

SOLUTIONS AROUND THE GLOBE

KYOCERA SGS Precision Tools is an ISO 9001:2015 Certified leader of round solid carbide cutting tool technology for the aerospace, metalworking, and automotive industries with manufacturing sites in the United States and United Kingdom. Our global network of Sales Representatives, Industrial Distributors, and Agents blanket the world selling into more than 60 countries.

LEADERS IN SOLID CARBIDE TOOL TECHNOLOGY

Brand names such as Z-Carb, S-Carb®, V-Carb, Hi-PerCarb®, Multi-Carb have become synonymous with high performance tooling in the machining and metalworking industry.

We're proud to have pioneered some of the world's most advanced cutting technology right here on our Northeast Ohio manufacturing campus. KSPT high performance end mills, drills and routers are increasing productivity and reducing cost around the world.

EXCEEDING CUSTOMER EXPECTATIONS

As the world's manufacturing needs change, so does KSPT. It's all about the science, starting with our lab inspected substrate materials to our tool designs and coatings. Our exceptional team of researchers, engineers, and machinists are dedicated to developing the absolute best and delivering the ultimate Value at the spindle®.

- Incredible batch-to-batch consistency
- Metallurgical lab dedicated to testing and rigorous quality control
- ISO 9001:2015 Certified quality procedures
- Patented geometries that extend tool life, reduce chatter, cut cycle times, and improve part quality—even at extreme parameters
- Specialists in extreme and demanding product applications
- Comprehensive tooling services
- Experienced Field Sales Engineers who work to optimize a tool for your particular application
- Dedicated multi-lingual customer service representatives

SGS PRODUCTS ARE DISTRIBUTED BY:



www.kyocera-sgstool.com



VALUE AT THE SPINDLE®

UNITED STATES OF AMERICA

KYOCERA SGS Precision Tools
150 Marc Drive
Cuyahoga Falls, Ohio 44223 U.S.A.
customer service -
US and Canada: (330) 686-5700
fax - US & Canada: (800) 447-4017
international fax: (330) 686-2146
orders: sales@kyocera-sgstool.com
web: www.kyocera-sgstool.com

UNITED KINGDOM

KYOCERA SGS Precision Tools Europe Ltd.
10 Ashville Way
Wokingham, Berkshire
RG41 2PL England
phone: (44) 1189-795-200
fax: (44) 1189-795-295
e-mail: SalesEU@kyocera-sgstool.com
web: www.kyocera-sgstool.co.uk

JAPAN

KYOCERA Corporation
International Sales Dept.
6 Takeda Tobadono-cho,
Fushimi-ku, Kyoto 612-8501, Japan
phone: +81-75-604-3473
fax: +81-75-604-3472
web: global.kyocera.com/prdct/tool/index.html

COMMERCIAL OFFICES

EASTERN EUROPE

SINTCOM
Sintcom Tools
95 Arsenalski Blvd.
1421 Sofia, Bulgaria
phone: (359) 283-64421
fax: (359) 286-52493
e-mail: sintcom@sintcomtools.com

FRANCE

DOGA-KSPTE FRANCE
8, Avenue Gutenberg
78310 Maurepas, France
phone: +33 (0) 1 30 66 41 64
fax: +33 (0) 1 30 66 41 49
e-mail: KSPTF@kyocera-sgstool.com
web: www.doga.fr

GERMANY

KADIGO Tool Systems GmbH
Walramster. 27
65510 Idstein, Germany
phone: +49-212-645573-0
fax: +49-212-38089693
e-mail: info@kadigo-ts.com

INDIA

KYOCERA Asia Pacific India Pvt. Ltd
Plot No.51, Phase-I,
Udyog Vihar Gurgaon 122016,
Haryana, India
phone: +91-124-4025022
fax: +91-124-4025001

KOREA

KYOCERA Precision Tools Korea Co., Ltd.
2LT 69BL, Namdong Industrial Estate,
638-1, Kozan-Dong, Namdong Incheon,
Korea
phone: +82-32-821-8365
fax: +82-32-821-8369
web: www.kptk.co.kr/

POLAND

KYOCERA SGS Precision Tools
phone: +48 530 432 002
e-mail: SalesEU@kyocera-sgstool.com

RUSSIA

HALTEC
phone: (7) 495-252-05-00
e-mail: info@halte.ru
web: www.halte.ru

SPAIN

KYOCERA SGS Precision Tools IBERICA
e-mail: SalesEU@kyocera-sgstool.com

THAILAND

KYOCERA Asia Pacific (Thailand) Co., Ltd.
1 Capital Work Place Building
7th Floor, Soi Chamchan, Sukhumvit
55 Road, Klongton Nua, Wattana,
Bangkok 10110, Thailand
phone: +66-2-030-6688
fax: +66-2-030-6600

SINGAPORE

KYOCERA Asia Pacific Pte. Ltd.
298 Tiong Bahru Road, #13-03/05 Central Plaza,
Singapore 168730
phone: +65-6373-6700
fax: +65-6271-0600
web: asia.kyocera.com/products/cuttingtools/
index.html

CHINA

KYOCERA (China) Sales & Trading Corporation
Room 140, Building A3, Daning Central Square,
No. 700 Wanrong Road,
Zhabei District, Shanghai, 200072,
P.R. China
phone: +86-21-3660-7711
fax: +86-21-568-6200
web: www.kyocera.com.cn/prdct/cuttingtool



2021 Global Product Catalog



VALUE AT THE SPINDLE®

2021 Global Product Catalog



www.kyocera-sgstool.com

ISO 9001:2015 Certified



VALUE AT THE SPINDLE®

KYOCERA SGS Precision Tools (KSPT) is an ISO 9001:2015 Certified manufacturer of industry leading round solid carbide cutting tools. State of the art manufacturing and warehouse facilities have the capacity and processes to meet the quality and delivery demands of customers in all markets around the world. Complete inspections performed within its metallurgical lab and manufacturing quality departments ensure the use of high quality carbide and reliable manufacturing consistency regardless of when a cutting tool is produced.

KSPT is proud to have pioneered some of the world's most advanced cutting technologies due to rigorous testing of tools, coatings, and materials within its Global Innovation Center. It is this commitment to innovation that has launched patented products and technologies like the Z-Carb with its variable geometry and cutting edge preparation, Series 43 APR® and APF® ultra high performance aluminum cutting tools, and the JetStream coolant technology.

SGS has become an important part of the KYOCERA Precision Tools family, and while the name has changed, one thing has not. Its dedicated people and their relentless commitment to the customer. KSPT Technical Sales Engineers, Application Specialists, and Distribution Partners blanket the globe, delivering reliable service and support to all market segments. It is these people and products that drive innovative application strategies and cutting tool technologies into the end user, continually exceeding expectations and providing the most Value at the Spindle®.



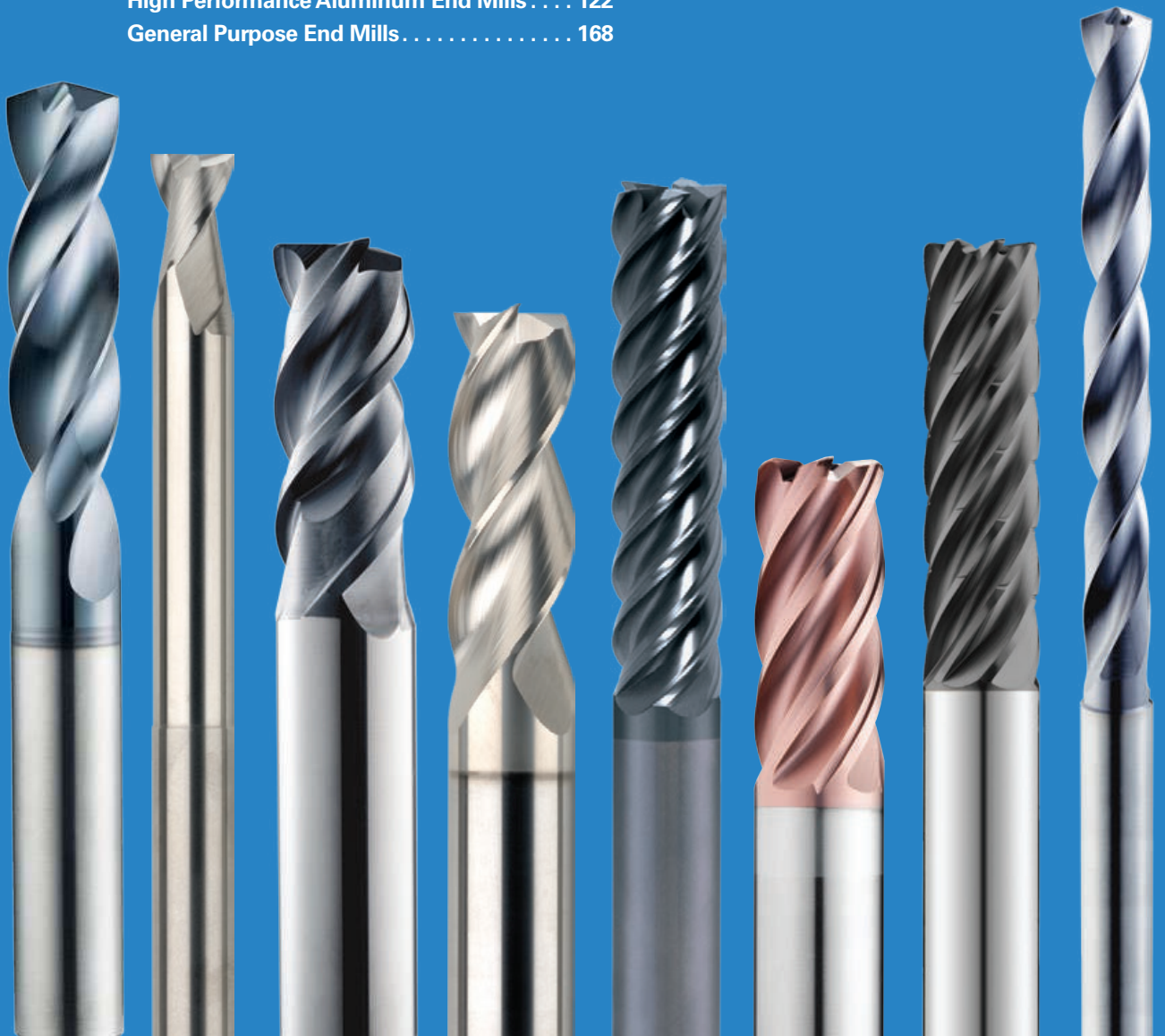
Hardness Conversion Chart

ROCKWELL HARDNESS (HRb)	ROCKWELL HARDNESS (HRc)	BRINELL HARDNESS (HB)	VICKERS HARDNESS (HV)	TENSILE STRENGTH (N/mm2)	PSI (1000lb/in2)
67	—	121	122	401	58
70	—	126	127	432	63
73	—	132	132	448	65
75	—	136	137	455	66
77	—	140	143	463	67
80	—	147	150	479	69
82	—	153	156	494	72
84	—	159	163	525	76
86	—	165	171	540	78
89	—	177	178	556	81
91	—	186	188	602	88
93	—	197	196	632	92
96	—	216	212	664	97
97	—	223	218	695	101
98	21	230	234	756	110
—	22	236	241	772	112
—	23	242	247	787	114
—	24	248	255	818	118
—	25	254	261	849	123
—	27	266	269	865	125
—	28	272	275	895	130
—	29	278	284	911	132
—	30	284	292	942	136
—	31	293	300	973	141
—	32	302	308	988	143
—	33	310	318	1019	147
—	34	319	327	1050	152
—	35	328	337	1096	159
—	37	345	349	1127	163
—	38	353	359	1158	168
—	39	362	370	1189	172
—	40	370	381	1235	179
—	41	381	395	1266	183
—	42	391	408	1312	190
—	44	411	422	1359	197
—	45	422	437	1420	206
—	46	433	452	1467	212
—	48	455	470	1513	219
—	50	479	497	1559	226
—	51	485	517	1621	235
—	52	497	532	1668	241
—	54	—	573	1729	250
—	56	—	609	1807	262
—	57	—	630	1884	273
—	59	—	670	1961	284
—	60	—	698	2039	295
—	61	—	725	—	—
—	62	—	740	—	—
—	63	—	780	—	—
—	64	—	812	—	—
—	65	—	847	—	—
—	66	—	885	—	—
—	67	—	926	—	—
—	68	—	971	—	—

Conversions from each scale are approximate

Table of Contents

KYOCERA SGS Precision Tools	2	HOLE MAKING	
KYOCERA SGS Precision Tools Europe Ltd. . . 4		High Performance Drills	224
Global Innovation Center	5	General Purpose Drills	284
Tooling Services	6	General Purpose Countersinks	310
Tech Hub	7	General Purpose Reamers	326
Medical Division	8	ROUTING	
Tool Wizard®	9	High Performance Routers	334
OVERVIEW		General Purpose Routers	348
Common Legend	11	TECHNICAL INFORMATION	
End Mill Legend	12	EDP Index	352
Drill Legend	13	KSPT Reference Information	369
Router Legend	14	Decimal Equivalent Chart	370
COATINGS	15	Hardness Conversion Chart	371
MILLING			
High Performance End Mills	16		
End Mill Matrix	22		
High Performance Aluminum End Mills 122			
General Purpose End Mills	168		





VALUE AT THE SPINDLE®



MORE THAN JUST ANOTHER CUTTING TOOL SUPPLIER

KYOCERA SGS PRECISION TOOLS EUROPE, LTD.

The state of the art KYOCERA SGS Precision Tools Europe facility is located in Wokingham, England and is focused on the manufacture of special cutting tools, high accuracy form tools, tool modifications and regrinds. A highly skilled team of professionals specialize in the supply and support of high performance tools for the Aerospace, Medical, Power Generation and Motorsport markets.

KYOCERA SGS Precision Tools Europe also offers a full range of end mill and drill products as follows:

- Multi-Million Euro Warehouse Stocking Full Range of Catalog Products
- Same Day Shipment on Stock Items
- Multi-Lingual Sales and Technical Support
- Online Portal for Stock Availability, Pricing, Discount Information and 24-Hour Order Placement
- High Performance Product and Application Training, Including the New KYOCERA SGS Tool Clinic

Additional services provided at this facility include:

- A Fast Track for Special Tools Via Our Rapid Response Centre
- Product Research and Development
- Product Engineering and Tool Application Support
- CAD/CAM Software Support





GLOBAL INNOVATION CENTER

INNOVATIVE CUTTING TOOL TECHNOLOGIES

The Global Innovation Center is an environment conducive to innovation. Through testing and development, the dedicated KYOCERA SGS Precision Tools Team focuses on the latest technical competence and machining techniques to bring a continuous stream of new products and advancements to market.

- Cutting Edge Equipment
- Highly Engineered Technology
- Incorporation of innovative machine tool technology for Research and Development

TECHNICAL TRAINING & EDUCATION

Our knowledge-based selling programs are specifically designed to challenge and educate by facilitating programs that mix classroom presentation with hands-on experience. Our own KSPT team members go through the same core training we provide to our valued distribution partners.

- KSPT Campus Tool Clinics
- On-Site Customer Training
- Basic, Advanced and Expert Level Material
- Market-Driven Knowledge

APPLICATION ENGINEERING

The KSPT expertise and global market knowledge allows us to translate customer needs into a commercial sales strategy. The portfolio of KSPT products and services offer an unparalleled track record in performance, cost savings, quality and value at the spindle.

- Market-Driven Productivity Improvements, including the Z-Carb HPR and S-Carb APR/APF®
- Tooling Solutions which include development of new tool geometries, extreme lab testing parameters and extensive field testing
- Technical Support and Troubleshooting
- Research and Development



TOOLING SERVICES

KSPT is committed to providing superior tooling services in the areas of Reconditioning, Recoating, Regrinding, Specials and Alterations. These services are offered to provide unique solutions and enhanced tool life with involvement from the KSPT Technical Support Team.

KSPT proudly offers Tooling Services in North America and Europe.



KSPT TOOLING SERVICES FACILITIES

UNITED STATES OF AMERICA KSPT

150 Marc Drive
Cuyahoga Falls, Ohio 44223 U.S.A.
customer service -
US and Canada: (330) 686-5700
fax - US & Canada: (800) 447-4017
international fax: (330) 686-2146

KYOCERA SGS Precision Tools West Coast Service Center

1814 W. Collins Ave.
Orange, California 92867
phone: (714) 363-3701
fax: (714) 363-3711
email: sgswest@kyocera-sgstool.com

EUROPE KSPTE

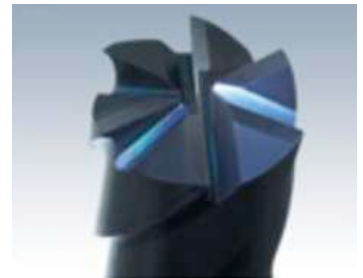
10 Ashville Way
Wokingham, Berkshire
RG41 2PL England
phone: (44) 1189-795-200
fax: (44) 1189-795-295
e-mail: SalesEU@kyocera-sgstool.com

KYOCERA SGS Precision Tools Tech Hub

149 Slayton Avenue
Danville, VA 24540
US and Canada: (434) 791-2020
Fax US & Canada: (434) 791-2044
web: www.kyocera-techhub.com



BEFORE



AFTER

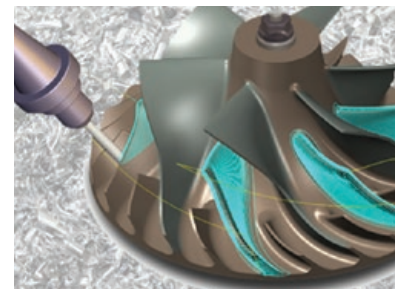
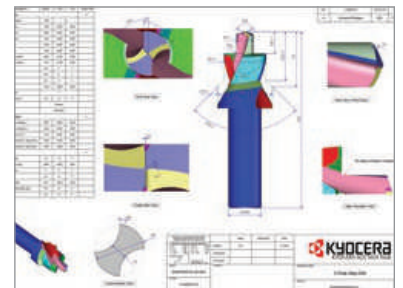
KYOCERA SGS Tech Hub LLC

The KYOCERA SGS Tech Hub (KSTH) is an independent subsidiary of KYOCERA SGS Precision Tools Inc. created to focus on custom high-performance cutting tool solutions, while exploring emerging technologies. The state-of-the-art custom facility is designed with the purpose and resources to provide MORE than a cutting tool. KSTH provides a complete scope of services and works with customers to tailor solutions from conception to application and beyond.

SPECIAL CUTTING TOOL SOLUTIONS

KSTH considers each opportunity as a priority project and understands the challenges special tailored tooling present to our end users. Our sole focus is supporting a culture required for applying custom solutions yielding a return on investment with our technical expertise, close collaboration and effective communication. Besides KSTH providing quotation requests within a 24-hour period, we also offer:

- Aggressive Deliveries
- Improved Value Proposition
- Global Resources and Technology
- Full Project Proposal and Management
- Detailed Drawings
- Solid Models
- Process Plans
- Cutting Strategies and Simulations
- Quality Assurance Documentation (ISO 9001:2015 Certified)
- Testing and Validation
- Onsite Application and Optimization Support
- Cradle to Grave Product Support
- Constant Access to KSTH Staff



KYOCERA SGS Tech Hub LLC


149 Slayton Avenue


Danville, VA 24540

US and Canada: (434) 791-2020

Fax US & Canada: (434) 791-2044

web: www.kyocera-techhub.com

 KYOCERA

 KYOCERA



KYOCERA **SGS** Precision Tools Medical Division

WHO WE ARE

With over 20 years of industry experience, KSPT Medical produces unique, customer designed orthopedic devices using highly trained engineers dedicated to new technology. KSPT Medical is a division of KYOCERA SGS Precision Tools, who proudly pioneered some of the world's most advanced metal cutting technology and sells to more than 60 countries. With over 20 years of industry experience, KSPT Medical Division is ISO 13485:2016 Certified and is FDA Registered in the production of medical devices in the orthopedic marketplace.

ENGINEERING

We approach each opportunity as a project and manage it as such. We pride ourselves on engineering each project to the specific needs of our customers. Providing quotes often within 24 hours and following through with detailed drawings, solid models, process plans, and program simulations if needed. Our goal is to work hand in hand with the end user and maintain constant communication to customize our support to their needs.

MACHINING CAPABILITIES

- GRINDING
- MILLING
- TURNING
- PROFILING
- BENDING
- Services Offered; Welding, Various Coatings, Anodizing, Passivation, Electropolishing, Laser Etching and HeatTreating



KYOCERA **SGS** Precision Tools Medical Division

724 East Swihart Street
Columbia City, Indiana 46725
phone: (260) 244-7677
fax: (260) 244-7466

To Request a Quote:
rfq@kyocera-sgstool.com

Customer Service and Orders:
salesmd@kyocera-sgstool.com



REGISTERED **ISO 13485:2016 Certified**



VALUE AT THE SPINDLE®

An interactive and dynamic platform to help select the correct SGS tool for the operation and provide optimal machining parameters.

- A quick and reliable 3 step process:
 1. Choose the material
 2. Enter the application
 3. From the list of recommended results, choose the tool that best fits your machining needs
- Speed & Feed rates will be generated based on application parameters combined with the selected tool's capabilities in the desired material.

TO SIGN UP FOR THE TOOLWIZARD®:

1. Visit Toolwizard.kyocera-sgstool.com
2. Register for an account
3. Start calculating
4. Start saving!



 **Common Legend**
 **Leyenda habitual**
 **Légende commune**
 **Gemeinsame Legende**

TO ORDER: Please specify quantity and EDP number.

PARA SU PEDIDO: Por favor especifique cantidad y número de EDP.

POUR COMMANDER: Veuillez préciser la quantité et le code article EDP.

BESTELLEN: Bitte Menge und EDV-Nummer angeben.

RETURN POLICY: An RMA number must accompany all product returns.
Contact your Customer Service Representative for an RMA number.

DEVOLUCIONES: Todo material devuelto debe ir acompañado de un número de RMA correspondiente.
Para solicitarlo, póngase en contacto con su Representante de Atención al Cliente.

POLITIQUE DE RETOUR: Tous les produits retournés doivent être accompagnés d'un numéro RMA.
Contacter votre interlocuteur commercial pour obtenir un numéro RMA.

RÜCKNAHMEGARANTIE: Eine RMA-Nummer (Rücksendegenehmigung) muss bei allen Produktrücksendungen beiliegen.
Wenden Sie sich bitte an Ihren Kundendienstmitarbeiter für RMA-Nummer.

REGULATION SAFETY GLASSES SHOULD ALWAYS BE WORN WHEN USING HIGH-SPEED CUTTING EQUIPMENT

DEBEN USARSE GAFAS PROTECTORAS CUANDO SE UTILICEN EQUIPOS DE ALTA VELOCIDAD

DES LUNETTES DE SÉCURITE DOIVENT ÊTRE IMPÉRATIVEMENT PORTÉES LORS D'UTILISATION D'OUTILS À GRANDE VITESSE

BEI SCHNELL LAUFENDEN SPANABHEBENDEN MASCHINEN MÜSSEN IMMER DIE VORGESCHRIEBENEN SICHERHEITSBRILLEN GETRAGEN WERDEN



WARNING: This product can expose you to chemicals including Cobalt, which is known to the State of California to cause cancer. For more information go to www.p65warnings.ca.gov



ADVERTENCIA: Este producto puede exponerlo a químicos como el Cobalto, reconocido como cancerígeno en el estado de California. Para más información visite esta página web: www.p65warnings.ca.gov



ATTENTION: Ce produit vous expose aux produits chimiques incluant le Cobalt, qui est reconnu par l'Etat de Californie a être une cause de cancer. Pour plus d'information veuillez regarder sur: www.p65warnings.ca.gov



WARNUNG: Dieses Produkt kann Sie mit Chemikalien wie Kobalt aussetzen, das dem Staat Kalifornien als krebserregend bekannt ist. Für weitere Informationen, besuchen Sie: www.p65warnings.ca.gov

**INTELLECTUAL PROPERTY
PROPIEDAD INTELECTUAL
PROPRIÉTÉ INTELLECTUELLE
GEISTIGES EIGENTUM**

KYOCERA SGS Precision Tools holds more than 20 patents globally. Please visit our website at www.kyocera-sgstool.com to learn more.

KYOCERA SGS Precision Tools posee más de 20 patentes a nivel mundial. Para más información, visite nuestra página web www.kyocera-sgstool.com.

KYOCERA SGS Precision Tools possède plus de 20 brevets mondialement reconnus. Pour plus d'information, veuillez consulter notre site web www.kyocera-sgstool.com.

KYOCERA SGS Precision Tools besitzt mehr als 20 Patente weltweit. Bitte besuchen Sie unsere Webseite www.kyocera-sgstool.com für weitere Informationen.

Common Legend

Leyenda habitual

Légende commune

Gemeinsame Legende

MATERIALS MATERIALES MATÉRIAUX WERKSTOFFE



Steels
Aceros
Aciers
Stähle



Stainless Steels
Aceros Inoxidables
Aciers inoxydables
Nichtrostende Stähle



Cast Iron
Acero de Fundición
Fonte
Grauguss



High Temp Alloys
Aleaciones Termorresistentes
Alliages hautes températures
Warmfeste Legierungen



Titanium
Titanio
Titane
Titan



Non-Ferrous
No Férricos
Non Ferreux
Nichteisenmetalle



Plastics/Composites
Plásticos/Resinas
Plastiques/Composites
Kunststoffe/Verbundkunststoffe



Hardened Steels
Aceros Endurecidos
Aciers Trempés
Gehärteter Stahl

TOOL LENGTH LONGITUDES DE HERRAMIENTAS LONGUEUR DE L'OUTIL WERKZEUGLÄNGE



Stub
Corta
Court
Kurze Bauform



Regular
Media
Moyen
Standard



Long
Larga
Long
Lang



Long Reach Neck
Larga con cuello
Détalonnage longue
portée
Freischliff



Extra Long
Extra-larga
Extra-long
Extra-Lang

FLUTES FILOS DENTS SCHNEIDEN



2 Flutes
2 Filos
2 Dents
2 Schneiden



3 Flutes
3 Filos
3 Dents
3 Schneiden



4 Flutes
4 Filos
4 Dents
4 Schneiden



5 Flutes
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5 Schneiden



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6 Schneiden



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11 Flutes
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11 Schneiden



12 Flutes
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12 Dents
12 Schneiden

 **End Mill Legend**
 **Leyenda fresas**
 **Légende fraise**
 **Fräser-Legende**

END CONFIGURATIONS
CONFIGURACIONES DE LA PUNTA
FORME DE L'OUTIL EN BOUT
ENDENAUSFÜHRUNG



Ball
Esférica
Boule
Kugelkopf



Corner
Plana con
borde romo
Rayon
mit Eckenradius



Square
Plana
Non rayonné
Scharfkantig

SHANK TYPE
TIPO DE VÁSTAGO
TYPE DE TIGE
SCHAFTART



Common
Normal
Dégagée
Standard



Straight
Recto
Cylindrique
Gerade



Weldon Flat
Weldon plano
Méplat Weldon
Spannfläche

HELIX ANGLES
ANGULOS DE LAS HELICES
SPANWINKEL
ANGLES DE L'HÉLICE



Right Spiral
Hélice con corte
a la derecha
Hélice droite
Rechtsspirale



Left Spiral
Hélice con corte
a la izquierda
Hélice gauche
Linksspirale



Variable Right Spiral
Hélice con corte a
la derecha y ángulo
variable
Hélice droite variable
Rechtsspirale, variabel

COOLANT OPTIONS
OPCIONES DE REFRIGERACIÓN
OPTIONS DE REFOIDISSEMENT
KÜHLSCHMIERMITTEL-OPTIONEN



Internal Coolant
Refrigeración interna
Refroidissement interne
Innenkühlung



JetStream Coolant Slots
Ranuras de refrigeración
JetStream
Fentes de
refroidissement
JetStream
JetStream-
Kühlmittelschlitz

RAKE ANGLE
ANGULO DE DESPRENDIMIENTO
ANGLE DE COUPE
SPANWINKEL



Positive
Positivo
Positif
Positiv



Neutral
Neutro
Neutre
Neutral



Negative
Negativo
Négatif
Negativ



Variable
Variable
Variable
Variabel

ADDITIONAL GEOMETRY
GEOMETRÍAS ADICIONALES
GÉOMÉTRIE SUPPLÉMENTAIRE
WEITERE BAUFORMEN



Flute Spacing Unequal
Espaciado desigual de
los filos
Denture décalée
Nutenabstand Ungleich



Chip Breaker
Rompevirutas
Brise-copeaux
Spanteiler

All tools are in Right Cut Direction unless noted
 Todas las herramientas son con corte a la derecha a menos que se indique lo contrario
 Tous les outils ont une coupe à droite, sauf indications contraires
 Alle Werkzeuge sind rechtsschneidend, soweit nicht anders angegeben

Drill Legend

Leyenda brocas

Légende perçage

Bohrer-Legende

SHANK TYPE TIPO DE VÁSTAGO TYPE DE TIGE SCHAFTART



Common
Normal
Dégagée
Standard



Straight
Recto
Cylindrique
Gerade

REACH ALCANCE LONGUEUR NUTZLÄNGE

3xD

>3xD Reach
Alcance >3xD
>Longueur 3xD
>3xD Nutzlänge

5xD

5xD Reach
Alcance 5xD
Longueur 5xD
5xD Nutzlänge

8xD

8xD Reach
Alcance 8xD
Longueur 8xD
8xD Nutzlänge

HELIX ANGLES ANGULOS DE LAS HELICES ANGLES DE L'HÉLICE SPANWINKEL



Right Spiral
Hélice con corte
a la derecha
Hélice à droite
Rechtsspirale



None
Ninguno
Aucun
gerade genutet



Internal Coolant
Refrigeración interna
Refroidissement interne
Innenkühlung



External Coolant
Refrigeración externa
Refroidissement
externe
Auskühlung

POINT ANGLE ÁNGULO DE PUNTA POINT D'ANGLE SPITZENWINKEL



Drill Point
Angulo de la Punta
Point de perçage
Bohrspitze



Chamfer Angle
Ángulo de chaflán
Angle de chanfrein
Fasenwinkel

Router Legend Leyenda ranuradores Légende détourage Konturenfräser-Legende

SHANK TYPE TIPO DE VÁSTAGO TYPE DE TIGE SCHAFTART



Straight
Recto
Cylindrique
Gerade

RAKE ANGLE ANGULO DE DESPRENDIMIENTO ANGLE DE PENTE SPANWINKEL



Positive
Positivo
Positif
Positiv



Neutral
Neutro
Neutre
Neutral



Negative
Negativo
Négatif
Negativ



Variable
Variable
Variable
Variabel

HELIX ANGLES ANGULOS DE LAS HELICES ANGLES DE L'HÉLICE SPANWINKEL



Right Spiral
Hélice con corte
a la derecha
Hélice à droite
Rechtsspirale



Left Spiral
Hélice con corte
a la izquierda
Hélice à gauche
Linksspirale

ADDITIONAL GEOMETRY GEOMETRÍAS ADICIONALES GÉOMÉTRIE SUPPLÉMENTAIRE WEITERE BAUFORMEN



Left Hand Cut
Direction
Fresado sentido
izquierda
Coupe vers la
gauche
Rechtsschneidend



Right Hand Cut
Direction
Fresado sentido
derecha
Coupe vers la droite
Linksschneidend



Chip Breaker
Rompevirutas
Brise-copeaux
Spanbrecher



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