UTILIS
multidec®
swiss type tools

multidec®-CUT

GOLD-LINE TOOL HOLDER

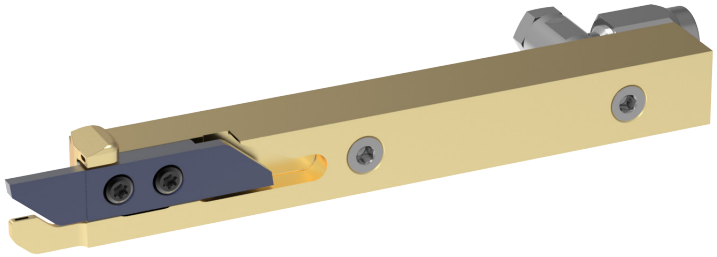
TOOL LIFE IMPROVEMENT OF UP TO 185%

INNOVATION

future since 1915

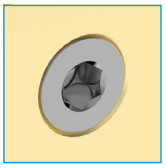
UTILIS®
Tooling for High Technology

Tool holder with integrated cooling
This multidec® tool holder was developed using a special manufacturing process with the goal of enabling even more efficient machining for grooving and turning on automatic lathes. The newly designed cooling system makes it possible to double the lifetime of the cutting edges as well as to significantly increase the cutting parameters without having to accept higher wear.
Two types are available. One "IC+" (IC-Plus) is equipped with chip breaker and clearance angle cooling. The other type "IC-FK" is a version exclusively equipped with clearance angle cooling, which enables the combination with our innovative multidec®-LUB clamping wedges with integrated cooling.
Use the QR code placed on the holders to ensure all necessary information for the safe handling of this new tool.



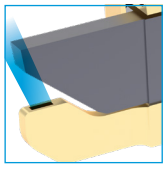
Advantages:
– 3 D coolant holes with optimized clearance angle cooling.
– Chip breaker cooling to optimize chip control, reduce built-up edge and improve tool life
– Tool life increase up to 185% is possible
– PVD coating for highest wear and corrosion protection. 7 times better adhesion compared to conventional galvanization and increase in environmental friendliness

QR code with stored information on correct application



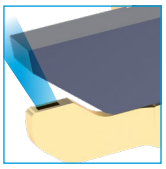
Various coolant connections ensure maximum flexibility and can be used for different types of supply. External connection by components of the UTILIS coolant system, as well as direct transfer of the coolant into the holder, through tool plates designed for this is possible.

IC+



Integrated cooling "IC+" (IC-Plus) with cooling of chip breaker and clearance angle

IC-FK



Integrated cooling "IC-FK" only with cooling of clearance angle for compatibility multidec®-LUB system

Overview – multidec®-CUT, GOLD-LINE holders

UTILIS multidec® swiss type tools

Legend

Different information about multidec® application refer to certain machining methods. In addition, simple symbols inform of the product assortment and where additional products and technical information can be found.

Dimensions
All dimensions are in millimeter (mm); native dimensions in inch are calculated into millimeter.

Page information
12… See page 12 and the following (example)

Recommended usage
- ● Preferred application
- ○ Possible application
- – Application not recommended

Availability
- ■ Standard articles
- ■ Standard articles, new in this catalogue
- ■ Discontinued articles

Categorization of materials
The information on using multidec® tools refers to certain materials.
The materials to be machined are categorized in the same color throughout the entire catalog:

Steel (non-alloyed, low alloyed and high alloyed)
Stainless steel
Titanium and Ti-alloys
Non-ferrous metals (gold, aluminum and brass)
Hard materials

Order designation
To the designation of the selected type of product, the desired cutting material code must be added.
Supplementing information to the grades can be found according to the page references (…).

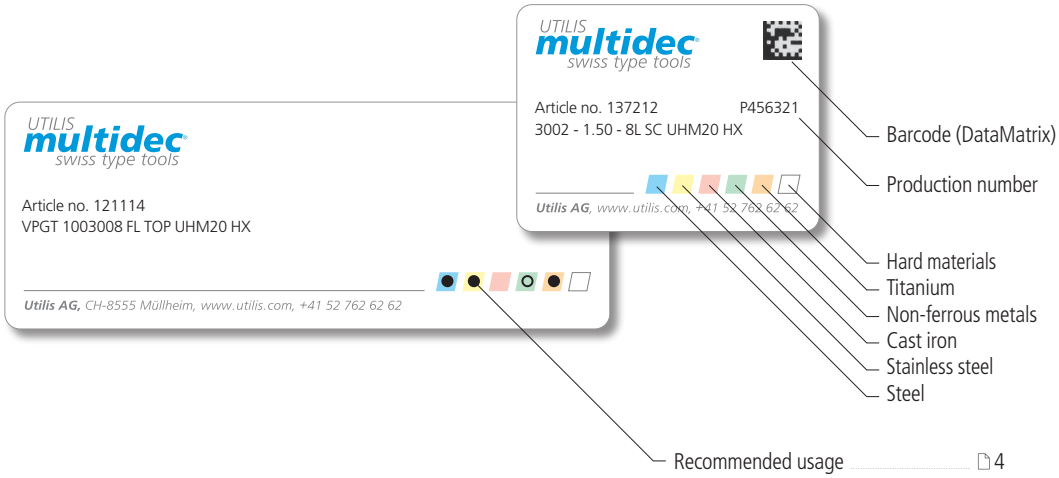
Order designation		Carbide			20
		○	●	●	
		○	●	●	
		○	●	●	
		●	○	–	
		–	–	○	
L	R	UHM 20	UHM 20 HPX	UHM 20 TX+	
1605-0.5-1.5 L …	1605-0.5-1.5 R …	■	■	■	
1605-1.0-2.5 L …	1605-1.0-2.5 R …	■	■	■	
1605-1.5-3 L …	1605-1.5-3 R …	■	■	■	

Example: 1605-0.5-1.5 L UHM 20

Legend

Packaging information

The product labels illustrate the content of the packaging and also show the materials on which the cutting insert can be used. For this purpose, UTILIS uses the ISO standard coding.
The UTILIS article number is generally also printed as a barcode on the UTILIS (multidec®) product packaging.



Execution of holder / insert

The side on which the insert is located determines whether it is a "left-" or "right-hand" holder. For this purpose, the holder is viewed with the insert pointing towards the observer.

Left hand holder | Neutral holder | Right hand holder

Pictures

The right-hand version of the tools is usually shown. (Exceptions are possible). The tool colours illustrated here are not binding.

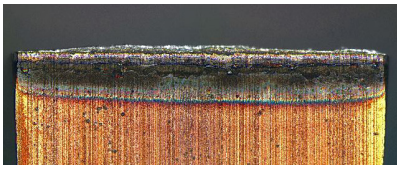
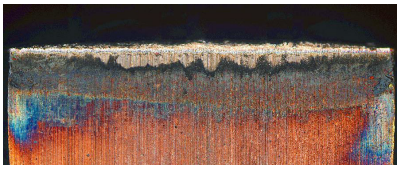
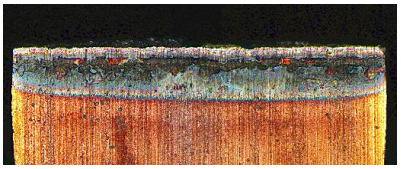
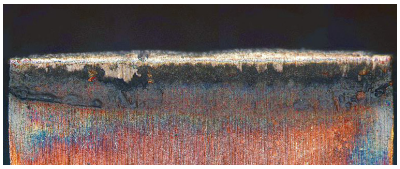
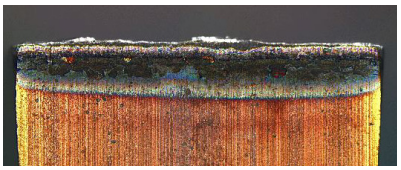
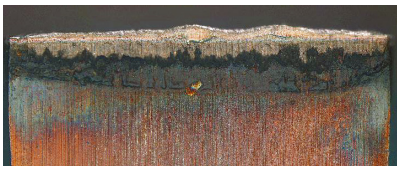
Product lines

To meet today's requirements of modern production it is not necessary to use the most accurate – but to use the tools adapted to the requirements. This means, the more accurate and sophisticated the process, the higher must be the accuracy of the produced tools. Therefore, the product range has been divided into three different accuracy classes. Your advantage: you buy the quality, which is effectively required.

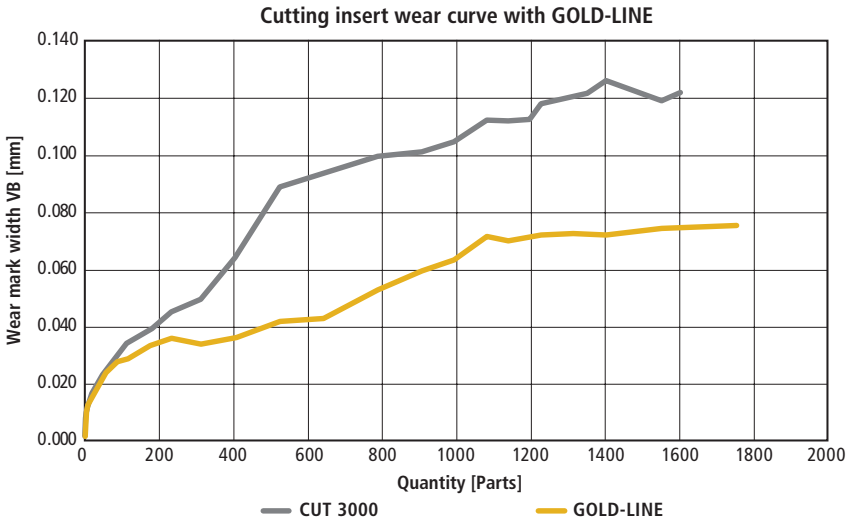
Product line	Description
PREMIUM-LINE	The PREMIUM-LINE includes UTILIS tools with the highest accuracy requirements, especially for the production of micro parts. Tightest dimensional tolerances, precisely executed, highest surface quality and high repeatability are the features of this line. The manufacturing of these high-class tools requires considerable additional cost in production, which justifies the higher price of this product line.
STANDARD-LINE	The STANDARD-LINE meets the highest demands on the quality, which is demanded for Swiss type tools in production of small parts. Tight dimensional tolerances and high surface quality are implemented. These are quality standard tools, which are very well positioning this line in a wide range of applications.
VALUE-LINE	The VALUE-LINE is based on the known positions of our STANDARD-LINE. The most important functional elements – such as inserts and holders – are manufactured with the normal dimensional tolerances seen in the industry. Designed for the production of low-cost components, this line offers optimal quality standards. The greater tolerances and the reduced surface quality lower the production costs considerably, which also lowers the price in comparison to the standard product line.

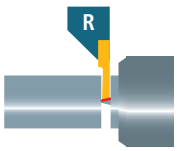
Starting situation – Tool life test
Two different tool holders were tested:
– **Reference product / conventional**, but with cooling from the multidec®-LUB shim on chip breaker.
– **3000-12-100 (GOLD LINE IC+)** with cooling from holder to chip breaker and clearance angle.
A 3002-2.0-10 LN SPT06 UHM20 TX+ was used for parting off.
Testing took place in accordance with the "Standardised testing processes" R&D (research & development).

Type of machine	**Star SR20**
Material No.	**1.4435 (316L), stainless steel**
Diameter	**12 mm**
Operation	**Parting off**
Coolant	**Oil**
Cutting speed (Vc)	**120 m/min**
Feed (f)	**0.04 mm/U**

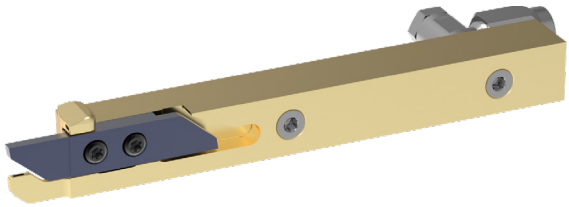
Number of parts	multidec®-CUT, GOLD-LINE	Reference product / conventional
525		
1080		
1600		

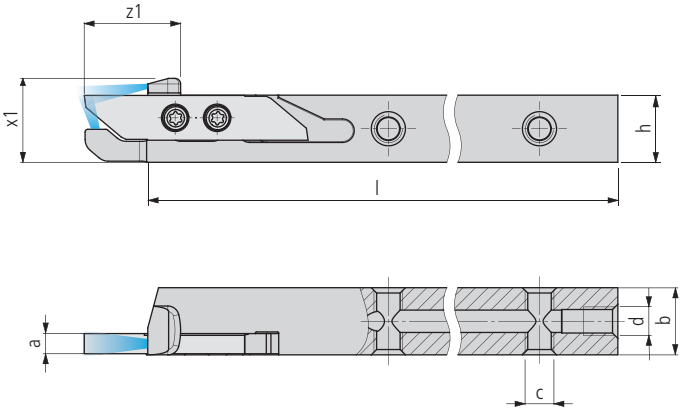
Performance comparison
The line diagram shows the development of the free face wear on the basis of the test result. The quantity [parts] was shown for illustration purposes.





With internal cooling "IC+" (IC-Plus)
with cooling of chip breaker and clearance angle





3000… GL IC+

Order designation L		Order designation R		Dimensions h	b	l	a	z¹	x¹	c	d	Inserts*
PREMIUM-LINE												
3000-12x100 L GL IC+	■	3000-12x100 R GL IC+	■	12	12	100	3.5	17.2	15	M5	M5	30…
3000-16x125 L GL IC+	■	3000-16x125 R GL IC+	■	16	16	125	3.5	17.2	19	M5	G⅛"	30…
3000-20x125 L GL IC+	■	3000-20x125 R GL IC+	■	20	20	125	3.5	17.2	23	M5	G⅛"	30…

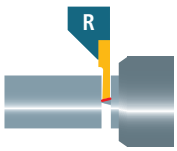
3000… GL IC+ INCH

Order designation L		Order designation R		Dimensions h	b	l	a	z¹	x¹	c	d	Inserts*
PREMIUM-LINE												
3000-1/2"x100 L GL IC+	■	3000-1/2"x100 R GL IC+	■	12.7	12.7	100	3.5	17.2	15.7	M5	M5	30…
3000-5/8"x125 L GL IC+	■	3000-5/8"x125 R GL IC+	■	15.875	15.875	125	3.5	17.2	18.875	M5	G⅛"	30…
3000-3/4"x125 L GL IC+	■	3000-3/4"x125 R GL IC+	■	19.05	19.05	125	3.5	17.2	22.05	M5	G⅛"	30…

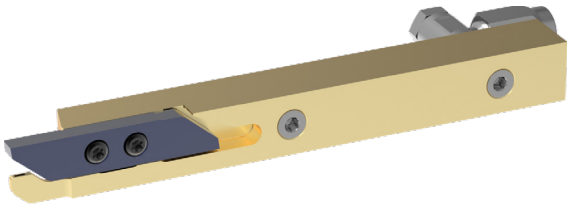
* Up to a bar diameter of <12 mm, all short inserts can be utilized.
For bar diameters >12 mm, the inserts used must have a minimum width of 2 mm.

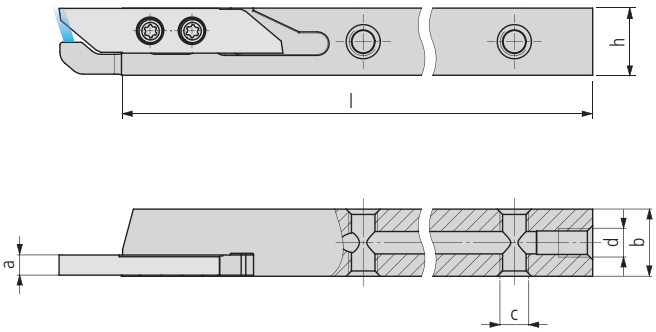
Scope of delivery: Holder without coolant connector (Coolant system)

Legend 4…



With internal cooling "IC-FK"
only with cooling of clearance angle for compatibility with multidec®-LUB system





3000… GL IC-FK

Order designation L		Order designation R		Dimensions h	b	l	a	c	d			Inserts*
PREMIUM-LINE												
3000-12x100 L GL IC-FK	■	3000-12x100 R GL IC-FK	■	12	12	100	3.5	M5	M5			30…
3000-16x125 L GL IC-FK	■	3000-16x125 R GL IC-FK	■	16	16	125	3.5	M5	G⅛"			30…
3000-20x125 L GL IC-FK	■	3000-20x125 R GL IC-FK	■	20	20	125	3.5	M5	G⅛"			30…

3000… GL IC-FK INCH

Order designation L		Order designation R		Dimensions h	b	l	a	c	d			Inserts*
PREMIUM-LINE												
3000-1/2"x100 L GL IC-FK	■	3000-1/2"x100 R GL IC-FK	■	12.7	12.7	100	3.5	M5	M5			30…
3000-5/8"x125 L GL IC-FK	■	3000-5/8"x125 R GL IC-FK	■	15.875	15.875	125	3.5	M5	G⅛"			30…
3000-3/4"x125 L GL IC-FK	■	3000-3/4"x125 R GL IC-FK	■	19.05	19.05	125	3.5	M5	G⅛"			30…

* Up to a bar diameter of <12 mm, all short inserts can be utilized.
For bar diameters >12 mm, the inserts used must have a minimum width of 2 mm.

Scope of delivery: Holder without coolant connector (Coolant system)

Item 300362

www.utilis.com

Can be found in general catalogue 2022 / 23

– Inserts multidec®-CUT 3000 ..... 123…
– Coolant system ..... 671…

Legend ..... 4…

Illustration	Description	Dimensions	Order designation		Holders
	TORX screw	M3 × 9 T08	MSP 30090 T08	■	3000…
	Screw plug	M5	MSP VSR M5 IB2.5	■	3000…
		G⅛	MSP VSR G1/8 IB5	■	3000…

Item 300362

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Can be found in general catalogue 2022 / 23

– TORX screwdrivers ..... 703…

Legend ..... 4…

UTILIS®

Tooling for High Technology

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