

CATALOG en
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2026



SlitEX inch



Customized Precision since 1906

Precision in fourth generation

Precisión en cuarta generación

SPECIALIZATION FOR MORE THAN 120 YEARS

Gustav Neuhäuser founded the company in 1906 with the vision of crafting high-precision cutting tools for metalworking. For more than a century, we have been developing competent solutions FOR and WITH our customers for their machining requirements.

Highly specialized unique and standard tools, perfectly adapted to their respective machining task, form the center of our innovations and services.

Our team of qualified specialists continuously develops the technical specifications of our tools to optimize performance.

ESPECIALIZACIÓN DURANTE MÁS DE 120 AÑOS

Gustav Neuhäuser fundó la empresa en 1906 con el objetivo de fabricar herramientas de corte de alta precisión para el trabajo en metal. Durante más de un siglo, hemos desarrollado soluciones competentes PARA y CON nuestros clientes para satisfacer sus requisitos de mecanizado.

El centro de nuestras innovaciones y servicios lo constituyen herramientas altamente especializadas y estándar, adaptadas perfectamente a su respectiva tarea de mecanizado.

Nuestro equipo de especialistas cualificados desarrolla continuamente las especificaciones técnicas de nuestras herramientas con el fin de optimizar el rendimiento.

Cutting tools from specialists

Herramientas de corte de especialistas



HIGH-END SOLUTIONS FOR YOUR REQUIREMENTS

Customer-specific tools are our specialty: Are you looking for a tool in dimensions which are not listed in a catalog? Or do you need support to optimize the performance of your process in terms of surface, tool life and machining time? NEUHÄUSER is at your disposal with its extensive knowledge of cutting materials, coatings and cutting geometries. All with the aim of finding the most economical solution for your cutting, slot milling or profile milling process.

Our application engineers will support and advise you during the planning phase of your process. This is how we develop your precision cutting tool together with you – perfectly matched to your process.

SOLUCIONES DE ALTA GAMA PARA SATISFACER SUS REQUISITOS

Nuestra especialidad son herramientas específicas para el cliente: ¿Está buscando una herramienta en unas dimensiones que no se indican en el catálogo? ¿O bien necesita ayuda para optimizar el rendimiento de su proceso en cuanto a superficie, vida útil de la herramienta y tiempo de mecanizado? NEUHÄUSER está a su disposición con sus amplios conocimientos en materiales de corte, recubrimientos y geometrías de corte. Todo ello con la finalidad de encontrar la solución más rentable para su proceso de corte, de fresado de ranuras o de fresado de perfiles.

Nuestros ingenieros de aplicaciones le ayudarán y asesorarán durante la fase de planificación de su proceso. Así es cómo desarrollamos su herramienta de corte de precisión junto con usted, perfectamente adaptada a su proceso.

OUR HIGH-END-TOOLS:

- made of selected carbides, high speed and cobalt steels
- toothed with innovative cutting edge geometries
- coated with PVD or CVD coatings
- manufactured on high-precision CNC grinding centers
- in combination with an optimal heat treatment

Our sales representatives and technicians are at your service for your individual specialist advice.

PRODUCTION WITH COMPETENCE

With many years of experience, our own mechanical engineering and continuous development of our employees form the basis for a precise implementation of your requirements via tools with the highest precision. Based on our extensive stock of raw materials and semi-finished products, we can guarantee you short and reliable delivery times.

NUESTRAS HERRAMIENTAS DE ALTA GAMA:

- fabricadas con carburos seleccionados, aceros de alta velocidad y aceros aleados con cobalto
- dentados con geometrías innovadoras
- con recubrimientos de PVD o CVD
- fabricadas en centros de mecanizado CNC de alta precisión
- en combinación con un tratamiento térmico óptimo

Nuestros representantes de ventas y técnicos están a su entera disposición para ofrecerle asesoramiento experto personalizado.

FABRICACIÓN COMPETENTE

Con muchos años de experiencia, nuestra propia ingeniería mecánica y el desarrollo continuo de nuestros empleados constituyen la base de una implementación precisa de sus requisitos mediante herramientas con la máxima precisión. Sobre la base de nuestro gran stock de materias primas y productos semiacabados, podemos garantizarle tiempos de suministro breves y fiables.



PRECISION IN TOOLS

PRECISIÓN EN HERRAMIENTAS DE CORTE

PRECISION THROUGH INNOVATION

State-of-the-art and extremely flexible machines for the manufacture of precision tool series of any batch size produced in our production center in Prüm.

Our design department creates the best production conditions through individualized and automated machines that deliver the highest level of efficiency. Optimal conditions for tomorrow's cutting edge geometry.

PRECISIÓN A TRAVÉS DE LA INNOVACIÓN

Máquinas de altas prestaciones y muy fiables para la fabricación de herramientas de precisión en serie en cualquier tamaño manufacturadas en nuestro centro de producción en Prüm.

Nuestro departamento de diseño crea las mejores condiciones de producción mediante máquinas personalizadas y automatizadas que proporcionan el máximo nivel de eficiencia. Condiciones óptimas para la fabricación de herramientas de corte en geometrías innovadoras.

OPTIMUM HARDNESS

– IN-HOUSE VACUUM HARDENING SYSTEMS

Precisely controlled vacuum hardening guarantees a reliable setting of the tool hardness and toughness and thus lays the foundation for the wear resistance of our high-speed and cobalt steel tools.

DUREZA ÓPTIMA – SISTEMAS DE TEMPLE EN VACÍO PROPIOS EN LA EMPRESA

El temple en vacío controlado con precisión garantiza un ajuste fiable de la dureza y la resistencia de la herramienta, lo que sienta la base para la resistencia al desgaste de nuestras herramientas de corte de alta velocidad y de aceros aleados al cobalto.



COATINGS: AGAINST WEAR AND ADHESION

Modern PVD and CVD coatings can significantly increase the efficiency of cutting tools. But which coating is the right one? Depending on the workpiece material to be machined and other process conditions, we can provide a large portfolio of different coatings to minimize wear and friction.

We'll gladly advise you.

RECUBRIMIENTOS: CONTRA EL DESGASTE Y LA ADHESIÓN

Los modernos recubrimientos de PVD (deposición física de vapor) o CVD (deposición química de vapor) pueden aumentar considerablemente la eficacia de las herramientas de corte. ¿Pero qué recubrimiento es el adecuado? En función del material de la pieza de trabajo que debe mecanizarse y otras condiciones del proceso, podemos ofrecer una amplia gama de distintos recubrimientos para minimizar el desgaste y la fricción.

Estaremos encantados de asesorarle.

Applications around the world

Aplicaciones en todo el mundo



NEUHÄUSER Präzisionswerkzeuge GmbH is a sales, development and production center that serves all markets in Europe, Asia, Africa and South America. NEUHAEUSER USA Inc. in Springfield, Ohio, is a 100% subsidiary of NEUHÄUSER Präzisionswerkzeuge GmbH and serves the American market. This ensures optimal support for all customers.

Together with our sales partners, we offer you direct and competent contact partners for your individual requirements on site.

NEUHÄUSER Präzisionswerkzeuge GmbH es un centro de ventas, desarrollo y producción que suministra a todos los mercados de Europa, Asia, África y América del Sur. NEUHAEUSER USA Inc. en Springfield, Ohio, es una filial al 100 % de NEUHÄUSER Präzisionswerkzeuge GmbH y opera en el mercado estadounidense. De este modo, se garantiza un soporte óptimo para todos los clientes.

Junto con nuestros socios de ventas, le ofrecemos socios de contacto directos y competentes para sus requisitos individuales in situ.



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SlitCut

The SlitCut tooling is a trusted solution for creating very thin and deep slots in components. It's especially suited for machining thin-walled workpieces. This design is particularly effective with materials like aluminum, copper, brass, and similar metals, delivering clean cuts and outstanding surface finish.

SlitCut

El dentado SlitCut es una solución probada para realizar ranuras especialmente finas y profundas en componentes. Se recomienda especialmente para el mecanizado de piezas de pared delgada. Este dentado convence sobre todo en materiales como el aluminio, el cobre, el latón y materiales similares por su capacidad para garantizar cortes limpios y una excelente calidad de superficie.

GrooveCut

The GrooveCut was developed specifically for high-feed milling, enabling exceptionally high cutting rates. It's the top choice for processing tough, hard, or difficult-to-machine materials. Thanks to its axial tooth geometry, it's also ideal for facemilling operations.

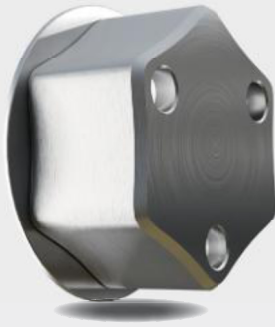
GrooveCut

El dentado GrooveCut se ha desarrollado específicamente para el fresado de alto avance y permite así un rendimiento de corte especialmente alto. Es la opción óptima para el mecanizado de materiales resistentes, duros o difíciles de mecanizar. Gracias al dentado axial, esta variante también es ideal para el fresado plano.



Recommendations for tool selection

Recomendaciones para la selección de la herramienta



IPC-Pin

The IPC-Pin connects the tool to the toolholder and allows seamless adjustment to different tool widths. Its self-centering polygonal profile ensures excellent runout. One major advantage is its high torque transmission, making it great for demanding machining conditions. Plus, it sits flush with the surface, preventing any protruding contours at the face.

Espiga IPC

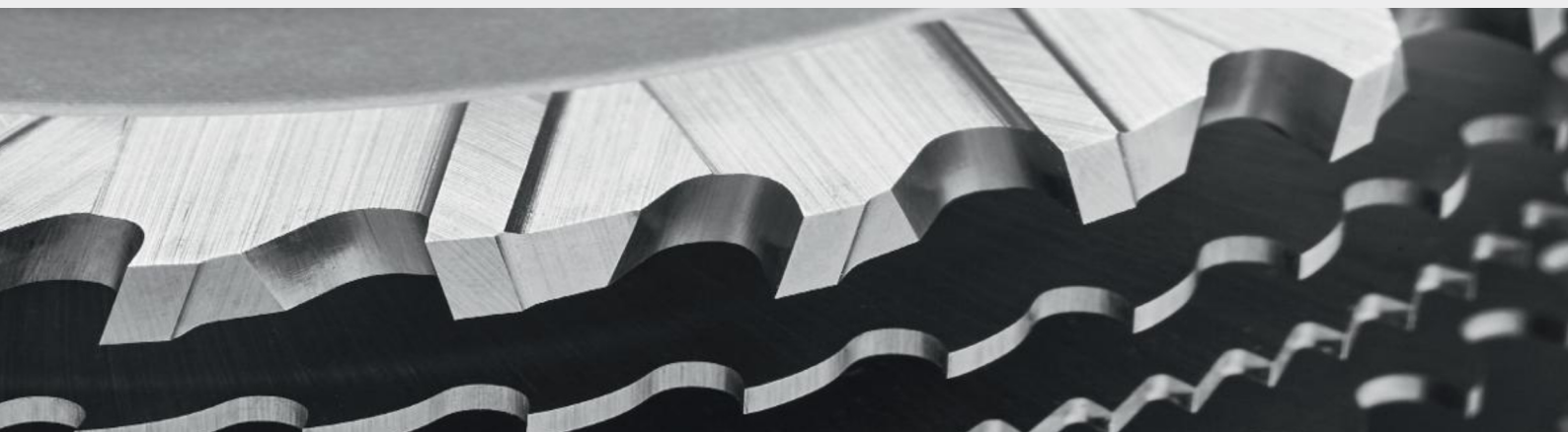
La espiga IPC sirve como elemento de unión entre la herramienta y el portaherramientas y permite un ajuste continuo a diferentes anchuras de herramienta. Gracias a su propiedad de autocentrado del perfil poligonal, se garantiza una excelente concentricidad y alineación. Una ventaja esencial es la elevada transmisión de par, que permite utilizar el sistema incluso en condiciones de mecanizado exigentes. Además, el pivote queda al ras, lo que evita contornos molestos en el lado frontal.

OPC-Pin

The OPC-Pin links the tool and holder, letting you easily adjust for various tool widths. Its self-centering polygonal shape guarantees excellent runout, along with high torque transfer even under tough conditions. Cooling channels provide efficient coolant flow to both sides of the tool. Unlike the IPC-Pin, it does not sit flush with the surface and features a slight protruding contour at the face.

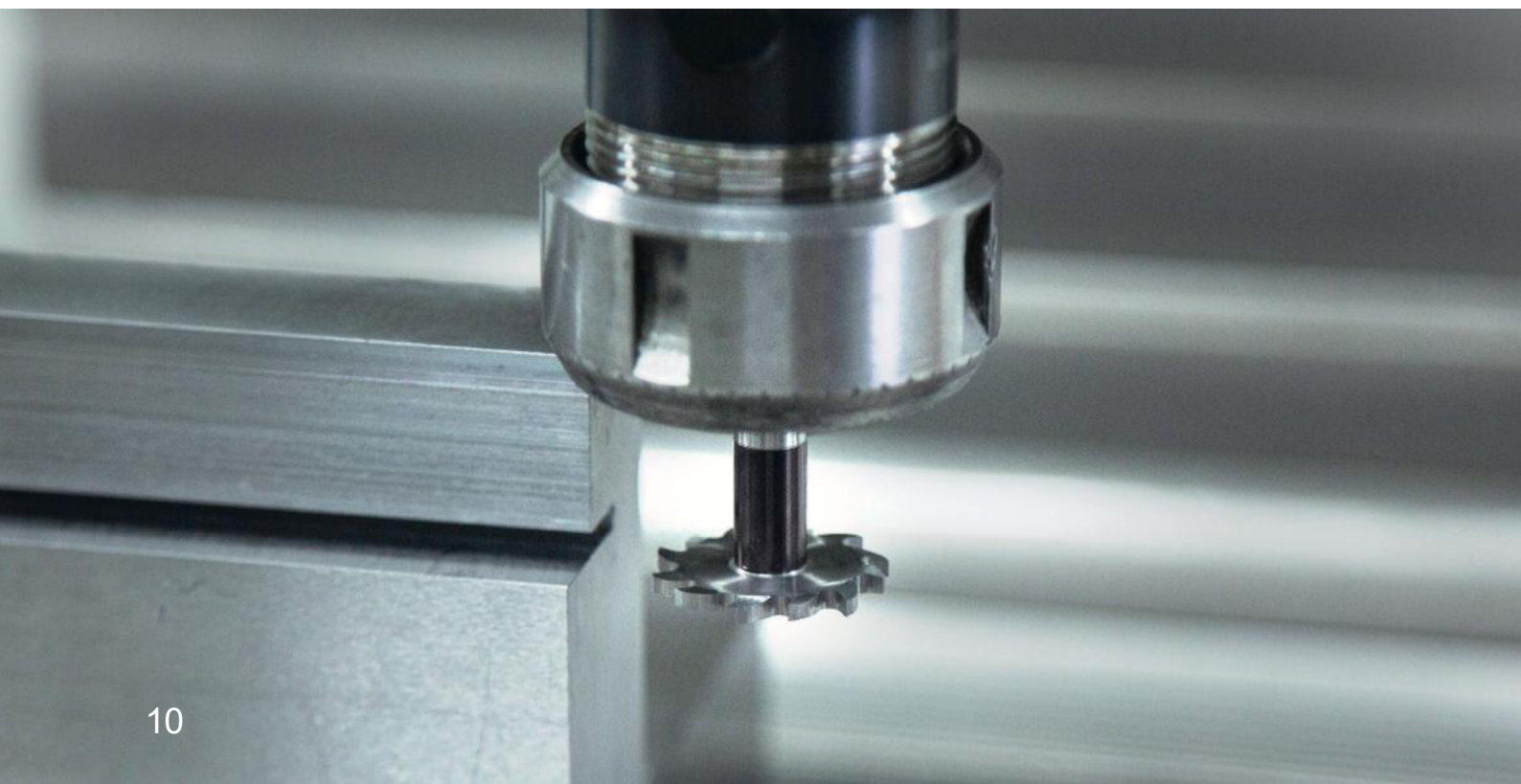
Espiga OPC

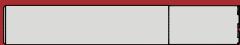
La espiga OPC conecta la herramienta y el soporte y permite una adaptación flexible a diferentes anchuras de herramienta. Gracias a su contorno poligonal autocentrante, garantiza una excelente concentricidad y alineación, así como una alta transmisión de par, incluso en condiciones exigentes. Los canales de refrigeración permiten un suministro eficiente de refrigerante a ambos lados de la herramienta. Sin embargo, a diferencia del pivote IPC, no queda al ras y presenta un pequeño contorno molesto en el lado frontal.



SlitEX

- Modular tooling system consisting of a circular saw blade and a holder for slitting and grooving operations without a frontal interference contour
- Internal coolant supply in any system size
- Self-centering
- Adapts continuously to the tool width
- Allows for very large cutting depths
- Easy installation
- Sistema de herramientas modular compuesto por una sierra circular y un soporte para ranurar y acanalar componentes sin contornos frontales molestos
- Suministro de refrigerante interno en todos los tamaños del sistema
- Autocentrante
- Se adapta de forma continua al ancho de la herramienta
- Permite profundidades de corte muy grandes
- Fácil montaje



System size / Tamaño del sistema	Mounting system / Tipo de fijación		Material / Material	Cat.-No. / Num. de cat.	Page / Página
VL 10	Shank Mango		VHM Solid Carbide	8100 8200	12/13
VL 14	Shank Mango		VHM Solid Carbide	8100 8200	14/15
VL 22	Shank Mango		VHM Solid Carbide	8100 8200	16/17
VL 32	Facemill arbors Soporte del cabezal de corte		VHM Solid Carbide	8100 8200	18/19
VL 40	Facemill arbors Soporte del cabezal de corte		VHM Solid Carbide	8100 8200	20/21
VL 48	Facemill arbors Soporte del cabezal de corte		VHM Solid Carbide	8100 8200	22/23

SPECIAL DIMENSIONS OR SPECIAL APPLICATIONS?

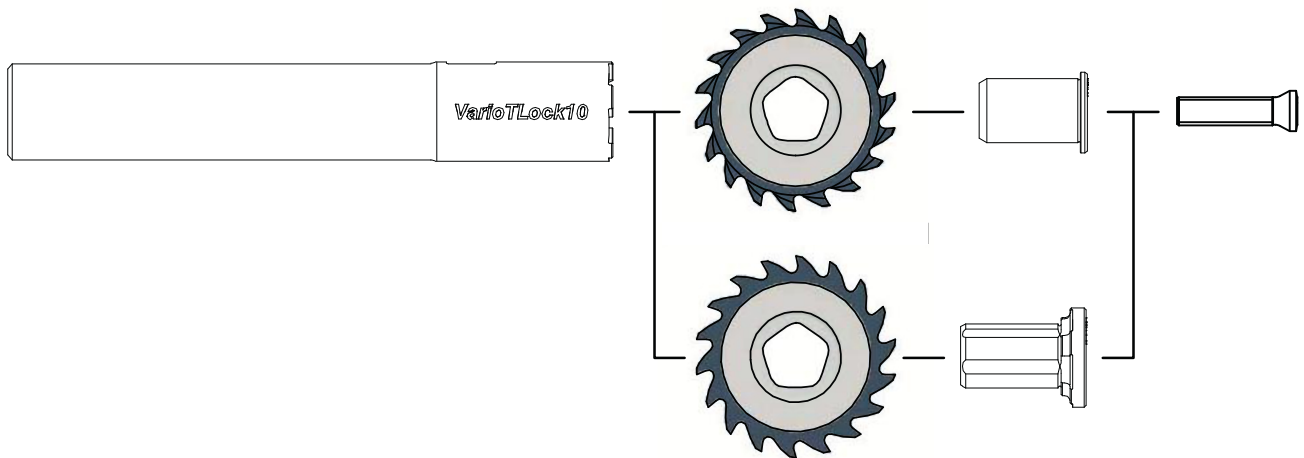
Talk to us. We are happy to manufacture custom-made products for you in regard to tool dimensions, tooth geometries, interfaces, cutting materials and coatings.

DIMENSIONES ESPECIALES O APLICACIONES ESPECIALES?

Póngase en contacto con nosotros. Estaremos encantados de fabricar productos personalizados para usted en cuanto a las dimensiones de la herramienta, las geometrías del dentado, las interfaces, los materiales de corte y los recubrimientos.

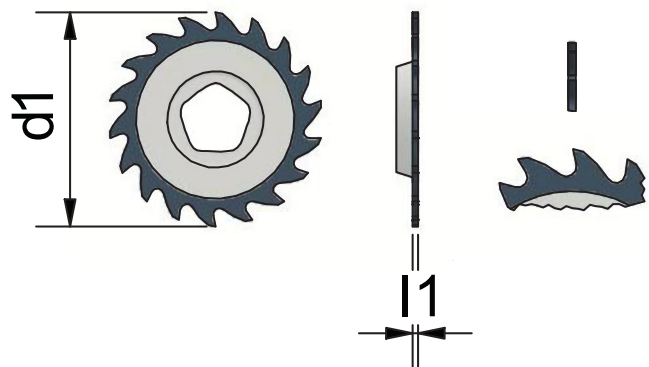


VarioTLock 10



SlitCut

VarioTLock 10

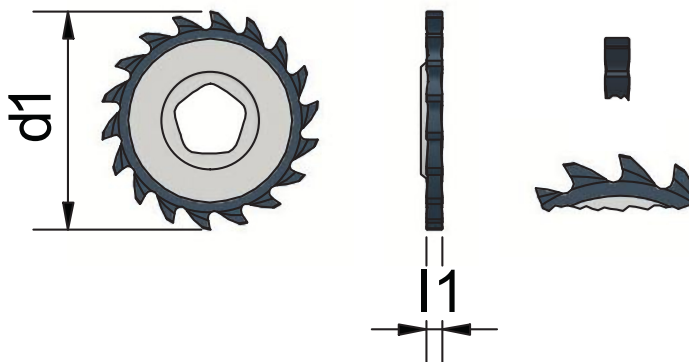


Material/ Material	Coatings / Recubrimientos	Tolerances / Tolerancias (inch)	
		d1	l1
VHM Solid Carbide	Ferodur	3/4" - 4" ± .0039	± .0006
		5" - 6" + .0039 - .0078	

System/Sistema	d1 [inch]	l1 [inch]	Teeth / Dientes	ae max [inch]	Cat.-No. / Num. de cat.	Item-No. / Num. de art.
VarioTLock10	3/4	0.016	18	0.158	8100	81000190390001
VarioTLock10	3/4	0.031	18	0.158	8100	81000190790001
VarioTLock10	1	0.016	16	0.283	8100	81000250390001
VarioTLock10	1	0.031	16	0.283	8100	81000250790001
VarioTLock10	1 1/4	0.016	14	0.408	8100	81000310390001
VarioTLock10	1 1/4	0.031	14	0.408	8100	81000310790001
VarioTLock10	1 1/2	0.016	14	0.533	8100	81000380390001
VarioTLock10	1 1/2	0.031	14	0.533	8100	81000380790001
VarioTLock10	2	0.016	12	0.783	8100	81000500390001
VarioTLock10	2	0.031	12	0.783	8100	81000500790001

GrooveCut

VarioTLock 10

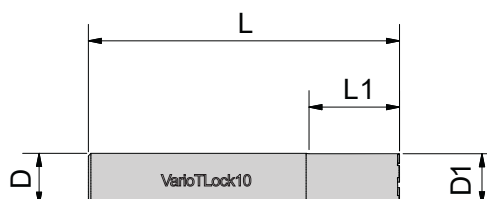


Material/ Material	Coatings / Recubrimientos	Tolerances / Tolerancias (inch)	
		d1	l1
VHM Solid Carbide	Ferrodur	3/4" - 4" ± .0039	± .0006
		5" - 6" + .0039 - .0078	

System/ Sistema	d1 [inch]	l1 [inch]	Teeth / Dientes	ae max [inch]	Cat-No. / Num. de cat.	Item-No. / Num. de art.
VarioTLock10	3/4	0.047	18	0.158	8200	82000191180001
VarioTLock10	3/4	0.063	18	0.158	8200	82000191580001
VarioTLock10	3/4	0.078	18	0.158	8200	82000191980001
VarioTLock10	3/4	0.109	16	0.158	8200	82000192770001
VarioTLock10	1	0.047	16	0.283	8200	82000251180001
VarioTLock10	1	0.063	16	0.283	8200	82000251580001
VarioTLock10	1	0.078	14	0.283	8200	82000251980001
VarioTLock10	1	0.109	16	0.283	8200	82000252770001
VarioTLock10	1 1/4	0.047	14	0.408	8200	82000311180001
VarioTLock10	1 1/4	0.063	14	0.408	8200	82000311580001
VarioTLock10	1 1/4	0.078	10	0.408	8200	82000311980001
VarioTLock10	1 1/4	0.109	14	0.408	8200	82000312770001
VarioTLock10	1 1/4	0.125	12	0.408	8200	82000313170001
VarioTLock10	1 1/2	0.047	12	0.533	8200	82000381180001
VarioTLock10	1 1/2	0.063	10	0.533	8200	82000381580001
VarioTLock10	1 1/2	0.078	14	0.533	8200	82000381980001
VarioTLock10	2	0.047	12	0.783	8200	82000501180001
VarioTLock10	2	0.063	12	0.783	8200	82000501580001
VarioTLock10	2	0.078	12	0.783	8200	82000501980001

Shank/ Mango

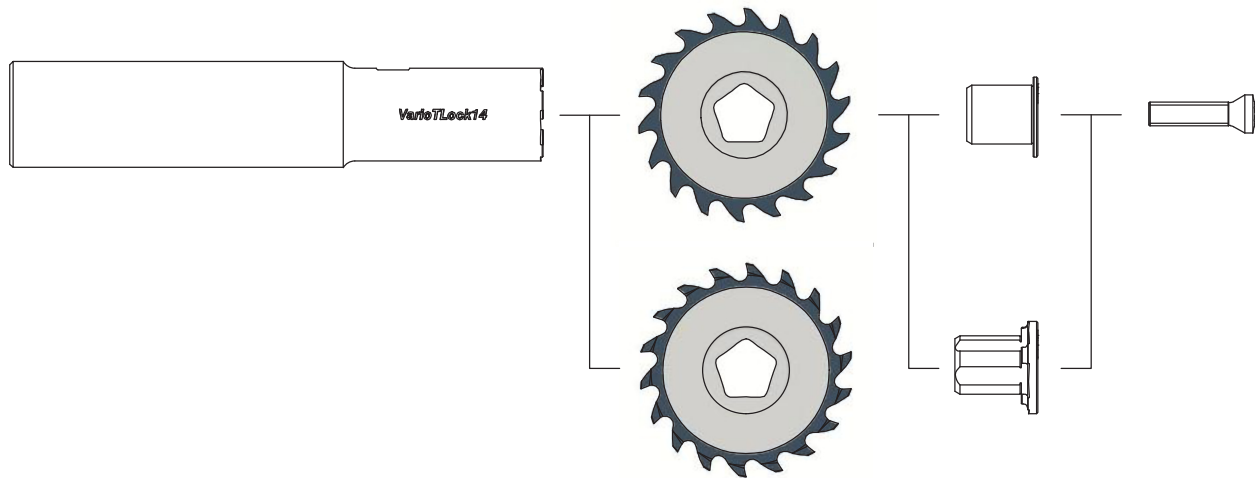
VarioTLock 10



System/ Sistema	L [inch]	L1 [inch]	D [inch]	D1 [inch]	Cat-No. / Num. de cat.	Item-No. / Num. de art.
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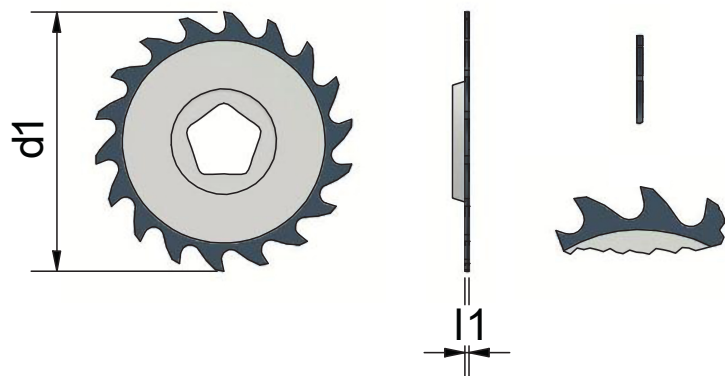
Accessories / Accesorios		Item-No. / Num. de art.
IPC-Pin/ Espiga IPC		80000101000001
OPC-Pin/ Espiga OPC		80000101000002
Screw/ Tornillo		66000030120001
Torque screwdriver / Destornillador dinamométrico		66000220000001
Precision Bit for Torx / Punta Torx de precisión		66000T08000001

VarioTLock 14



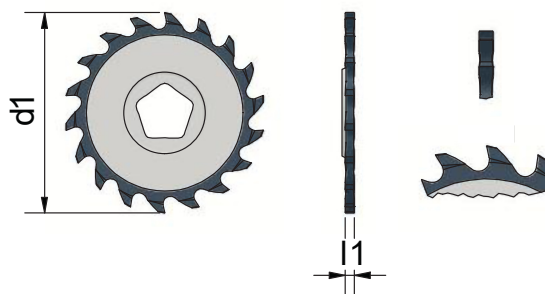
SlitCut

VarioTLock 14



Material/ Material	Coatings / Recubrimientos	Tolerances / Tolerancias (inch)	
		d1	l1
VHM Solid Carbide	Ferodur	3/4" - 4"	± .0039
		5" - 6"	+ .0039 - .0078
			± .0006

System/ Sistema	d1 [inch]	l1 [inch]	Teeth / Dientes	ae max [inch]	Cat-No. / Num. de cat.	Item-No. / Num. de art.
VarioTLock14	1 1/4	0.016	18	0.33	8100	81000310390002
VarioTLock14	1 1/4	0.031	18	0.33	8100	81000310790002
VarioTLock14	1 1/2	0.016	16	0.455	8100	81000380390002
VarioTLock14	1 1/2	0.031	16	0.455	8100	81000380790002
VarioTLock14	2	0.016	14	0.705	8100	81000500390002
VarioTLock14	2	0.031	14	0.705	8100	81000500790002

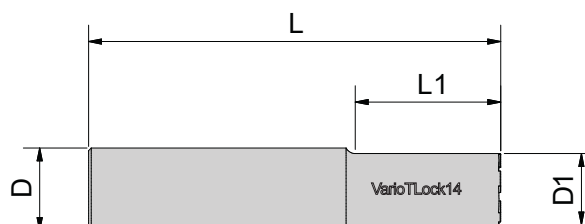


Material/ Material	Coatings / Recubrimientos	Tolerances / Tolerancias (inch)	
		d1	l1
VHM Solid Carbide	Ferrodur	3/4" - 4" ± .0039	± .0006
		5" - 6" + .0039 - .0078	

System/ Sistema	d1 [inch]	l1 [inch]	Teeth / Dientes	ae max [inch]	Cat-No. / Num. de cat.	Item-No. / Num. de art.
VarioTLock14	1 1/4	0.047	18	0.33	8200	82000311180002
VarioTLock14	1 1/4	0.063	18	0.33	8200	82000311580002
VarioTLock14	1 1/4	0.078	18	0.33	8200	82000311980002
VarioTLock14	1 1/4	0.109	18	0.33	8200	82000312770002
VarioTLock14	1 1/4	0.125	18	0.33	8200	82000313170002
VarioTLock14	1 1/4	0.156	18	0.33	8200	82000313960001
VarioTLock14	1 1/4	0.188	18	0.33	8200	82000314760001
VarioTLock14	1 1/2	0.047	16	0.455	8200	82000381180002
VarioTLock14	1 1/2	0.063	16	0.455	8200	82000381580002
VarioTLock14	1 1/2	0.078	16	0.455	8200	82000381980002
VarioTLock14	1 1/2	0.109	16	0.455	8200	82000382770001
VarioTLock14	1 1/2	0.125	16	0.455	8200	82000383170001
VarioTLock14	1 1/2	0.156	14	0.455	8200	82000383960001
VarioTLock14	1 1/2	0.188	14	0.455	8200	82000384760001
VarioTLock14	2	0.047	14	0.705	8200	82000501180002
VarioTLock14	2	0.063	14	0.705	8200	82000501580002
VarioTLock14	2	0.078	14	0.705	8200	82000501980002
VarioTLock14	2	0.109	14	0.705	8200	82000502770001
VarioTLock14	2	0.125	14	0.705	8200	82000503170003
VarioTLock14	2	0.156	14	0.705	8200	82000503960003
VarioTLock14	2	0.188	14	0.705	8200	82000504760001

Shank/ Mango

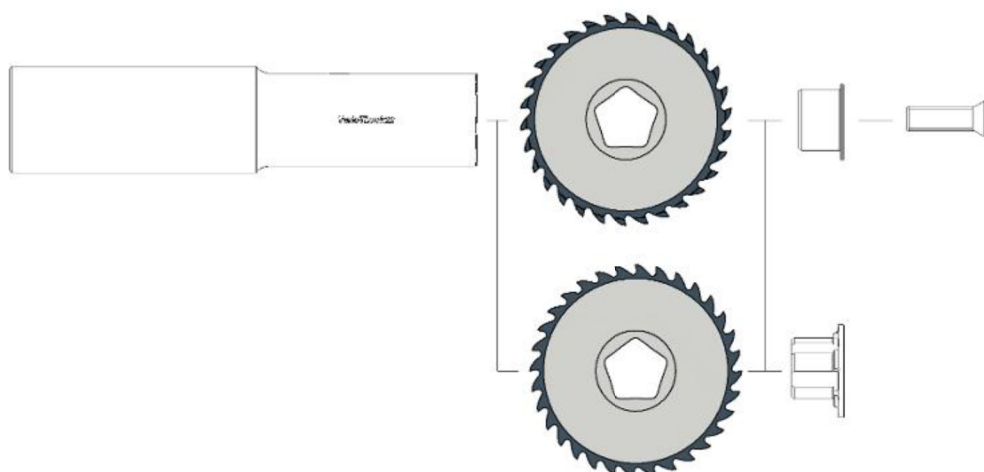
VarioTLock 14



System/ Sistema	L [inch]	L1 [inch]	D [inch]	D1 [inch]	Cat-No. / Num. de cat.	Item-No. / Num. de art.
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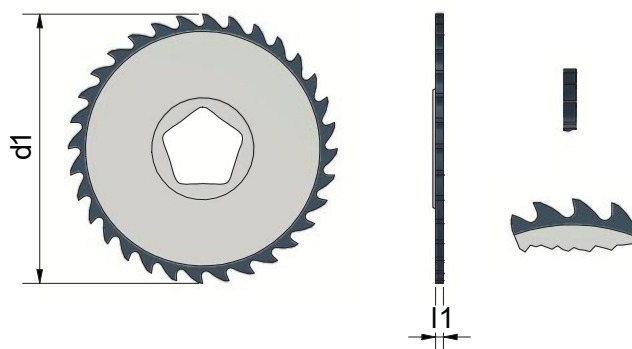
Accessories/ Accesorios						Item-No. / Num. de art.
IPC-Pin/ Espiga IPC						80000141000001
OPC-Pin/ Espiga OPC						80000141000002
Screw/ Tornillo						66000040160001
Torque screwdriver / Destornillador dinamométrico						66000420000001
Precision Bit for Torx / Punta Torx de precisión						66000T15000001

VarioTLock 22



SlitCut

VarioTLock 22

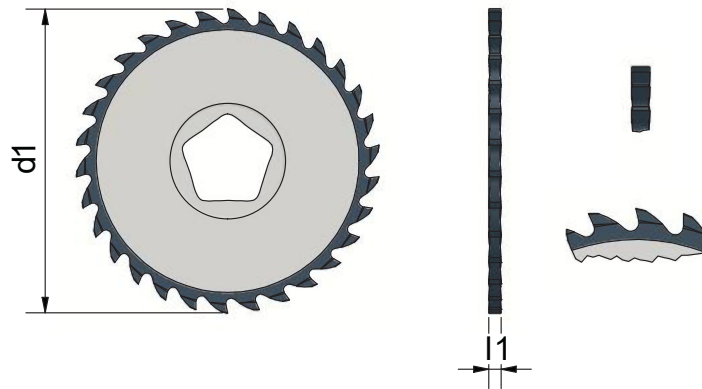


Material/ Material	Coatings / Recubrimientos	Tolerances / Tolerancias (inch)	
		d1	l1
VHM Solid Carbide	Ferodur	3/4" - 4" ± .0039	± .0006
		5" - 6" + .0039 - .0078	

System/ Sistema	d1 [inch]	l1 [inch]	Teeth / Dientes	ae max [inch]	Cat-No. / Num. de cat.	Item-No. / Num. de art.
VarioTLock22	1 1/2	0.031	36	0.297	8100	81000380790003
VarioTLock22	1 1/2	0.031	24	0.297	8100	81000380790004
VarioTLock22	1 1/2	0.047	36	0.297	8100	81000381180001
VarioTLock22	1 1/2	0.047	24	0.297	8100	81000381180004
VarioTLock22	1 1/2	0.063	36	0.297	8100	81000381580001
VarioTLock22	1 1/2	0.063	24	0.297	8100	81000381580002
VarioTLock22	1 1/2	0.078	36	0.297	8100	81000381980001
VarioTLock22	1 1/2	0.078	24	0.297	8100	81000381980002
VarioTLock22	2	0.031	32	0.547	8100	81000500790003
VarioTLock22	2	0.031	22	0.547	8100	81000500790004
VarioTLock22	2	0.047	32	0.547	8100	81000501180001
VarioTLock22	2	0.047	22	0.547	8100	81000501180002
VarioTLock22	2	0.063	32	0.547	8100	81000501580001
VarioTLock22	2	0.063	22	0.547	8100	81000501580002
VarioTLock22	2	0.078	32	0.547	8100	81000501980001
VarioTLock22	2	0.078	22	0.547	8100	81000501980002
VarioTLock22	2 1/2	0.047	18	0.797	8100	81000631180001
VarioTLock22	2 1/2	0.078	18	0.797	8100	81000631980001

GrooveCut

VarioTLock 22



1

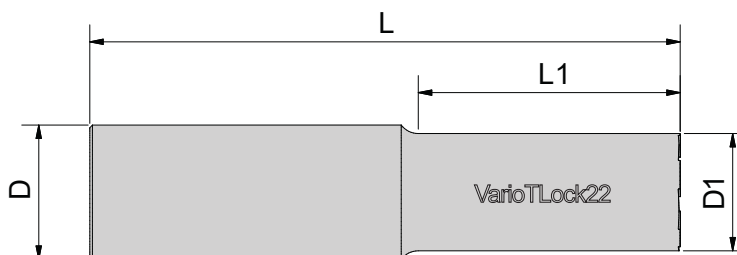
SlitEX

Material/ Material	Coatings / Recubrimientos	Tolerances / Tolerancias (inch)	
		d1	l1
VHM Solid Carbide	Ferodur	3/4" - 4" ± .0039	± .0006
		5" - 6" + .0039 - .0078	

System/ Sistema	d1 [inch]	l1 [inch]	Teeth / Dientes	ae max [inch]	Cat.-No. / Num. de cat.	Item-No. / Num. de art.
VarioTLock22	2	0.078	30	0.547	8200	82000501980003
VarioTLock22	2	0.078	20	0.547	8200	82000501980004
VarioTLock22	2	0.125	30	0.547	8200	82000503170001
VarioTLock22	2	0.125	20	0.547	8200	82000503170002
VarioTLock22	2	0.156	30	0.547	8200	82000503960001
VarioTLock22	2	0.156	20	0.547	8200	82000503960002

Shank / Mango

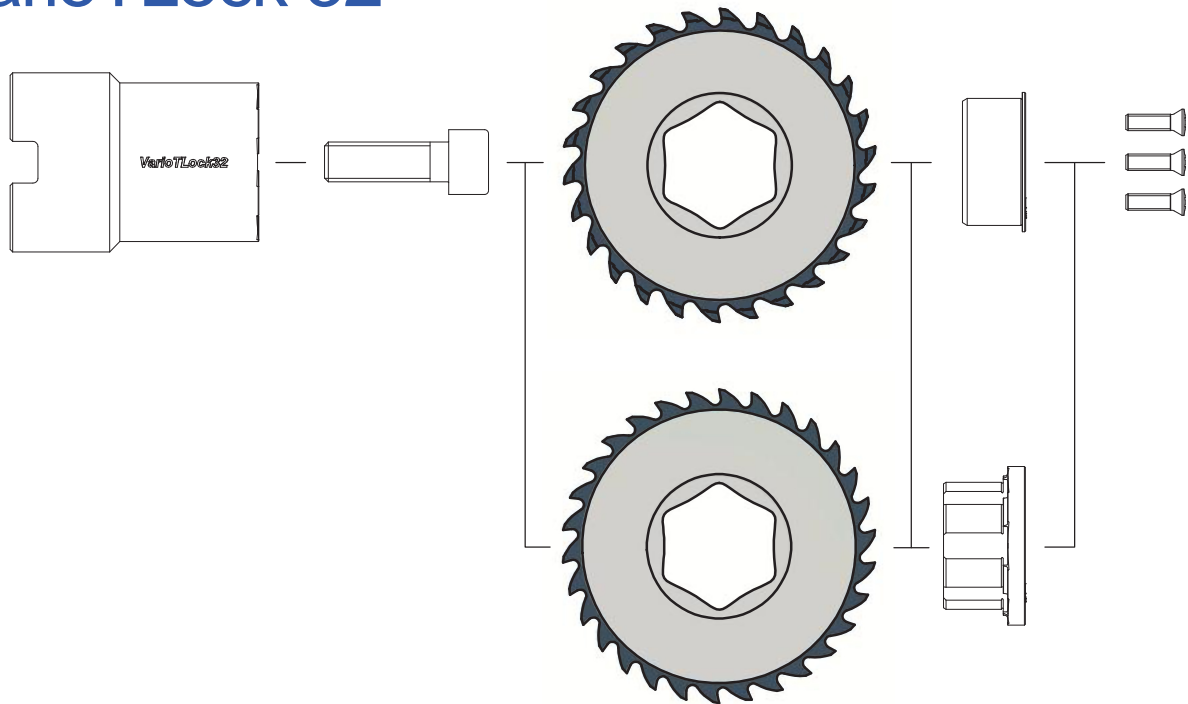
VarioTLock 22



System/ Sistema	L [inch]	L1 [inch]	D [inch]	D1 [inch]	Cat.-No. / Num. de cat.	Item-No. / Num. de art.
VarioTLock22	4.331	1.890	1	0.860	8000	80000264800001

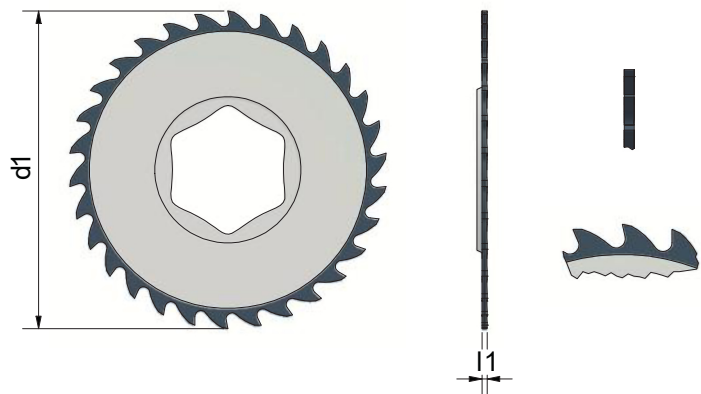
Accessories / Accesorios						Item-No. / Num. de art.
IPC-Pin/ Espiga IPC						80000221000001
OPC-Pin/ Espiga OPC						80000221000002
Screw/ Tornillo						66000060180001
Torque screwdriver / Destornillador dinamométrico						66000570000001
Precision Bit for Torx / Punta Torx de precisión						66000T25000001

VarioTLock 32



SlitCut

VarioTLock 32

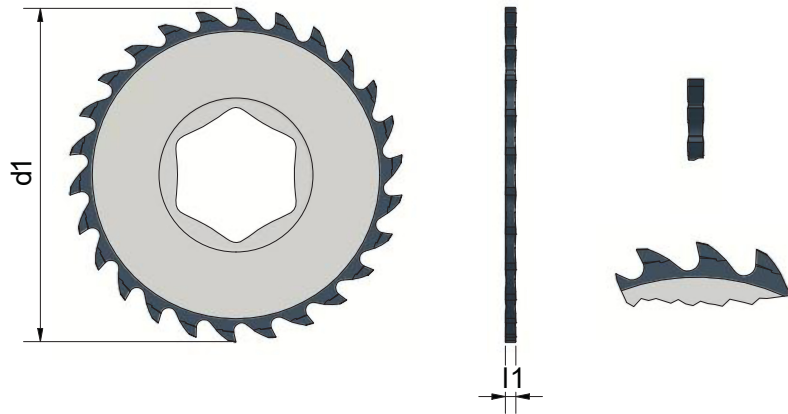


Material/ Material	Coatings / Recubrimientos	Tolerances / Tolerancias (inch)	
		d1	l1
VHM Solid Carbide	Ferodur	3/4" - 4" ± .0039	± .0006
		5" - 6" + .0039 - .0078	

System/ Sistema	d1 [inch]	l1 [inch]	Teeth / Dientes	ae max [inch]	Cat-No. / Num. de cat.	Item-No. / Num. de art.
VarioTLock32	2 1/2	0.047	30	0.6	8100	81000631180002
VarioTLock32	2 1/2	0.047	20	0.6	8100	81000631180003
VarioTLock32	2 1/2	0.063	30	0.6	8100	81000631580001
VarioTLock32	2 1/2	0.063	20	0.6	8100	81000631580002
VarioTLock32	2 1/2	0.078	30	0.6	8100	81000631980002
VarioTLock32	2 1/2	0.078	20	0.6	8100	81000631980003
VarioTLock32	3	0.047	30	0.85	8100	81000761180001
VarioTLock32	3	0.047	20	0.85	8100	81000761180002
VarioTLock32	3	0.063	30	0.85	8100	81000761580001
VarioTLock32	3	0.063	20	0.85	8100	81000761580002
VarioTLock32	3	0.078	30	0.85	8100	81000761980001
VarioTLock32	3	0.078	20	0.85	8100	81000761980002

GrooveCut

VarioTLock 32



1

SlitEX

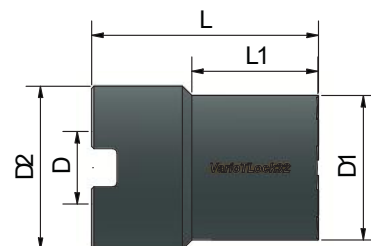
Material/ Material	Coatings / Recubrimientos	Tolerances / Tolerancias (inch)	
		d1	l1
VHM Solid Carbide	Ferodur	3/4" - 4" ± .0039	± .0006
		5" - 6" + .0039 - .0078	

System/ Sistema	d1 [inch]	l1 [inch]	Teeth / Dientes	ae max [inch]	Cat.-No. / Num. de cat.	Item-No. / Num. de art.
VarioTLock32	2 1/2	0.078	26	0.6	8200	82000631980001
VarioTLock32	2 1/2	0.078	18	0.6	8200	82000631980002
VarioTLock32	2 1/2	0.125	26	0.6	8200	82000633170001
VarioTLock32	2 1/2	0.125	18	0.6	8200	82000633170002
VarioTLock32	2 1/2	0.156	26	0.6	8200	82000633960001
VarioTLock32	2 1/2	0.156	18	0.6	8200	82000633960002
VarioTLock32	3	0.078	24	0.85	8200	82000761980001
VarioTLock32	3	0.078	16	0.85	8200	82000761980002
VarioTLock32	3	0.125	24	0.85	8200	82000763170001
VarioTLock32	3	0.125	16	0.85	8200	82000763170002
VarioTLock32	3	0.156	24	0.85	8200	82000763960001
VarioTLock32	3	0.156	16	0.85	8200	82000763960002

Shank / Mango

VarioTLock 32

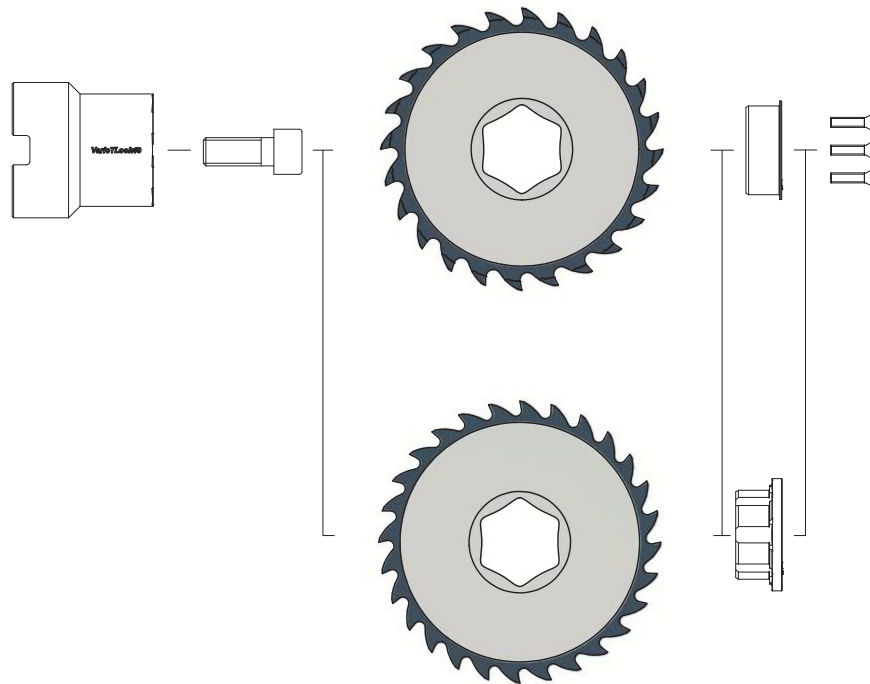
Facemill arbors Set / Set de soporte del cabezal de corte



System/ Sistema	L [inch]	L1 [inch]	D [inch]	D1 [inch]	D2 [inch]	Cat.-No. / Num. de cat.	Item-No. / Num. de art.
VarioTLock32	1.969	1.083	3/4	1.254	1.417	8000	80000192750001

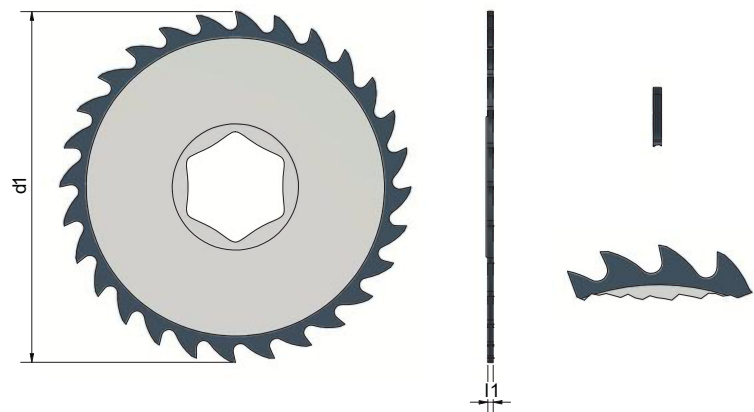
Accessories / Accesorios						Item-No. / Num. de art.
IPC-Pin/ Espiga IPC						80000321200001
OPC-Pin/ Espiga OPC						80000321200002
Screw/ Tornillo						SET66000035120001
Torque screwdriver / Destornillador dinamométrico						66000300000001
Precision Bit for Torx / Punta Torx de precisión						66000T15000001
Self-countersink screw / Tornillo del cabezal de fresado						66000080250001

VarioTLock 40



SlitCut

VarioTLock 40

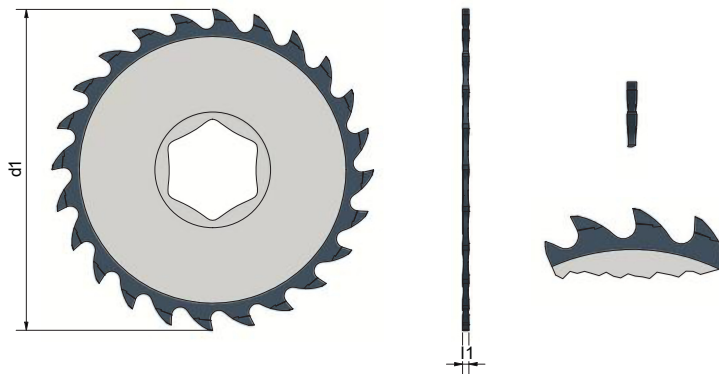


Material/ Material	Coatings / Recubrimientos	Tolerances / Tolerancias (inch)	
		d1	l1
VHM Solid Carbide	Ferodur	3/4" - 4" ± .0039	± .0006
		5" - 6" + .0039 - .0078	

System/ Sistema	d1 [inch]	l1 [inch]	Teeth / Dientes	ae max [inch]	Cat-No. / Num. de cat.	Item-No. / Num. de art.
VarioTLock40	4	0.063	28	1.193	8100	81001011580001
VarioTLock40	4	0.063	18	1.193	8100	81001011580002
VarioTLock40	4	0.078	28	1.193	8100	81001011980001
VarioTLock40	4	0.078	18	1.193	8100	81001011980002
VarioTLock40	5	0.063	28	1.693	8100	81001271580001
VarioTLock40	5	0.063	18	1.693	8100	81001271580002
VarioTLock40	5	0.078	28	1.693	8100	81001271980001
VarioTLock40	5	0.078	18	1.693	8100	81001271980002

GrooveCut

VarioTLock 40

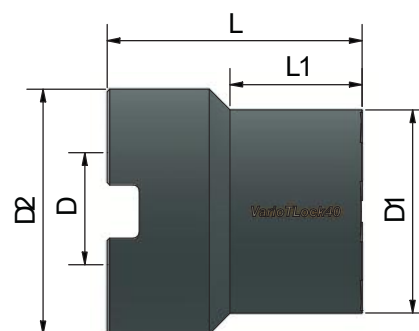


Material/ Material	Coatings / Recubrimientos	Tolerances / Tolerancias (inch)	
		d1	l1
VHM Solid Carbide	Ferodur	3/4" - 4"	± .0039
		5" - 6"	+ .0039 - .0078
			± .0006

System/ Sistema	d1 [inch]	l1 [inch]	Teeth / Dientes	ae max [inch]	Cat.-No. / Num. de cat.	Item-No. / Num. de art.
VarioTLock40	4	0.078	24	1.193	8200	82001011980001
VarioTLock40	4	0.078	16	1.193	8200	82001011980002
VarioTLock40	4	0.125	24	1.193	8200	82001013170001
VarioTLock40	4	0.125	16	1.193	8200	82001013170002
VarioTLock40	4	0.156	24	1.193	8200	82001013960001
VarioTLock40	4	0.156	16	1.193	8200	82001013960002
VarioTLock40	5	0.078	24	1.693	8200	82001271980001
VarioTLock40	5	0.078	16	1.693	8200	82001271980002
VarioTLock40	5	0.125	24	1.693	8200	82001273170001
VarioTLock40	5	0.125	16	1.693	8200	82001273170002
VarioTLock40	5	0.156	24	1.693	8200	82001273960001
VarioTLock40	5	0.156	16	1.693	8200	82001273960002

Shank/ Mango

VarioTLock 40

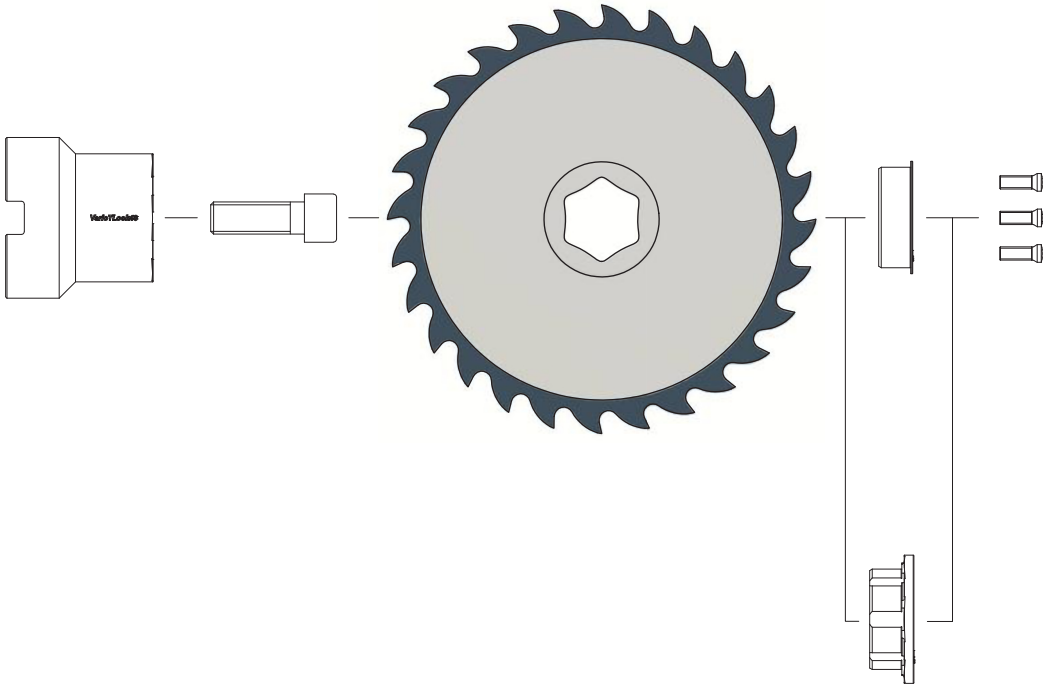


System/ Sistema	L [inch]	L1 [inch]	D [inch]	D1 [inch]	D2 [inch]	Cat.-No. / Num. de cat.	Item-No. / Num. de art.
VarioTLock40	1.969	1.004	1	1.569	1.890	8000	80000222550001

Accessories / Accesorios						Item-No. / Num. de art.
IPC-Pin/ Espiga IPC						80000401200001
OPC-Pin/ Espiga OPC						80000401200002
Screw/ Tornillo						SET66000040160001
Torque screwdriver / Destornillador dinamométrico						66000420000001
Precision Bit for Torx / Punta Torx de precisión						66000T15000001
Self-countersink screw / Tornillo del cabezal de fresado						66000100250001

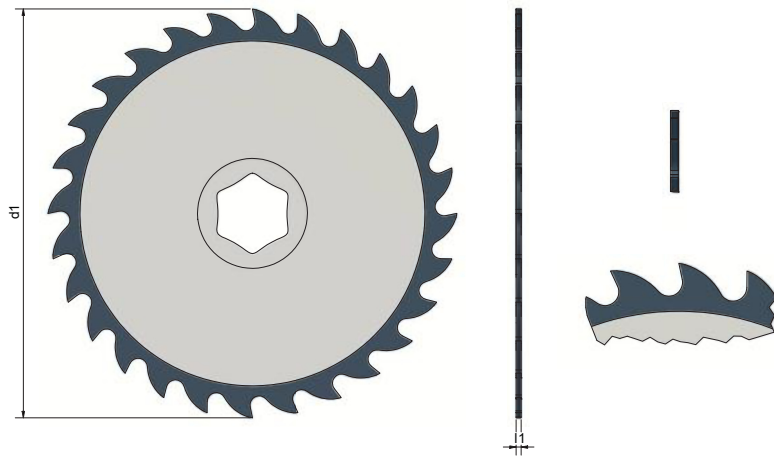
1
SlitEX

VarioTLock 48



SlitCut

VarioTLock 48

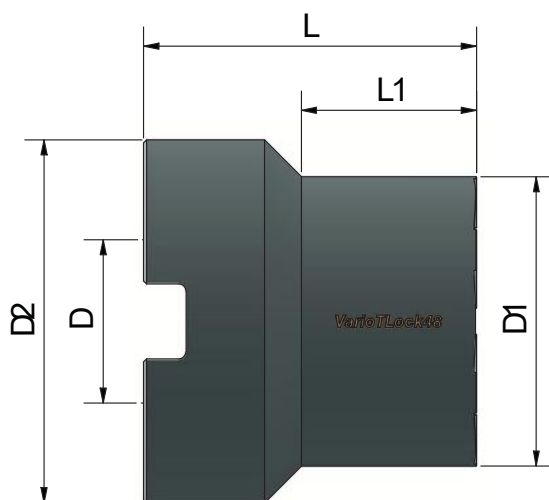


Material/ Material	Coatings / Recubrimientos	Tolerances / Tolerancias (inch)	
		d1	l1
VHM Solid Carbide	Ferodur	3/4" - 4" ± .0039	± .0006
		5" - 6" + .0039 - .0078	

System/ Sistema	d1 [inch]	l1 [inch]	Teeth / Dientes	ae max [inch]	Cat-No. / Num. de cat.	Item-No. / Num. de art.
VarioTLock48	6	0.078	28	2.035	8100	81001521980001
VarioTLock48	6	0.078	18	2.035	8100	81001521980002

Shank/ Mango

VarioTLock 48



1

SlitEX

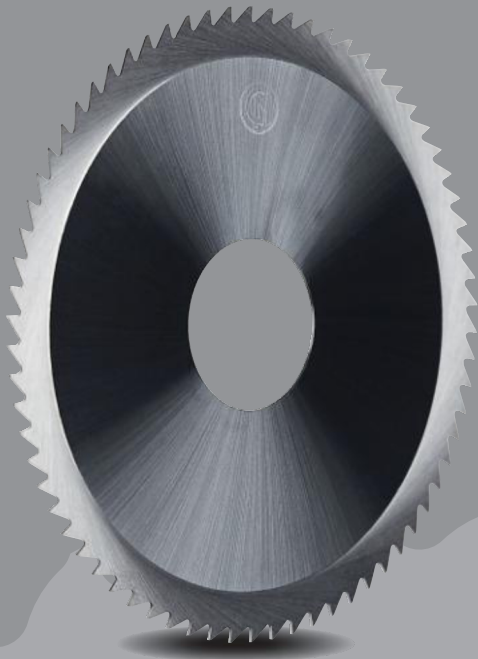
System/ Sistema	L [inch]	L1 [inch]	D [inch]	D1 [inch]	D2 [inch]	Cat.-No. / Num. de cat.	Item-No. / Num. de art.
VarioTLock48	2.165	1.122	1 1/4	1.884	2.362	8000	80000322850001

Accessories/ Accesorios	Item-No. / Num. de art.
IPC-Pin/ Espiga IPC	80000481200001
OPC-Pin/ Espiga OPC	80000481200002
Screw/ Tornillo	SET66000050160001
Torque screwdriver / Destornillador dinamométrico	66000570000001
Precision Bit for Torx / Punta Torx de precisión	66000T20000001
Self-countersink screw / Tornillo del cabezal de fresado	66000120350001



Special precision cutting tools

Herramientas de corte especiales de alta precisión



Circular Saw Blades

made of HSS/-Co and Solid Carbide

Ø up to 10" · widths from 0.004"

Sierras circulares

fabricadas con acero rápido (HSS)/aleado

con cobalto y carburo sólido

Ø hasta 10" · anchos desde 0.004"

Side Milling Cutters

made of HSS/-Co and Solid Carbide

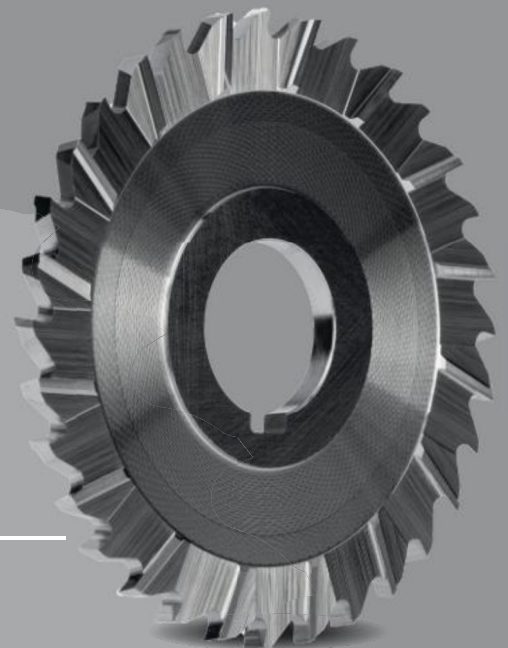
Ø up to 10" · widths from 0.0625"

Fresas de disco

fabricadas con acero rápido (HSS)/aleado

con cobalto y carburo sólido

Ø hasta 10" · anchos desde 0.0625"



Profile Milling Cutters

made of HSS/-Co and Solid Carbide

Fresas de perfil

fabricadas con acero rápido (HSS)/aleado

con cobalto y carburo sólido

Special Inquiries

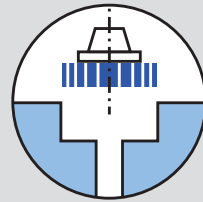
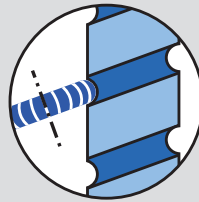
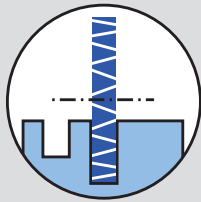
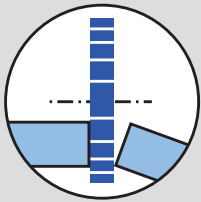
Solicitudes especiales

Special Tools
for different...

Herramientas especiales
para distintas...

Cutting Operations

Operaciones de corte



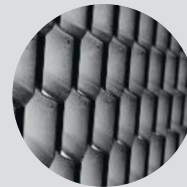
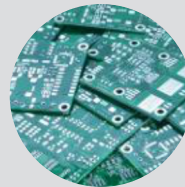
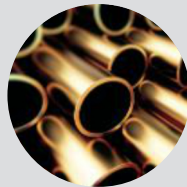
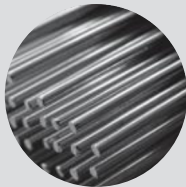
Industries

Industrias



Materials

Materiales



Machines

Máquinas

- Pipe Cutting Machines
- Orbital Pipe Saws
- Dicing & Depaneling Machines
- Milling Machines

- Rotary Transfer Machines
- Multi-Spindle Automatics
- Special Machines

- Máquinas cortatubos
- Sierras orbitales para tuberías
- Troqueladoras y máquinas para la separación de placas

- Fresadoras
- Máquinas de transferencia rotativas
- Tornos multihusillos
- Máquinas especiales

2

Appendix
Anexo

Tooth forms

FOR CIRCULAR SAW BLADES

Tooth form A (Angular Tooth):

For slitting shallow cutting depths and cutting fine profiles and tubes in abrasive and high-strength materials. Due to the lower rake angle of 5° , this tooth form is particularly suitable for machining brittle, short-chipping materials.

Angular Tooth A

Dentado angular A

Angular Tooth with alternating chamfers Aw

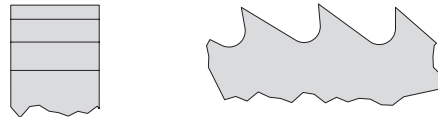
Dentado angular con chaflanes alternantes Aw

Formas del diente

PARA SIERRAS DE CORTE DE METALES

Forma del diente A (dentado angular):

Para profundidades de corte poco profundas y para el corte de perfiles y tubos finos en materiales abrasivos y de alta resistencia, gracias al ángulo de rebaje inferior de 5° , esta forma de dentado es especialmente adecuado para el mecanizado de materiales frágiles y materiales con viruta corta.



Tooth form B (Rounded Tooth):

For slitting greater cutting depths and for cutting thick-walled tubes and profiles in abrasive and high-strength materials. The higher rake angle of 15° makes this tooth form particularly suitable for machining tough, long-chipping materials.

Rounded Tooth B

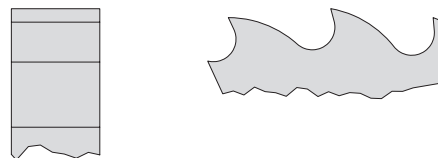
Dentado redondo B

Rounded Tooth with alternating chamfers Bw

Dentado redondo con chaflanes alternantes Bw

Forma del diente B (dentado redondo):

Para profundidades de corte mayores y para el corte de perfiles y tubos de paredes gruesas en materiales abrasivos y de alta resistencia. El ángulo de rebaje mayor de 15° hace que esta forma del dentado sea especialmente adecuada para el mecanizado de materiales duros y materiales con viruta larga.



Tooth form C (Triple Chip Tooth):

For cutting solid material and thick-walled pipes.

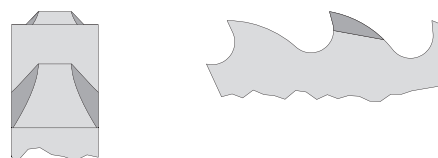
The tooth form creates a centering effect due to the higher pre-cutting tooth and thus prevents the saw from off-centered running.

Triple Chip Tooth C

Diente astillado triple C

Forma del diente C (diente astillado triple):

Para cortar material sólido y para tuberías de paredes gruesas. La forma del diente crea un efecto de centrado debido al dentado de precorte más elevado lo que evita que la sierra funcione descentrada.

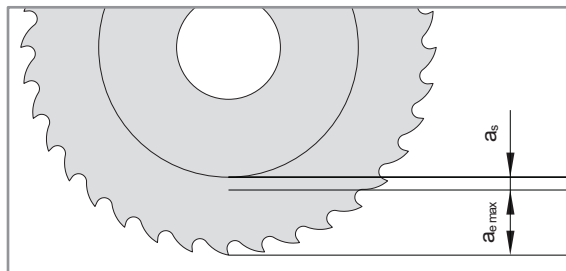


Radial Cutting Depth

FOR CIRCULAR SAW BLADES & SIDE MILLING CUTTERS

Profundidad de corte radial

PARA SIERRAS DE CORTE DE METALES Y FRESAS DE DISCO



$a_{e \max}$ = maximum radial cutting depth
profundidad de corte radial máxima

a_s = safety distance
distancia de seguridad

ISO-Tolerances

VALUES IN $\mu = 1/1000$ MM

Tolerancias ISO

VALORES EN $\mu = 1/1000$ MM

Tolerances Tolerancia	Nominal Sizes in mm Tamaños nominales en mm										
	1 3	3 6	6 10	10 18	18 30	30 50	50 80	80 120	120 180	180 250	250 315
d 9	-20 -45	-30 -60	-40 -76	-50 -93	-65 -117	-80 -142	-100 -174	-120 -207	-145 -245	-170 -285	-190 -320
d 11	-20 -80	-30 -105	-40 -130	-50 -160	-65 -195	-80 -240	-100 -290	-120 -340	-145 -395	-170 -460	-190 -510
e 7	-14 -24	-20 -32	-25 -40	-32 -50	-40 -61	-50 -75	-60 -90	-72 -107	-85 -125	-100 -140	-110 -162
e 8	-14 -28	-20 -38	-25 -47	-32 -59	-40 -73	-50 -89	-60 -106	-72 -126	-85 -148	-100 -172	-110 -191
h 6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16	0 -19	0 -22	0 -25	0 -29	0 -32
h 7	0 -10	0 -12	0 -15	0 -18	0 -21	0 -25	0 -30	0 -35	0 -40	0 -46	0 -52
h 8	0 -14	0 -18	0 -22	0 -27	0 -33	0 -39	0 -46	0 -54	0 -63	0 -72	0 -81
h 10	0 -40	0 -48	0 -58	0 -70	0 -84	0 -100	0 -120	0 -140	0 -160	0 -185	0 -210
h 11	0 -60	0 -75	0 -90	0 -110	0 -130	0 -160	0 -190	0 -220	0 -250	0 -290	0 -320
h 12	0 -100	0 -120	0 -150	0 -180	0 -210	0 -250	0 -300	0 -350	0 -400	0 -460	0 -520
js 11	+30 -30	+37,5 -37,5	+45 -45	+55 -55	+65 -65	+80 -80	+95 -95	+110 -110	+125 -125	+145 -145	+160 -160
js 14	+125 -125	+150 -150	+180 -180	+215 -215	+260 -260	+310 -310	+370 -370	+435 -435	+500 -500	+575 -575	+650 -650
js 15	+200 -200	+240 -240	+290 -290	+350 -350	+420 -420	+500 -500	+600 -600	+700 -700	+800 -800	+925 -925	+1050 -1050
js 16	+300 -300	+375 -375	+450 -450	+550 -550	+650 -650	+800 -800	+950 -950	+1100 -1100	+1250 -1250	+1450 -1450	+1600 -1600
k 10	+40 0	+48 0	+58 0	+70 0	+84 0	+100 0	+120 0	+140 0	+160 0	+185 0	+210 0
k 11	+60 0	+75 0	+90 0	+110 0	+130 0	+160 0	+190 0	+220 0	+250 0	+290 0	+320 0
k 12	+100 0	+120 0	+150 0	+180 0	+210 0	+250 0	+300 0	+350 0	+400 0	+460 0	+520 0
k 14	+250 0	+300 0	+360 0	+430 0	+520 0	+620 0	+740 0	+870 0	+1000 0	+1150 0	+1300 0
k 16	+600 0	+750 0	+900 0	+1100 0	+1300 0	+1600 0	+1900 0	+2200 0	+2500 0	+2900 0	+3200 0
H 6	+6 0	+8 0	+9 0	+11 0	+13 0	+16 0	+19 0	+22 0	+25 0	+29 0	+32 0
H 7	+10 0	+12 0	+15 0	+18 0	+21 0	+25 0	+30 0	+35 0	+40 0	+46 0	+52 0
H 11	+60 0	+75 0	+90 0	+110 0	+130 0	+160 0	+190 0	+220 0	+250 0	+290 0	+320 0

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Appendix
Anexo

Formulars

FOR THE CALCULATION OF CUTTING SPEED,
RPM AND FEED RATE

cutting speed/
velocidad de corte

$$V_c = \frac{d \times \pi \times n}{1000} \text{ m/min.}$$

rpm / rpm

$$n = \frac{V_c \times 1000}{d \times \pi} \text{ U/min.}$$

feed rate / velocidad
de alimentación

$$V_f = f_z \times Z \times n \text{ mm/min.}$$

d = Cutter-Ø / Ødel corta dor
n = rpm / rpm
 $\pi = 3,14$

f_z = feed/tooth / avance/diente
Z = No. of teeth / No. of diente

No definite values can be given for the feed per tooth (f_z), as these values depend on the working conditions of the tool, the tool dimension, the material to be machined and the cutting process. The values for the feed per tooth (f_z) reach from 0,005 up to approx. 0,2 mm per tooth.

Generally, when establishing the application data and cutting values the condition and stability of the whole system – machine, tool, workpiece and chucking – has to be included into the evaluation.

Formularios

PARA EL CÁLCULO DE LA VELOCIDAD DE CORTE, R. P. M.
Y VELOCIDAD DE ALIMENTACIÓN

No pueden ofrecerse valores definitivos para el avance por diente (f_z), ya que estos valores dependen de las condiciones de trabajo de la herramienta, las dimensiones de la herramienta, el material que debe mecanizarse y el proceso de corte.

Los valores para el avance por diente (f_z) van de 0,005 hasta aprox. 0,2 mm por diente.

En general, al establecer los datos de aplicación y los valores de corte, debe incluirse en la evaluación el estado y la estabilidad de todo el sistema – máquina, herramienta, pieza de trabajo y sujeción.

RPM-Table

Tabla RPM

Tool/ herramienta	Cutting Speed V_c in m/min. velocidad de corte V_c en m/min.										
Ød	10	12,5	16	20	25	32	40	50	63	80	100
2	1600	2000	2500	3200	4000	5100	6400	8000	10000	12700	16000
4	800	1000	1250	1600	2000	2550	3200	4000	5000	6350	8000
6	530	660	850	1060	1330	1700	2120	2650	3340	4240	5300
8	400	500	640	800	1000	1300	1600	2000	2500	3200	4000
10	320	400	500	630	800	1000	1300	1600	2000	2500	3200
12	270	330	420	530	660	850	1060	1330	1670	2120	2650
14	230	280	360	450	570	730	900	1140	1430	1800	2300
16	200	250	320	400	500	630	800	1000	1250	1600	2000
18	180	220	280	350	440	560	700	880	1100	1400	1770
20	160	200	250	320	400	500	630	800	1000	1250	1600
22	140	180	230	290	360	460	580	720	910	1160	1450
25	125	160	200	250	315	400	500	630	800	1000	1250
28	110	140	180	230	280	360	450	570	720	910	1140
32	100	125	160	200	250	315	400	500	630	800	1000
36	90	110	140	180	220	280	350	440	560	700	880
40	80	100	125	160	200	250	315	400	500	630	800
50	63	80	100	125	160	200	250	315	400	500	630
63	50	63	80	100	125	160	200	250	315	400	500
80	40	50	63	80	100	125	160	200	250	315	400
100	32	40	50	63	80	100	125	160	200	250	315
125	25	32	40	50	63	80	100	125	160	200	250
160	20	25	32	40	50	63	80	100	125	160	200
200	16	20	25	32	40	50	63	80	100	125	160
250	12	16	20	25	32	40	50	63	80	100	125
315	10	12	16	20	25	32	40	50	63	80	100
350	9	11	14	18	22	28	36	45	56	72	90

Values for cutting speed above 100 m/min.
= V_c -Value $\times$ factor 10 and rpm $\times$ factor 10.

Values for cutting speed above 100 m/min.
= V_c -Value $\times$ factor 10 and rpm $\times$ factor 10.

Repair of Tools

TERMS OF DELIVERY FOR REPAIR OF TOOLS AND OTHER CONTRACT JOBS

The costs for tool repair and contract grinding are charged on basis of real time consumption.

The price for tool repair and contract grinding depends mainly on quantities. If quantities mentioned in our quotation or order confirmation are not achieved we may charge a higher price for lower quantities.

All costs and risks for transports are chargeable to the buyer.

Contract jobs are to be paid on delivery without deduction.

Risk for scrap on tool repairs or other contract jobs must be taken by the buyer.

If scrap is caused by ourselves costs for contract work will not be charged. Under no circumstance we will refund scrapped parts.

Apart from that our terms and conditions will apply.

ADVICES:

By the publication of this catalogue, all former editions become invalid.

Reprint of this catalogue – also extracts only – is allowed only with our explicit permission.

Considering the continual technical improvements of our tools, we reserve the right to modify the selection in our catalogue. If a required tool is not available for this reason, we will quote you a substitute of equal or better technological standard. If you have any questions, please contact our sales department.

Reparación de herramientas

CONDICIONES DE ENTREGA PARA REPARACIONES DE HERRAMIENTAS Y OTROS TRABAJOS POR ENCARGO

Los costes de reparación de herramientas y otros trabajos de rectificado se calculan en función del tiempo empleado.

El importe de los costes de reparación depende en gran medida del número de piezas a procesar. Si no se alcanza el número de piezas indicado en la oferta o en la confirmación del pedido, nos reservamos el derecho a aplicar los correspondientes recargos por cantidad mínima.

Tanto la entrega como la devolución de las piezas mecanizadas se realizan por cuenta y riesgo del cliente.

Los trabajos por encargo deben pagarse inmediatamente después de la entrega, sin descuento alguno.

El riesgo de desechos de fabricación en reparaciones de herramientas u otras piezas del procesamiento por encargo debe ser asumido por el cliente.

Si existiera culpa por nuestra parte, no se facturarán los gastos de procesamiento. No obstante, queda excluida la obligación de sustitución de las piezas desechadas.

Por lo demás, se aplicarán nuestras condiciones generales de entrega.

NOTA:

Con la publicación de este catálogo, todas las ediciones anteriores pierden su validez.

La reimpresión del catálogo de herramientas, incluso parcial, solo se permite con nuestra autorización expresa.

En el marco del desarrollo técnico de nuestras herramientas, nos reservamos el derecho a realizar modificaciones en las ofertas de nuestro catálogo.

Si, por este motivo, una herramienta deseada ya no estuviera disponible, le ofreceremos otra tecnológicamente equivalente o de mayor calidad. Si tiene alguna pregunta, póngase en contacto con nuestro departamento de ventas.

Terms of Delivery

I. General Information

- Any and all deliveries made and services provided are subject to the Terms of Delivery at hand as well as to separate contractual agreements possibly concluded. Any deviating terms of purchase of the Buyer shall not become a constituent element of the contract even in case of order acceptance.
A contract shall be established – for lack of specific agreement – with the written order confirmation of the Seller.
- The Seller reserves property and copyrights for samples, cost estimates, drawings and similar information of physical and non-physical nature – also in electronic form; these may not be disclosed to third parties. The Seller undertakes not to disclose information and documents identified as confidential by the Buyer to third parties without his written consent.
- Samples shall be supplied only against charges.
- Verbal supplementary agreements do not exist. Modifications require written form in order to be effective.

II. Price and Payment

- The prices – for lack of specific agreement – shall be ex works and do not include packaging. The quoted price of products does not include duty, tariffs, taxes or similar charges, which shall be borne by the Buyer, unless otherwise agreed upon in writing.
- For lack of specific agreement, payment shall be effected immediately following delivery to the account of the Seller and without any deduction. The respective quantity delivered shall be charged.
- The Buyer shall have the right to retain payments or to offset these against counterpayments only to the extent that his counterclaims are undisputed and determined legally binding.

III. Period of Delivery, Default in Delivery

- The Period of Delivery results from the agreements entered into between the contracting parties. The prerequisite for compliance by the Seller is that any and all commercial and technical questions have been clarified between the contracting parties and that the Buyer has complied with any and all obligations under his responsibility, such as e.g. the procurement of the certificates or authorizations required by the authorities or performance of a down payment. Should this not be the case, the Period of Delivery will be extended appropriately. This shall not apply to the extent that the Seller is responsible for the delay.
- Adherence to the Period of Delivery shall be subject to correct and on-time delivery to us on the part of our suppliers. The Seller shall inform the Buyer about emerging delays as soon as possible.
- The Period of Delivery shall be deemed to have been complied with if the delivery item has left the factory of the Seller or if readiness for shipment has been announced.
- In case that the shipment is delayed upon request of the Buyer, the Seller shall be entitled to otherwise dispose of the delivery item after fixing a reasonable deadline and its fruitless expiry and to supply the Buyer subject to a reasonably extended period. In case that the shipment is delayed on account of reasons for which the Buyer is responsible, the costs incurred as a result of such delay shall be charged to the Buyer, beginning one month after announcement of the readiness for shipment of the delivery item.
- In case that non-compliance with the Period of Delivery is to be attributed to force majeure, labor disputes or other events beyond the sphere of influence of the Seller, the Period of Delivery shall reasonably be extended. The Seller shall inform the Buyer of the beginning and end of such circumstances as soon as possible.
- In case that delivery is rendered entirely impossible or economically unreasonable for the Seller as a result of force majeure, labor disputes or other events beyond the sphere of influence of the Seller, the Seller shall have the right to either wholly or partially resign from the contract. Claims for damages of the Buyer on account of such resignation are excluded. If the Seller intends to make use of his right of resignation, he shall inform the Buyer immediately upon identification of the implications of such event. This shall also apply if an extension of the Period of Delivery has initially been agreed upon with the Buyer.
- The Buyer may resign from the contract without fixing a time limit if complete performance is ultimately rendered impossible for the Seller prior to the transfer of risk. The Buyer may furthermore resign from the contract if execution of part of the delivery is rendered impossible for an order and if the Buyer has a legitimate interest to reject a part delivery. If this is not the case, the Buyer shall have to pay the contract price for the respective part delivery. The same shall apply in case of an inability of the Seller. In all other cases, Paragraph VII.2. "Liability" shall apply. In case that the impossibility or inability occurs during the default in acceptance or if the Buyer is alone or predominantly responsible for the circumstances, he shall be obliged to the performance of quid pro quo.
- In case that the Buyer fixes a reasonable deadline for performance after the due date – taking into consideration the statutory exceptions – and if this deadline is not complied with, the Buyer shall be entitled to resignation within the scope of statutory provisions.
Upon request of the Seller he undertakes to declare within a reasonable time whether he intends to make use of his right of resignation.
Further claims from Default in Delivery are exclusively governed by Paragraph VII.2. hereunder.

IV. Transfer of Risk, Acceptance

- The risk shall be transferred to the Buyer whenever the delivery item has left the factory, namely also if part deliveries are performed or if the Seller has undertaken other services, such as e.g. the forwarding expenses or shipment.
- In case that delivery is delayed or not undertaken as a result of circumstances not to be attributed to the Seller, the risk shall be transferred to the Buyer at the day the readiness for shipment is announced. The Seller undertakes to effect insurance as requested by the Buyer at the expense of the Buyer.
- Part deliveries shall be permissible to the extent reasonable for the Buyer.

V. Reservation of Proprietary Rights

- The Seller reserves the proprietary right for the delivery item until any and all claims of the Seller versus the Buyer arising from the business relations have been settled, including future claims, also arising from contracts concluded simultaneously or subsequently. This shall also apply if individual or all claims of the Seller were entered into a current account and the balance has been determined and acknowledged.
In case of behavior of the Buyer contrary to the terms of contract, particularly in case of default in payment, the Seller shall be entitled to withdrawal of the delivery item after overdue notification and the Buyer shall have the obligation to surrender the delivery item. The Buyer is obliged to immediately notify the Seller in case of seizure or other interventions of third parties.
- The Buyer is entitled to resell the delivery item in ordinary course of business. He, however, already today cedes to the Seller any and all claims arising from the resale versus purchaser or third parties. The Buyer is entitled to collection of said claims also after cession. The authorization of the Seller for collection of the claims on his own is not affected by this.
The Seller, however, undertakes not to collect the claims as long as the Buyer properly complies with his payment obligations or the authorization to collect has not been revoked or no application for the opening of insolvency procedures has been filed.
The Seller may otherwise request for the Buyer to disclose the claims ceded and their debtor, providing all information required for collection, handing over all documents pertaining to this, and informing the debtors of the cession, unless already performed by the Seller.
In case that the delivery item is resold together with merchandise that is not the property of the Seller, the claim of the Seller versus the purchaser shall be deemed to be ceded in the amount of the contract price agreed between Seller and Buyer.
- The Buyer shall not be entitled to pledge or transfer as security the delivery item.
- The Buyer hereby grants to the Seller a security interest in the products sold hereunder to secure payment of the price of such products and agrees, and appoints the Seller, its agent, to take all such action and to execute all such documents and instruments as may be necessary or reasonably requested by the Seller to perfect and continue perfected the Seller's security interest hereunder.
- The Seller shall be entitled to insure the delivery item at the expense of the Buyer against theft, breakage, fire, water, and other damages, unless the Buyer has demonstrably obtained such insurance coverage on his own.
- If, in connection with the payment of the contract price, a liability of the Seller is established for a bill-of-exchange the reservation of proprietary rights including its special forms agreed upon or other securities agreed upon to secure payment shall not expire before the bill-of-exchange has been honored by the Buyer as debtor.
- The application for the opening of insolvency procedures shall entitle the Seller to resign from the contract and demand immediate return of the delivery item.

VI. Claims from Defects

The Seller shall warrant material defects and deficiencies in title of the delivery under exclusion of further claims – subject to Paragraph VII "Liability" – as follows:

Material Defects

- All those parts are to be reworked or replaced by parts free of defects – which is at the discretion of the Seller – free of charge, which turn out to be defective on account of circumstances that have occurred prior to the transfer of risk.
The Seller is to be informed in writing immediately whenever such defects are determined. Parts replaced shall become the property of the Seller.
- Upon agreement with the Seller, the Buyer shall grant the Seller the time and opportunity required in order to perform any and all rework and substitute deliveries, which the Seller deems necessary, with the Seller otherwise exempted from liability for the resulting consequences. It is only in urgent cases where the operational safety is jeopardized and/or as defense against disproportionate damages – in which cases immediate notification of the Seller is mandatory – that the Buyer has the right to eliminate the defect himself or have the defect eliminated by third parties and demand compensation for expenditures incurred.
- Regarding the direct costs resulting from rework and/or substitute delivery, the Seller shall bear the costs for the replacement part including shipment – to the extent that the complaint proves justified.
In all other cases the Buyer shall bear the costs.
- Within the scope of statutory provisions, the Buyer has the right to resign from the contract if the Seller – taking into account the statutory exceptions – has allowed a reasonable time fixed for rework or substitute delivery on account of material defect to expire fruitlessly.

In case of only insubstantial defects, the Buyer only has the right for a reduction of the contract price. The right for a reduction of the contract price is otherwise excluded.

Further claims are determined by Paragraph VII.2. hereunder.

5. No liability is assumed particularly in the following cases:
 - Unsuitable or improper use, incorrect installation and/or commissioning by Buyer or third parties, natural wear, erroneous and negligent handling, improper maintenance, unsuitable operating materials, chemical, electro-chemical or electrical impact – to the extent that they are not the responsibility of the Seller.
 - The Seller shall assume liability for defects of the material supplied by the Buyer only if the defects could have been identified, had professional diligence been applied.
 - In case of manufacturing based on drawings of the Buyer, the Seller shall assume liability only for execution in accordance with the drawings.
- 5a. If special tools are ordered, the actual delivery quantity is allowed to either exceed or undershoot the order quantity by approx. 10 % or a minimum of 2 units, as required.
6. In case that the Buyer or third parties perform improper rework, the Seller shall not assume any liability for the consequences that result. The same shall apply for modifications of the delivery item made without prior consent of the Seller.

Deficiencies in Title

7. The Buyer shall assume the sole responsibility for documents such as drawings, gauges, samples or the like to be submitted by the Buyer. It is the Buyer's responsibility to ensure that the workshop drawings submitted by the Buyer do not violate the copyrights of third parties. The Seller has no obligation vis-à-vis the Buyer to investigate if the submission of quotes on the basis of workshop drawings submitted to the Seller constitutes any violation of copyrights of third parties. Should a liability of the Seller nevertheless result from constitutive facts, the Buyer shall indemnify and hold harmless the Seller.

VII. Seller's Liability, Disclaimer of Liability

1. In case that the delivery item cannot be used by the Buyer in accordance with its contractual purpose by fault of the Seller as a result of negligent or incorrect execution of proposals submitted and consultations performed prior to or following the conclusion of the contract or by violation of other secondary contractual obligations – particularly instructions for operation and maintenance of the delivery item – the stipulations contained in Paragraphs VI and VII.2. shall apply under the exclusion of further claims of the Buyer.
2. The Seller shall assume liability for damages not established on the delivery item as such – on whatever legal grounds – only
 - a) in case of intent,
 - b) in case of gross negligence of the proprietor / institutions or senior executives,
 - c) in case of intentional or negligent violation of life, body and/or health,
 - d) in case of maliciously concealed defects,
 - e) in case of defects of the delivery item, to the extent that liability is assumed for personal injury or damage to property for privately used items in accordance with the German Product Liability Act (Produkthaftungsgesetz). In case of culpable breach of material contractual obligations, the Seller shall also assume liability in case of gross negligence of non-executive employees and minor negligence, in the latter case limited to reasonable, foreseeable typical contract damage.
 Further claims are excluded.
3. The Seller shall not be subject to any other obligations or liabilities, whether arising out of breach of contract, warranty, tort (including negligence and strict liability) or other theories of law, with respect to products sold or services rendered by the Seller or undertakings, acts or omissions relating thereto. Under no circumstances will the Seller be liable for any incidental or consequential damages, or for any other loss, damage or expense of any kind, including loss of profits, arising in connection with the contract or with the use or liability to use the Seller's products furnished under this contract.

VIII. Statute of Limitations

Any and all claims of the Buyer – on whatever legal grounds – come under the statutes of limitation in 12 months. The statutory time limits shall apply for claims for damages in accordance with Paragraph VII.2. a – e.

- IX. Special Conditions for Machining Contracts (completion, reprocessing, modification or restoration of tools)

The following shall apply for machining contracts as a supplement to/deviating from the Terms of Delivery:

 1. The subcontractor shall not assume any liability for the behavior of material submitted. His claim for remuneration remains unaffected.
 2. Should the material become unusable during the machining by fault of the subcontractor, his claim for remuneration for the service rendered shall lapse. The claim for damages of the Buyer shall be governed by Paragraph VII.2. hereunder.

X. Return Policy

1. A Return Goods Authorization (RGA) number must be obtained before returning items.

2. Call 1-800-558-8966 to request a Return Goods Authorization (RGA) number. Be sure to write your RGA number on the shipping label. Returns will not be accepted unless accompanied by this number
3. Please include a copy of your invoice or packing slip.
4. Claims for discrepancies in shipment must be made within 7 days of receipt of merchandise or they will not be accepted.
5. Only items in unused condition and in undamaged, sealed original container may be returned within 30 days of the invoice date
 - 15% Restock fee, an order of equal/greater value will reduce the restock fee to 5%
 - After 30 days / less than 6 month from the invoice date
 - 30% Restock fee, an order of equal/greater value will reduce the restock to 20%
6. Freight must be prepaid
7. Special orders, modified items, used items and obsolete items cannot be returned.
8. A maximum of two stock returns per year is allowed.
9. The stock return cannot exceed 10% of the past 12 month sales.
10. All stock returns must be approved by the National Sales Management. Any deviation from the above Policy must be authorized in writing by the National Sales Management

This policy supersedes all previous policies and is effective March 13, 2017

XI. Applicable Law, Place of Jurisdiction, Place of Performance

1. German Substantive Law under the exclusion of UN Purchasing Law shall apply for any and all legal relations between Seller and Buyer.
2. Should disputes arise from or in connection with the contract at hand, the parties shall first attempt to reach an out-of-court settlement. Should this not be possible, disputes shall be ultimately decided by a Court of Arbitration in accordance with the Arbitration Court Regulation of the German Institution for Arbitration (DIS), excluding the regular legal process. The decision shall be taken by three arbitrators, with each of the two parties appointing one arbitrator and the third arbitrator selected by the two arbitrators appointed. Arbitration procedures shall be in German language and performed at the corporate seat of the exporter.
3. Place of Performance shall be 54595 Prüm, Germany.

Any and all deliveries performed shall exclusively be based on our Terms of Delivery. We hereby object to any and all contrary terms of purchase.

US Terms of Delivery you can find on www.controx.com



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