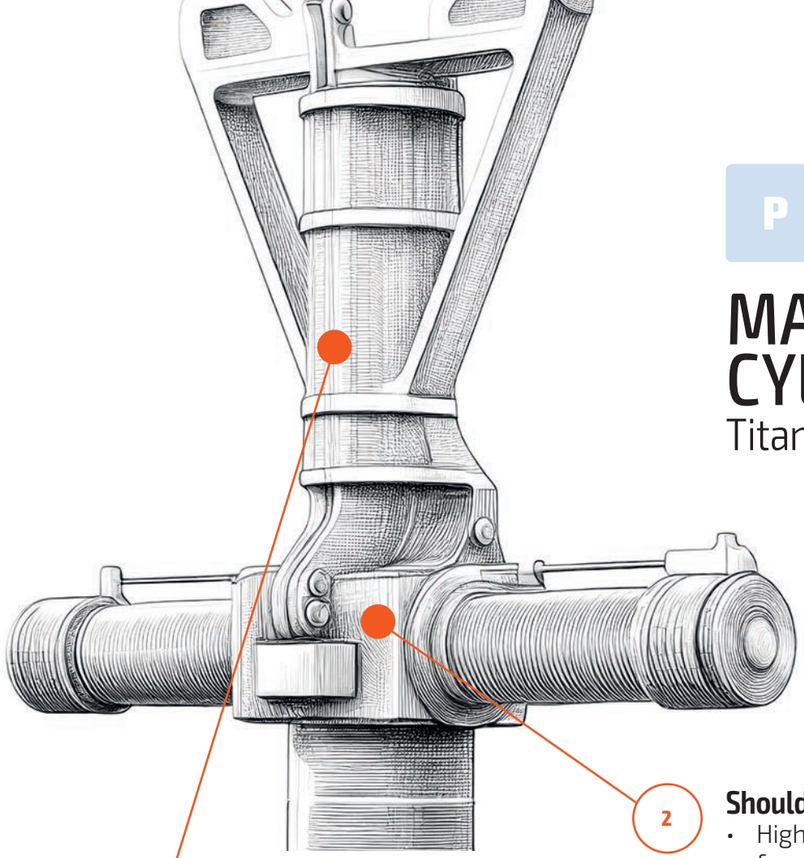
2

Shoulder Milling
- High axial and radial accuracy for precise 90° shoulders
- Optimized tool geometry ensures smooth surface finish

HPC 151

P S

MAIN CYLINDER
Titanium



1

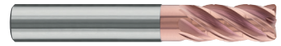
Profile Milling
- High chip removal rate for faster machining
- High process reliability

SPECIAL HSS

2

Shoulder Milling
- High axial and radial accuracy for precise 90° shoulders
- Optimized tool geometry ensures smooth surface finish

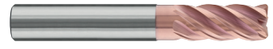
TIS 1285R / 1385R / 1585R



TIS 1386R / 1586R

TIS 1387R / 1587R

TIS 1285F / 1385F / 1585F



TIS 1386F / 1586F

TIS 1387F / 1587F

Scansiona il Qr-code per consultare i parametri di lavoro.
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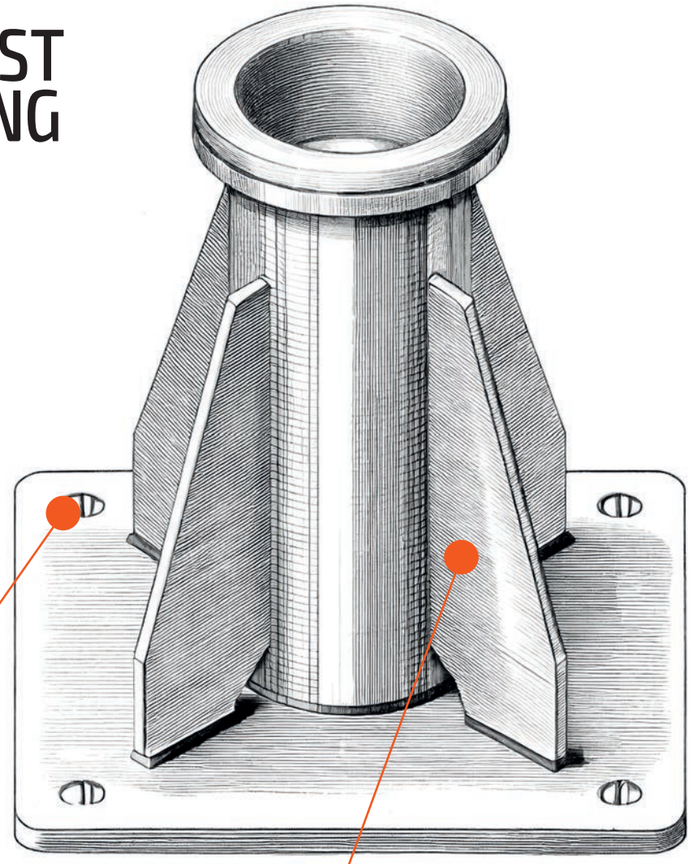
Special tools HPC Aerospace

Special tools TIS Aerospace

S THRUST FITTING
Titanium



1 Drilling
- High chip removal rate for faster machining
- High process reliability
- Optimized point geometry for precise hole positioning
- Enhanced chip evacuation for improved process stability

PHM 3030U / 3031U / 3050U / 3051U / 3081U

2 Plunge Milling
- High stability for deep cavity machining
- Efficient chip evacuation for improved process reliability

TIS 183

S ENGINE MOUNT
Titanium

1 Plunge Milling
- High stability for deep cavity machining
- Efficient chip evacuation for improved process reliability

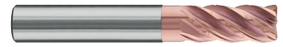
TIS 183

2 Drilling
- High chip removal rate for faster machining
- High process reliability

PHM 3030U / 3031U / 3050U / 3051U / 3081U

3 Profiling
- Efficient roughing for high material removal rates
- Precision finishing ensures superior surface quality

TIS 1285R / 1385R / 1585R



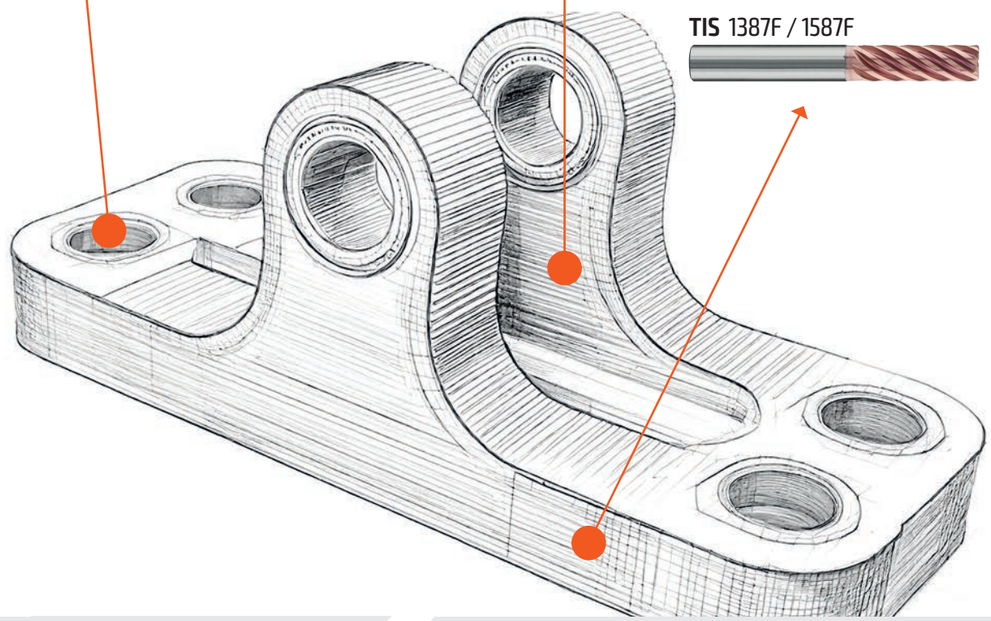
TIS 1386R / 1586R

TIS 1387R / 1587R

TIS 1285F / 1385F / 1585F

TIS 1386F / 1586F

TIS 1387F / 1587F



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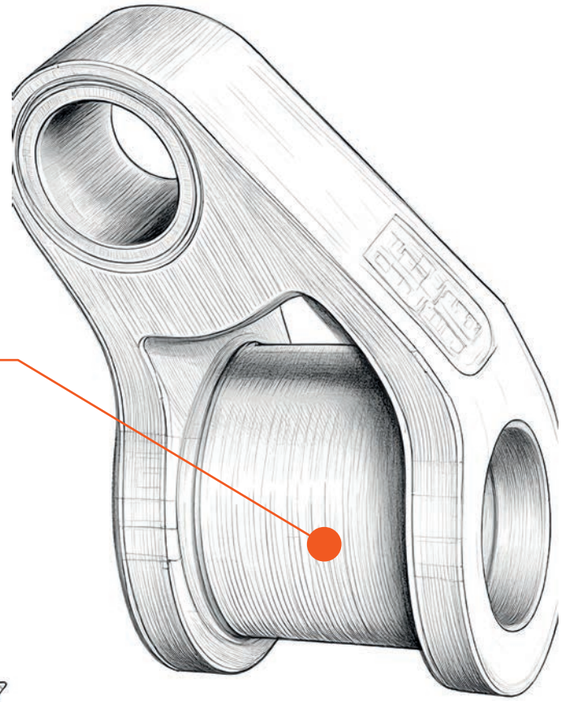
PHM TIS Aerospace

TIS PHM Aerospace

P M N S

SHACKLE

High-Alloy Steel, Stainless Steel, Aluminium, Titanium

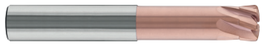


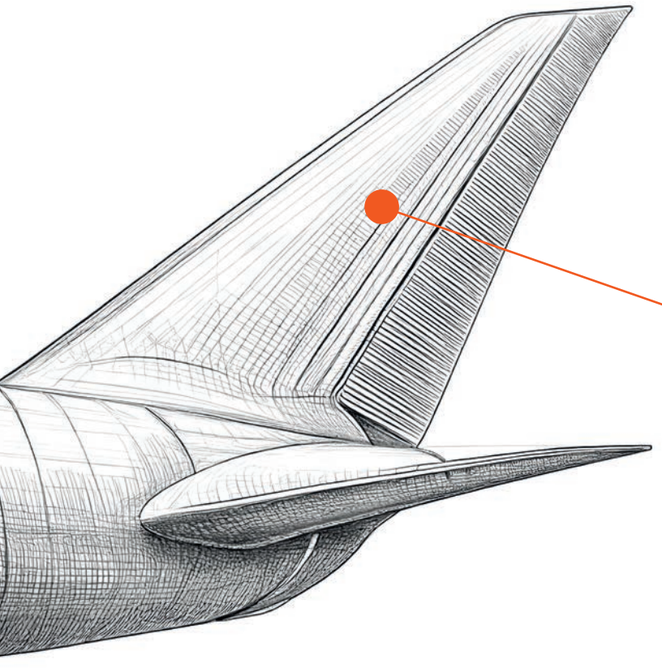
1

High Feed

- Efficient material removal forreduced cycle times
- Robust tool design ensures stability in aggressive cuts

TIS 009W





0

TAIL

Composite

1

Drilling

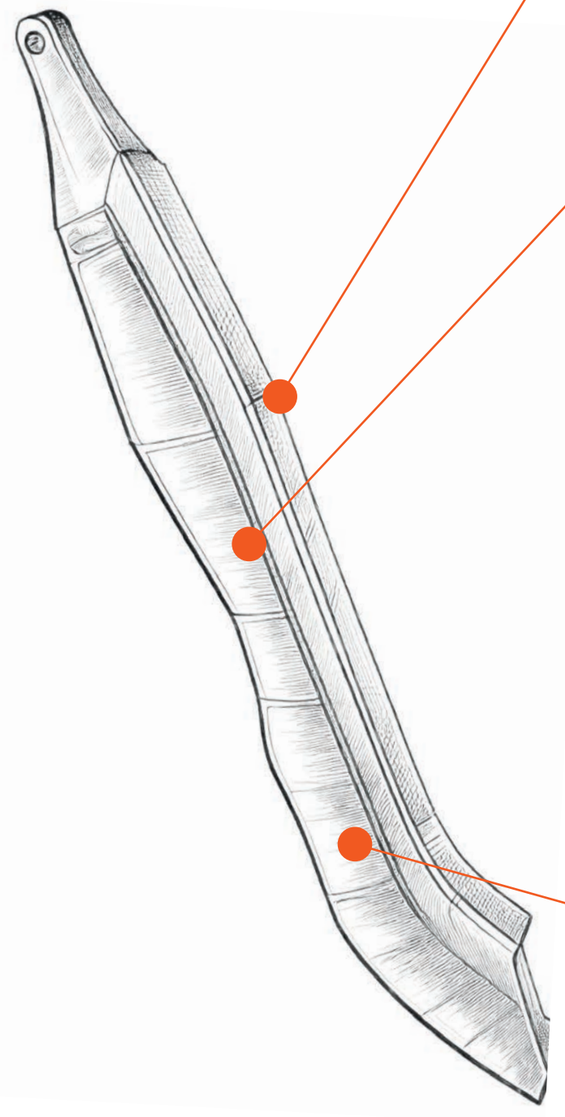
- High chip removal rate for faster machining
- High process reliability
- Optimized point geometry for precise hole positioning
- Enhanced chip evacuation for improved process stability

CMP 1780

M

TRAILING EDGE

Stainless steel



1

Hollowing

- High stability for deep cavity machining
- Efficient chip evacuation for improved process reliability

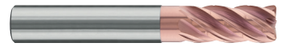
TIS 184EV

2

Pocket and Profile Milling

- Efficient roughing for high material removal rates
- Precision finishing ensures superior surface quality

TIS 1285R / 1385R / 1585R



TIS 1386R / 1586R

TIS 1387R / 1587R

TIS 1285F / 1385F / 1585F

TIS 1386F / 1586F

TIS 1387F / 1587F

3

Face Milling

- High feed rates for efficient material removal
- Optimized cutter design ensures superior surface finish

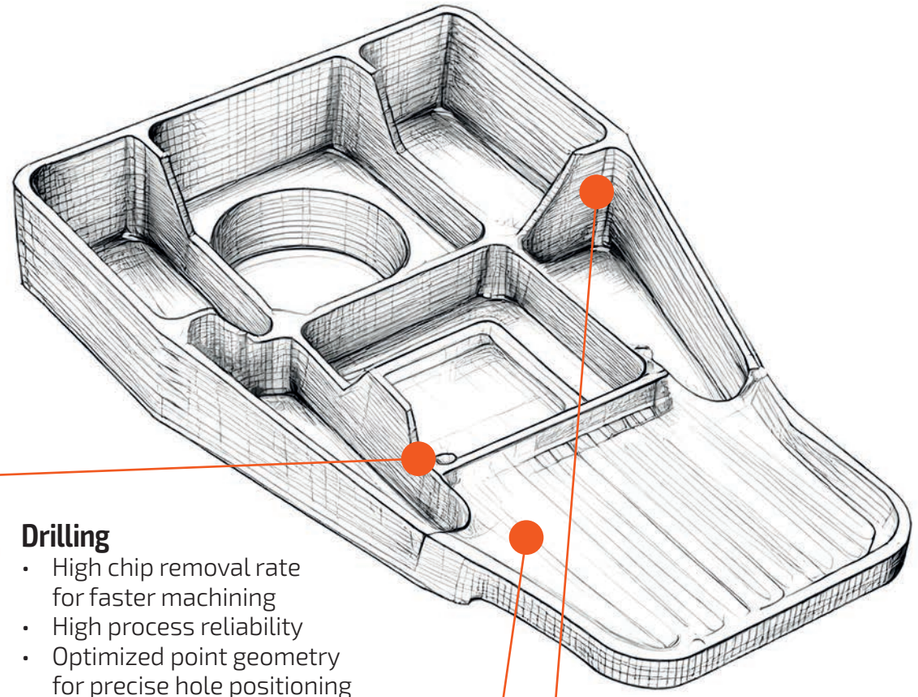
TIS 184EV

TIS Aerospace

CMP Aerospace

TIS Aerospace

S PYLON BRACKET
Titanium



1

Drilling
- High chip removal rate for faster machining
- High process reliability
- Optimized point geometry for precise hole positioning
- Enhanced chip evacuation for improved process stability

PHM 3030U / 3031U / 3050U / 3051U / 3081U

2

High Feed
- Efficient material removal for reduced cycle times
- Robust tool design ensures stability in aggressive cuts

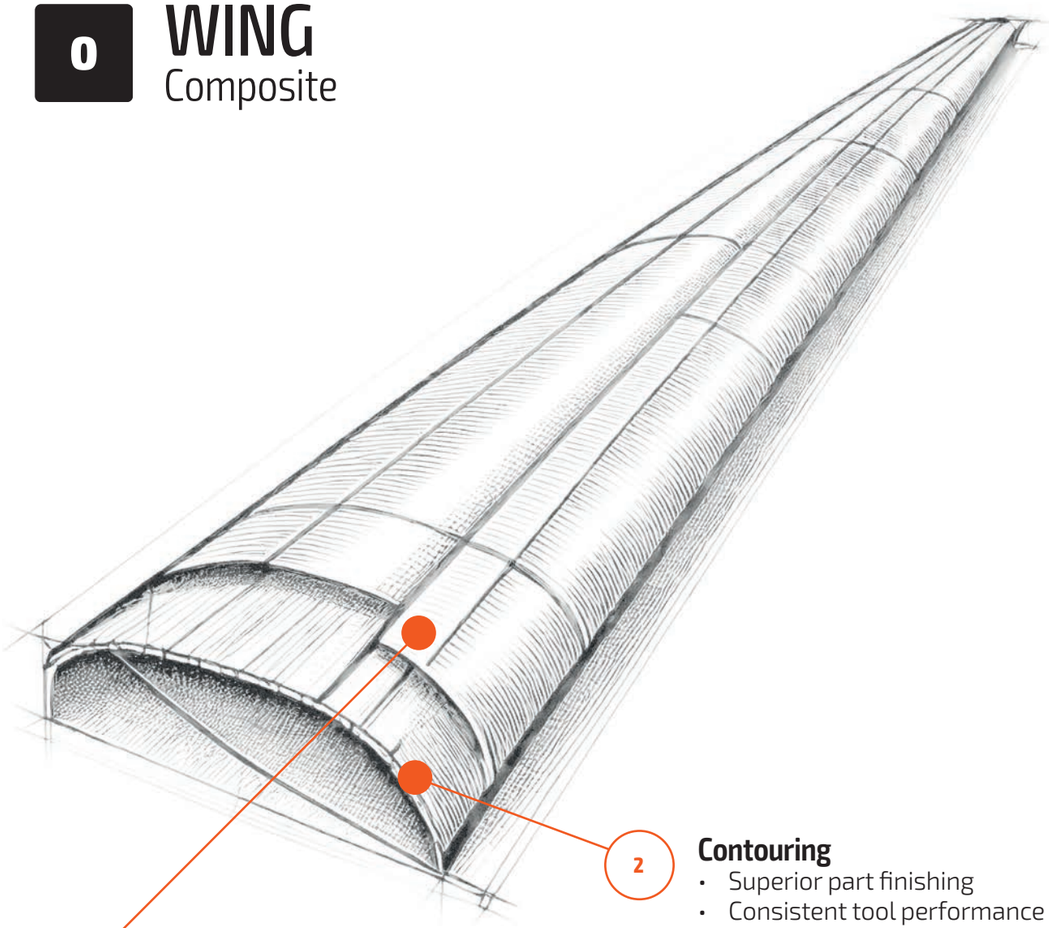
TIS 009W

3

Plunge Milling
- High stability for deep cavity machining
- Efficient chip evacuation for improved process reliability

TIS 183

0 WING
Composite



1

Drilling
- High chip removal rate for faster machining
- Stable cutting process for consistent results
- Optimized point geometry
- forprecise hole positioning
- Enhanced chip evacuation for improved process stability

CMP 1780

2

Contouring
- Superior part finishing
- Consistent tool performance ensures tight tolerances

CMP 1751R

CMP 1751L

CMP 1751S

CMP 1751B

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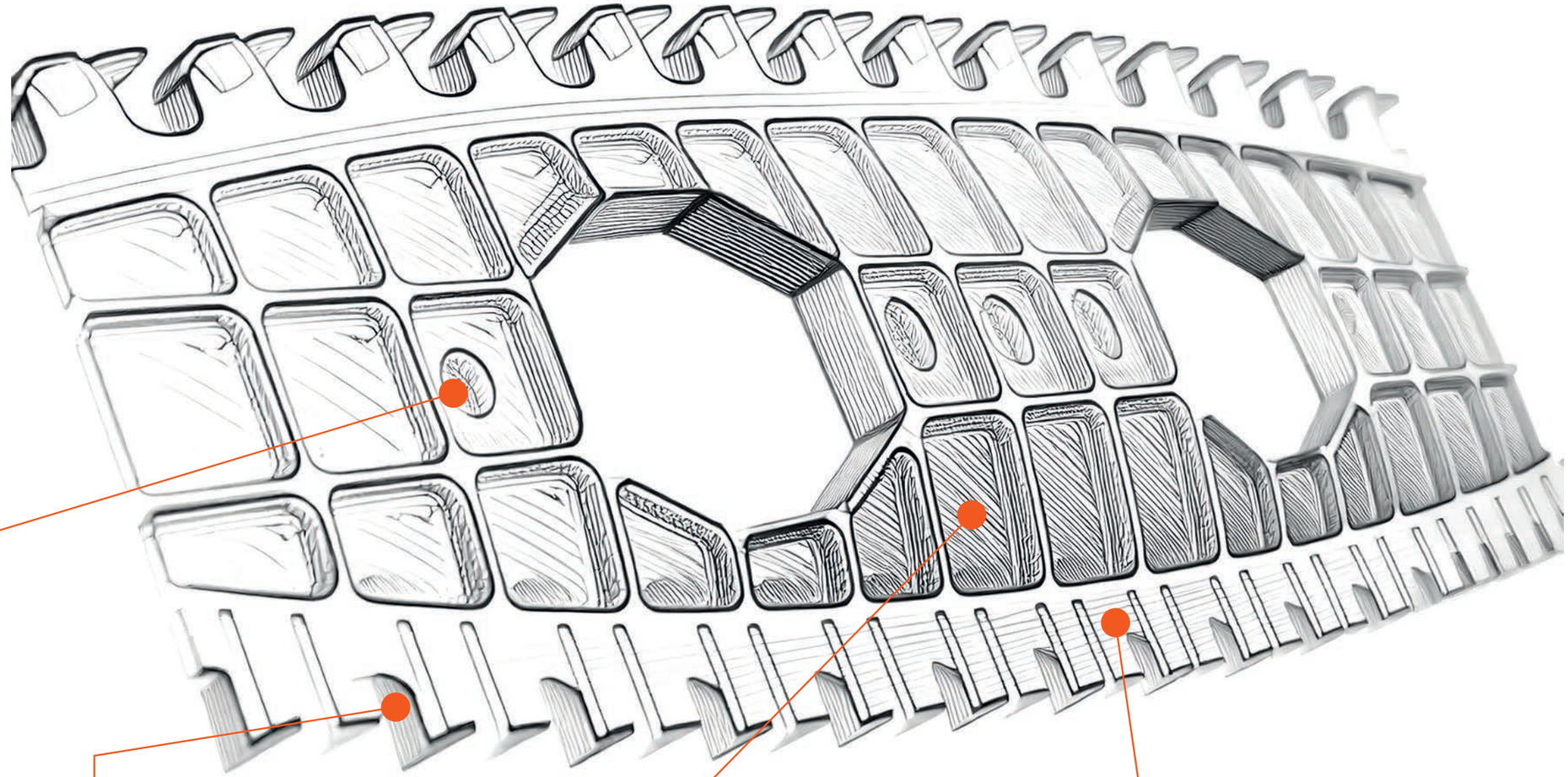
PHM TIS Aerospace

CMP Aerospace

N WING RIB
Aluminium



1 Drilling
- High chip removal rate for faster machining
- High process reliability
- Optimized point geometry for precise hole positioning
- Enhanced chip evacuation for improved process stability

PHN 3051N / 3151N / 3201N / 3251N

2 Dynamic Milling
- High chip removal rate for reduced machining time
- Consistent tool engagement ensures longer tool life

ALU 1193A

ALU 1195A

3 Finishing
- Superior part finishing
- Consistent tool performance ensures tight tolerances

ALU 1125

4 Roughing
- High-speed machining for maximum material removal
- Optimized chip evacuation prevents built-up edge

ALU 1126

ALU 015W

ALU 016W

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PHN ALU Aerospace

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9 9 A E R O S P A C E 2 5 03/2025

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