

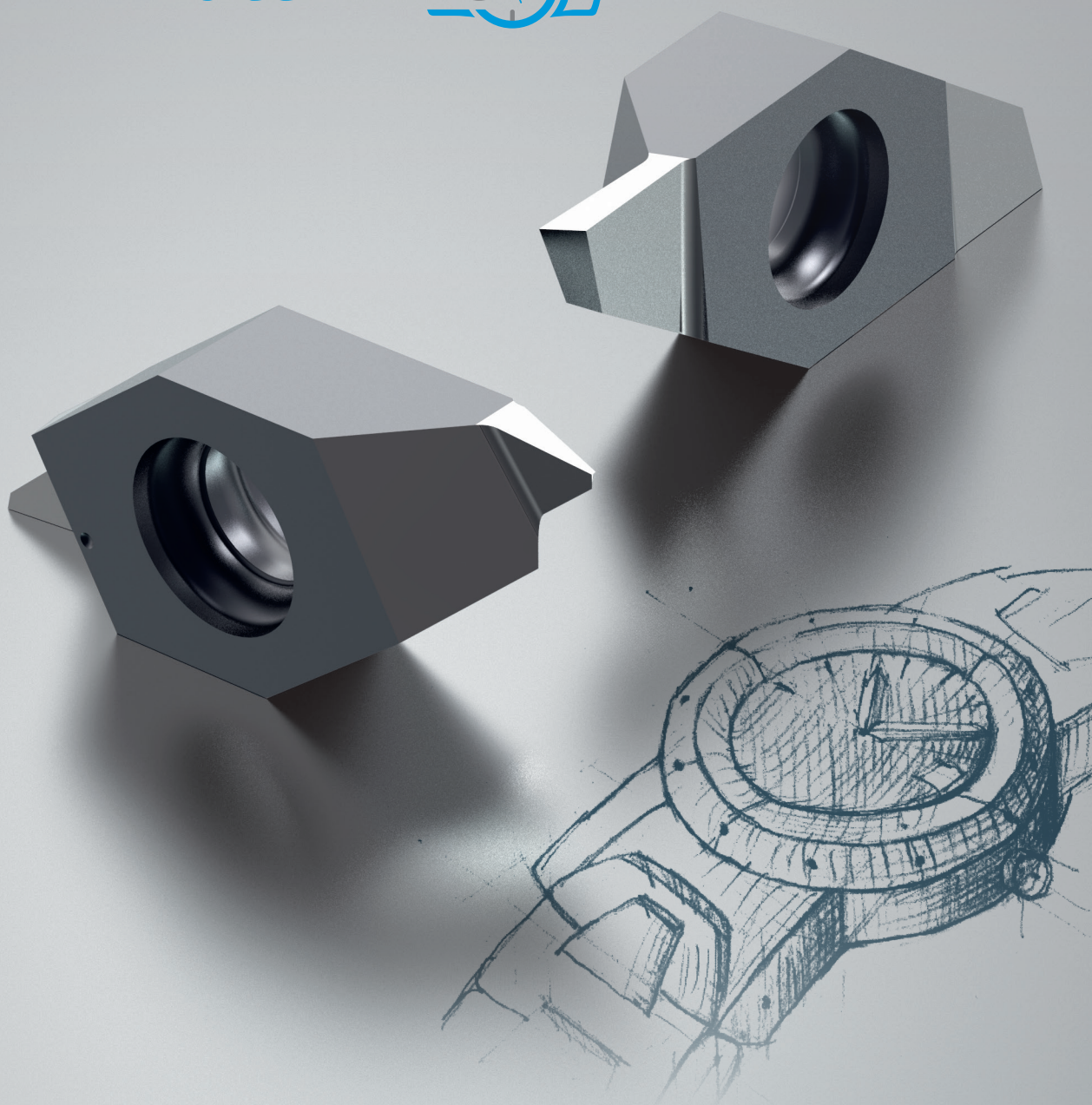
UTILIS
multidec[®]
swiss type tools

ENGLISH 

multidec[®]-CUT

UTILIS
watch-line 

INNOVATION



future since **1915**

UTILIS[®]
Tooling for High Technology

The WATCH-LINE range of turning inserts is designed for the efficient machining of very small parts in the watchmaking industry.

This range of inserts is characterized by:

- Very high grinding quality for very sharp cutting edges
- High positioning accuracy of the insert in all three axes
- Very wear-resistant grades and extra-fine PVD coatings



Legend

Dimensions

All dimensions are in millimeter (mm).

Recommended usage

- Preferred application
- Possible application
- Application not recommended

Availability

- 12345** Standard articles
- 12345** Standard articles, new in this catalog
- 12345** Discontinued articles

Material classification

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:

P	Steel (non-alloyed, low alloyed and high alloyed)
M	Stainless steel
S	Titanium and heat-resistant alloys
N	Non-ferrous metals (gold, aluminum and brass)
H	Hard materials

Order designation

Order designation	Grade
To the designation of the selected type of product, the desired cutting material code must be added.	○
	○
	○
	●
	1
	UHM 10
1602 W-0.8-3 L 25 ... 1	Art. no. 553299 2

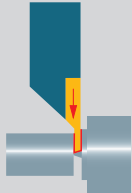
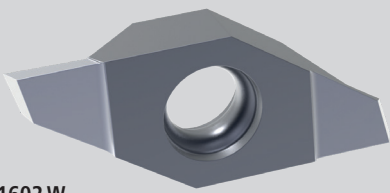
1 Order using order designation:
1602 W-0.8-3 L 25 UHM 10

2 Order using art. no.: **553299**

Grades and fields of application

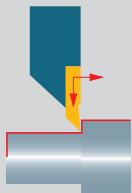
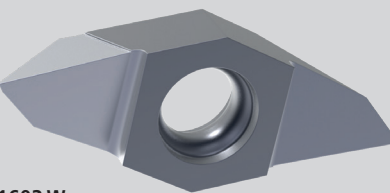
Grade	Coating	Description
UHM10	uncoated	Wear-resistant fine grain grade without coating with extremely sharp cutting edge. Suitable for easy-to-machine materials such as brass or leaded free-cutting steels.
UHM10 HP1	AlTiN extra-fine <1µm	Wear-resistant micro-grain grade with thin all-round coating for an optimally sharp cutting edge. Suitable for machining almost all materials, especially free-cutting steel.
UHM10 TX1	TiSiN extra-fine <1µm	Wear-resistant micro-grain grade with thin TiSiN coating for very sharp cutting edges. Particularly suitable for machining titanium, stainless steels and high-alloy materials.
UHM10 HF1	AlCrN extra-fine <1µm	Wear-resistant micro-grain grade with thin AlCrN coating for very sharp cutting edges. Particularly suitable for fine finishing operations in steel and stainless steel.

CUT off

Application	Geometry
	 1602 W...

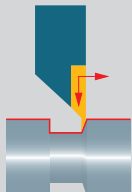
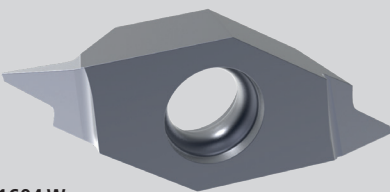
4

Front turning

Application	Geometry
	 1603 W...

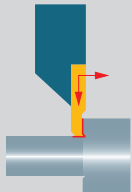
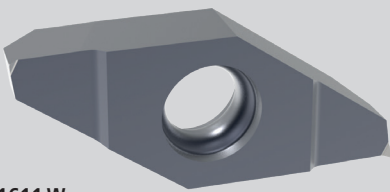
5

Back turning

Application	Geometry
	 1604 W...

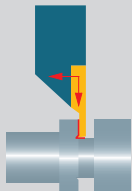
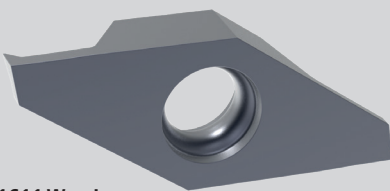
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Front grooving axial

Application	Geometry
	 1611 W...

7

Back grooving axial

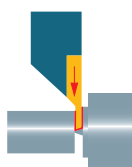
Application	Geometry
	 1611 W... I

8

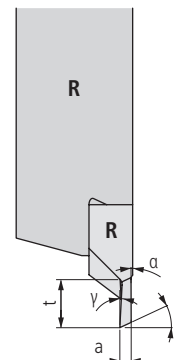
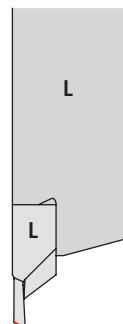
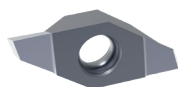
NEW

NEW

4



CUT off



1602 W... L ..

Order designation	Grade				Dimensions							Holder*
L	○	●	○	●								
	○	○	●	●								
	○	○	●	○								
	●	●	-	○								
	-	-	○	-								
	UHM 10	UHM 10 HP1	UHM 10 TX1	UHM 10 HF1	a	t	α	β	γ			

WATCH-LINE

Art. no.													
1602 W-0.8-3 L 25 ...	553299	553300	553301	553302	0.8	3	0.2°	25°	3°				1600...
1602 W-1.0-3 L 25 ...	553307	553308	553309	553310	1	3	0.2°	25°	3°				1600...

1602 W... R ..

Order designation	Grade				Dimensions							Holder*
R	○	●	○	●								
	○	○	●	●								
	○	○	●	○								
	●	●	-	○								
	-	-	○	-								
	UHM 10	UHM 10 HP1	UHM 10 TX1	UHM 10 HF1	a	t	α	β	γ			

WATCH-LINE

Art. no.													
1602 W-0.8-3 R 25 ...	550841	553296	553298	550842	0.8	3	0.2°	25°	3°				1600...
1602 W-1.0-3 R 25 ...	553303	553304	553305	553306	1	3	0.2°	25°	3°				1600...



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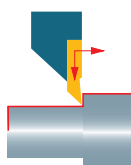
* Can be found in general catalogue 2022/23

- Technical information 9–29
- Holders multidec®-CUT 1600 90–102, 104

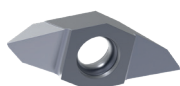
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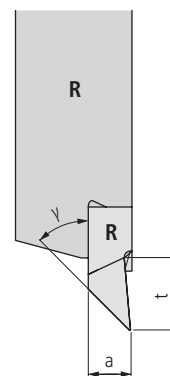
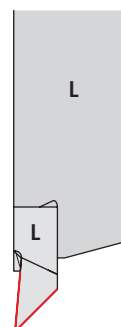
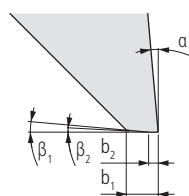
Legend 2



Front turning



1603 W... L ...



Order designation	Grade				Dimensions								Holder*
L	○	●	○	●									
	○	○	●	●									
	○	○	○	○									
	●	●	●	●									
	-	-	○	-									
	UHM 10	UHM 10 HP1	UHM 10 TX1	UHM 10 HF1	a	b ₁	b ₂	t	α	β ₁	β ₂	γ	
WATCH-LINE													
Art. no.													
1603 W-3.0-5 L 003-3/0/45 ...	554867	554868	554869	554870	3	0.03	—	5	3°	0°	—	45°	1600...
1603 W-3.0-5 L 010-3/0/45 ...	553315	553317	553316	553319	3	0.1	—	5	3°	0°	—	45°	1600...
1603 W-3.0-5 L 010-1/0/45 ...	553324	553325	553326	553327	3	0.1	—	5	1°	0°	—	45°	1600...
1603 W-3.0-5 L 010/003-5/5/45 ...	553330	553331	553332	553333	3	0.1	0.03	5	5°	5°	0°	45°	1600...

1603 W... R ...

Order designation	Grade				Dimensions								Holder*
R	○	●	○	●									
	○	○	●	●									
	○	○	○	○									
	●	●	●	●									
	-	-	○	-									
	UHM 10	UHM 10 HP1	UHM 10 TX1	UHM 10 HF1	a	b ₁	b ₂	t	α	β ₁	β ₂	γ	
WATCH-LINE													
Art. no.													
1603 W-3.0-5 R 003-3/0/45 ...	554863	554864	554865	554866	3	0.03	—	5	3°	0°	—	45°	1600...
1603 W-3.0-5 R 010-3/0/45 ...	553311	553312	553313	553314	3	0.1	—	5	3°	0°	—	45°	1600...
1603 W-3.0-5 R 010-1/0/45 ...	553320	553321	553322	553323	3	0.1	—	5	1°	0°	—	45°	1600...
1603 W-3.0-5 R 010/003-5/5/45 ...	550838	553328	553329	550840	3	0.1	0.03	5	5°	5°	0°	45°	1600...



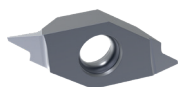
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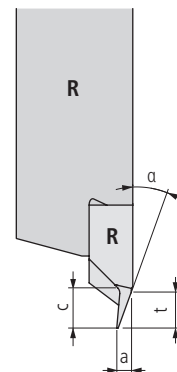
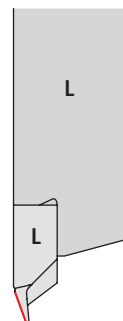
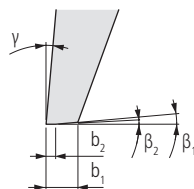
- Technical information 9–29
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Back turning



1604 W... L ...



Order designation	Grade				Dimensions									Holder*
L	○	●	○	●										
	○	○	●	●										
	○	○	●	○										
	●	●	-	○										
	-	-	○	-										
	UHM 10	UHM 10 HP1	UHM 10 TX1	UHM 10 HF1	a	b ₁	b ₂	c	t	α	β ₁	β ₂	γ	

WATCH-LINE

Art. no.															
1604 W-1.0-1.0 L 003-45/0/5 ...	553338	553339	553340	553341	1	0.03	—	2.8	1	45°	0°	—	5°	1600...	
1604 W-1.0-0.9 L 010-45/0/5 ...	553346	553347	553348	553349	1	0.1	—	2.8	0.9	45°	0°	—	5°	1600...	
1604 W-1.0-2.5 L 010/003-20/5/5 ...	553352	553353	553354	553355	1	0.1	0.03	2.8	2.5	20°	5°	0°	5°	1600...	

1604 W... R ...

Order designation	Grade				Dimensions									Holder*
R	○	●	○	●										
	○	○	●	●										
	○	○	●	○										
	●	●	-	○										
	-	-	○	-										
	UHM 10	UHM 10 HP1	UHM 10 TX1	UHM 10 HF1	a	b ₁	b ₂	c	t	α	β ₁	β ₂	γ	

WATCH-LINE

Art. no.															
1604 W-1.0-1.0 L 003-45/0/5 ...	553334	553335	553336	553337	1	0.03	—	2.8	1	45°	0°	—	5°	1600...	
1604 W-1.0-0.9 L 010-45/0/5 ...	553342	553343	553344	553345	1	0.1	—	2.8	0.9	45°	0°	—	5°	1600...	
1604 W-1.0-2.5 L 010/003-20/5/5 ...	550843	553350	553351	550844	1	0.1	0.03	2.8	2.5	20°	5°	0°	5°	1600...	

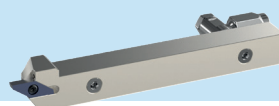


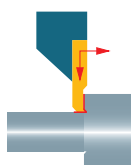
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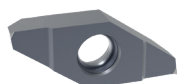
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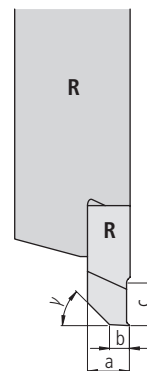
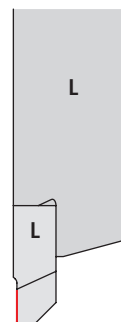
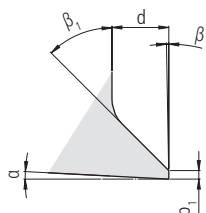




Front grooving axial



1611 W... L ...



Order designation	Grade				Dimensions									Holders*
L	○	●	○	●	a	b	b ₁	c	d	α	β	β ₁	γ	
	○	○	●	●										
	○	○	●	○										
	○	○	●	○										
	●	●	○	○										
	—	—	○	—										
UHM 10	UHM 10 HP1	UHM 10 TX1	UHM 10 HF1											
WATCH-LINE														
Art. no.														
1611 W-3.0-3 L 003/45/020 ...	555261	555262	555263	555264	2.95	1.4	0.03	3	0.2	3°	0°	45°	45°	1600...
1611 W-3.0-3 L 005/45/030 ...	555269	555270	555271	555272	2.95	1.5	0.05	3	0.3	3°	0°	45°	45°	1600...
1611 W-3.0-3 L 008/45/050 ...	555277	555278	555279	555280	2.95	1.7	0.08	3	0.5	3°	0°	45°	45°	1600...

1611 W... R ...

Order designation	Grade				Dimensions									Holders*
R	○	●	○	●	a	b	b ₁	c	d	α	β	β ₁	γ	
	○	○	●	○										
	○	○	●	○										
	●	●	○	○										
	-	-	○	-										
	UHM 10	UHM 10 HP1	UHM 10 TX1	UHM 10 HF1										
WATCH-LINE														
Art. no.														
1611 W-3.0-3 R 003/45/020 ...	555256	555257	555258	555259	2.95	1.4	0.03	3	0.2	3°	0°	45°	45°	1600...
1611 W-3.0-3 R 005/45/030 ...	555265	555266	555267	555268	2.95	1.5	0.05	3	0.3	3°	0°	45°	45°	1600...
1611 W-3.0-3 R 008/45/050 ...	555273	555274	555275	555276	2.95	1.7	0.08	3	0.5	3°	0°	45°	45°	1600...



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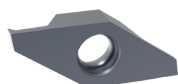
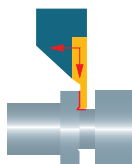
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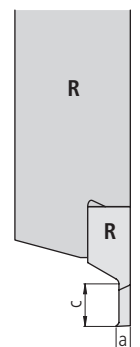
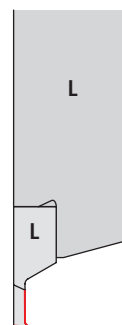
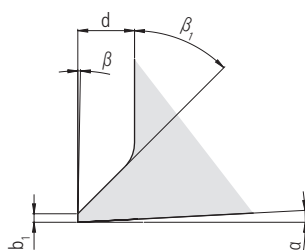
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Back grooving axial



1611 W... LI ...



Order designation	Grade				Dimensions										Holder*
L															
															
															
															
															
	UHM 10	UHM 10 HP1	UHM 10 TX1	UHM 10 HF1	a	b ₁	c	d	α	β	β ₁				
WATCH-LINE															
Art. no.															
1611 W-1.0-3 LI 003/45/020 ...	555285	555286	555287	555288	1	0.03	3	0.2	3°	0°	45°			1600...	
1611 W-1.0-3 LI 005/45/030 ...	555293	555294	555295	555296	1	0.05	3	0.3	3°	0°	45°			1600...	
1611 W-1.2-3 LI 008/45/050 ...	555301	555302	555303	555304	1.2	0.08	3	0.5	3°	0°	45°			1600...	

1611 W... RI ...

Order designation	Grade				Dimensions								Holder*
R													
													
													
													
													
													
UHM 10	UHM 10 HP1	UHM 10 TX1	UHM 10 HF1	a	b ₁	c	d	α	β	β ₁			

WATCH-LINE

Art. no.																
1611 W-1.0-3 RI 003/45/020 ...	555281	555282	555283	555284	1	0.03	3	0.2	3°	0°	45°			1600...		
1611 W-1.0-3 RI 005/45/030 ...	555289	555290	555291	555292	1	0.05	3	0.3	3°	0°	45°			1600...		
1611 W-1.2-3 RI 008/45/050 ...	555297	555298	555299	555300	1.2	0.08	3	0.5	3°	0°	45°			1600...		



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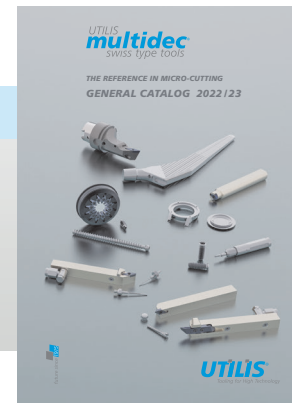
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multidec® General catalog 2022/23

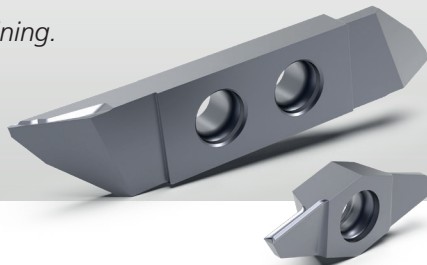
With the slogan **"The reference in micro machining"**, UTILIS presents the multidec® general catalogue 2022/23. The general catalogue contains a wide product range with efficient tools for your needs.



Article 300362

multidec®-CUT – G-LINE inserts

The performance boost in machining. New technology for creation of any three-dimensional chip-breaker shapes.



Article 400870

multidec®-MICRO TOOLS & -MILL – Solid carbide precision tools

multidec®-MICRO TOOLS contain various solid carbide micro tools for drilling, milling and TORX® milling. You will find a wide range of universal milling tools in the multidec®-MILL product range.



Article 400925

multidec®-CARE – From the idea to the machine

You have an order or an idea, and you want to know how to implement it? Together, we can realise a cost-effective solution for you.



Article 400885



UTILIS[®]
Tooling for High Technology

■ **Utilis AG, Precision Tools**

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