

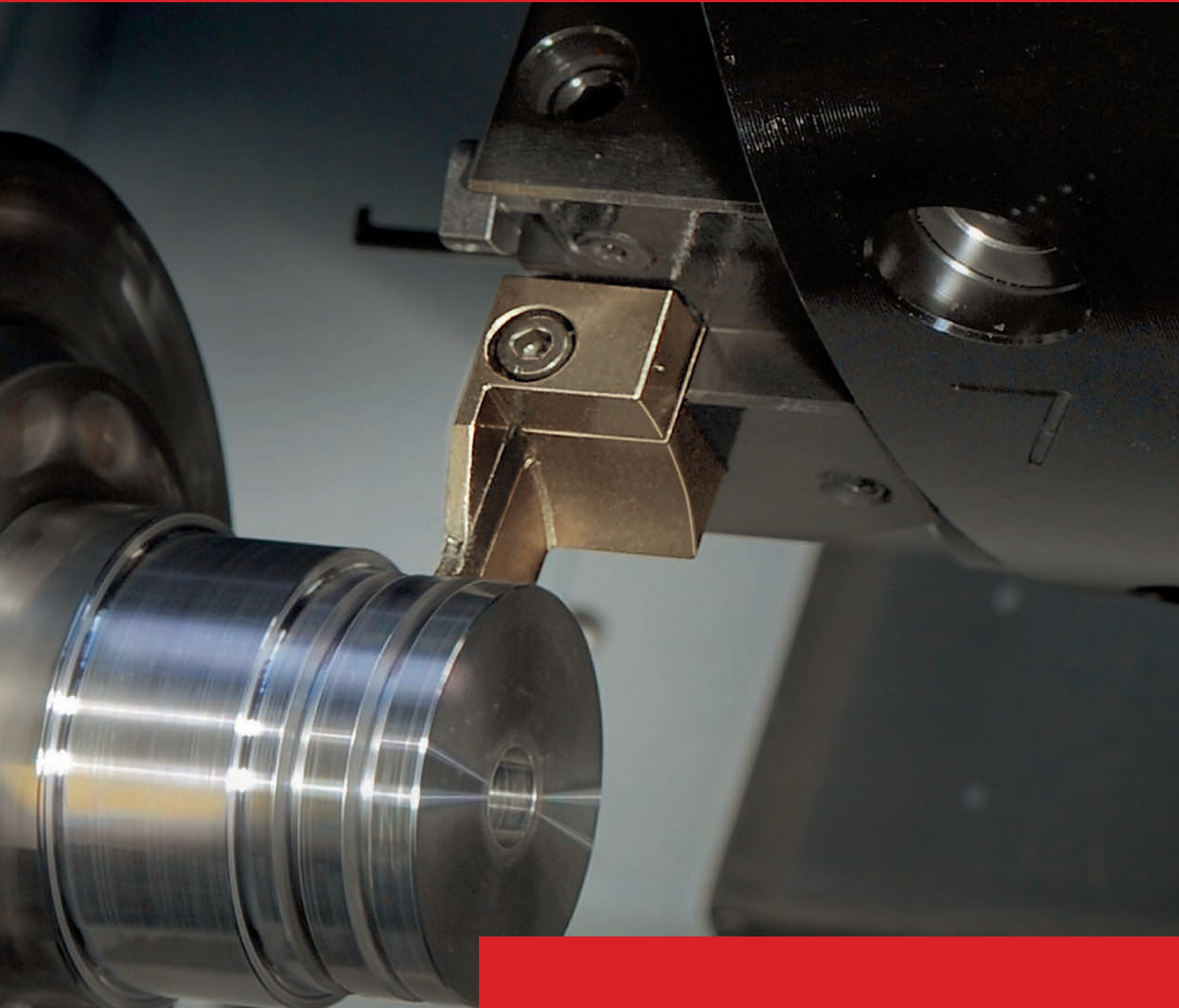
ARNO[®]

WERKZEUGE

We have a passion for precision.

GROOVING (Inch)

2019

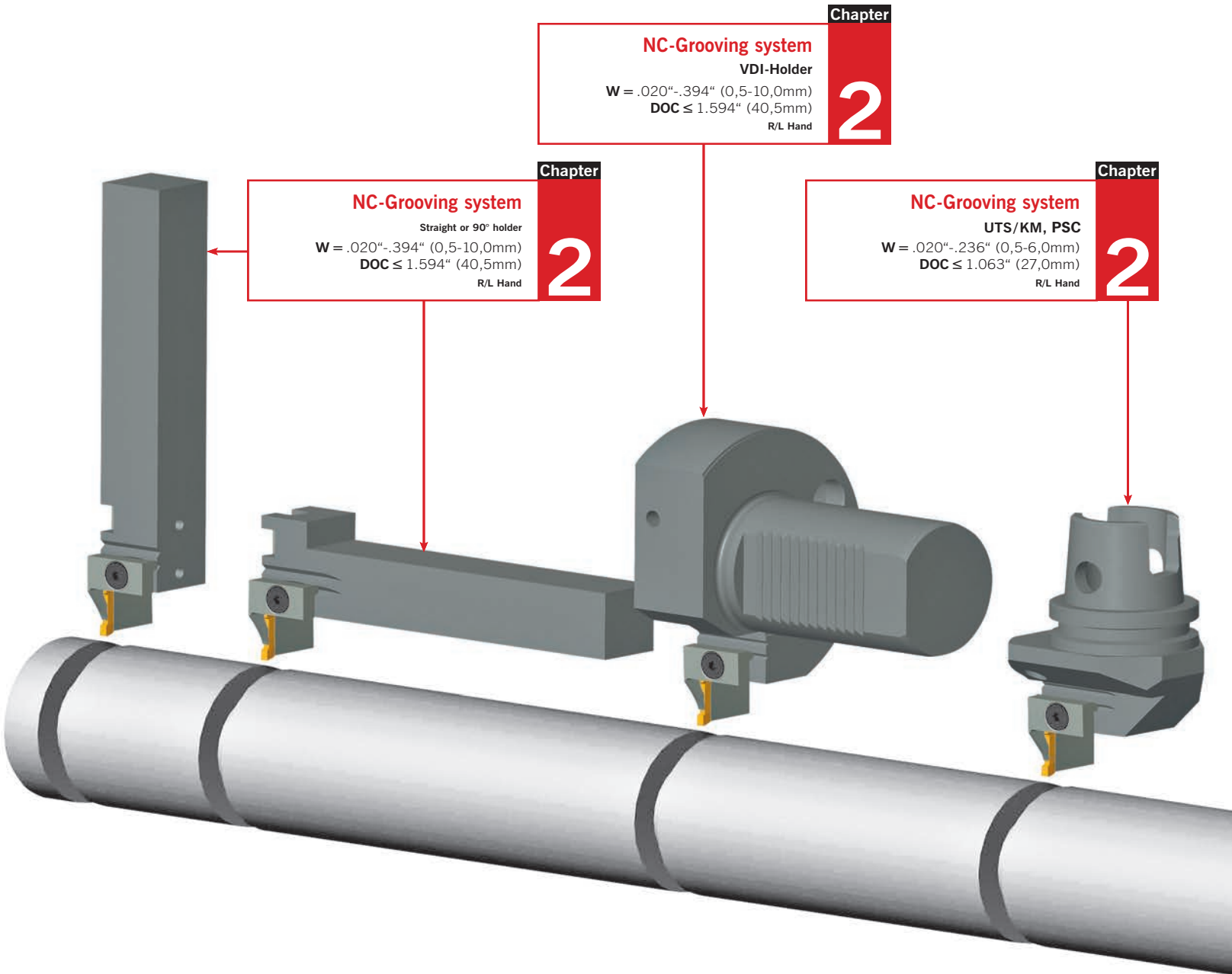


Tools and Inserts for Grooving

www.arnousa.com



Radial groove turning



Chapter
NC-Grooving system
VDI-Holder
W = .020"-.394" (0,5-10,0mm)
DOC ≤ 1.594" (40,5mm)
R/L Hand **2**

Chapter
NC-Grooving system
Straight or 90° holder
W = .020"-.394" (0,5-10,0mm)
DOC ≤ 1.594" (40,5mm)
R/L Hand **2**

Chapter
NC-Grooving system
UTS/KM, PSC
W = .020"-.236" (0,5-6,0mm)
DOC ≤ 1.063" (27,0mm)
R/L Hand **2**

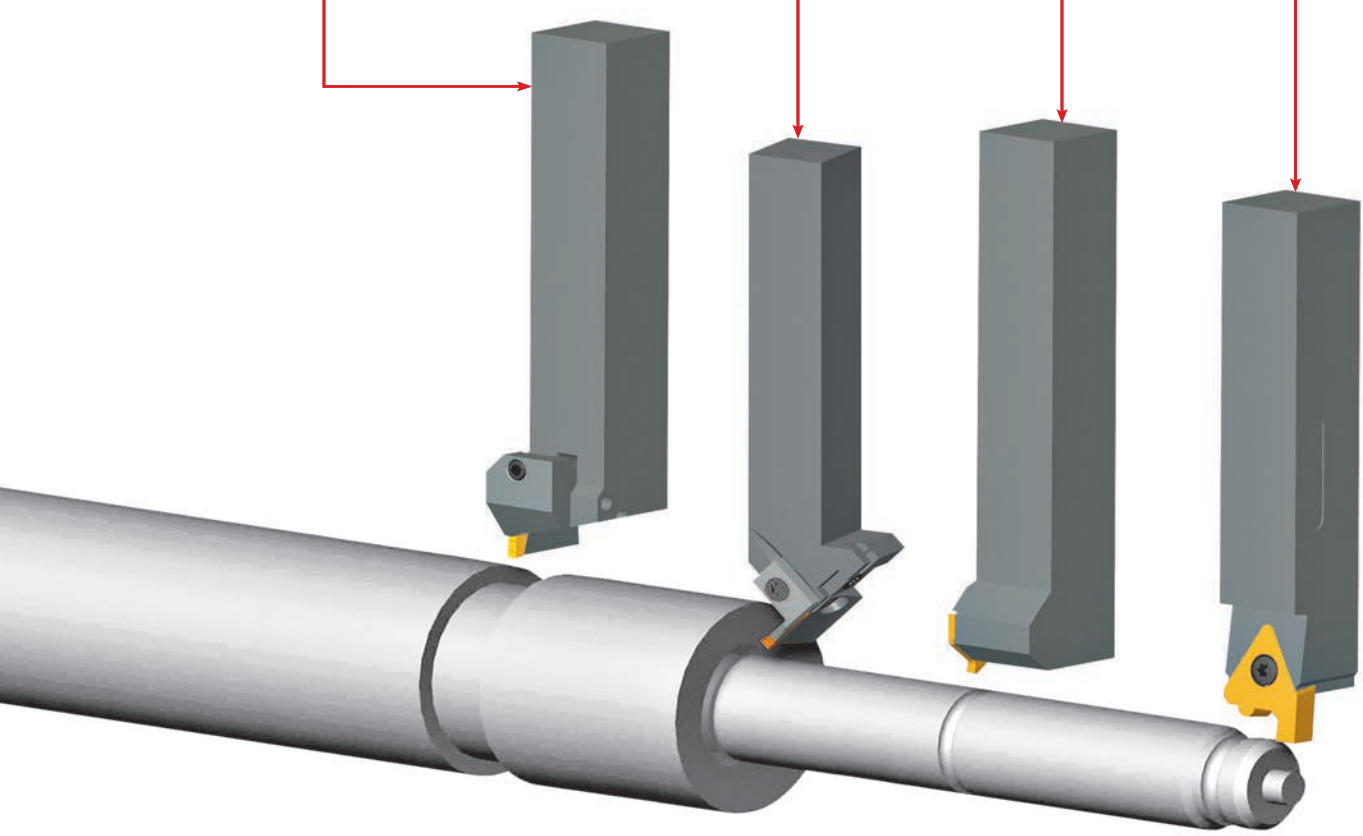


Chapter
SHORT-Cut®
 $W = .122"-.398"$ (3,1-10,1mm)
 $DOC \leq .650"/1.063"$ (16,5/27mm)
 R/L Hand **3**

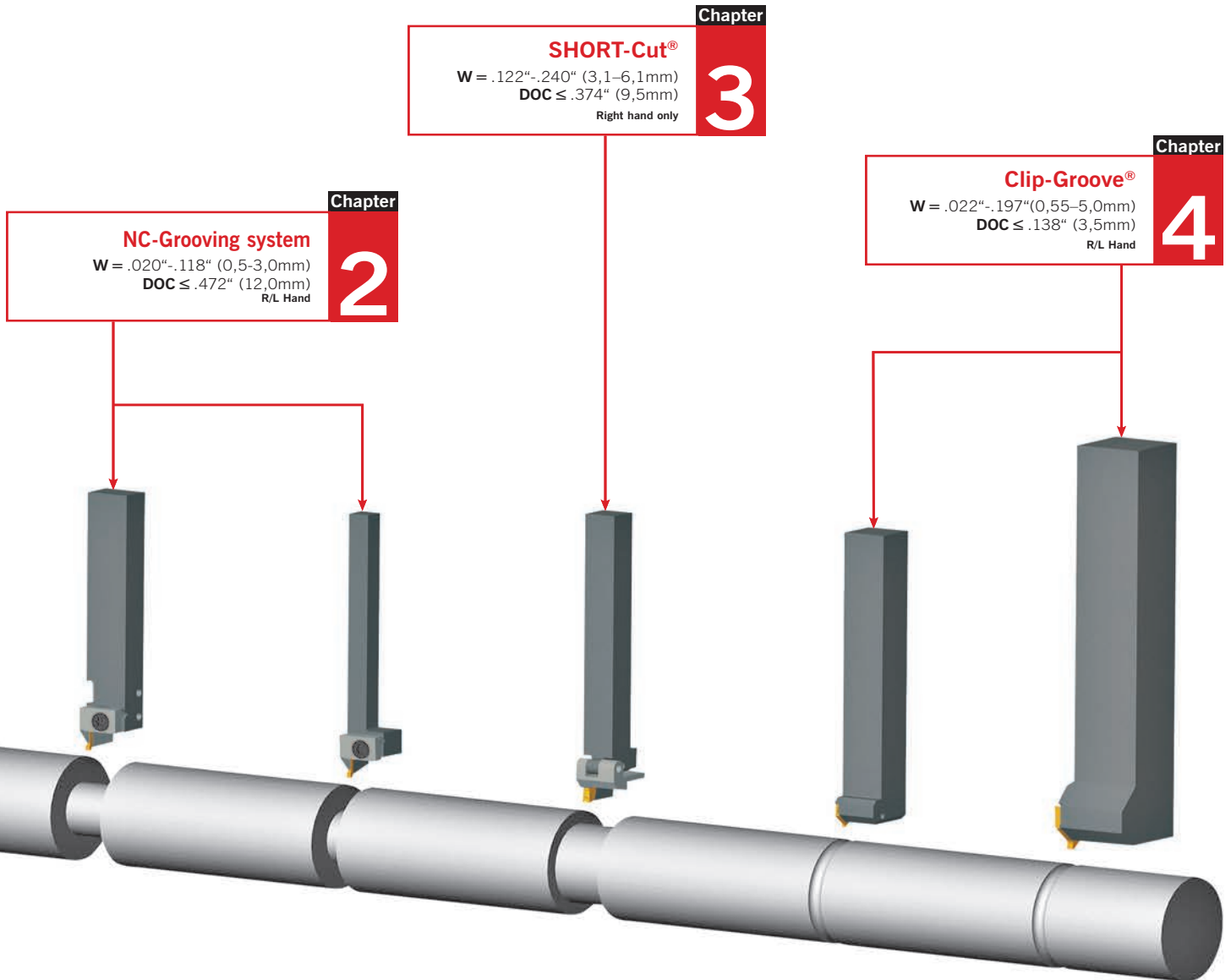
Chapter
Clip-Groove®
 $W = .022"-.197"$ (0,55-5,0mm)
 $DOC \leq .138"$ (3,5mm)
 R/L Hand **4**

Chapter
NC-Grooving system
 45°
 $W = 2,0 - 6,0$ mm
 $DOC \leq 1.063"$ (27,0mm)
 $D_{min} = .984"$ (25mm) - ∞
 R/L Hand **2**

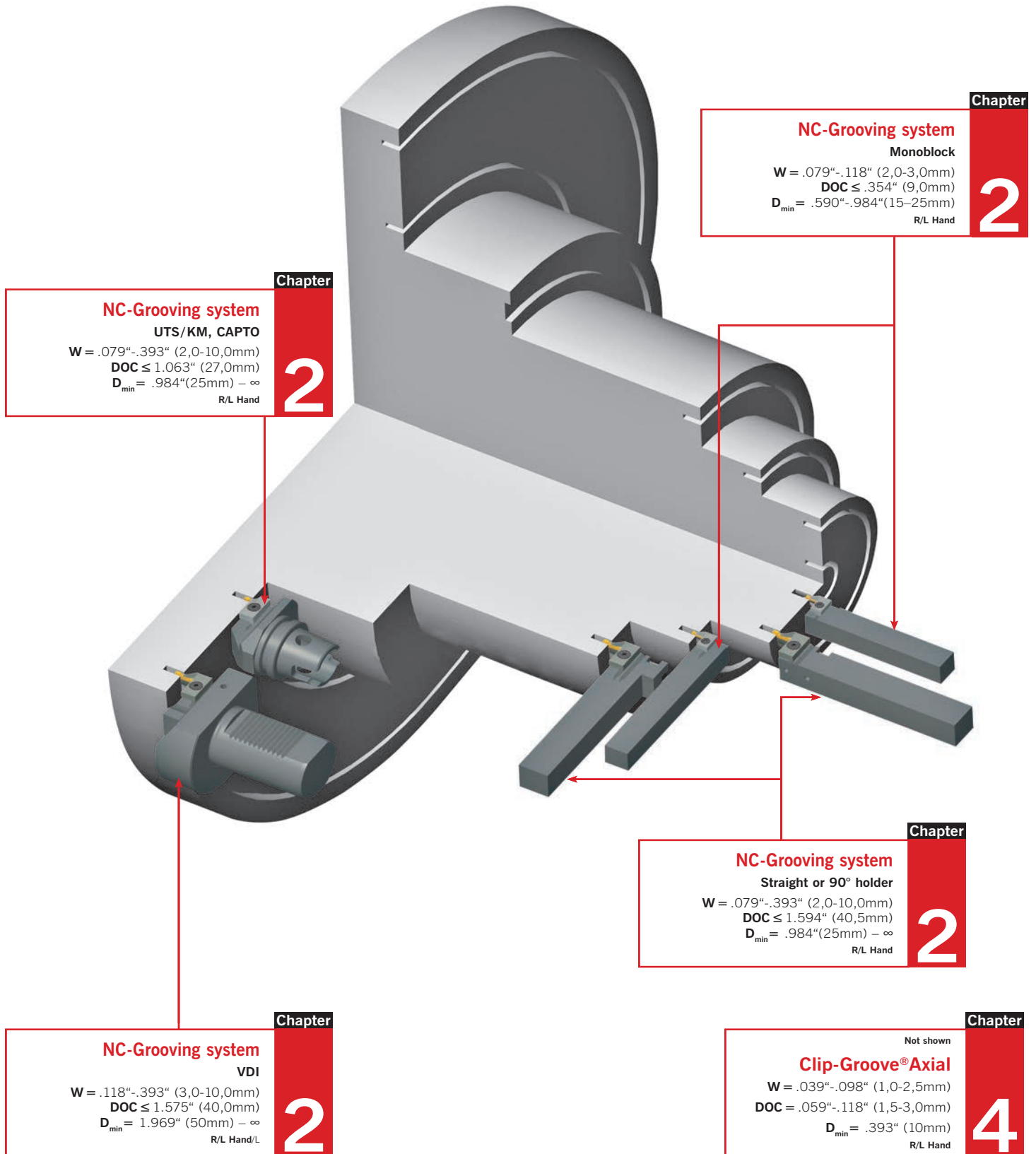
Chapter
Profil-Cut
 $W \leq .984"$ (25,0mm)
 R/L Hand **5**



Radial groove turning – CNC Auto Lathes



Axial groove turning



Chapter
NC-Grooving system
 UTS/KM, CAPTO
 $W = .079"-.393"$ (2,0-10,0mm)
 $DOC \leq 1.063"$ (27,0mm)
 $D_{min} = .984"$ (25mm) – ∞
 R/L Hand
2

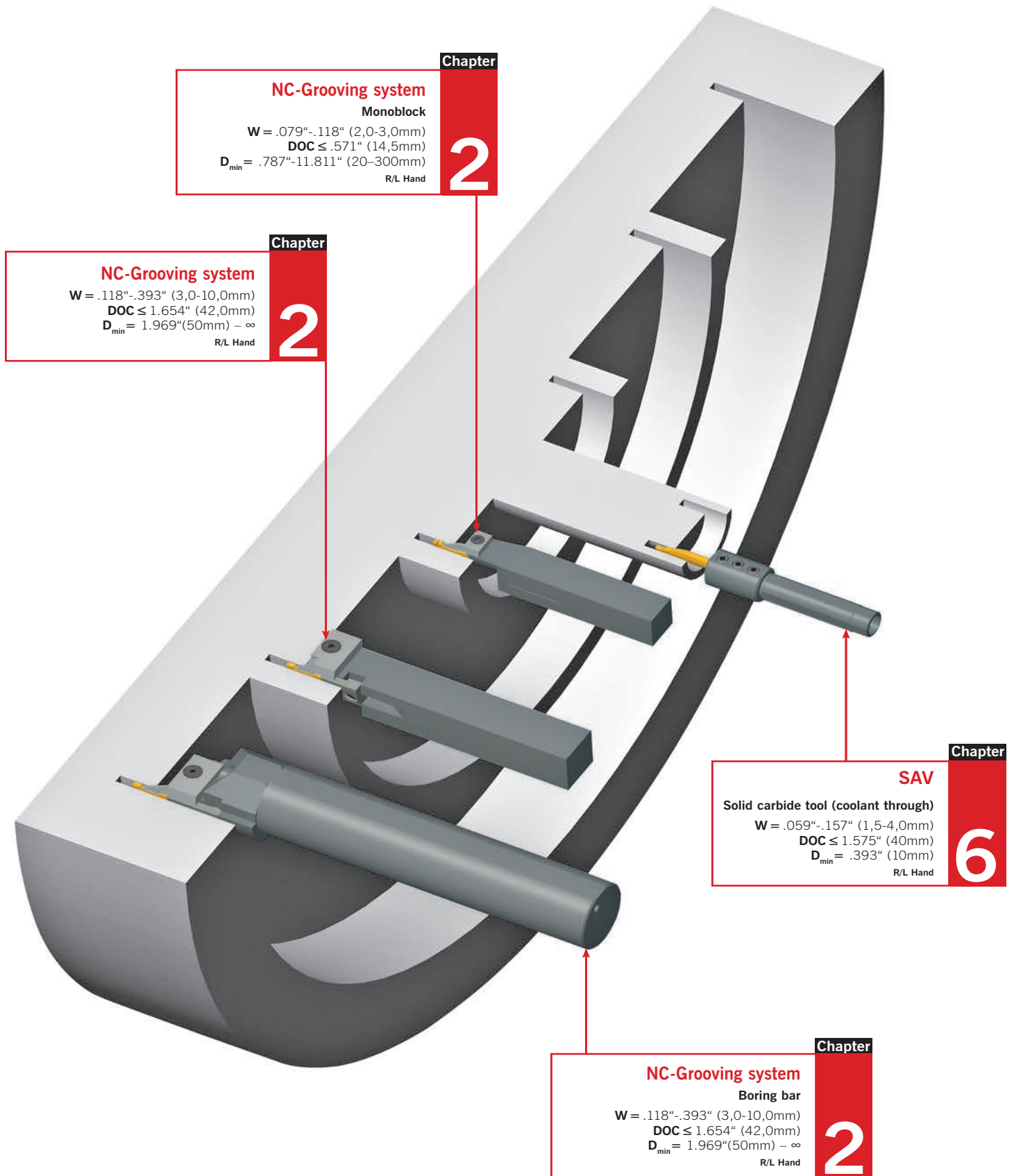
Chapter
NC-Grooving system
 Monoblock
 $W = .079"-.118"$ (2,0-3,0mm)
 $DOC \leq .354"$ (9,0mm)
 $D_{min} = .590"-.984"$ (15-25mm)
 R/L Hand
2

Chapter
NC-Grooving system
 Straight or 90° holder
 $W = .079"-.393"$ (2,0-10,0mm)
 $DOC \leq 1.594"$ (40,5mm)
 $D_{min} = .984"$ (25mm) – ∞
 R/L Hand
2

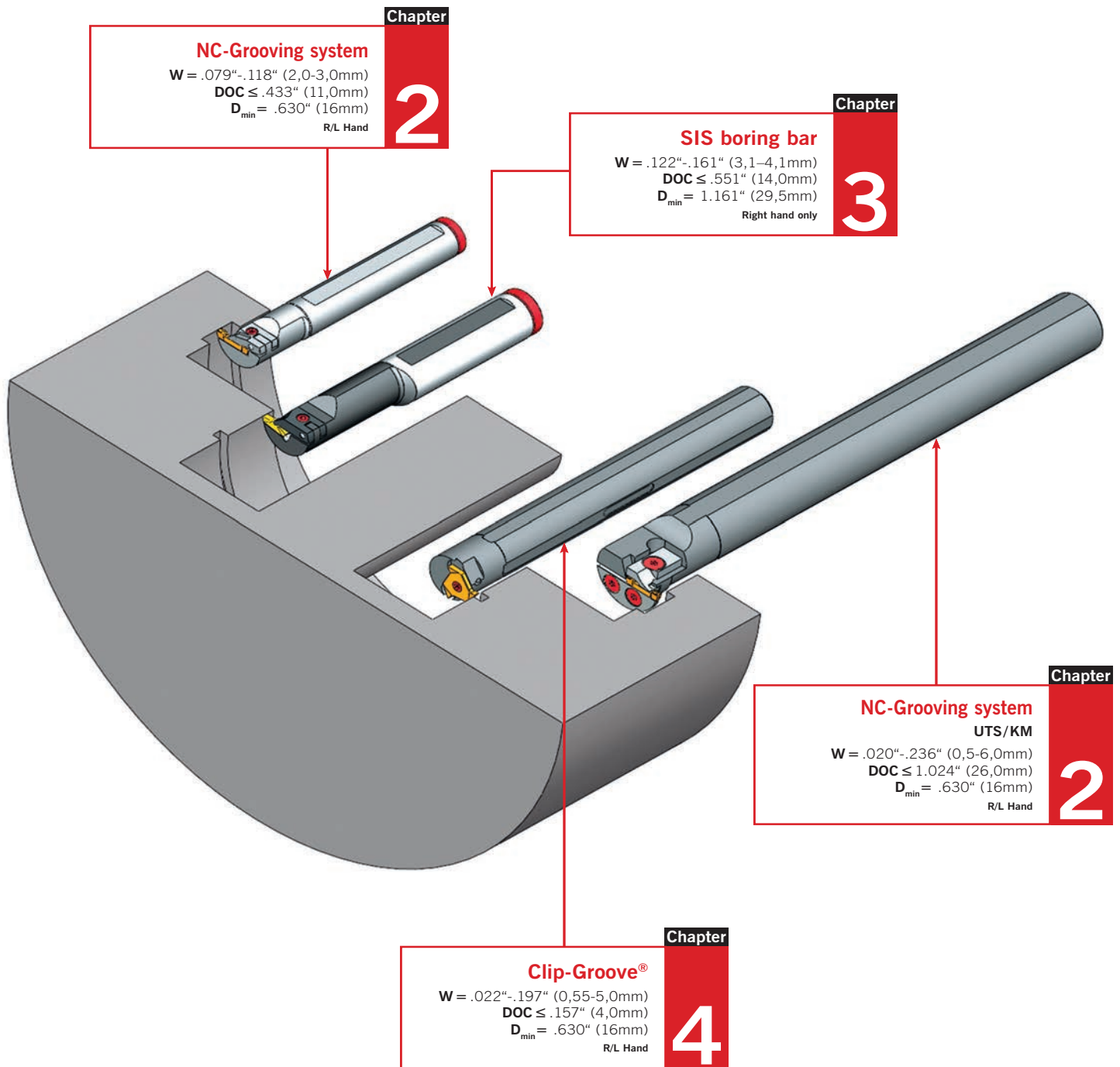
Chapter
NC-Grooving system
 VDI
 $W = .118"-.393"$ (3,0-10,0mm)
 $DOC \leq 1.575"$ (40,0mm)
 $D_{min} = 1.969"$ (50mm) – ∞
 R/L Hand/L
2

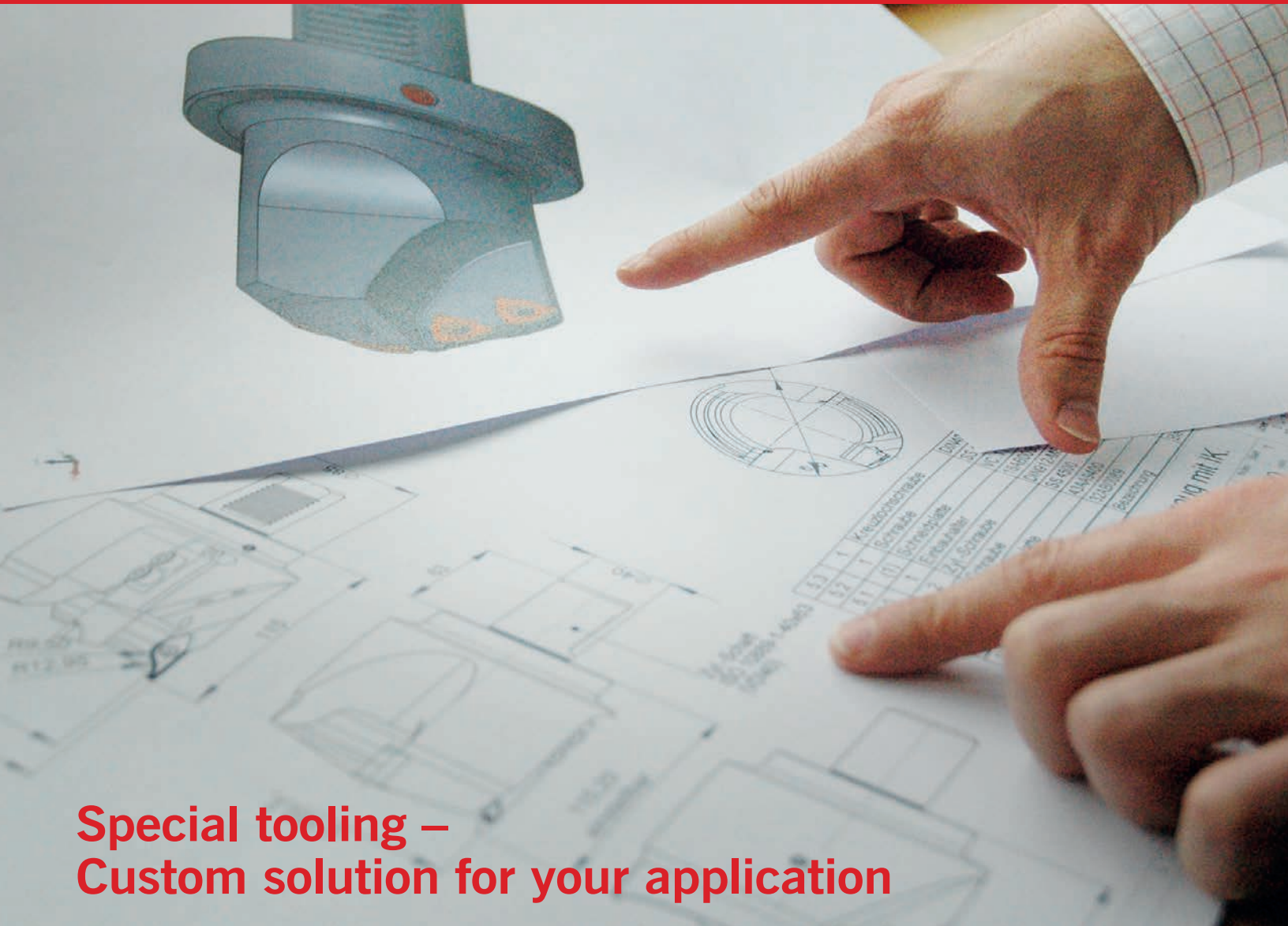
Chapter
 Not shown
Clip-Groove® Axial
 $W = .039"-.098"$ (1,0-2,5mm)
 $DOC = .059"-.118"$ (1,5-3,0mm)
 $D_{min} = .393"$ (10mm)
 R/L Hand
4

Axial groove turning – Kontra



Internal groove turning





Special tooling – Custom solution for your application

You have an application – We have a solution

Take advantage of our many years of experience in special solutions. Benefit from more efficient and cost effective custom tooling made by ARNO.

Whether it is special inserts or complex combination tools – we can offer precise, fast and flexible solutions to almost any application.

About us.....	Page	
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Service worldwide	15	
ARNO Grooving systems	16	

NC Grooving system	Precision groove turning system	19	2	
• Introduction		20 – 21		
• Basic holders – external	External groove turning	W .020" – .393" doc _{max} .020" – 1.594"		22 – 57
• SAN Monoblock holders	External groove turning	W .118" – .236" doc _{max} .669" – 1.063"		51
• Basic holders – internal	Internal groove turning	W .020" – .236" D _{min} .630" – 3.189"		58 – 63
• SIN Boring bars	Internal groove turning	W .079" and .118" D _{min} .630" – 1.260"		64
• Inserts				65 – 75

SHORT-Cut®	Groove turning system	87	3	
• Introduction		88 – 89		
• Monoblock holders	External groove turning	W .083" – .398" doc 1.57" – 1.063"		90 – 93
• SIS Boring bars	Internal groove turning	W .122" and .161" D _{min} 1.161" – 1.870"		96
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• Boring bars	Internal grooving	doc _{max} .157" D _{min} .630" – 1.457"		115
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Profil-Cut	Form grooving system	131	5	
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SAV ARNO®-Mini-System	Deep face grooving	142	6
• Holders and inserts	W .059" – .157" D _{min} .393" - 1.181" doc _{max} .394" - 1.575"	143	

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ARNO®

WERKZEUGE

1



1941

Emil Arnold (*24.7.1904), decides to become self-employed and establishes „Emil Arnold Lehrnbau“ in Franziskanergasse 7 in Esslingen.

1962

On April 1st, Karl-Heinz Arnold establishes „Karl-Heinz Arnold Werkzeuge“ in his father's company. Purpose: Sales of carbide cutting tools

1965

Company re-structuring from “Emil Arnold” to “Emil Arnold KG” and more focus on manufacturing of special tools and jigs for special purpose machines as well as mass production of tool holders.

1966

Both companies moving to the industrial area of „Ruit Zinsholz“, Ostfildern, near Stuttgart.

1967

Start of sales for indexable carbide inserts for turning and milling.

1979

Together, in a combined production facility with “Emil Arnold”, ARNO starts focusing on market opportunities. After only one year of research and development a mini copy turning system with a patented insert clamping is introduced.

1981

More developments of own tools, for example the NC-grooving and turning system.

1989

Entering into grinding technology

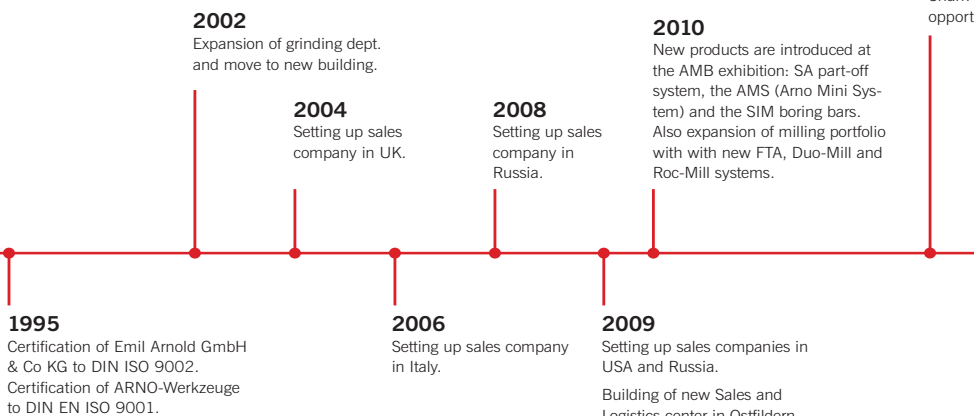
Tradition in Precision

„Local family business gains global position as a market leader.“

In 1941 **Emil Arnold** establishes „Lehrenbau“ in Esslingen am Neckar. Initially manufacturing mainly measurement jigs and gauges. Because he always gave his customers exactly what they specified he established himself through the high quality of his products.

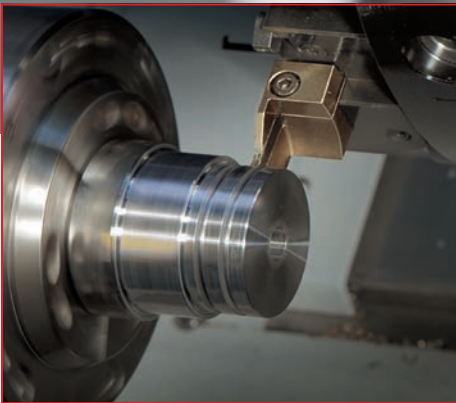
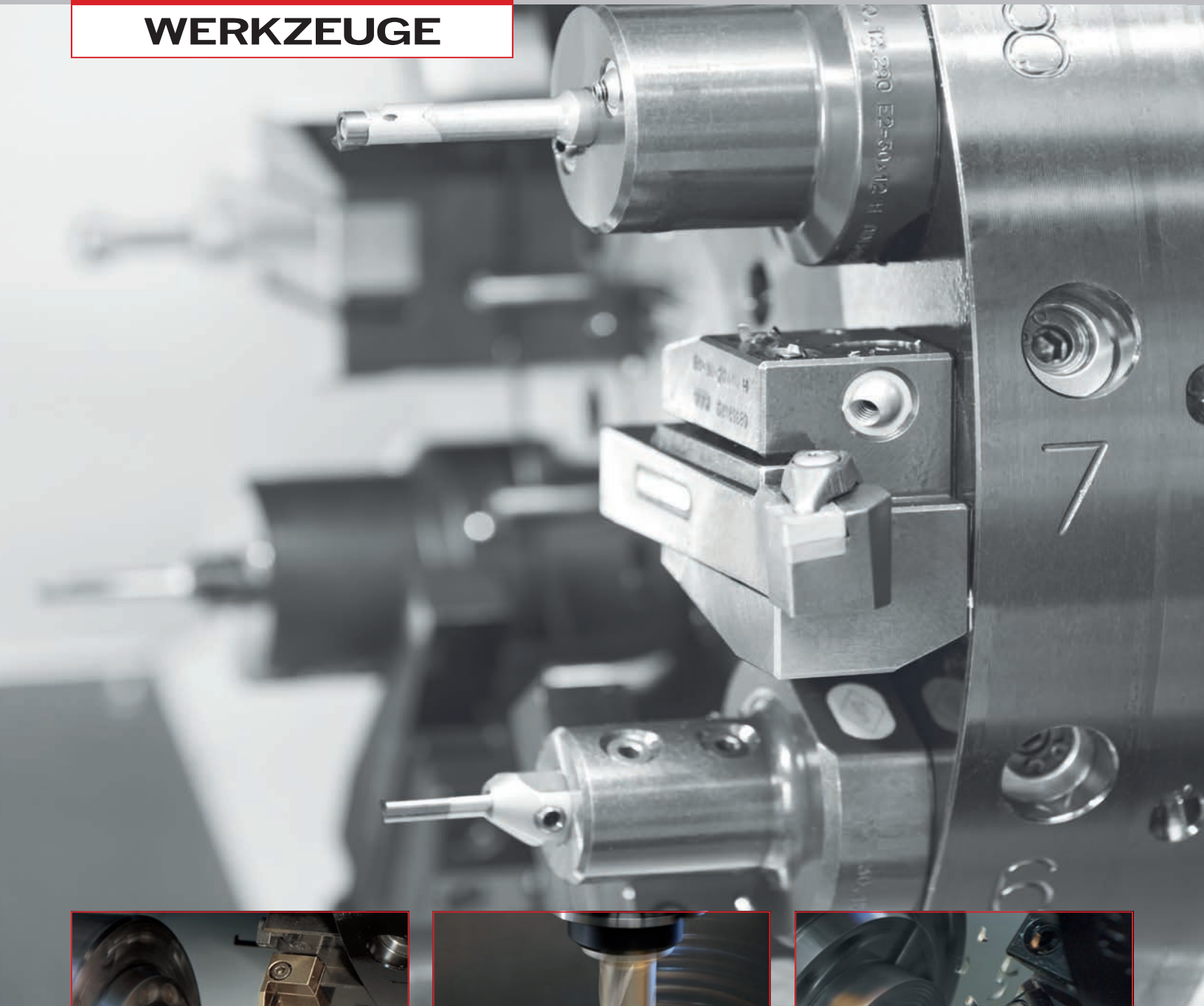
Together with his son Karl-Heinz Arnold they put their heart and soul into the company and were always open to new developments. He had a vision to be represented with his cutting tools in all industries all over the world. In 1962, his son forms the company Karl-Heinz Arnold GmbH which under the name ARNO-Werkzeuge began focussing on sales of carbide tools. Both companies were constantly looking for market opportunities with the customers in mind.

In 1987 **Klaus-Michael Arnold** joined the company and became Managing Director in 1992. In 2002, Josef Storf became joint Managing Director. In the spirit of the company founder, the product portfolio is expanding and the search for new sales channels are constantly being explored. In 2004, Arno (UK) Ltd becomes the first overseas sister company, followed by sister companies in Italy, Russia and the USA. Due to the constant developments of the product range and the high level of service provided, today ARNO-Werkzeuge is globally renowned for its high quality cutting tools.



ARNO[®]

WERKZEUGE



Grooving

Whether it is radial or axial grooving, parting off, groove turning or internal grooving, you will find the ideal tool from Arno-Werkzeuge.



Drilling

From 1mm to 114mm diameter you will find a solid carbide drill or a solution with indexable inserts from our extensive product range. (limited to Shark-Cut in USA)



Turning

ARNO-Werkzeuge offers reliable tools utilizing various inserts for your most demanding internal or external machining applications as well as tools and inserts for threading.

Strength from Experience, Competence and Development

"For the future you need a partner with vision"

By working closely with partners inside and outside the company, we are very capable of satisfying individual requirements which often lead to special tooling. These tools are consistently improved and might find their way into our standard portfolio of catalog tooling later.

New materials and expectations of constant improvement of machine time, motivate us to research and develop new tooling and cutting tool materials. That means developing modular tooling systems that are modified for each individual application. Our high performance but still affordable solutions include our extensive range of drilling systems, grooving systems, milling cutters and our huge range of indexable inserts (not just for turning) as well as tool holding and vending solutions.

Our technical support and advice follow any of our high quality tools. Our highly competent team will support you with service even after you have made your decision to purchase.



Milling

Face-mills, square shoulder-mills, chamfer-mills, milling cutters with round inserts, roughing cutters and solid carbide cutters. We have the right cutter for your application. (not in USA)



Page 19

NC Grooving

System for external, internal, face grooving and profile-copy turn grooving



Page 142

SAV Deep Face Grooving

Solid Carbide with two through coolant feed holes, insert widths from .059" - .157" with depths of cur up to 1.575"

Service to Size

Individual Solutions

Despite our wide range of standard tools which will cover a majority of applications, sometimes you may just need a solution for a specific request. ARNO can offer you a special tool which suits your application exactly.

A perfect solution without any compromises.

Overnight Delivery

When urgency is required ARNO is there to help. Place your order for standard tools by 3:30PM Central Time and our tools could be on your machine the next day. For special solutions we need a little longer, but then you will be getting a high quality tool just for your application.

Everything Under One Roof

The high quality of our products is a result of having R&D, manufacturing and sales at one location. This also gives us the opportunity for testing, offering faster response time, better control and better prices.

Experienced External Sales Team

You are never left alone with an ARNO product. Our experienced external ARNO sales team is always available for service and support.

Our Application Engineers

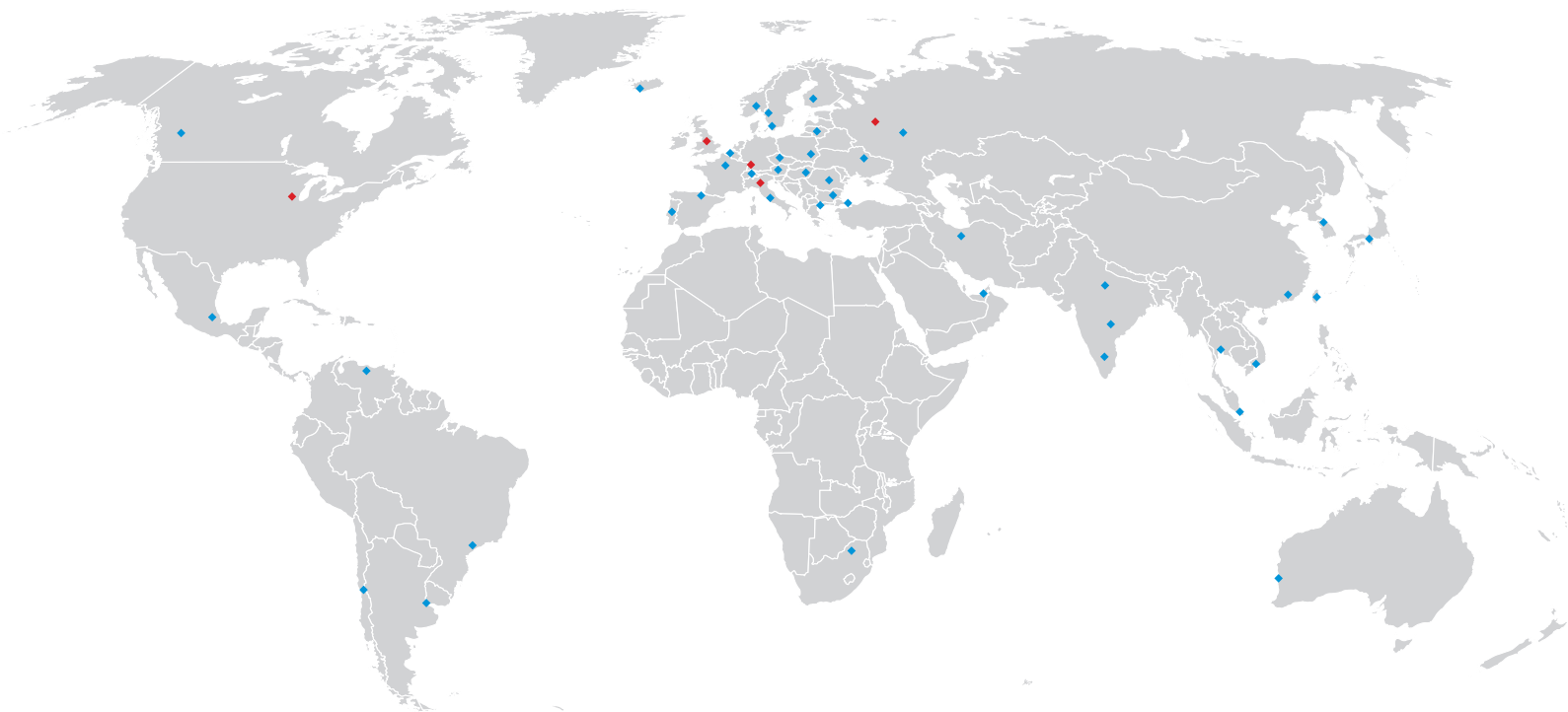
When you have a problem with an application our application engineers will be available to advise you on technical issues.

Ordering Hotline

Wherever you may be in the world you will be able to contact an ARNO representative. Take advantage of our competence, we look forward to being of service.

Globally available – Service where you need it

ARNO-Werkzeuge is represented world wide, it is important to us that we can service you where you need it. Our distributors and sister companies are always local and easy to contact.



◆ ARNO location

◆ Distributor

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1101 W DIGGINS ST
HARVARD, IL 60033

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Fax: 815 943 7156
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www.arnousa.com

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☎ +49 711 34 802-0 | 📠 +49 711 34 802-130 | info@arno.de | www.arno.de

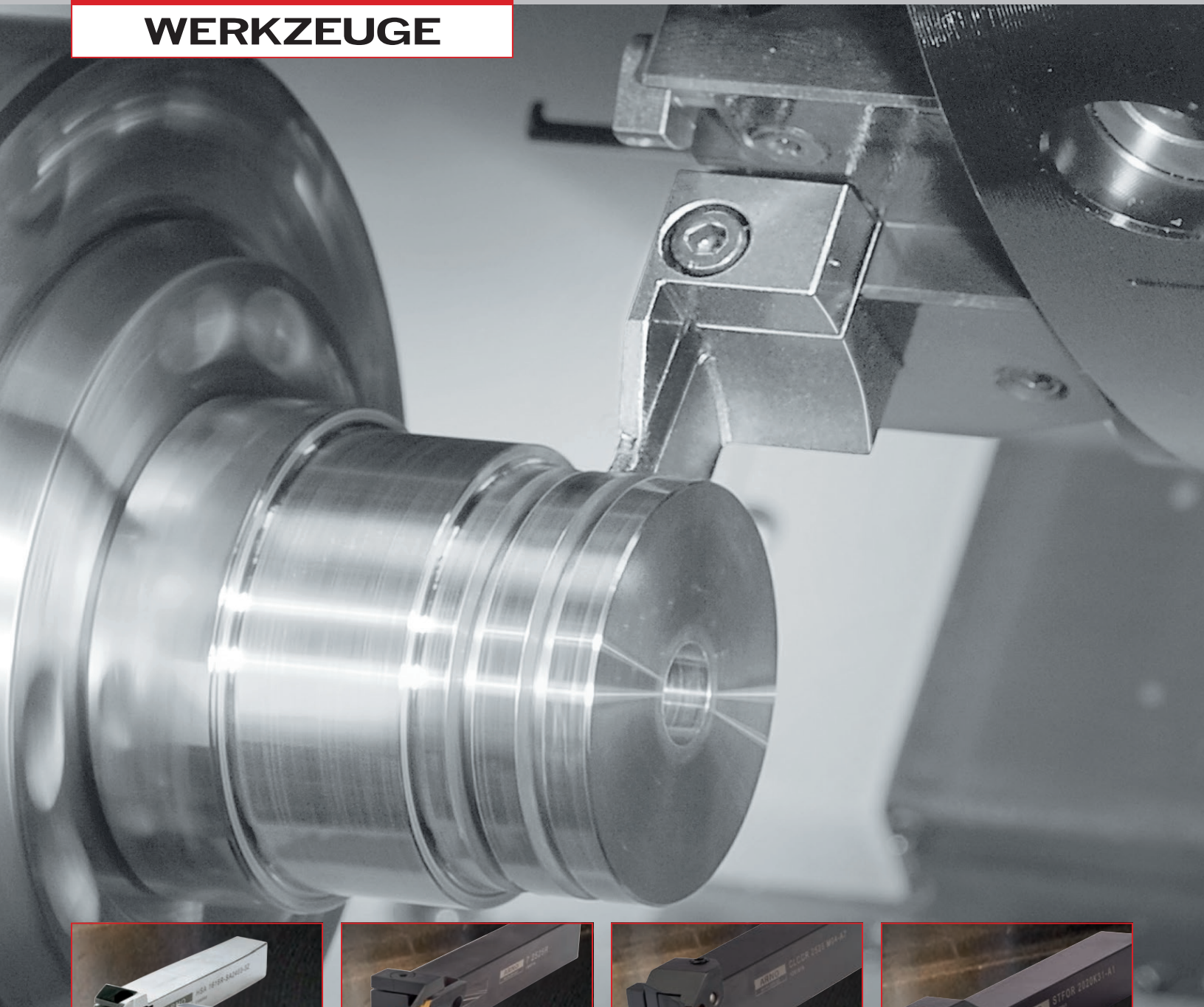
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WERKZEUGE



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SA-Grooving system

Solutions for part-off and grooving up-to 5.5" diameter, with a number of different tooling designs

NC-Groove turning system

External and internal groove turning system for radial, axial and "Contra" grooving applications

SHORT-Cut®

The rigid system for grooving and copy turning with one tool

Clip-Groove®

Form grooving system for radial or axial application with 3-edged insert

Get into the Groove ARNO-Grooving tools and inserts

Take advantage of ARNO's unique versatility:

A modular grooving system with a single basic tool holder turns into different tool variants by simply changing the support blade and clamp.

Thanks to their stability, ARNO grooving tools offer chip removal in all 3 main cutting directions, enabling combined operations with just one tool.

Precision-ground two- or three-edged cutting inserts in various designs, different shapes and types, give the best cutting performance in respect of chip forming, cutting speed and efficiency.



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Profil-Cut

Grooving system for creating customer specific grooves in one plunge



ARNO®-Mini-System

AMS is a modular boring system starting at Dmin .098" with a maximum reach of 1.181"



SIM – Boring Bars

Mini boring system for minimum bore diameter from .264"



Part-off holders and flange mounted holders

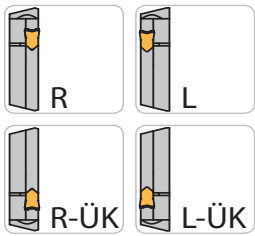
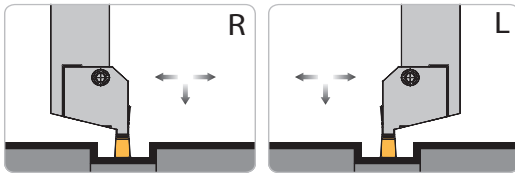
Height adjustable holders for MSA-Modules and KSA part-off blades

1

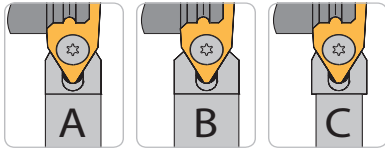
Internal coolant



Right hand / Left hand / Upside down



Shank execution



Shank sizes



Additional information



NC Grooving system

System for external and internal grooving and copy-turning

• Introduction	20 – 21
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2

External and internal groove turning system for radial, axial and contra grooving applications

Basic holders – External machining

2



Basic holders – Internal machining



Introduction

A tool system that meets the highest requirements. Extremely easy handling with maximum variety. One tool holder becomes universally usable tooling system due to the rapid changing of the individual components.

Basic holders – External machining

- Shank sizes from .312" to 1.250" (or 8 to 32mm)
- Groove widths from .022" to .393" (0,55-10mm)
- Capto/UTS/KM/VDI adaptors

Basic holders – Internal machining

- Shank sizes from Ø .500" to 2.000" (or 12 to 50mm)
- Dmin from Ø .629" (16mm)
- Groove widths from .022" to .393" (0,55-10mm)

2

Features

- Various cutting tools for use with specially developed cutting inserts
- Modular grooving system – various capabilities with one single holder
- For internal and external machining
- Special geometries for
 - Aluminum
 - Circlip grooves
 - Chip breaking and constriction
- SIN (internal boring bars with coolant directly on cutting edge for smaller bores)

2



Basic holders – External machining

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SAN Monoblock holders

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Basic holders – Internal machining

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SIN Boring bars

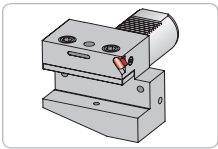
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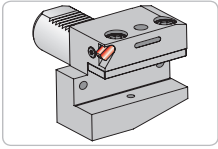
Inserts

Page **119 – 129**

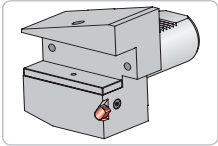
Overview KMH VDI tool holders



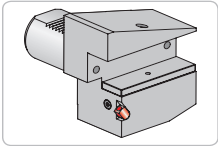
Form B1
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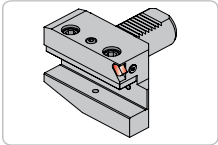
Form B2
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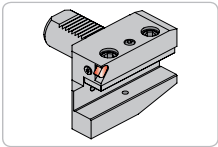
Form B3 – Overhead
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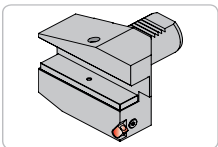
Form B4 – Overhead
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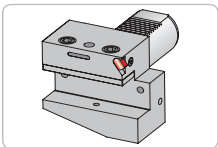
Form B5
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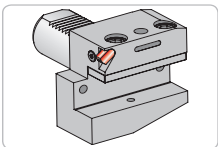
Form B6
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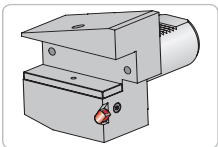
Form B7 – Overhead
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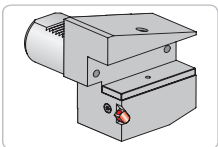
Form C1
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Form C2
Page 110

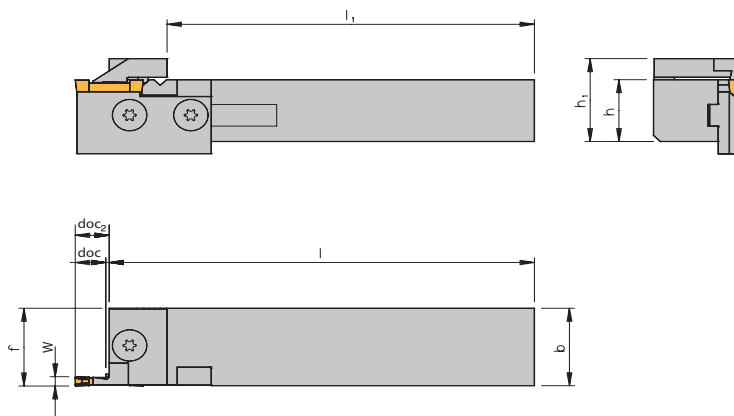


Form C3 – Overhead
Page 111



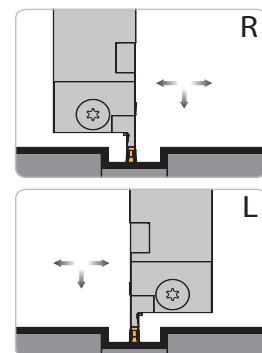
Form C4 – Overhead
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Radial grooving straight



inch & metric

X without IC *i* Page 132-140



Right hand execution shown

2

Basic holders

Designation	EDP		h	b	l	h ₁	l ₁	f
71216 R/L-.500	501498	500326	.500	.630	3.543	.669	3.189	.630
71616 R/L-.625	500905	500904	.625	.630	4.331	.827	3.976	.630
72020 R/L-.750	10044	10043	.750	.787	4.921	.984	4.567	.787
72525 R/L-M-1.000	500177	500112	1.000	1.000	5.906	1.181	5.551	.984
72025 R/L-.750*	500052	500004	.750	.984	4.921	1.063	4.449	.984
72525 R/L-1.000*	10106	10105	1.000	1.000	5.906	1.260	5.433	.984
73225 R/L-1.250*	500045	500044	1.250	.984	6.693	1.535	6.220	.984
373232 R/L-1.250	500032	500695	1.250	1.260	6.693	1.575	5.709	1.299

*For dimension W = .236" (6mm) -> f = b + .020" (0,5mm); otherwise f = b

Basic holders and accessories

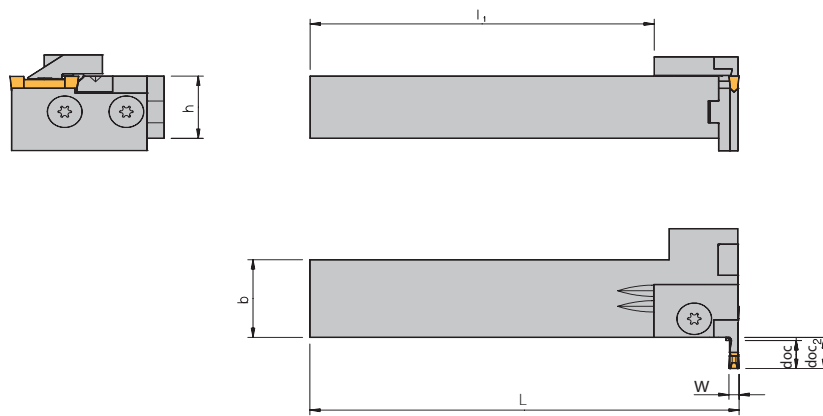
Basic holders	W	doc	doc ₂	Support blade	Clamp	Insert	Screw	Key
71216 R/L-.500	.020 - .073	= W	= W	UA2/471 R/L	KAM2 R/L	2-./471 R/L	T 154	KS 1111
71616 R/L-.625	.020 - .121	= W	= W	UA3/471 R/L	KAM3 R/L	3M-./471 R/L	T 154	KS 1111
72020 R/L-.750	.079	.315	.315	10208 R/L	KAM2 R/L	212....	T 154	KS 1111
72525 R/L-M-1.000	.118	.472	.472	10312 R/L	KAM3 R/L	316....	T 154	KS 1111
72025 R/L-.750 72525 R/L-1.000 73225 R/L-1.250	.020 - .121	= W	= W	UA471 R/L	KA3 R/L	3-./471 R/L	T 205	T 5120
	.118	.374	.374	20310 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.630	.728	UT316 R/L	KT3 R/L	320....	T 205	T 5120
	.157	.453	.453	20412 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.748	.846	UT419 R/L	KT4 R/L	422....	T 205	T 5120
	.197	.571	.571	20515 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.866	.965	UT522 R/L	KT5 R/L	525....	T 205	T 5120
373232 R/L-1.250	.236	.768	.768	20620 R/L	KA6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	UT627 R/L	KT6 R/L	630....	T 205	T 5120
	.315	.709	.709	30817 R/L	KAK8 R/L	838....	T 206	T 5120
	.315	1.280	1.280	UT832 R/L	KA8 R/L	838....	T 206	T 5120
373232 R/L-1.250	.394	1.024	1.024	31025 R/L	KAK10 R/L	1046....	T 206	T 5120
	.394	1.594	1.594	UT1040 R/L	KA10 R/L	1046....	T 206	T 5120

doc₂ = Grooving depth can be increased to dimension doc₂ by reworking tool.

Basic holders are supplied with screws and key, however without support blade or clamp.

Attention: Heavy duty clamp for NC-Groove turning, at interrupted cuts or vibrations, please refer to page 84.

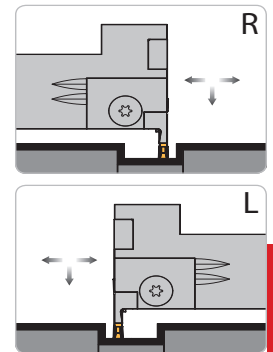
Radial grooving cranked



inch & metric

X
without IC

i Page
132-140



Right hand execution shown

2

Basic holders

Designation	EDP		h	b	L	L ₁
11616 R/L-.625	500907	500906	.625	.630	4.331	3.740
12020 R/L-.750	861	860	.750	.787	4.921	4.331
12525 R/L-M-1.000	501032	501031	1.000	1.000	5.906	4.921
12025 R/L-.750	500043	500057	.750	.984	4.921	3.976
12525 R/L-1.000	883	882	1.000	1.000	5.906	4.961
13232 R/L-1.250	500013	500025	1.250	1.260	6.693	5.748
313232 R/L-1.250	500030	500272	1.250	1.260	6.693	5.709

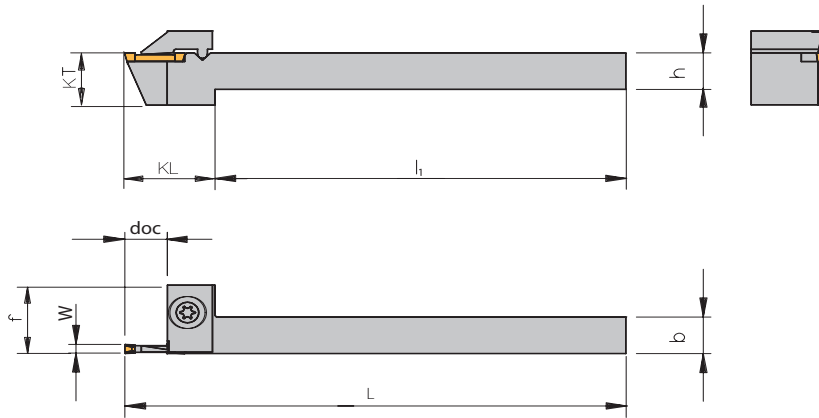
Basic holders and accessories

Basic holders	W	doc	doc ₂	Support blade	Clamp	Insert	Screw	Key
11616 R/L-.625 12020 R/L-.750 12525 R/L-M-1.000	.020 - .073	= W	= W	UA2/471 R/L	KAM2 R/L	2-./471 R/L	T 154	KS 1111
	.020 - .121	= W	= W	UA3/471 R/L	KAM3 R/L	3M-./471 R/L	T 154	KS 1111
	.079	.315	.315	10208 R/L	KAM2 R/L	212....	T 154	KS 1111
	.118	.472	.472	10312 R/L	KAM3 R/L	316....	T 154	KS 1111
12025 R/L-.750 12525 R/L-1.000 13232 R/L-1.250	.020 - .121	= W	= W	UA471 R/L	KA3 R/L	3-./471 R/L	T 205	T 5120
	.118	.374	.374	20310 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.630	.728	UT316 R/L	KT3 R/L	320....	T 205	T 5120
	.157	.453	.453	20412 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.748	.846	UT419 R/L	KT4 R/L	422....	T 205	T 5120
	.197	.571	.571	20515 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.866	.965	UT522 R/L	KT5 R/L	525....	T 205	T 5120
	.236	.768	.768	20620 R/L	KA6 R/L	630....	T 205	T 5120
313232 R/L-1.250	.315	.709	.709	30817 R/L	KAK8 R/L	838....	T 206	T 5120
	.315	1.280	1.280	UT832 R/L	KA8 R/L	838....	T 206	T 5120
	.394	1.024	1.024	31025 R/L	KAK10 R/L	1046....	T 206	T 5120
	.394	1.594	1.594	UT1040 R/L	KA10 R/L	1046....	T 206	T 5120

doc₂ = Grooving depth can be increased to dimension doc₂ by reworking tool.
 Basic holders are supplied with screws and key, however without support blade or clamp.
 Attention: Heavy duty clamp for NC-Groove turning, at interrupted cuts or vibrations, please refer to page 84.

Radial grooving straight

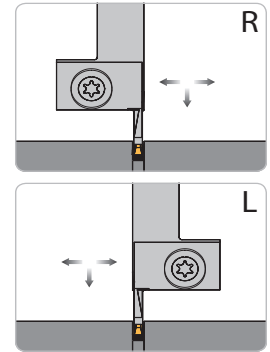
For swiss auto lathes



metric only

X
without IC

i Page
132-140



Right hand execution shown

2

Basic holders

Designation	EDP		h	b	L	L ₁	f
70808-2 R/L	9994	9993	.315	.315	3.937	3.228	.591
71010-2 R/L	10004	10003	.394	.394	3.937	3.228	.591
71212-2 R/L	10009	10008	.472	.472	3.937	3.228	.591
71616-2 R/L	10034	10033	.630	.630	3.937	3.228	.630
70808-3 R/L	9996	9995	.315	.315	3.937	3.228	.591
71010-3 R/L	10006	10005	.394	.394	3.937	3.228	.591
71212-3 R/L	10011	10010	.472	.472	3.937	3.228	.591
71616-3 R/L	10040	10039	.630	.630	3.937	3.228	.630

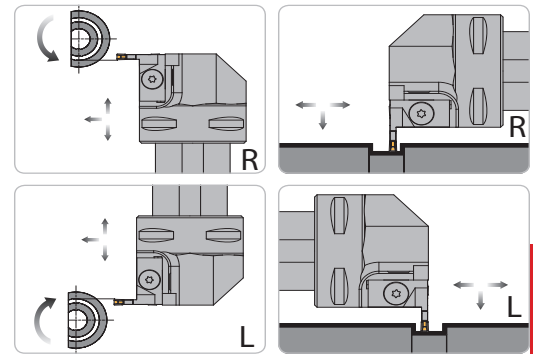
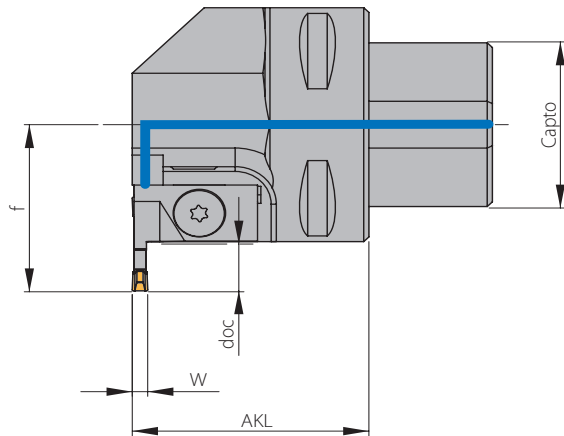
Basic holders and accessories

Basic holders	W	doc	KL	KT	Clamp	Insert	Screw	Key
70808-2 R/L	.079	.315	.709	.472	KAM2 R/L	212...	T 154	KS 1111
71010-2 R/L	.079	.315	.709	.472	KAM2 R/L	212...	T 154	KS 1111
71212-2 R/L	.079	.315	.709	.472	KAM2 R/L	212...	T 154	KS 1111
71616-2 R/L	.079	.315	.709	.630	KAM2 R/L	212...	T 154	KS 1111
70808-3 R/L	.118	.315	.709	.472	KAML3 R/L	316...	T 154	KS 1111
71010-3 R/L	.118	.315	.709	.472	KAML3 R/L	316...	T 154	KS 1111
71212-3 R/L	.118	.315	.709	.472	KAML3 R/L	316...	T 154	KS 1111
71616-3 R/L	.118	.315	.709	.630	KAML3 R/L	316...	T 154	KS 1111

Basic holders are supplied with screws and key, however without support blade or clamp.

Note: Tool holder must be mounted to the work holding tool in axial direction!

Groove turning – Axial und Radial



Right hand execution shown

2

Basic holders

Designation	EDP	W	H	AKL	f	Capto	Coolant jet	Screw coolant jet
C5-2-3RA-R/L	82519 82517	.020 – .118	.984	1.811	.984	C5	KMD0519	AS0020
C5-3-6RA-R/L*	82507 82505	.118 – .236	.984	1.811	.984	C5	KMD0818	AS0020
C6-3-6RA-R/L*	82511 82509	.118 – .236	1.260	2.047	1.260	C6	KMD0818	AS0020
C8-3-6RA-R/L*	82513 82515	.118 – .236	1.614	2.441	1.614	C8	KMD0818	AS0020

* For dimension W .236" (6mm) -> Dimension AKL + .020" (0,5mm)

Please note: Right hand holder -> Left hand spare parts
Left hand holder -> Right hand spare parts

Note: Toolholder is suitable for all spare parts from the standard program "Axial groove turning – Contra" on pages 103 – 104 and „Axial groove turning“ on pages 89 – 91.

Basic holders and accessories

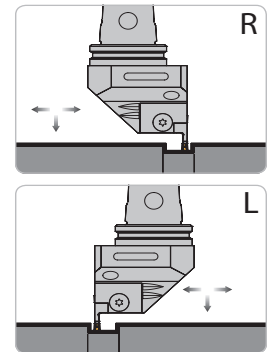
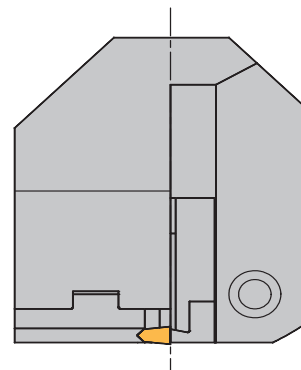
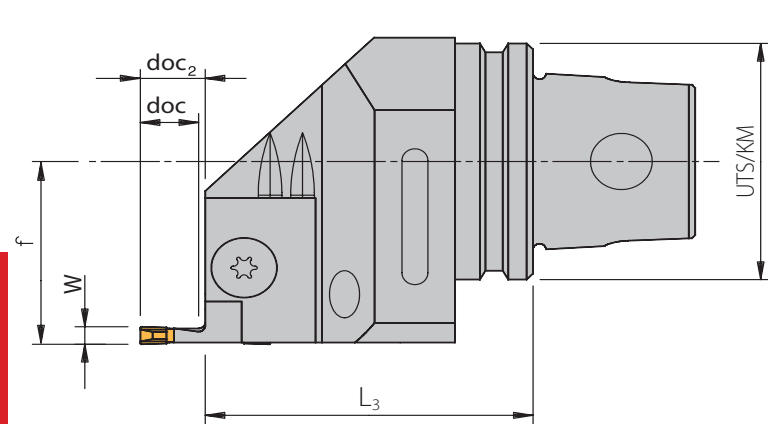
Basic holders	W	doc	doc ₂	Support blade	Clamp	Insert	Screw	Key
C5-2-3RA-R/L	.020 – .073	= W	= W	UA2/471 R/L	KAM2 R/L	2-./471 R/L	T 154	KS 1111
	.020 – .121	= W	= W	UA3/471 R/L	KAM3 R/L	3M-./471 R/L	T 154	KS 1111
	.079	.315	.315	10208 R/L	KAM2 R/L	212....	T 154	KS 1111
	.118	.472	.472	10312 R/L	KAM3 R/L	316....	T 154	KS 1111
C5-3-6RA-R/L C6-3-6RA-R/L C8-3-6RA-R/L	.020 – .121	= W	= W	UA471 R/L	KA3 R/L	3-./471 R/L	T 205	T 5120
	.118	.374	.374	20310 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.630	.728	UT316 R/L	KT3 R/L	320....	T 205	T 5120
	.157	.453	.453	20412 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.748	.846	UT419 R/L	KT4 R/L	422....	T 205	T 5120
	.197	.571	.571	20515 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.866	.965	UT522 R/L	KT5 R/L	525....	T 205	T 5120
	.236	.768	.768	20620 R/L	KA6 R/L	630....	T 205	T 5120
.236	1.063	1.161	UT627 R/L	KT6 R/L	630....	T 205	T 5120	

doc₂ = Grooving depth can be increased to dimension doc₂ by reworking tool.

Basic holders are supplied with screws and key, however without support blade or clamp.

Attention: Heavy duty clamp for NC-Groove turning, at interrupted cuts or vibrations, please refer to page 84.

Radial groove turning



Right hand execution shown

2

Basic holders

Designation	EDP	UTS/KM	f	L ₃
UT32-2-3 R/L	27759 27758	1.260	.984	1.575
UT32-3-6 R/L*	27761 27760	1.260	.984	1.772
UT40-3-6 R/L*	27805 27803	1.575	1.220	1.988
UT50-2-3 R/L*	27847 27846	1.969	.984	1.772
UT50-3-6 R/L*	27849 27848	1.969	1.417	2.205
UT63-3-6 R/L*	27894 27893	2.480	1.654	2.244
UT63-8-10 R/L*	27896 27895	2.480	1.634	2.638

* For dimension W .236" (6mm) -> Dimension f + .020" (0,5mm)

Basic holders and accessories

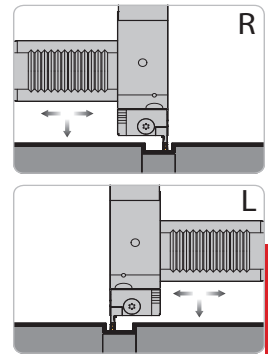
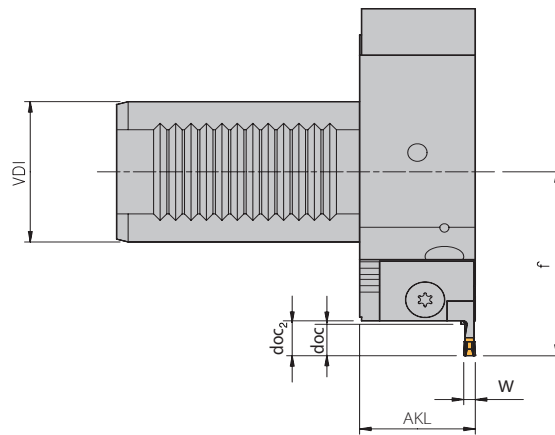
Basic holders	W	doc	doc ₂	Support blade	Clamp	Insert	Screw	Key
UT32-2-3 R/L UT50-2-3 R	.020 - .073	= W	= W	UA2/471 R/L	KAM2 R/L	2-../471 R/L	T 154	KS 1111
	.020 - .121	= W	= W	UA3/471 R/L	KAM3 R/L	3M-../471 R/L	T 154	KS 1111
	.079	.315	.315	10208 R/L	KAM2 R/L	212....	T 154	KS 1111
	.118	.472	.472	10312 R/L	KAM3 R/L	316....	T 154	KS 1111
UT32-3-6 R/L UT40-3-6 R/L UT50-3-6 R/L UT63-3-6 R/L	.020 - .121	= W	= W	UA471 R/L	KA3 R/L	3-../471 R/L	T 205	T 5120
	.118	.374	.374	20310 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.630	.728	UT316 R/L	KT3 R/L	320....	T 205	T 5120
	.157	.453	.453	20412 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.748	.846	UT419 R/L	KT4 R/L	422....	T 205	T 5120
	.197	.571	.571	20515 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.866	.965	UT522 R/L	KT5 R/L	525....	T 205	T 5120
	.236	.768	.768	20620 R/L	KA6 R/L	630....	T 205	T 5120
.236	1.063	1.161	UT627 R/L	KT6 R/L	630....	T 205	T 5120	
UT63-8-10 R	.315	.709	.709	30817 R/L	KAK8 R/L	838....	T 206	T 5120
	.394	1.024	1.024	31025 R/L	KAK10 R/L	1046....	T 206	T 5120
	.315	1.280	1.280	UT 832 R/L	KA8 R/L	838....	T 206	T 5120
	.394	1.594	1.594	UT 1040 R/L	KA10 R/L	1046....	T 206	T 5120

doc₂ = Grooving depth can be increased to dimension doc₂ by reworking tool.

Basic holders are supplied with screws and key, however without support blade or clamp.

Attention: Heavy duty clamp for NC-Groove turning, at interrupted cuts or vibrations, please refer to page 84.

Radial groove turning



Right hand execution shown

2

Basic holders

Designation	EDP		VDI	AKL	f
VDI30RA-R/L 7	28973	28972	1.181	1.181	1.378
VDI40RA-R/L 7	28981	28979	1.575	1.181	1.673
VDI50RA-R/L 7	28989	28987	1.969	1.181	1.772
VDI60RA-R/L 7	28999	28997	2.362	1.575	2.067
VDI40RA-R/L 3*	28980	28978	1.575	1.181	1.772
VDI50RA-R/L 3*	28988	28986	1.969	1.181	1.969
VDI60RA-R/L 3*	28998	28996	2.362	1.575	2.165

* For dimension W .236" (6mm) -> Dimension AKL + .020" (0,5mm)

Basic holders and accessories

Basic holders	W	doc	doc ₂	Support blade	Clamp	Insert	Screw	Key
VDI30RA-R/L 7 VDI40RA-R/L 7 VDI50RA-R/L 7 VDI60RA-R/L 7	.020 - .121	= W	= W	UA471 R/L	KA3 R/L	3-../471 R/L	T 205	T 5120
	.118	.374	.374	20310 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.630	.728	UT316 R/L	KT3 R/L	320....	T 205	T 5120
	.157	.453	.453	20412 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.748	.846	UT419 R/L	KT4 R/L	422....	T 205	T 5120
	.197	.571	.571	20515 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.866	.965	UT522 R/L	KT5 R/L	525....	T 205	T 5120
	.236	.768	.768	20620 R/L	KA6 R/L	630....	T 205	T 5120
VDI40RA-R/L 3 VDI50RA-R/L 3 VDI60RA-R/L 3	.315	.709	.709	30817 R/L	KAK8 R/L	838....	T 206	T 5120
	.394	1.024	1.024	31025 R/L	KAK10 R/L	1046....	T 206	T 5120
	.315	1.280	1.280	UT 832 R/L	KA8 R/L	838....	T 206	T 5120
	.394	1.594	1.594	UT 1040 R/L	KA10 R/L	1046....	T 206	T 5120

doc₂ = Grooving depth can be increased to dimension doc₂ by reworking tool.

Basic holders are supplied with screws and key, however without support blade or clamp.

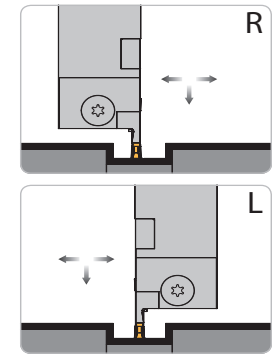
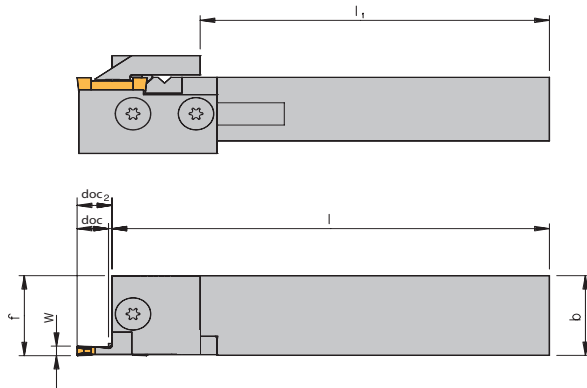
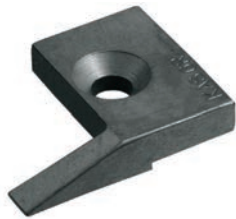
Attention: Heavy duty clamp for NC-Groove turning, at interrupted cuts or vibrations, please refer to page 84.

Heavy duty clamp

inch & metric

X
without IC

i Page
132-140



Right hand execution shown

2

Basic holders

Designation	EDP		h	b	l	h ₁	l ₁	f
72025 R/L-.750*	500052	500004	.750	.984	4.921	1.063	4.252	.984
72525 R/L-1.000*	10106	10105	1.000	1.000	5.906	1.260	5.236	.984
73225 R/L-1.250*	500045	500044	1.250	.984	6.693	1.535	6.024	.984
373232 R/L-1.250	500032	500695	1.250	1.260	6.693	1.575	5.709	1.299

* For dimension W = .236" (6mm) -> f = b + .020" (0,5mm); otherwise f = b

Basic holders and accessories

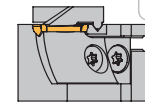
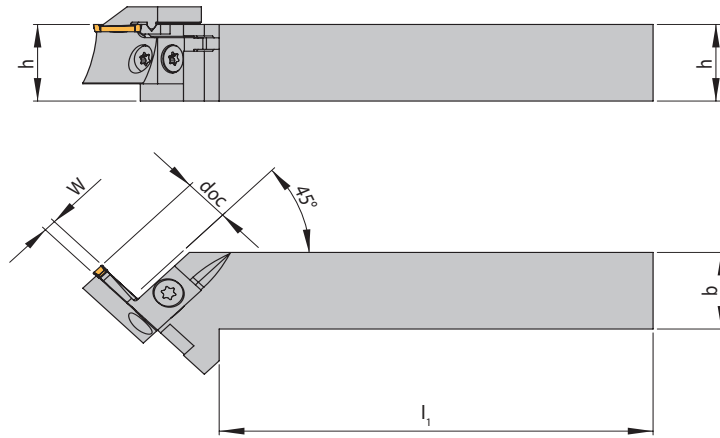
Basic holders	W	doc	doc ₂	Support blade	Clamp	EDP	Insert	Screw	Key
72025 R/L-.750 72525 R/L-1.000 73225 R/L-1.250	.118	.374	.374	20310 R/L	KAS3 R/L		320....	T 205	T 5120
	.118	.630	.728	UT316 R/L	KTS3 R/L		320....	T 205	T 5120
	.157	.453	.453	20412 R/L	KAS4 R/L		422....	T 205	T 5120
	.157	.748	.846	UT419 R/L	KTS4 R/L		422....	T 205	T 5120
	.197	.571	.571	20515 R/L	KAS5 R/L		525....	T 205	T 5120
	.197	.866	.965	UT522 R/L	KTS5 R/L		525....	T 205	T 5120
	.236	.768	.768	20620 R/L	KAS6 R/L		630....	T 205	T 5120
373232 R/L-1.250	.236	1.063	1.161	UT627 R/L	KTS6 R/L		630....	T 205	T 5120
	.315	.709	.709	30817 R/L	KAS8 R/L		838....	T 206	T 5120
	.394	1.024	1.024	31025 R/L	KAS10 R/L		1046....	T 206	T 5120
	.315	1.280	1.280	UT 832 R/L	KTS8 R/L		838....	T 206	T 5120
	.394	1.594	1.594	UT 1040 R/L	KTS10 R/L		1046....	T 206	T 5120

doc₂ = Grooving depth can be increased to dimension doc₂ by reworking tool.

Basic holders are supplied with screws and key, however without support blade or clamp.

Attention: Heavy duty clamp can only be used with basic holders that have two grooves on top.

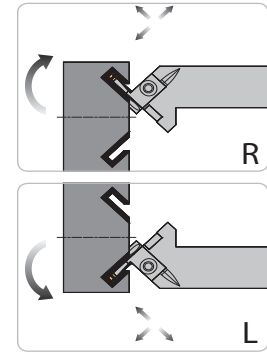
Groove turning – 45°



inch & metric

X
without IC

i
Page
132-140



Right hand execution shown

2

Basic holders

Designation	EDP		b	h	l ₁
452020 R/L-.750	501522	500330	.787	.750	4.055

Basic holders and accessories

Basic holders	W	doc	Support blade	Clamp	Insert	Screw	Key
452020 R/L-.750	.079	.315	102-... R/L	KAM2 R/L	212....	T 154	KS 1111
	.118	.472	103-... R/L	KAM3 R/L	316....	T 154	KS 1111

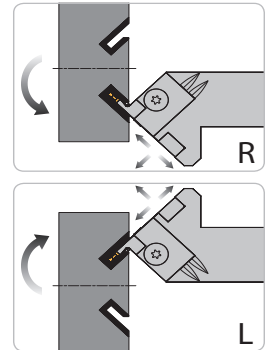
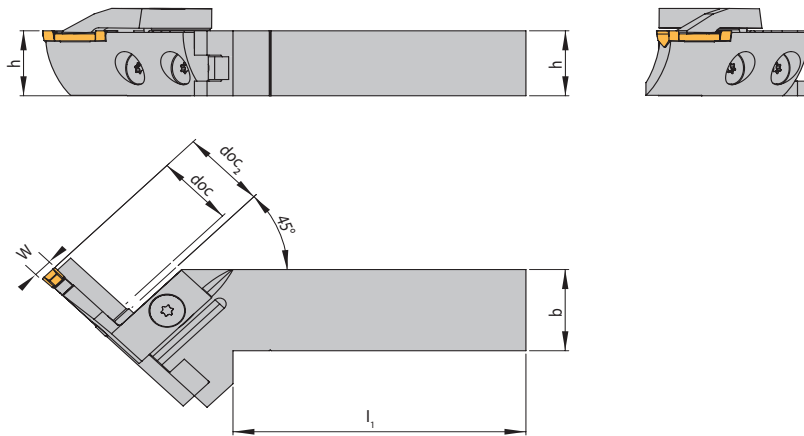
Remark: Toolholders are suitable for all spare parts from the standard program "Axial groove turning" on page 89.
 Attention: Please always select the next diameter range up referring to your OD of groove when selecting a support blade.
 e.g.: W = .118" (3mm), doc = .472" (12mm), OD = 2.638" (67mm), on the right select: 103-75100R

Groove turning – 45°

inch & metric

X
without IC

i Page
132-140



Right hand execution shown

2

Basic holders

Designation	EDP		b	h	l ₁
452025 R/L-.750	501500	501499	.984	.750	3.228
452525 R/L	9035	9034	.984	.984	3.228

Basic holders and accessories

Basic holders	W	doc	doc ₂	Support blade	Clamp	Insert	Screw	Key
452025 R/L-.750 452525 R/L	.118	.374	.374	203-... R/L	KA3 R/L	320...	T 205	T 5120
	.118	.630	.728	UT3-... R/L	KT3 R/L	320...	T 205	T 5120
	.157	.453	.453	204-... R/L	KA4 R/L	422...	T 205	T 5120
	.157	.748	.846	UT4-... R/L	KT4 R/L	422...	T 205	T 5120
	.197	.571	.571	205-... R/L	KA5 R/L	525...	T 205	T 5120
	.197	.866	.965	UT5-... R/L	KT5 R/L	525...	T 205	T 5120
	.236	.768	.768	206-... R/L	KA6 R/L	630...	T 205	T 5120
	.236	1.063	1.161	UT6-... R/L	KT6 R/L	630...	T 205	T 5120

doc₂ = Grooving depth can be increased to dimension doc₂ by reworking tool.

Note: Toolholders are suitable for all spare parts from the standard programme "Axial groove turning" on page 90 and "Axial groove turning Kontra" on page 103 and 104.

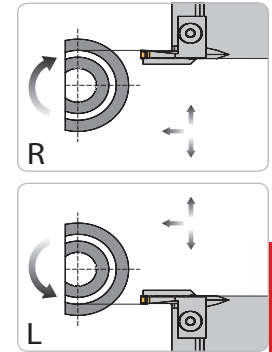
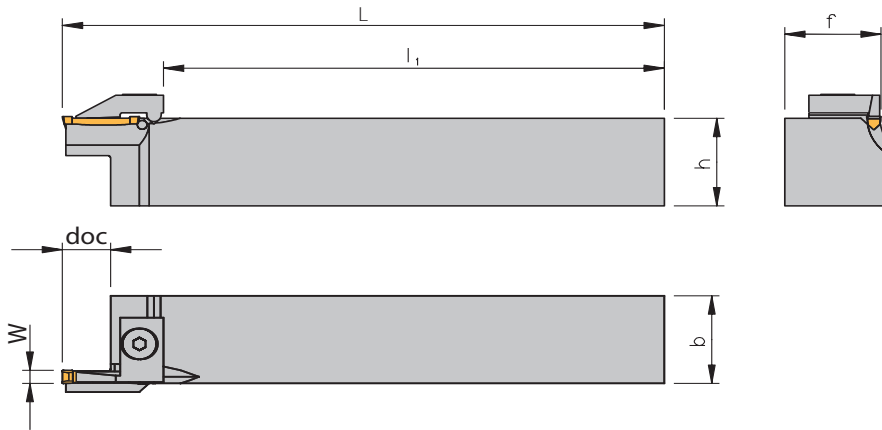
Attention: Please always select the next diameter range up referring to your OD of groove when selecting a support blade.
e.g.: W = .118" (3mm), doc = .472" (12mm), OD = 2.638" (67mm), on the right select: UT3-75100R

Axial groove turning straight – Ø .590" - .984" (15–25mm)

inch & metric

X
without IC

i Page
132–140



Right hand execution shown

2

Basic holders and accessories

Designation	EDP		OD	W	doc	h	b	L	l ₁	f	Clamp	Insert	Screw	Key
71216-2-1520 R/L	10017	10016	.591 – .787	.079	.236	.472	.630	3.543	2.874	.630	KAM2 R/L	212....	T 154	KS 1111
71216-2-2025 R/L	10019	10018	.787 – .984	.079	.236	.472	.630	3.543	2.874	.630	KAM2 R/L	212....	T 154	KS 1111
71616-2-1520 R/L-.625	501502	501501	.591 – .787	.079	.236	.625	.630	4.331	3.661	.630	KAM2 R/L	212....	T 154	KS 1111
71616-2-2025 R/L-.625	501504	501503	.787 – .984	.079	.236	.625	.630	4.331	3.661	.630	KAM2 R/L	212....	T 154	KS 1111
72020-2-1520 R/L-.750	500054	500007	.591 – .787	.079	.236	.750	.787	4.921	4.252	.787	KAM2 R/L	212....	T 154	KS 1111
72020-2-2025 R/L-.750	500087	500040	.787 – .984	.079	.236	.750	.787	4.921	4.252	.787	KAM2 R/L	212....	T 154	KS 1111
71216-3-1520 R/L-.500	500261	500059	.591 – .787	.118	.354	.500	.630	3.543	2.717	.630	KAM3 R/L	316....	T 154	KS 1111
71216-3-2025 R/L-.500	500237	501147	.787 – .984	.118	.354	.500	.630	3.543	2.717	.630	KAM3 R/L	316....	T 154	KS 1111
71616-3-1520 R/L-.625	501506	501505	.591 – .787	.118	.354	.625	.630	4.331	3.504	.630	KAM3 R/L	316....	T 154	KS 1111
71616-3-2025 R/L-.625	501508	501507	.787 – .984	.118	.354	.625	.630	4.331	3.504	.630	KAM3 R/L	316....	T 154	KS 1111
72020-3-1520 R/L-.750	500062	500041	.591 – .787	.118	.354	.750	.787	4.921	4.094	.787	KAM3 R/L	316....	T 154	KS 1111
72020-3-2025 R/L-.750	500133	500024	.787 – .984	.118	.354	.750	.787	4.921	4.094	.787	KAM3 R/L	316....	T 154	KS 1111

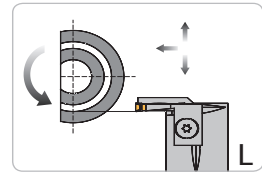
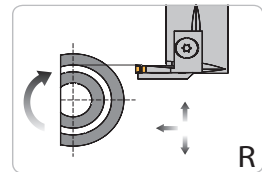
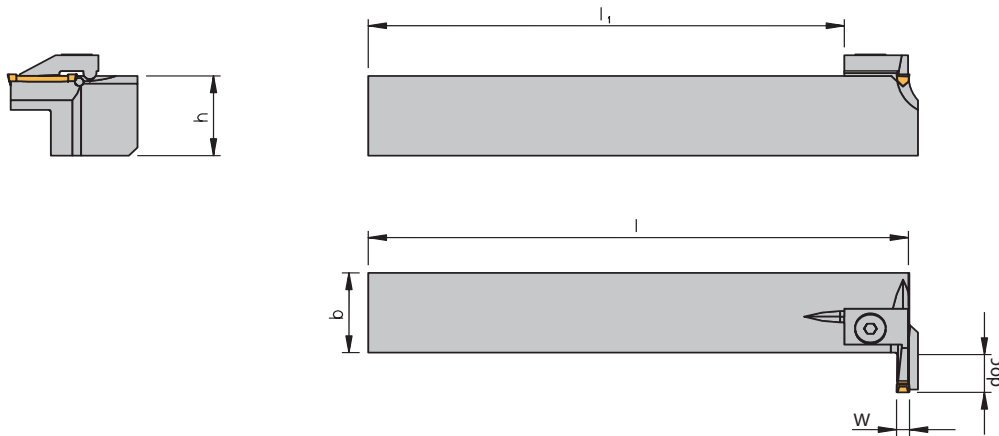
Attention: These tools should be set up according to dimension h (shank-height), because the cutting edge is above centre height!
Basic holders are supplied with screws and key, however without support blade or clamp.

Axial groove turning cranked – Ø .590" - .984" (15–25mm)

inch & metric

X
without IC

i Page
132–140



Right hand execution shown

2

Basic holders and accessories

Designation	EDP		OD	W	doc	h	b	l	l ₁	Clamp	Insert	Screw	Key
11616-2-1520 R/L-.625	501510	501509	.591 – .787	.079	.236	.625	.630	4.331	3.661	KAM2 R/L	212....	T 154	KS 1111
11616-2-2025 R/L-.625	501512	501511	.787 – .984	.079	.236	.625	.630	4.331	3.661	KAM2 R/L	212....	T 154	KS 1111
12020-2-1520 R/L-.750	500068	500065	.591 – .787	.079	.236	.750	.787	4.921	4.252	KAM2 R/L	212....	T 154	KS 1111
12020-2-2025 R/L-.750	500003	500008	.787 – .984	.079	.236	.750	.787	4.921	4.252	KAM2 R/L	212....	T 154	KS 1111
11616-3-1520 R/L-.625	501514	501513	.591 – .787	.118	.354	.625	.630	4.331	3.661	KAM3 R/L	316....	T 154	KS 1111
11616-3-2025 R/L-.625	501516	501515	.787 – .984	.118	.354	.625	.630	4.331	3.661	KAM3 R/L	316....	T 154	KS 1111
12020-3-1520 R/L-.750	500014	500002	.591 – .787	.118	.354	.750	.787	4.921	4.252	KAM3 R/L	316....	T 154	KS 1111
12020-3-2025 R/L-.750	500012	500134	.787 – .984	.118	.354	.750	.787	4.921	4.252	KAM3 R/L	316....	T 154	KS 1111

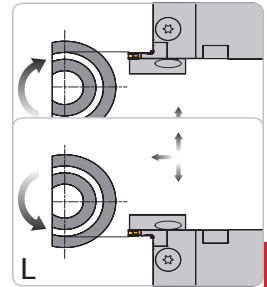
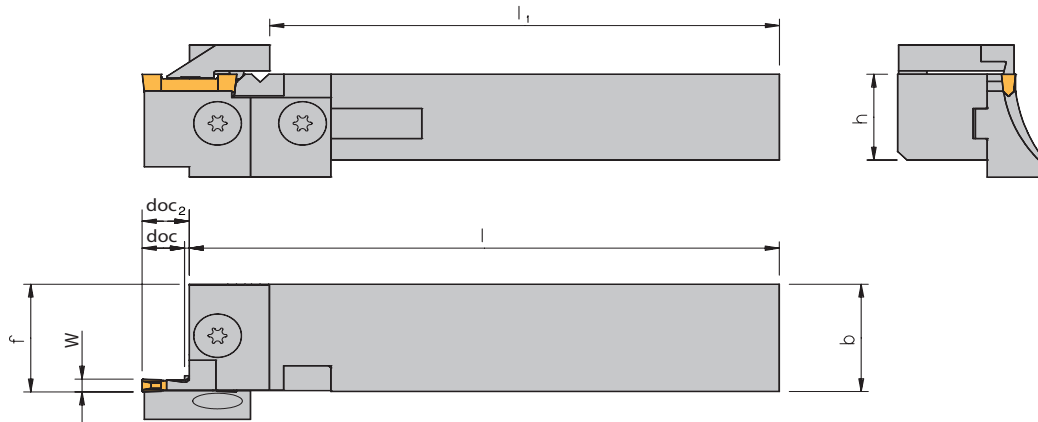
Attention: These tools should be set up according to dimension h (shank-height), because the cutting edge is above centre height!
Basic holders are supplied with screws and key, however without support blade or clamp.

Axial groove turning straight

inch & metric

X
without IC

i Page
132-140



Right hand execution shown

2

Basic holders

Designation	EDP		h	b	l	l ₁	f
71216 R/L-.500	501498	500326	.500	.630	3.543	3.189	.630
71616 R/L-.625	500905	500904	.625	.630	4.331	3.976	.630
72020 R/L-.750	10044	10043	.750	.787	4.921	4.567	.787
72525 R/L-M-1.000	500177	500112	1.000	1.000	5.906	5.551	.984
72025 R/L-.750*	500052	500004	.750	.984	4.921	4.449	.984
72525 R/L-1.000*	10106	10105	1.000	1.000	5.906	5.433	.984
73225 R/L-1.250*	500045	500044	1.250	.984	6.693	6.220	.984
373232 R/L-1.250	500032	500695	1.250	1.260	6.693	5.709	1.299

* For dimension W = .236" (6mm) -> f = b + .020" (0,5mm); otherwise f = b

Basic holders and accessories

Basic holders	W	doc	doc ₂	OD	Support blade	Clamp	Insert	Screw	Key
71216 R/L-.500 71616 R/L-.625 72020 R/L-.750 72525 R/L-M-1.000	.079	.315	.315	.984 - 1.181	102-2530 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	1.181 - 1.575	102-3040 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	1.575 - 1.969	102-4050 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	1.969 - 2.362	102-5060 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	2.362 - 2.953	102-6075 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	2.953 - 3.937	102-75100 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	3.937 - 5.906	102-100150 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	5.906 - 11.811	102-150300 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	11.811 - 19.685	102-300500 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	19.685 - ∞	10208 R/L*	KAM2 R/L	212....	T 154	KS 1111
	.118	.472	.472	.984 - 1.181	103-2530 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	1.181 - 1.575	103-3040 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	1.575 - 1.969	103-4050 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	1.969 - 2.362	103-5060 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	2.362 - 2.953	103-6075 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	2.953 - 3.937	103-75100 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	3.937 - 5.906	103-100150 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	5.906 - 11.811	103-150300 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	11.811 - 19.685	103-300500 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	19.685 - ∞	10312 R/L*	KAM3 R/L	316....	T 154	KS 1111

* Minimum retouching work required!

More accessories on next page

Basic holders and accessories

Basic holders	W	doc	doc ₂	OD	Support blade	Clamp	Insert	Screw	Key
	.118	.374	.374	1.969 – 2.362	203-5060 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	2.362 – 2.953	203-6075 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	2.953 – 3.937	203-75100 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	3.937 – 5.906	203-100150 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	5.906 – 11.811	203-150300 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	11.811 – 19.685	203-300500 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	19.685 – ∞	203-500XX R/L	KA3 R/L	320....	T 205	T 5120
	.118	.630	.728	1.969 – 2.362	UT3-5060 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	2.362 – 2.953	UT3-6075 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	2.953 – 3.937	UT3-75100 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	3.937 – 5.906	UT3-100150 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	5.906 – 11.811	UT3-150300 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	11.811 – 19.685	UT3-300500 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	19.685 – ∞	UT3-500XX R/L	KT3 R/L	320....	T 205	T 5120
	.157	.453	.453	1.969 – 2.362	204-5060 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	2.362 – 2.953	204-6075 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	2.953 – 3.937	204-75100 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	3.937 – 5.906	204-100150 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	5.906 – 11.811	204-150300 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	11.811 – 19.685	204-300500 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	19.685 – ∞	204-500XX R/L	KA4 R/L	422....	T 205	T 5120
	.157	.748	.846	1.969 – 2.362	UT4-5060 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	2.362 – 2.953	UT4-6075 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	2.953 – 3.937	UT4-75100 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	3.937 – 5.906	UT4-100150 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	5.906 – 11.811	UT4-150300 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	11.811 – 19.685	UT4-300500 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	19.685 – ∞	UT4-500XX R/L	KT4 R/L	422....	T 205	T 5120
72025 R/L-.750	.197	.571	.571	1.969 – 2.362	205-5060 R/L	KA5 R/L	525....	T 205	T 5120
72525 R/L-1.000	.197	.571	.571	2.362 – 2.953	205-6075 R/L	KA5 R/L	525....	T 205	T 5120
73225 R/L-1.250	.197	.571	.571	2.953 – 3.937	205-75100 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	3.937 – 5.906	205-100150 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	5.906 – 11.811	205-150300 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	11.811 – 19.685	205-300500 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	19.685 – ∞	205-500XX R/L	KA5 R/L	525....	T 205	T 5120
	.197	.866	.965	1.969 – 2.362	UT5-5060 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	2.362 – 2.953	UT5-6075 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	2.953 – 3.937	UT5-75100 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	3.937 – 5.906	UT5-100150 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	5.906 – 11.811	UT5-150300 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	11.811 – 19.685	UT5-300500 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	19.685 – ∞	UT5-500XX R/L	KT5 R/L	525....	T 205	T 5120
	.236	.768	.768	1.969 – 2.362	206-5060 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	2.362 – 2.953	206-6075 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	2.953 – 3.937	206-75100 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	3.937 – 5.906	206-100150 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	5.906 – 11.811	206-150300 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	11.811 – 19.685	206-300500 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	19.685 – ∞	206-500XX R/L	KA6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	1.969 – 2.362	UT6-5060 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	2.362 – 2.953	UT6-6075 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	2.953 – 3.937	UT6-75100 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	3.937 – 5.906	UT6-100150 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	5.906 – 11.811	UT6-150300 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	11.811 – 19.685	UT6-300500 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	19.685 – ∞	UT6-500XX R/L	KT6 R/L	630....	T 205	T 5120

Basic holders and accessories

Basic holders	W	doc	doc ₂	OD	Support blade	Clamp	Insert	Screw	Key
373232 R/L-1.250	.315	.669	.709	2.953 – 3.937	308-75100 R/L	KAK8 R/L	838....	T 206	T 5120
	.315	.669	.709	3.937 – 5.906	308-100150 R/L	KAK8 R/L	838....	T 206	T 5120
	.315	.669	.709	5.906 – 11.811	308-150300 R/L	KAK8 R/L	838....	T 206	T 5120
	.315	.669	.709	11.811 – 19.685	308-300500 R/L	KAK8 R/L	838....	T 206	T 5120
	.315	.669	.709	19.685 – ∞	308-500XX R/L	KAK8 R/L	838....	T 206	T 5120
	.315	1.260	1.280	2.953 – 3.937	UT8-75100 R/L	KA8 R/L	838....	T 206	T 5120
	.315	1.260	1.280	3.937 – 5.906	UT8-100150 R/L	KA8 R/L	838....	T 206	T 5120
	.315	1.260	1.280	5.906 – 11.811	UT8-150300 R/L	KA8 R/L	838....	T 206	T 5120
	.315	1.260	1.280	11.811 – 19.685	UT8-300500 R/L	KA8 R/L	838....	T 206	T 5120
	.315	1.260	1.280	19.685 – ∞	UT8-500XX R/L	KA8 R/L	838....	T 206	T 5120
	.394	.984	1.024	2.953 – 3.937	310-75100 R/L	KAK10 R/L	1046....	T 206	T 5120
	.394	.984	1.024	3.937 – 5.906	310-100150 R/L	KAK10 R/L	1046....	T 206	T 5120
	.394	.984	1.024	5.906 – 11.811	310-150300 R/L	KAK10 R/L	1046....	T 206	T 5120
	.394	.984	1.024	11.811 – 19.685	310-300500 R/L	KAK10 R/L	1046....	T 206	T 5120
	.394	.984	1.024	19.685 – ∞	310-500XX R/L	KAK10 R/L	1046....	T 206	T 5120
	.394	1.575	1.594	2.953 – 3.937	UT10-75100 R/L	KA10 R/L	1046....	T 206	T 5120
	.394	1.575	1.594	3.937 – 5.906	UT10-100150 R/L	KA10 R/L	1046....	T 206	T 5120
	.394	1.575	1.594	5.906 – 11.811	UT10-150300 R/L	KA10 R/L	1046....	T 206	T 5120
	.394	1.575	1.594	11.811 – 19.685	UT10-300500 R/L	KA10 R/L	1046....	T 206	T 5120
	.394	1.575	1.594	19.685 – ∞	UT10-500XX R/L	KA10 R/L	1046....	T 206	T 5120

doc₂ = Grooving depth can be increased to dimension doc₂ by reworking tool.

Basic holders are supplied with screws and key, however without support blade or clamp.

Attention: Heavy duty clamp for NC-Groove turning, at interrupted cuts or vibrations, please refer to page 84.

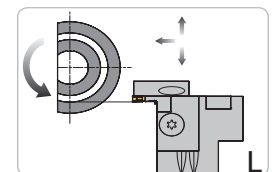
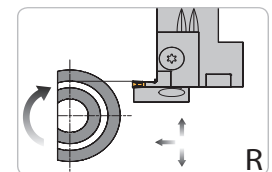
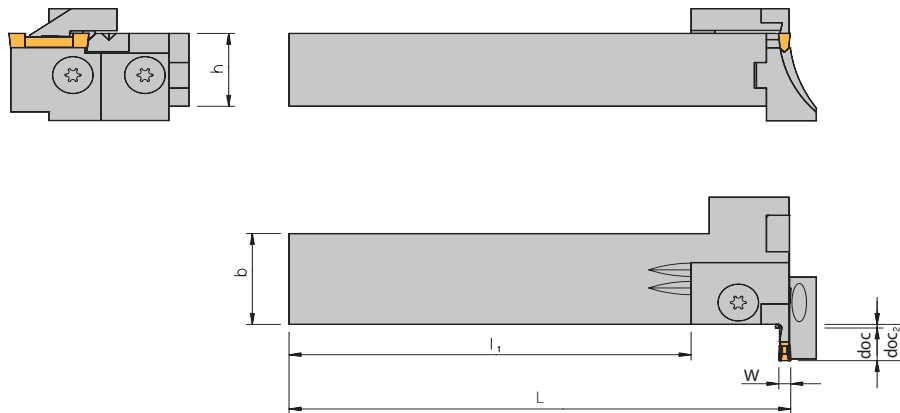
2

Axial groove turning cranked

inch & metric

X
without IC

i Page
132-140



Right hand execution shown

2

Basic holders

Designation	EDP		h	b	L	l ₁
11616 R/L-.625	500907	500906	.625	.630	4.331	3.740
12020 R/L-.750	861	860	.750	.787	4.921	4.331
12525 R/L-M-1.000	501032	501031	1.000	1.000	5.906	4.921
12025 R/L-.750	500043	500057	.750	.984	4.921	3.976
12525 R/L-1.000	883	882	1.000	1.000	5.906	4.961
13232 R/L-1.250	500013	500025	1.250	1.260	6.693	5.748
313232 R/L-1.250	500030	500272	1.250	1.260	6.693	5.709

Basic holders and accessories

Basic holders	W	doc	doc ₂	OD	Support blade	Clamp	Insert	Screw	Key
11616 R/L-.625 12020 R/L-.750 12525 R/L-M-1.000	.079	.315	.315	.984 – 1.181	102-2530 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	1.181 – 1.575	102-3040 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	1.575 – 1.969	102-4050 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	1.969 – 2.362	102-5060 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	2.362 – 2.953	102-6075 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	2.953 – 3.937	102-75100 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	3.937 – 5.906	102-100150 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	5.906 – 11.811	102-150300 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	11.811 – 19.685	102-300500 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	19.685 – ∞	10208 R/L*	KAM2 R/L	212....	T 154	KS 1111
	.118	.472	.472	.984 – 1.181	103-2530 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	1.181 – 1.575	103-3040 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	1.575 – 1.969	103-4050 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	1.969 – 2.362	103-5060 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	2.362 – 2.953	103-6075 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	2.953 – 3.937	103-75100 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	3.937 – 5.906	103-100150 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	5.906 – 11.811	103-150300 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	11.811 – 19.685	103-300500 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	19.685 – ∞	10312 R/L*	KAM3 R/L	316....	T 154	KS 1111

* Minimum retouching work required!

More accessories on next page

Basic holders and accessories

Basic holders	W	doc	doc ₂	OD	Support blade	Clamp	Insert	Screw	Key
	.118	.374	.374	1.969 – 2.362	203-5060 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	2.362 – 2.953	203-6075 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	2.953 – 3.937	203-75100 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	3.937 – 5.906	203-100150 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	5.906 – 11.811	203-150300 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	11.811 – 19.685	203-300500 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	19.685 – ∞	203-500XX R/L	KA3 R/L	320....	T 205	T 5120
	.118	.630	.728	1.969 – 2.362	UT3-5060 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	2.362 – 2.953	UT3-6075 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	2.953 – 3.937	UT3-75100 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	3.937 – 5.906	UT3-100150 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	5.906 – 11.811	UT3-150300 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	11.811 – 19.685	UT3-300500 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	19.685 – ∞	UT3-500XX R/L	KT3 R/L	320....	T 205	T 5120
	.157	.453	.453	1.969 – 2.362	204-5060 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	2.362 – 2.953	204-6075 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	2.953 – 3.937	204-75100 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	3.937 – 5.906	204-100150 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	5.906 – 11.811	204-150300 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	11.811 – 19.685	204-300500 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	19.685 – ∞	204-500XX R/L	KA4 R/L	422....	T 205	T 5120
	.157	.748	.846	1.969 – 2.362	UT4-5060 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	2.362 – 2.953	UT4-6075 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	2.953 – 3.937	UT4-75100 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	3.937 – 5.906	UT4-100150 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	5.906 – 11.811	UT4-150300 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	11.811 – 19.685	UT4-300500 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	19.685 – ∞	UT4-500XX R/L	KT4 R/L	422....	T 205	T 5120
	.197	.571	.571	1.969 – 2.362	205-5060 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	2.362 – 2.953	205-6075 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	2.953 – 3.937	205-75100 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	3.937 – 5.906	205-100150 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	5.906 – 11.811	205-150300 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	11.811 – 19.685	205-300500 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	19.685 – ∞	205-500XX R/L	KA5 R/L	525....	T 205	T 5120
	.197	.866	.965	1.969 – 2.362	UT5-5060 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	2.362 – 2.953	UT5-6075 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	2.953 – 3.937	UT5-75100 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	3.937 – 5.906	UT5-100150 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	5.906 – 11.811	UT5-150300 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	11.811 – 19.685	UT5-300500 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	19.685 – ∞	UT5-500XX R/L	KT5 R/L	525....	T 205	T 5120
	.236	.768	.768	1.969 – 2.362	206-5060 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	2.362 – 2.953	206-6075 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	2.953 – 3.937	206-75100 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	3.937 – 5.906	206-100150 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	5.906 – 11.811	206-150300 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	11.811 – 19.685	206-300500 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	19.685 – ∞	206-500XX R/L	KA6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	1.969 – 2.362	UT6-5060 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	2.362 – 2.953	UT6-6075 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	2.953 – 3.937	UT6-75100 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	3.937 – 5.906	UT6-100150 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	5.906 – 11.811	UT6-150300 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	11.811 – 19.685	UT6-300500 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	19.685 – ∞	UT6-500XX R/L	KT6 R/L	630....	T 205	T 5120

12025 R/L-.750
12525 R/L-1.000
13232 R/L-1.250

More accessories on next page

Basic holders and accessories

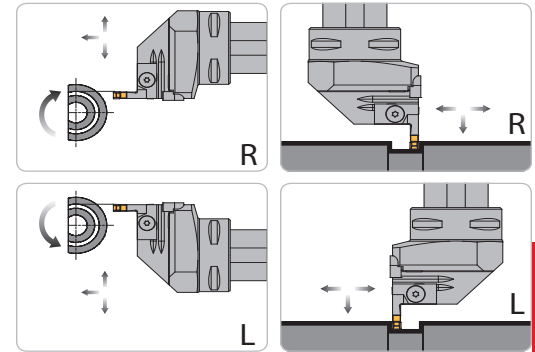
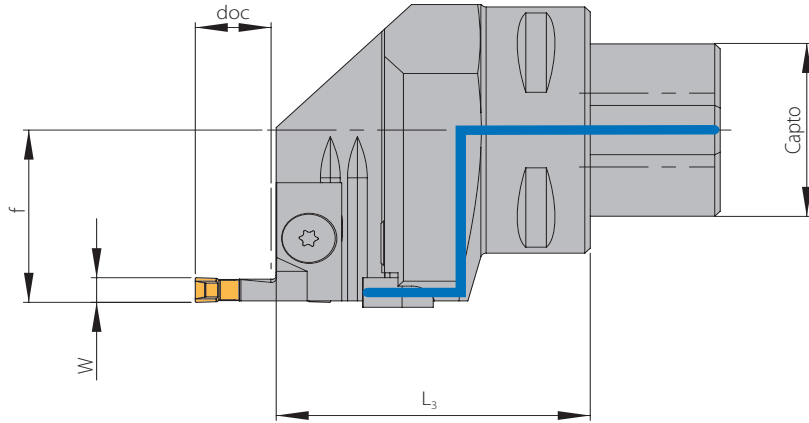
Basic holders	W	doc	doc ₂	OD	Support blade	Clamp	Insert	Screw	Key
313232 R/L-1.250	.315	.669	.709	2.953 – 3.937	308-75100 R/L	KAK8 R/L	838....	T 206	T 5120
	.315	.669	.709	3.937 – 5.906	308-100150 R/L	KAK8 R/L	838....	T 206	T 5120
	.315	.669	.709	5.906 – 11.811	308-150300 R/L	KAK8 R/L	838....	T 206	T 5120
	.315	.669	.709	11.811 – 19.685	308-300500 R/L	KAK8 R/L	838....	T 206	T 5120
	.315	.669	.709	19.685 – ∞	308-500XX R/L	KAK8 R/L	838....	T 206	T 5120
	.315	1.260	1.280	2.953 – 3.937	UT8-75100 R/L	KA8 R/L	838....	T 206	T 5120
	.315	1.260	1.280	3.937 – 5.906	UT8-100150 R/L	KA8 R/L	838....	T 206	T 5120
	.315	1.260	1.280	5.906 – 11.811	UT8-150300 R/L	KA8 R/L	838....	T 206	T 5120
	.315	1.260	1.280	11.811 – 19.685	UT8-300500 R/L	KA8 R/L	838....	T 206	T 5120
	.315	1.260	1.280	19.685 – ∞	UT8-500XX R/L	KA8 R/L	838....	T 206	T 5120
	.394	.984	1.024	2.953 – 3.937	310-75100 R/L	KAK10 R/L	1046....	T 206	T 5120
	.394	.984	1.024	3.937 – 5.906	310-100150 R/L	KAK10 R/L	1046....	T 206	T 5120
	.394	.984	1.024	5.906 – 11.811	310-150300 R/L	KAK10 R/L	1046....	T 206	T 5120
	.394	.984	1.024	11.811 – 19.685	310-300500 R/L	KAK10 R/L	1046....	T 206	T 5120
	.394	.984	1.024	19.685 – ∞	310-500XX R/L	KAK10 R/L	1046....	T 206	T 5120
	.394	1.575	1.594	2.953 – 3.937	UT10-75100 R/L	KA10 R/L	1046....	T 206	T 5120
	.394	1.575	1.594	3.937 – 5.906	UT10-100150 R/L	KA10 R/L	1046....	T 206	T 5120
	.394	1.575	1.594	5.906 – 11.811	UT10-150300 R/L	KA10 R/L	1046....	T 206	T 5120
	.394	1.575	1.594	11.811 – 19.685	UT10-300500 R/L	KA10 R/L	1046....	T 206	T 5120
	.394	1.575	1.594	19.685 – ∞	UT10-500XX R/L	KA10 R/L	1046....	T 206	T 5120

doc₂ = Grooving depth can be increased to dimension doc₂ by reworking tool.

Basic holders are supplied with screws and key, however without support blade or clamp.

Attention: Heavy duty clamp for NC-Groove turning, at interrupted cuts or vibrations, please refer to page 84.

Groove turning – Axial and Radial



Right hand execution shown

2

Basic holders

Designation	EDP	W	L ₃	f	H	Capto	Coolant jet	Screw coolant jet
C4 2-3 R/L	41015 41013	.079 – .118	1.772	1.063	.807	C4	KMD0519	AS0020
C5 2-3 L	93357	.079 – .118	1.772	1.378	1.004	C5	KMD0519	AS0020
C6 2-3 R/L	71703 71701	.079 – .118	2.362	1.772	1.260	C6	KMD0519	AS0020
C4 3-6 R/L*	41019 41017	.118 – .236	2.283	1.063	.945	C4	KMD0519	AS0020
C5 3-6 R/L*	41023 41021	.118 – .236	2.283	1.378	.984	C5	KMD0818	AS0020
C6 3-6 R/L*	41027 41025	.118 – .236	2.362	1.772	1.260	C6	KMD0818	AS0020
C8 3-6 R/L*	82728 82726	.118 – .236	3.150	1.654	1.594	C8	KMD0818	AS0020

* For dimension W = .236" (6mm) -> f + .020" (0,5mm)

Basic holders and accessories

Basic holders	W	doc	doc ₂	OD	Support blade	Clamp	Insert	Screw	Key
C4 2-3 R/L C5 2-3 L C6 2-3 R/L	.079	.315	.315	.984 – 1.181	102-2530 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	1.181 – 1.575	102-3040 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	1.575 – 1.969	102-4050 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	1.969 – 2.362	102-5060 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	2.362 – 2.953	102-6075 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	2.953 – 3.937	102-75100 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	3.937 – 5.906	102-100150 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	5.906 – 11.811	102-150300 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	11.811 – 19.685	102-300500 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	19.685 – ∞	10208 R/L*	KAM2 R/L	212....	T 154	KS 1111
	.118	.472	.472	.984 – 1.181	103-2530 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	1.181 – 1.575	103-3040 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	1.575 – 1.969	103-4050 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	1.969 – 2.362	103-5060 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	2.362 – 2.953	103-6075 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	2.953 – 3.937	103-75100 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	3.937 – 5.906	103-100150 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	5.906 – 11.811	103-150300 R/L	KAM3 R/L	316....	T 154	KS 1111
.118	.472	.472	11.811 – 19.685	103-300500 R/L	KAM3 R/L	316....	T 154	KS 1111	
.118	.472	.472	19.685 – ∞	10312 R/L*	KAM3 R/L	316....	T 154	KS 1111	

* Minimum retouching work required!

Attention: Heavy duty clamp for NC-Groove turning, at interrupted cuts or vibrations, please refer to page 84.

More accessories on next page

All dimensions in inches

Basic holders and accessories

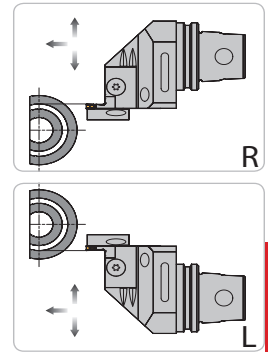
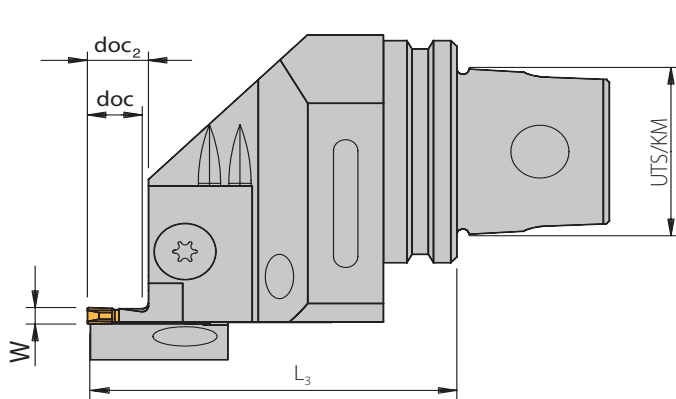
Basic holders	W	doc	doc ₂	OD	Support blade	Clamp	Insert	Screw	Key
	.118	.374	.374	1.969 – 2.362	203-5060 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	2.362 – 2.953	203-6075 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	2.953 – 3.937	203-75100 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	3.937 – 5.906	203-100150 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	5.906 – 11.811	203-150300 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	11.811 – 19.685	203-300500 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	19.685 – ∞	203-500XX R/L	KA3 R/L	320....	T 205	T 5120
	.118	.630	.728	1.969 – 2.362	UT3-5060 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	2.362 – 2.953	UT3-6075 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	2.953 – 3.937	UT3-75100 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	3.937 – 5.906	UT3-100150 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	5.906 – 11.811	UT3-150300 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	11.811 – 19.685	UT3-300500 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	19.685 – ∞	UT3-500XX R/L	KT3 R/L	320....	T 205	T 5120
	.157	.453	.453	1.969 – 2.362	204-5060 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	2.362 – 2.953	204-6075 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	2.953 – 3.937	204-75100 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	3.937 – 5.906	204-100150 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	5.906 – 11.811	204-150300 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	11.811 – 19.685	204-300500 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	19.685 – ∞	204-500XX R/L	KA4 R/L	422....	T 205	T 5120
	.157	.748	.846	1.969 – 2.362	UT4-5060 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	2.362 – 2.953	UT4-6075 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	2.953 – 3.937	UT4-75100 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	3.937 – 5.906	UT4-100150 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	5.906 – 11.811	UT4-150300 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	11.811 – 19.685	UT4-300500 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	19.685 – ∞	UT4-500XX R/L	KT4 R/L	422....	T 205	T 5120
	.197	.571	.571	1.969 – 2.362	205-5060 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	2.362 – 2.953	205-6075 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	2.953 – 3.937	205-75100 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	3.937 – 5.906	205-100150 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	5.906 – 11.811	205-150300 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	11.811 – 19.685	205-300500 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	19.685 – ∞	205-500XX R/L	KA5 R/L	525....	T 205	T 5120
	.197	.866	.965	1.969 – 2.362	UT5-5060 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	2.362 – 2.953	UT5-6075 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	2.953 – 3.937	UT5-75100 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	3.937 – 5.906	UT5-100150 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	5.906 – 11.811	UT5-150300 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	11.811 – 19.685	UT5-300500 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	19.685 – ∞	UT5-500XX R/L	KT5 R/L	525....	T 205	T 5120
	.236	.768	.768	1.969 – 2.362	206-5060 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	2.362 – 2.953	206-6075 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	2.953 – 3.937	206-75100 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	3.937 – 5.906	206-100150 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	5.906 – 11.811	206-150300 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	11.811 – 19.685	206-300500 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	19.685 – ∞	206-500XX R/L	KA6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	1.969 – 2.362	UT6-5060 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	2.362 – 2.953	UT6-6075 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	2.953 – 3.937	UT6-75100 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	3.937 – 5.906	UT6-100150 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	5.906 – 11.811	UT6-150300 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	11.811 – 19.685	UT6-300500 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	19.685 – ∞	UT6-500XX R/L	KT6 R/L	630....	T 205	T 5120

C4 3-6 R/L
C5 3-6 R/L
C6 3-6 R/L
C8 3-6 R/L

doc₂ = Grooving depth can be increased to dimension doc₂ by reworking tool.

Basic holders are supplied with screws and key, however without support blade or clamp.

Axial groove turning



Right hand execution shown

2

Basic holders

Designation	EDP		UTS / KM	f	L ₃
UT32-2-3 R/L	27759	27758	1.260	.984	1.575
UT32-3-6 R/L*	27761	27760	1.260	.984	1.772
UT40-3-6 R/L*	27805	27803	1.575	1.220	1.988
UT50-2-3 R/L*	27847	27846	1.969	.984	1.772
UT50-3-6 R/L*	27849	27848	1.969	1.417	2.205
UT63-3-6 R/L*	27894	27893	2.480	1.654	2.244
UT63-8-10 R/L*	27896	27895	2.480	1.634	2.638

* For dimension W = .236" (6mm) -> dimension f + .020" (0,5mm)

Basic holders and accessories

Basic holders	W	doc	doc ₂	OD	Support blade	Clamp	Insert	Screw	Key
UT32-2-3 R/L UT50-2-3 R	.079	.315	.315	.984 – 1.181	102-2530 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	1.181 – 1.575	102-3040 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	1.575 – 1.969	102-4050 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	1.969 – 2.362	102-5060 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	2.362 – 2.953	102-6075 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	2.953 – 3.937	102-75100 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	3.937 – 5.906	102-100150 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	5.906 – 11.811	102-150300 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	11.811 – 19.685	102-300500 R/L	KAM2 R/L	212....	T 154	KS 1111
	.079	.315	.315	19.68 – ∞	10208 R/L*	KAM2 R/L	212....	T 154	KS 1111
	.118	.472	.472	.984 – 1.181	103-2530 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	1.181 – 1.575	103-3040 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	1.575 – 1.969	103-4050 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	1.969 – 2.362	103-5060 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	2.362 – 2.953	103-6075 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	2.953 – 3.937	103-75100 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	3.937 – 5.906	103-100150 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	5.906 – 11.811	103-150300 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	11.811 – 19.685	103-300500 R/L	KAM3 R/L	316....	T 154	KS 1111
	.118	.472	.472	19.685 – ∞	10312 R/L*	KAM3 R/L	316....	T 154	KS 1111

* Minimum retouching work required!

Attention: Heavy duty clamp for NC-Groove turning, at interrupted cuts or vibrations, please refer to page 84.

More accessories on next page

Basic holders and accessories

Basic holders	W	doc	doc ₂	OD	Support blade	Clamp	Insert	Screw	Key
	.118	.374	.374	1.969 – 2.362	203-5060 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	2.362 – 2.953	203-6075 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	2.953 – 3.937	203-75100 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	3.937 – 5.906	203-100150 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	5.906 – 11.811	203-150300 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	11.811 – 19.685	203-300500 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	19.685 – ∞	203-500XX R/L	KA3 R/L	320....	T 205	T 5120
	.118	.630	.728	1.969 – 2.362	UT3-5060 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	2.362 – 2.953	UT3-6075 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	2.953 – 3.937	UT3-75100 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	3.937 – 5.906	UT3-100150 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	5.906 – 11.811	UT3-150300 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	11.811 – 19.685	UT3-300500 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	19.685 – ∞	UT3-500XX R/L	KT3 R/L	320....	T 205	T 5120
	.157	.453	.453	1.969 – 2.362	204-5060 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	2.362 – 2.953	204-6075 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	2.953 – 3.937	204-75100 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	3.937 – 5.906	204-100150 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	5.906 – 11.811	204-150300 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	11.811 – 19.685	204-300500 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	19.685 – ∞	204-500XX R/L	KA4 R/L	422....	T 205	T 5120
	.157	.748	.846	1.969 – 2.362	UT4-5060 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	2.362 – 2.953	UT4-6075 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	2.953 – 3.937	UT4-75100 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	3.937 – 5.906	UT4-100150 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	5.906 – 11.811	UT4-150300 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	11.811 – 19.685	UT4-300500 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	19.685 – ∞	UT4-500XX R/L	KT4 R/L	422....	T 205	T 5120
	.197	.571	.571	1.969 – 2.362	205-5060 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	2.362 – 2.953	205-6075 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	2.953 – 3.937	205-75100 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	3.937 – 5.906	205-100150 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	5.906 – 11.811	205-150300 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	11.811 – 19.685	205-300500 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	19.685 – ∞	205-500XX R/L	KA5 R/L	525....	T 205	T 5120
	.197	.866	.965	1.969 – 2.362	UT5-5060 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	2.362 – 2.953	UT5-6075 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	2.953 – 3.937	UT5-75100 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	3.937 – 5.906	UT5-100150 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	5.906 – 11.811	UT5-150300 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	11.811 – 19.685	UT5-300500 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	19.685 – ∞	UT5-500XX R/L	KT5 R/L	525....	T 205	T 5120
	.236	.768	.768	1.969 – 2.362	206-5060 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	2.362 – 2.953	206-6075 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	2.953 – 3.937	206-75100 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	3.937 – 5.906	206-100150 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	5.906 – 11.811	206-150300 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	11.811 – 19.685	206-300500 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	19.685 – ∞	206-500XX R/L	KA6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	1.969 – 2.362	UT6-5060 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	2.362 – 2.953	UT6-6075 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	2.953 – 3.937	UT6-75100 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	3.937 – 5.906	UT6-100150 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	5.906 – 11.811	UT6-150300 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	11.811 – 19.685	UT6-300500 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	19.685 – ∞	UT6-500XX R/L	KT6 R/L	630....	T 205	T 5120

UT32 3-6 L
UT40 3-6 R/L
UT50 3-6 R/L
UT63 3-6 R/L

doc₂ = Grooving depth can be increased to dimension doc₂ by reworking tool.

Basic holders are supplied with screws and key, however without support blade or clamp.

More accessories on next page

Basic holders and accessories

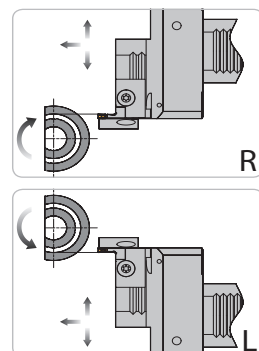
Basic holders	W	doc	doc ₂	OD	Support blade	Clamp	Insert	Screw	Key
UT63-8-10 R	.315	.669	.709	2.953 – 3.937	308-75100 R/L	KAK8 R/L	838....	T 206	T 5120
	.315	.669	.709	3.937 – 5.906	308-100150 R/L	KAK8 R/L	838....	T 206	T 5120
	.315	.669	.709	5.906 – 11.811	308-150300 R/L	KAK8 R/L	838....	T 206	T 5120
	.315	.669	.709	11.811 – 19.685	308-300500 R/L	KAK8 R/L	838....	T 206	T 5120
	.315	.669	.709	19.685 – ∞	308-500XX R/L	KAK8 R/L	838....	T 206	T 5120
	.315	1.260	1.280	2.953 – 3.937	UT8-75100 R/L	KA8 R/L	838....	T 206	T 5120
	.315	1.260	1.280	3.937 – 5.906	UT8-100150 R/L	KA8 R/L	838....	T 206	T 5120
	.315	1.260	1.280	5.906 – 11.811	UT8-150300 R/L	KA8 R/L	838....	T 206	T 5120
	.315	1.260	1.280	11.811 – 19.685	UT8-300500 R/L	KA8 R/L	838....	T 206	T 5120
	.315	1.260	1.280	19.685 – ∞	UT8-500XX R/L	KA8 R/L	838....	T 206	T 5120
	.394	.984	1.024	2.953 – 3.937	310-75100 R/L	KAK10 R/L	1046....	T 206	T 5120
	.394	.984	1.024	3.937 – 5.906	310-100150 R/L	KAK10 R/L	1046....	T 206	T 5120
	.394	.984	1.024	5.906 – 11.811	310-150300 R/L	KAK10 R/L	1046....	T 206	T 5120
	.394	.984	1.024	11.811 – 19.685	310-300500 R/L	KAK10 R/L	1046....	T 206	T 5120
	.394	.984	1.024	19.685 – ∞	310-500XX R/L	KAK10 R/L	1046....	T 206	T 5120
	.394	1.575	1.594	2.953 – 3.937	UT10-75100 R/L	KA10 R/L	1046....	T 206	T 5120
	.394	1.575	1.594	3.937 – 5.906	UT10-100150 R/L	KA10 R/L	1046....	T 206	T 5120
	.394	1.575	1.594	5.906 – 11.811	UT10-150300 R/L	KA10 R/L	1046....	T 206	T 5120
	.394	1.575	1.594	11.811 – 19.685	UT10-300500 R/L	KA10 R/L	1046....	T 206	T 5120
	.394	1.575	1.594	19.685 – ∞	UT10-500XX R/L	KA10 R/L	1046....	T 206	T 5120

doc₂ = Grooving depth can be increased to dimension doc₂ by reworking tool.

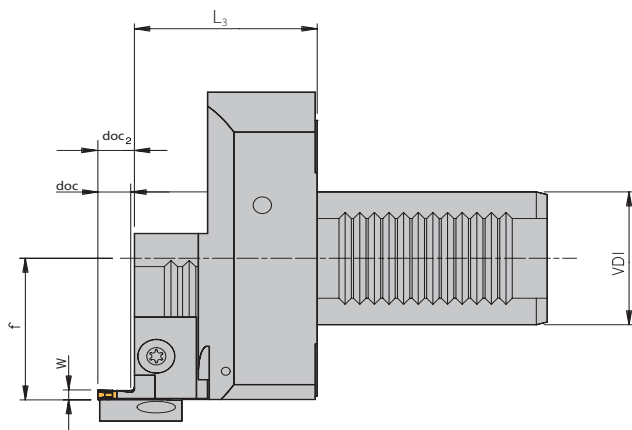
Basic holders are supplied with screws and key, however without support blade or clamp.

2

Axial groove turning



Right hand execution shown



2

Basic holders

Designation	EDP		VDI (mm)	L ₃	f
VDI30AX-R/L 7	28968	28967	30	1.969	1.378
VDI40AX-R/L 7	28977	28975	40	1.969	1.673
VDI50AX-R/L 7	28985	28983	50	1.969	1.673
VDI60AX-R/L 7	28994	28991	60	1.969	1.673
VDI40AX-R/L 3*	28976	28974	40	2.362	1.673
VDI50AX-R/L 3*	28984	28982	50	2.362	1.673
VDI60AX-R/L 3*	28993	28990	60	2.362	1.673

* For dimension W = .236" (6mm) -> Dimension L₃ + .020" (0,5mm)

Basic holders and accessories

Basic holders	W	doc	doc ₂	OD	Support blade	Clamp	Insert	Screw	Key
VDI30AX-R/L 7 VDI40AX-R/L 7 VDI50AX-R/L 7 VDI60AX-R/L 7	.118	.374	.374	1.969 – 2.362	203-5060 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	2.362 – 2.953	203-6075 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	2.953 – 3.937	203-75100 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	3.937 – 5.906	203-100150 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	5.906 – 11.811	203-150300 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	11.811 – 19.685	203-300500 R/L	KA3 R/L	320....	T 205	T 5120
	.118	.374	.374	19.685 – ∞	203-500XX R/L	KA3 R/L	320....	T 205	T 5120
	.118	.630	.728	1.969 – 2.362	UT3-5060 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	2.362 – 2.953	UT3-6075 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	2.953 – 3.937	UT3-75100 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	3.937 – 5.906	UT3-100150 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	5.906 – 11.811	UT3-150300 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	11.811 – 19.685	UT3-300500 R/L	KT3 R/L	320....	T 205	T 5120
	.118	.630	.728	19.685 – ∞	UT3-500XX R/L	KT3 R/L	320....	T 205	T 5120
	.157	.453	.453	1.969 – 2.362	204-5060 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	2.362 – 2.953	204-6075 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	2.953 – 3.937	204-75100 R/L	KA4 R/L	422....	T 205	T 5120
	.157	.453	.453	3.937 – 5.906	204-100150 R/L	KA4 R/L	422....	T 205	T 5120
.157	.453	.453	5.906 – 11.811	204-150300 R/L	KA4 R/L	422....	T 205	T 5120	
.157	.453	.453	11.811 – 19.685	204-300500 R/L	KA4 R/L	422....	T 205	T 5120	

Attention: Heavy duty clamp for NC-Groove turning, at interrupted cuts or vibrations, please refer to page 84.

More accessories on next page

Basic holders and accessories

Basic holders	W	doc	doc ₂	OD	Support blade	Clamp	Insert	Screw	Key
VDI30AX-R/L 7 VDI40AX-R/L 7 VDI50AX-R/L 7 VDI60AX-R/L 7	.157	.453	.453	19.685 – ∞	204-500XX R/L	KA4 R/L	422....	T 205	T 5120
	.157	.748	.846	1.969 – 2.362	UT4-5060 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	2.362 – 2.953	UT4-6075 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	2.953 – 3.937	UT4-75100 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	3.937 – 5.906	UT4-100150 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	5.906 – 11.811	UT4-150300 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	11.811 – 19.685	UT4-300500 R/L	KT4 R/L	422....	T 205	T 5120
	.157	.748	.846	19.685 – ∞	UT4-500XX R/L	KT4 R/L	422....	T 205	T 5120
	.197	.571	.571	1.969 – 2.362	205-5060 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	2.362 – 2.953	205-6075 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	2.953 – 3.937	205-75100 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	3.937 – 5.906	205-100150 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	5.906 – 11.811	205-150300 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	11.811 – 19.685	205-300500 R/L	KA5 R/L	525....	T 205	T 5120
	.197	.571	.571	19.685 – ∞	205-500XX R/L	KA5 R/L	525....	T 205	T 5120
	.197	.866	.965	1.969 – 2.362	UT5-5060 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	2.362 – 2.953	UT5-6075 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	2.953 – 3.937	UT5-75100 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	3.937 – 5.906	UT5-100150 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	5.906 – 11.811	UT5-150300 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	11.811 – 19.685	UT5-300500 R/L	KT5 R/L	525....	T 205	T 5120
	.197	.866	.965	19.685 – ∞	UT5-500XX R/L	KT5 R/L	525....	T 205	T 5120
	.236	.768	.768	1.969 – 2.362	206-5060 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	2.362 – 2.953	206-6075 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	2.953 – 3.937	206-75100 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	3.937 – 5.906	206-100150 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	5.906 – 11.811	206-150300 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	11.811 – 19.685	206-300500 R/L	KA6 R/L	630....	T 205	T 5120
	.236	.768	.768	19.685 – ∞	206-500XX R/L	KA6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	1.969 – 2.362	UT6-5060 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	2.362 – 2.953	UT6-6075 R/L	KT6 R/L	630....	T 205	T 5120
	.236	1.063	1.161	2.953 – 3.937	UT6-75100 R/L	KT6 R/L	630....	T 205	T 5120
.236	1.063	1.161	3.937 – 5.906	UT6-100150 R/L	KT6 R/L	630....	T 205	T 5120	
.236	1.063	1.161	5.906 – 11.811	UT6-150300 R/L	KT6 R/L	630....	T 205	T 5120	
.236	1.063	1.161	11.811 – 19.685	UT6-300500 R/L	KT6 R/L	630....	T 205	T 5120	
.236	1.063	1.161	19.685 – ∞	UT6-500XX R/L	KT6 R/L	630....	T 205	T 5120	

doc₂ = Grooving depth can be increased to dimension doc₂ by reworking tool.

Basic holders are supplied with screws and key, however without support blade or clamp.

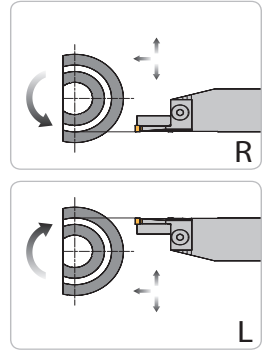
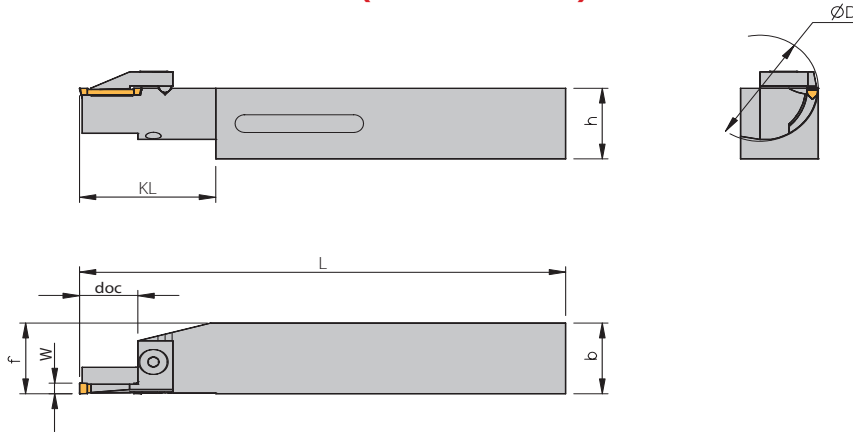
2

**Kontra-
Axial groove turning straight – Ø .787" – 11.811"
(20–300mm)**

inch & metric

X
without IC

i Page
132–140



Right hand execution shown

2

Basic holders and accessories

Designation	EDP		OD	W	doc	KL	h	b	L	f	Clamp	Insert	Screw	Key
72020-2-2025 R/L Kontra-.750	500173	500174	.787 – .984	.079	.295	1.181	.750	.787	4.921	.787	KAM2 R/L Kontra	212...	T 154	KS 1111
72020-2-2530 R/L Kontra-.750	500144	500152	.984 – 1.181	.079	.413	1.378	.750	.787	4.921	.787	KTM2 R/L Kontra	212...	T 154	KS 1111
72020-2-3035 R/L Kontra-.750	500942	500936	1.181 – 1.378	.079	.413	1.378	.750	.787	4.921	.787	KTM2 R/L Kontra	212...	T 154	KS 1111
72020-2-3540 R/L Kontra-.750	500175	500935	1.378 – 1.575	.079	.413	1.378	.750	.787	4.921	.787	KTM2 R/L Kontra	212...	T 154	KS 1111
72020-2-4050 R/L Kontra-.750	500721	500145	1.575 – 1.969	.079	.413	1.378	.750	.787	4.921	.787	KTM2 R/L Kontra	212...	T 154	KS 1111
72020-2-5060 R/L Kontra-.750	500200	500182	1.969 – 2.362	.079	.413	1.378	.750	.787	4.921	.787	KTM2 R/L Kontra	212...	T 154	KS 1111
72020-2-6075 R/L Kontra-.750	500242	500245	2.362 – 2.953	.079	.413	1.378	.750	.787	4.921	.787	KTM2 R/L Kontra	212...	T 154	KS 1111
72020-2-75100 R/L Kontra-.750	500247	500253	2.953 – 3.937	.079	.413	1.378	.750	.787	4.921	.787	KTM2 R/L Kontra	212...	T 154	KS 1111
72020-2-100150 R/L Kontra-.750	500184	500150	3.937 – 5.906	.079	.413	1.378	.750	.787	4.921	.787	KTM2 R/L Kontra	212...	T 154	KS 1111
72020-2-150300 R/L Kontra-.750	501518	501517	5.906 – 11.811	.079	.413	1.378	.750	.787	4.921	.787	KTM2 R/L Kontra	212...	T 154	KS 1111
72020-3-2025 R/L Kontra-.750	500189	500217	.787 – .984	.118	.453	1.181	.750	.787	4.921	.787	KAM3 R/L Kontra	316...	T 154	KS 1111
72020-3-2530 R/L Kontra-.750	500146	500240	.984 – 1.181	.118	.571	1.378	.750	.787	4.921	.787	KTM3 R/L Kontra	316...	T 154	KS 1111
72020-3-3035 R/L Kontra-.750	500250	500161	1.181 – 1.378	.118	.571	1.378	.750	.787	4.921	.787	KTM3 R/L Kontra	316...	T 154	KS 1111
72020-3-3540 R/L Kontra-.750	500992	500241	1.378 – 1.575	.118	.571	1.378	.750	.787	4.921	.787	KTM3 R/L Kontra	316...	T 154	KS 1111
72020-3-4050 R/L Kontra-.750	500252	500246	1.575 – 1.969	.118	.571	1.378	.750	.787	4.921	.787	KTM3 R/L Kontra	316...	T 154	KS 1111
72020-3-5060 R/L Kontra-.750	500239	500179	1.969 – 2.362	.118	.571	1.378	.750	.787	4.921	.787	KTM3 R/L Kontra	316...	T 154	KS 1111

Attention: These tools should be set up according to dimension h (shank-height), because the cutting edge is above centre height!

Basic holders are supplied with screws and key, however without support blade or clamp.

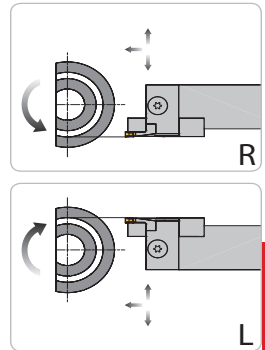
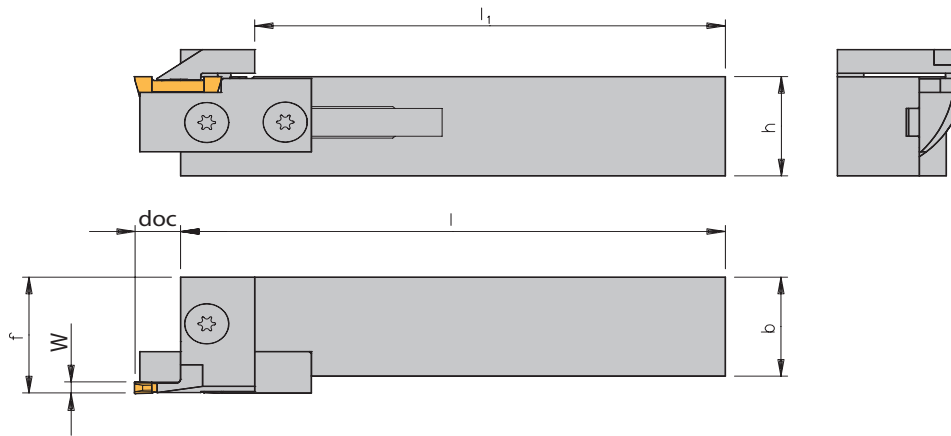
Note: For Kontra grooving tools with width .118" and above and outside diameter starting at 1.969" please refer to page 103.

**Kontra-
Axial groove turning straight**

inch & metric

X
without IC

i Page
132-140



Right hand execution shown

2

Basic holders

Designation	EDP	h	b	l	l ₁	f
72025 R/L-.750*	500052 500004	.750	.984	4.921	4.449	1.167
72525 R/L-1.000*	10106 10105	1.000	.984	5.906	5.433	1.167
73225 R/L-1.250*	500045 500044	1.250	.984	6.693	6.220	1.167
373232 R/L-1.250	500032 500695	1.250	1.260	6.693	5.709	1.516

* For dimension W = .236" (6mm) -> f = b + .020" (0,5mm); otherwise f = b

Basic holders and accessories

Basic holders	W	doc	OD	Support blade	Clamp	Insert	Screw	Key
72025 R/L-.750 72525 R/L-1.000 73225 R/L-1.250	.118	.394	1.969 – 2.362	203S-5060 R/L Kontra	KAS3 R/L Kontra	320...	T 205	T 5120
	.118	.394	2.362 – 2.953	203S-6075 R/L Kontra	KAS3 R/L Kontra	320...	T 205	T 5120
	.118	.394	2.953 – 3.937	203S-75100 R/L Kontra	KAS3 R/L Kontra	320...	T 205	T 5120
	.118	.394	3.937 – 5.906	203S-100150 R/L Kontra	KAS3 R/L Kontra	320...	T 205	T 5120
	.118	.394	5.906 – 11.811	203S-150300 R/L Kontra	KAS3 R/L Kontra	320...	T 205	T 5120
	.118	.394	11.811 – 19.685	203S-300500 R/L Kontra	KAS3 R/L Kontra	320...	T 205	T 5120
	.118	.394	19.685 – ∞	203S-500XX R/L Kontra	KAS3 R/L Kontra	320...	T 205	T 5120
	.118	.669	1.969 – 2.362	UT3S-5060 R/L Kontra	KTS3 R/L Kontra	320...	T 205	T 5120
	.118	.669	2.362 – 2.953	UT3S-6075 R/L Kontra	KTS3 R/L Kontra	320...	T 205	T 5120
	.118	.669	2.953 – 3.937	UT3S-75100 R/L Kontra	KTS3 R/L Kontra	320...	T 205	T 5120
	.118	.669	3.937 – 5.906	UT3S-100150 R/L Kontra	KTS3 R/L Kontra	320...	T 205	T 5120
	.118	.669	5.906 – 11.811	UT3S-150300 R/L Kontra	KTS3 R/L Kontra	320...	T 205	T 5120
	.118	.669	11.811 – 19.685	UT3S-300500 R/L Kontra	KTS3 R/L Kontra	320...	T 205	T 5120
	.118	.669	19.685 – ∞	UT3S-500XX R/L Kontra	KTS3 R/L Kontra	320...	T 205	T 5120
	.157	.472	1.969 – 2.362	204S-5060 R/L Kontra	KAS4 R/L Kontra	422...	T 205	T 5120
	.157	.472	2.362 – 2.953	204S-6075 R/L Kontra	KAS4 R/L Kontra	422...	T 205	T 5120
	.157	.472	2.953 – 3.937	204S-75100 R/L Kontra	KAS4 R/L Kontra	422...	T 205	T 5120
	.157	.472	3.937 – 5.906	204S-100150 R/L Kontra	KAS4 R/L Kontra	422...	T 205	T 5120
	.157	.472	5.906 – 11.811	204S-150300 R/L Kontra	KAS4 R/L Kontra	422...	T 205	T 5120
	.157	.472	11.811 – 19.685	204S-300500 R/L Kontra	KAS4 R/L Kontra	422...	T 205	T 5120

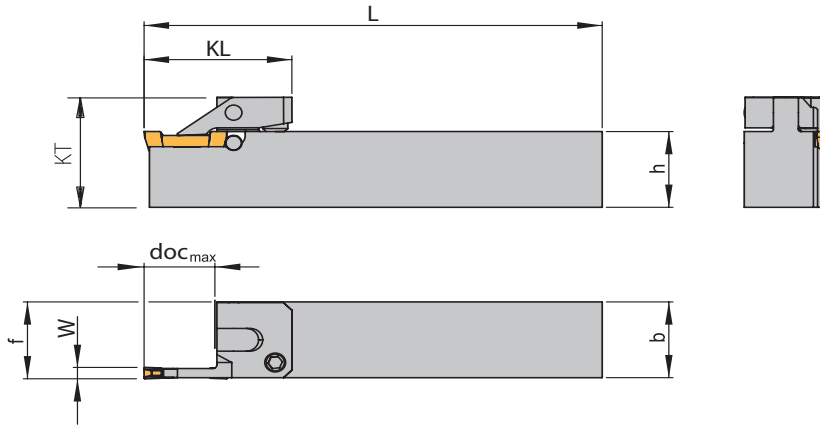
More accessories on next page

Basic holders and accessories

Basic holders	W	doc	OD	Support blade	Clamp	Insert	Screw	Key
72025 R/L-.750 72525 R/L-1.000 73225 R/L-1.250	4	12	19.685	204S-500XX R/L Kontra	KAS4 R/L Kontra	422....	T 205	T 5120
	4	20	1.969 – 2.362	UT4S-5060 R/L Kontra	KTS4 R/L Kontra	422....	T 205	T 5120
	4	20	2.362 – 2.953	UT4S-6075 R/L Kontra	KTS4 R/L Kontra	422....	T 205	T 5120
	4	20	2.953 – 3.937	UT4S-75100 R/L Kontra	KTS4 R/L Kontra	422....	T 205	T 5120
	4	20	3.937 – 5.906	UT4S-100150 R/L Kontra	KTS4 R/L Kontra	422....	T 205	T 5120
	4	20	5.906 – 11.811	UT4S-150300 R/L Kontra	KTS4 R/L Kontra	422....	T 205	T 5120
	4	20	11.811 – 19.685	UT4S-300500 R/L Kontra	KTS4 R/L Kontra	422....	T 205	T 5120
	4	20	19.685 – ∞	UT4S-500XX R/L Kontra	KTS4 R/L Kontra	422....	T 205	T 5120
	5	15	1.969 – 2.362	205S-5060 R/L Kontra	KAS5 R/L Kontra	525....	T 205	T 5120
	5	15	2.362 – 2.953	205S-6075 R/L Kontra	KAS5 R/L Kontra	525....	T 205	T 5120
	5	15	2.953 – 3.937	205S-75100 R/L Kontra	KAS5 R/L Kontra	525....	T 205	T 5120
	5	15	3.937 – 5.906	205S-100150 R/L Kontra	KAS5 R/L Kontra	525....	T 205	T 5120
	5	15	5.906 – 11.811	205S-150300 R/L Kontra	KAS5 R/L Kontra	525....	T 205	T 5120
	5	15	11.811 – 19.685	205S-300500 R/L Kontra	KAS5 R/L Kontra	525....	T 205	T 5120
	5	15	19.685 – ∞	205S-500XX R/L Kontra	KAS5 R/L Kontra	525....	T 205	T 5120
	5	23	1.969 – 2.362	UT5S-5060 R/L Kontra	KTS5 R/L Kontra	525....	T 205	T 5120
	5	23	2.362 – 2.953	UT5S-6075 R/L Kontra	KTS5 R/L Kontra	525....	T 205	T 5120
	5	23	2.953 – 3.937	UT5S-75100 R/L Kontra	KTS5 R/L Kontra	525....	T 205	T 5120
	5	23	3.937 – 5.906	UT5S-100150 R/L Kontra	KTS5 R/L Kontra	525....	T 205	T 5120
	5	23	5.906 – 11.811	UT5S-150300 R/L Kontra	KTS5 R/L Kontra	525....	T 205	T 5120
	5	23	11.811 – 19.685	UT5S-300500 R/L Kontra	KTS5 R/L Kontra	525....	T 205	T 5120
	5	23	19.685 – ∞	UT5S-500XX R/L Kontra	KTS5 R/L Kontra	525....	T 205	T 5120
	6	20	1.969 – 2.362	206S-5060 R/L Kontra	KAS6 R/L Kontra	630....	T 205	T 5120
	6	20	2.362 – 2.953	206S-6075 R/L Kontra	KAS6 R/L Kontra	630....	T 205	T 5120
	6	20	2.953 – 3.937	206S-75100 R/L Kontra	KAS6 R/L Kontra	630....	T 205	T 5120
	6	20	3.937 – 5.906	206S-100150 R/L Kontra	KAS6 R/L Kontra	630....	T 205	T 5120
	6	20	5.906 – 11.811	206S-150300 R/L Kontra	KAS6 R/L Kontra	630....	T 205	T 5120
	6	20	11.811 – 19.685	206S-300500 R/L Kontra	KAS6 R/L Kontra	630....	T 205	T 5120
	6	20	19.685 – ∞	206S-500XX R/L Kontra	KAS6 R/L Kontra	630....	T 205	T 5120
	6	28	1.969 – 2.362	UT6S-5060 R/L Kontra	KTS6 R/L Kontra	630....	T 205	T 5120
	6	28	2.362 – 2.953	UT6S-6075 R/L Kontra	KTS6 R/L Kontra	630....	T 205	T 5120
	6	28	2.953 – 3.937	UT6S-75100 R/L Kontra	KTS6 R/L Kontra	630....	T 205	T 5120
	6	28	3.937 – 5.906	UT6S-100150 R/L Kontra	KTS6 R/L Kontra	630....	T 205	T 5120
	6	28	5.906 – 11.811	UT6S-150300 R/L Kontra	KTS6 R/L Kontra	630....	T 205	T 5120
	6	28	11.811 – 19.685	UT6S-300500 R/L Kontra	KTS6 R/L Kontra	630....	T 205	T 5120
	6	28	19.685 – ∞	UT6S-500XX R/L Kontra	KTS6 R/L Kontra	630....	T 205	T 5120
373232 R/L-1.250	8	25	2.953 – 3.937	308S-75100 R/L Kontra	KAS8 R/L Kontra	838....	T 206	T 5120
	8	25	3.937 – 5.906	308S-100150 R/L Kontra	KAS8 R/L Kontra	838....	T 206	T 5120
	8	25	5.906 – 11.811	308S-150300 R/L Kontra	KAS8 R/L Kontra	838....	T 206	T 5120
	8	25	11.811 – 19.685	308S-300500 R/L Kontra	KAS8 R/L Kontra	838....	T 206	T 5120
	8	25	19.685 – ∞	308S-500XX R/L Kontra	KAS8 R/L Kontra	838....	T 206	T 5120
	8	32	2.953 – 3.937	UT8S-75100 R/L Kontra	KTS8 R/L Kontra	838....	T 206	T 5120
	8	32	3.937 – 5.906	UT8S-100150 R/L Kontra	KTS8 R/L Kontra	838....	T 206	T 5120
	8	32	5.906 – 11.811	UT8S-150300 R/L Kontra	KTS8 R/L Kontra	838....	T 206	T 5120
	8	32	11.811 – 19.685	UT8S-300500 R/L Kontra	KTS8 R/L Kontra	838....	T 206	T 5120
	8	32	19.685 – ∞	UT8S-500XX R/L Kontra	KTS8 R/L Kontra	838....	T 206	T 5120
	10	35	2.953 – 3.937	310S-75100 R/L Kontra	KAS10 R/L Kontra	1046....	T 206	T 5120
	10	35	3.937 – 5.906	310S-100150 R/L Kontra	KAS10 R/L Kontra	1046....	T 206	T 5120
	10	35	5.906 – 11.811	310S-150300 R/L Kontra	KAS10 R/L Kontra	1046....	T 206	T 5120
	10	35	11.811 – 19.685	310S-300500 R/L Kontra	KAS10 R/L Kontra	1046....	T 206	T 5120
	10	35	19.685 – ∞	310S-500XX R/L Kontra	KAS10 R/L Kontra	1046....	T 206	T 5120
	10	42	2.953 – 3.937	UT10S-75100 R/L Kontra	KTS10 R/L Kontra	1046....	T 206	T 5120
	10	42	3.937 – 5.906	UT10S-100150 R/L Kontra	KTS10 R/L Kontra	1046....	T 206	T 5120
	10	42	5.906 – 11.811	UT10S-150300 R/L Kontra	KTS10 R/L Kontra	1046....	T 206	T 5120
	10	42	11.811 – 19.685	UT10S-300500 R/L Kontra	KTS10 R/L Kontra	1046....	T 206	T 5120
	10	42	19.685 – ∞	UT10S-500XX R/L Kontra	KTS10 R/L Kontra	1046....	T 206	T 5120

Basic holders are supplied with screws and key, however without support blade or clamp.

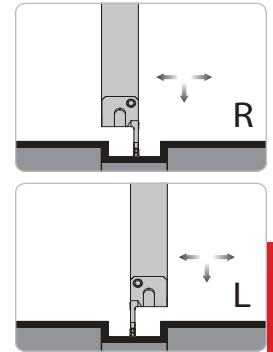
Radial grooving straight



inch & metric

X
without IC

i Page
132-140



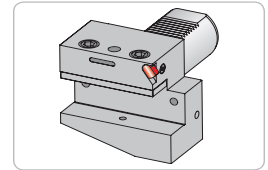
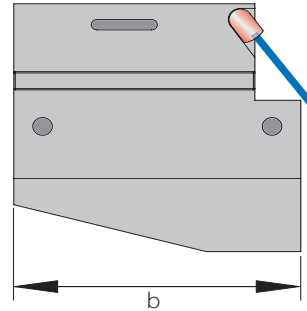
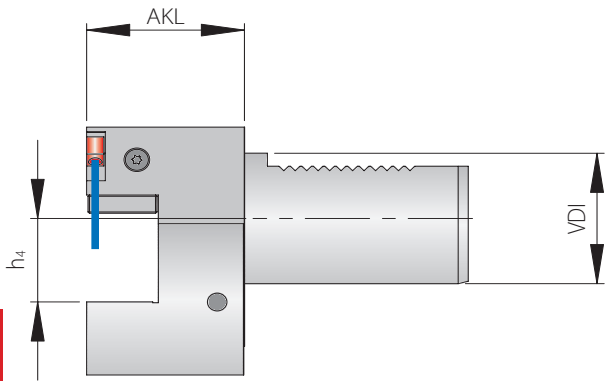
Right hand execution shown

2

Basic holders

Designation	EDP	W	doc _{max}	f	L	KL	KT	b	h	Insert
SAN01-0317-1616 R/L-.625	500892 500891	.118	.669	.642	3.937	1.398	.984	.630	.625	320....
SAN01-0317-2020 R/L-.750	500895 500896	.118	.669	.799	4.331	1.398	1.142	.787	.750	320....
SAN01-0317-2525 R/L-1.000	87762 87760	.118	.669	.996	4.921	1.398	1.339	1.000	1.000	320....
SAN01-0419-1616 R/L-.625	500893 500894	.157	.748	.642	3.937	1.480	.984	.630	.625	422....
SAN01-0419-2020 R/L-.750	500898 500897	.157	.748	.799	4.331	1.480	1.142	.787	.750	422....
SAN01-0419-2525 R/L-1.000	87766 87764	.157	.748	.996	4.921	1.480	1.339	1.000	1.000	422....
SAN01-0522-2020 R/L-.750	500899 500900	.197	.866	.799	4.331	1.598	1.142	.787	.750	525....
SAN01-0522-2525 R/L-1.000	87770 87768	.197	.866	.996	4.921	1.598	1.339	1.000	1.000	525....
SAN01-0627-2020 R/L-.750	500902 500901	.236	1.063	.799	4.331	1.799	1.142	.787	.750	630....
SAN01-0627-2525 R/L-1.000	87774 87772	.236	1.063	.996	4.921	1.799	1.339	1.000	1.000	630....

Form B1 – short

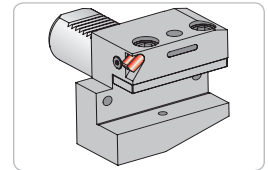
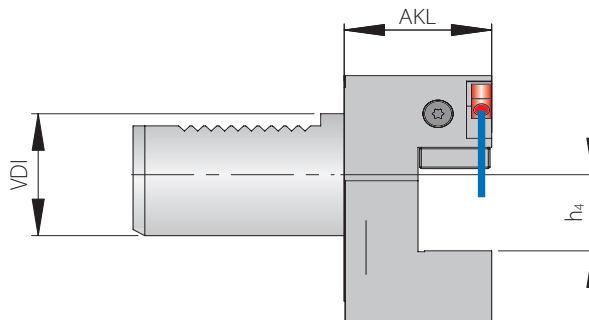
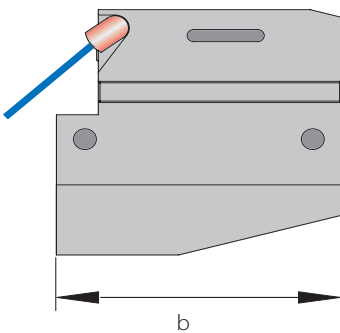


2 Basic holders

Designation	EDP	VDI (mm)	h4	AKL	b	Coolant jet	Screw coolant jet
KMH01-B1-16X12X24	67883	16	.472	.945	1.654	KMD0519	AS0020
KMH01-B1-20X16X30	67746	20	.630	1.181	2.165	KMD0519	AS0020
KMH01-B1-25X16X30	68471	25	.630	1.181	2.165	KMD0519	AS0020
KMH01-B1-30X20X40	65616	30	.787	1.575	2.756	KMD0830	AS0020
KMH01-B1-40X25X44	67736	40	.984	1.732	3.346	KMD0830	AS0020
KMH01-B1-50X32X55	68473	50	1.260	2.165	3.937	KMD0830	AS0020

Remark: Also available with coolant through for ACS. Please contact sales for more info.

Form B2 – short

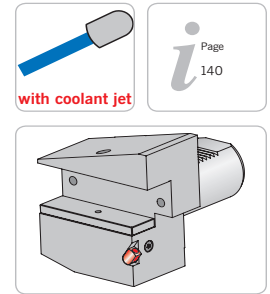
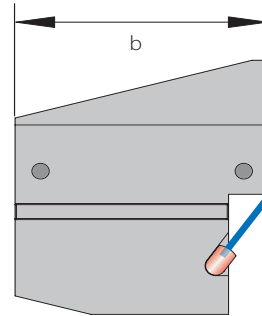
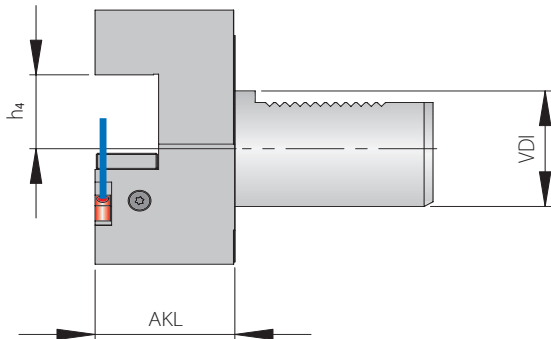


Basic holders

Designation	EDP	VDI (mm)	h4	AKL	b	Coolant jet	Screw coolant jet
KMH01-B2-25X16X30	68479	25	.630	1.181	2.165	KMD0519	AS0020
KMH01-B2-30X20X40	67759	30	.787	1.575	2.756	KMD0830	AS0020
KMH01-B2-40X25X44	67751	40	.984	1.732	3.346	KMD0830	AS0020
KMH01-B2-40X25X70	85994	40	.984	2.756	3.346	KMD0830	AS0020

Remark: Also available with coolant through for ACS. Please contact sales for more info.

Form B3 – Overhead – short

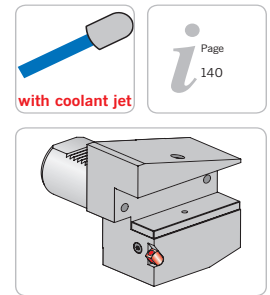
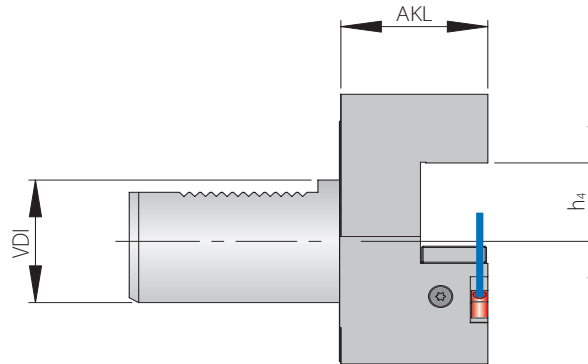
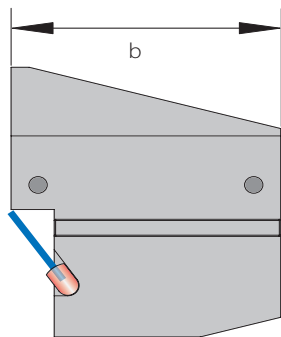


Basic holders

Designation	EDP	VDI (mm)	h4	AKL	b	Coolant jet	Screw coolant jet
KMH01-B3-16X12X24	68483	16	.472	.945	1.654	KMD0519	AS0020
KMH01-B3-20X16X30	68485	20	.630	1.181	2.165	KMD0519	AS0020
KMH01-B3-25X16X30	68487	25	.630	1.181	2.165	KMD0519	AS0020
KMH01-B3-30X20X40	65618	30	.787	1.575	2.756	KMD0830	AS0020
KMH01-B3-40X25X44	67722	40	.984	1.732	3.346	KMD0830	AS0020
KMH01-B3-50X32X55	68489	50	1.260	2.165	3.937	KMD0830	AS0020

Remark: Also available with coolant through for ACS. Please contact sales for more info.

Form B4 – Overhead – short

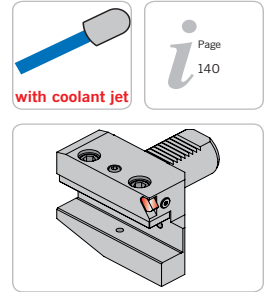
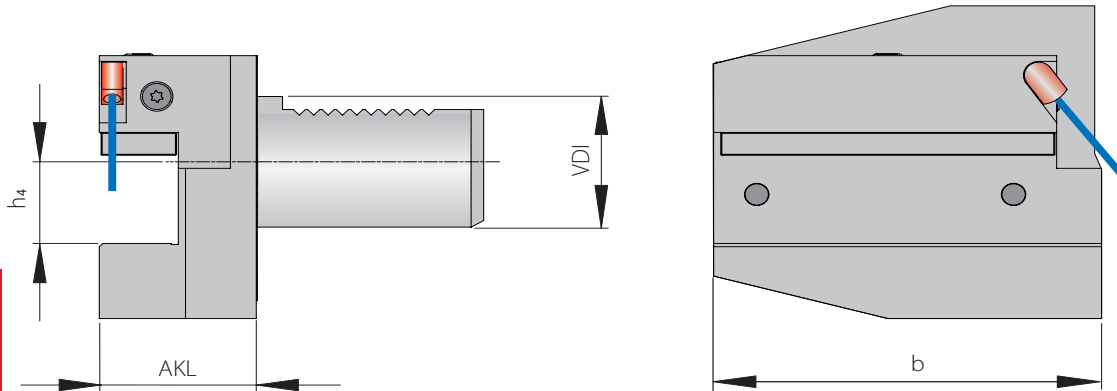


Basic holders

Designation	EDP	VDI (mm)	h4	AKL	b	Coolant jet	Screw coolant jet
KMH01-B4-16X12X24	68491	16	.472	.945	1.654	KMD0519	AS0020
KMH01-B4-20X16X30	68493	20	.630	1.181	2.165	KMD0519	AS0020
KMH01-B4-25X16X30	68495	25	.630	1.181	2.165	KMD0519	AS0020
KMH01-B4-30X20X40	68497	30	.787	1.575	2.756	KMD0830	AS0020
KMH01-B4-40X25X44	68499	40	.984	1.732	3.346	KMD0830	AS0020
KMH01-B4-50X32X55	68501	50	1.260	2.165	3.937	KMD0830	AS0020

Remark: Also available with coolant through for ACS. Please contact sales for more info.

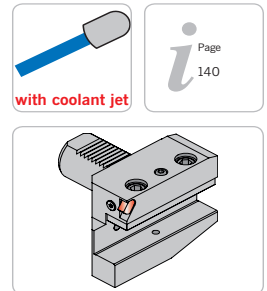
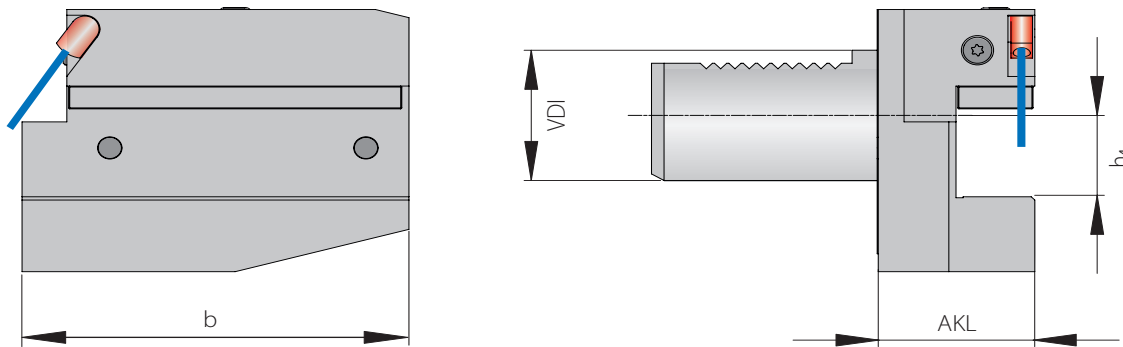
Form B5 – long



2 Basic holders

Designation	EDP	VDI (mm)	h4	AKL	b	Coolant jet	Screw coolant jet
KMH01-B5-40X25X44	78467	40	.984	1.732	4.252	KMD0830	AS0020

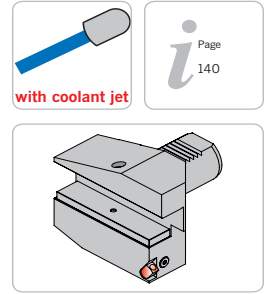
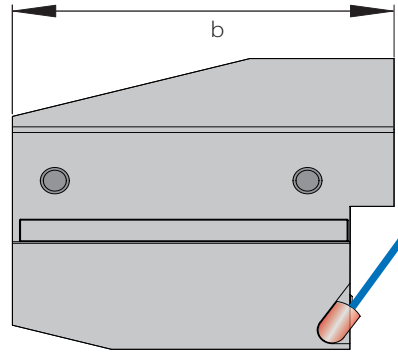
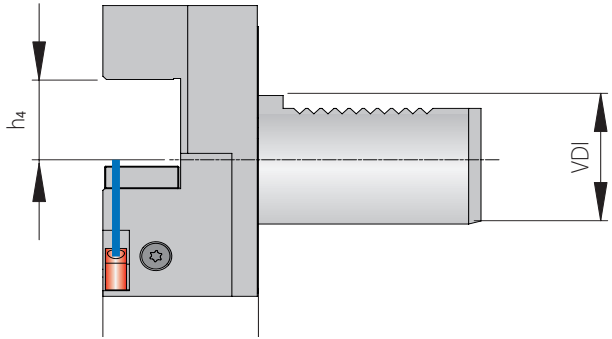
Form B6 – long



Basic holders

Designation	EDP	VDI	h4	AKL	b	Coolant jet	Screw coolant jet
KMH01-B6-40X25X44	69742	40	.984	1.732	4.252	KMD0830	AS0020

Form B7 – Overhead – long

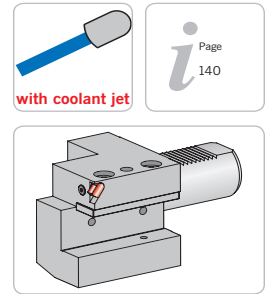
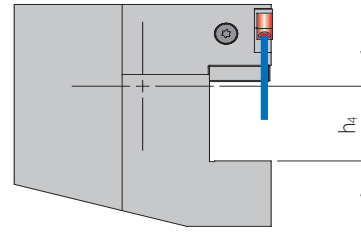
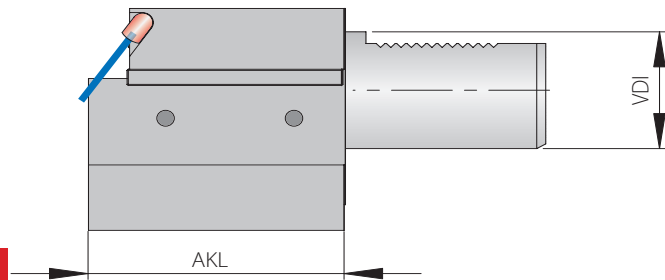


Basic holders

Designation	EDP	VDI (mm)	h4	AKL	b	Coolant jet	Screw coolant jet
KMH01-B5-40X25X44	78467	40	.984	1.732	4.252	KMD0830	AS0020



Form C1



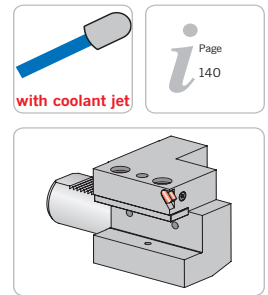
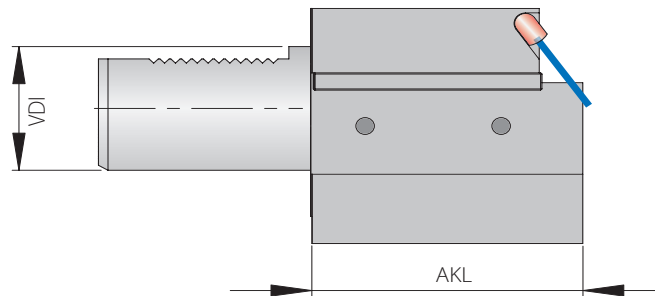
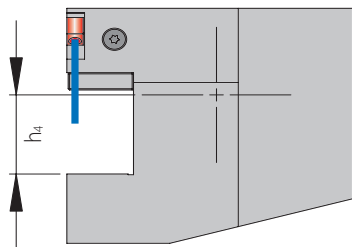
2

Basic holders

Designation	EDP	VDI (mm)	h4	AKL	Coolant jet	Screw coolant jet
KMH01-C1-25X16	67713	25	2.165	.630	KMD0519	AS0020
KMH01-C1-25X20	70192	25	2.165	.787	KMD0519	AS0020
KMH01-C1-30X20	67724	30	2.756	.787	KMD0519	AS0020
KMH01-C1-40X25	67765	40	3.346	.984	KMD0519	AS0020
KMH01-C1-50X32	68507	50	3.937	1.260	KMD0519	AS0020

Remark: Also available with coolant through for ACS. Please contact sales for more info.

Form C2

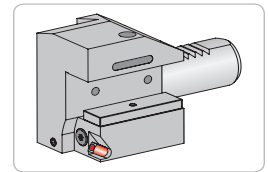
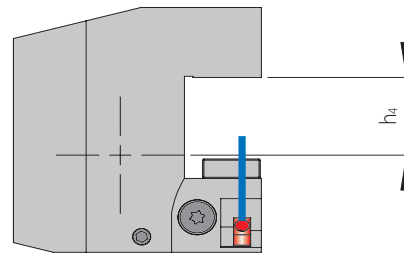
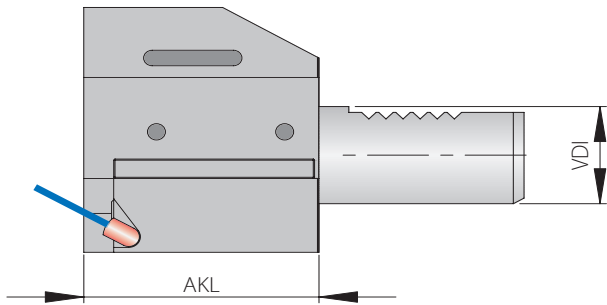


Basic holders

Designation	EDP	VDI (mm)	h4	AKL	Coolant jet	Screw coolant jet
KMH01-C2-16X12	68509	16	1.732	.472	KMD0519	AS0020
KMH01-C2-20X16	68511	20	1.969	.630	KMD0519	AS0020
KMH01-C2-30X20	67763	30	2.756	.787	KMD0519	AS0020
KMH01-C2-40X25	67767	40	3.346	.984	KMD0519	AS0020
KMH01-C2-50X32	68513	50	3.937	1.260	KMD0519	AS0020

Remark: Also available with coolant through for ACS. Please contact sales for more info.

Form C3 – Overhead

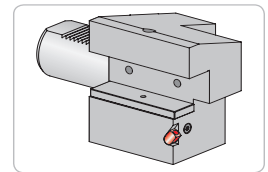
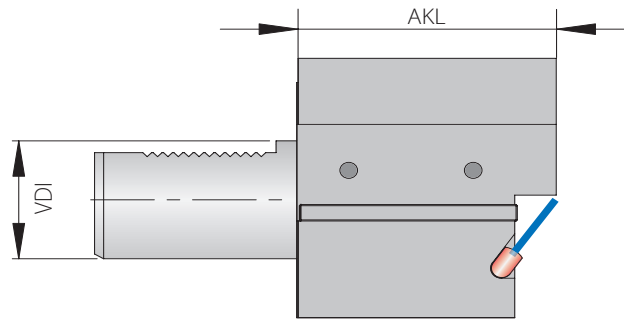
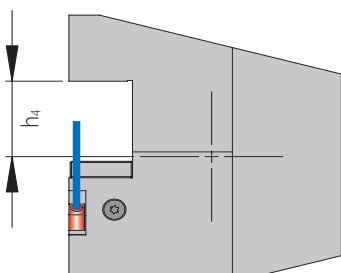


Basic holders

Designation	EDP	VDI (mm)	h4	AKL	Coolant jet	Screw coolant jet
KMH01-C3-16X12	68515	16	1.732	.472	KMD0519	AS0020
KMH01-C3-20X16	68517	20	1.969	.630	KMD0519	AS0020
KMH01-C3-30X20	68519	30	2.756	.787	KMD0519	AS0020
KMH01-C3-40X25	68521	40	3.346	.984	KMD0519	AS0020
KMH01-C3-50X32	68523	50	3.937	1.260	KMD0519	AS0020

Remark: Also available with coolant through for ACS. Please contact sales for more info.

Form C4 – Overhead



Basic holders

Designation	EDP	VDI (mm)	h4	AKL	Coolant jet	Screw coolant jet
KMH01-C4-16X12	68525	16	1.732	.472	KMD0519	AS0020
KMH01-C4-20X16	68527	20	1.969	.630	KMD0519	AS0020
KMH01-C4-25X16	65781	25	2.165	.630	KMD0519	AS0020
KMH01-C4-25X20	70194	25	2.165	.787	KMD0519	AS0020
KMH01-C4-30X20	68529	30	2.756	.787	KMD0519	AS0020
KMH01-C4-40X25	68531	40	3.346	.984	KMD0519	AS0020
KMH01-C4-50X32	68533	50	3.937	1.260	KMD0519	AS0020

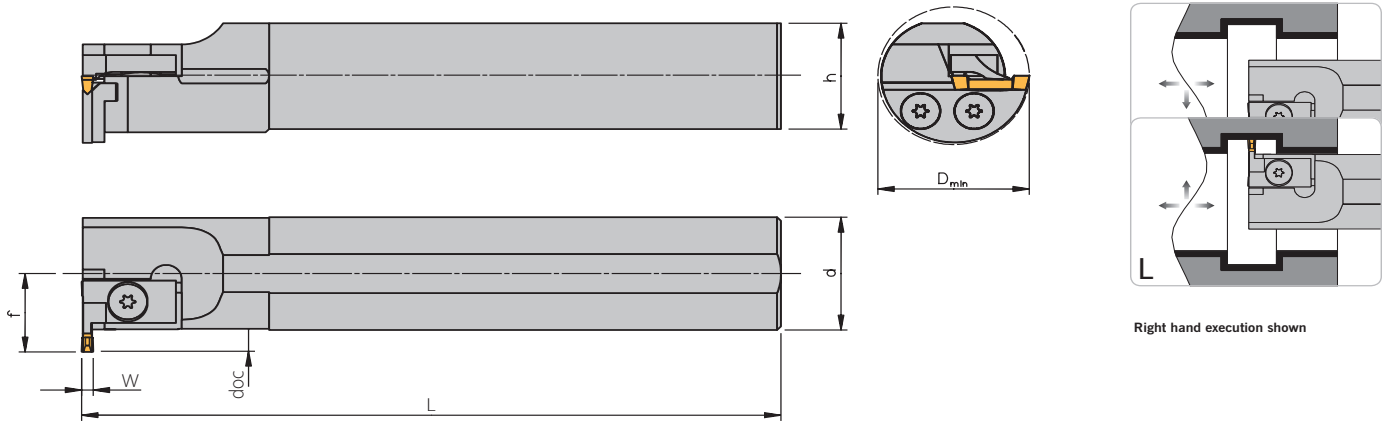
Remark: Also available with coolant through for ACS. Please contact sales for more info.

Internal groove turning from Ø .630" (16mm)

inch & metric

X
without IC

i Page
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2

Basic holders

Designation	EDP		d	L	h
9-12 R/L-.500	10469	10467	.500	5.906	.433
9-12.471 R/L-.500	500076	500083	.500	5.906	.433
9-16.2 R/L-.625	10475	10473	.625	5.906	.591
9-16.2.471 R/L-.625	501520	500067	.625	5.906	.591
9-16.3 R/L-.625	10481	10479	.625	5.906	.591
9-16.3.471 R/L-.625	501521	500086	.625	5.906	.591
9-20 R/L-.750	10501	10495	.750	9.843	.709
9-20.471 R/L-.750	501554	501555	.750	9.843	.709
9-25 R/L-1.000	10513	10507	1.000	11.024	.906
9-25.471 R/L	10505	10502	.984	11.024	.906
9-32 R/L-1.250	10521	10515	1.250	11.811	1.181

Basic holders and accessories

Basic holders	W	doc	D _{min}	f	Support blade	Clamp	Insert	Screw	Key
9-12 R/L-.500	.079	.118	.630	.354	—*	KI2F R/L	212....	M 154	KS 1111
9-12.471 R/L-.500	.020 – .073	= W	.630	.354	—*	KI2F R/L	2-./471 R/L	M 154	KS 1111
9-16.2 R/L-.625	.079	.118	.787	.433	—*	KI2F R/L	212....	M 154	KS 1111
9-16.2.471 R/L-.625	.020 – .073	= W	.787	.433	—*	KI2F R/L	2-./471 R/L	M 154	KS 1111
9-16.3 R/L-.625	.118	.157	.827	.472	—*	MK13F R/L	316....	M 154	KS 1111
9-16.3.471 R/L-.625	.020 – .121	= W	.827	.472	—*	MK13F R/L	3M-./471 R/L	M 154	KS 1111
9-20 R/L-.750	.118	.157	.984	.563	—*	KI3F R/L	320....	T 154	KS 1111
9-20.471 R/L-.750	.020 – .121	= W	.984	.563	—*	KI3F R/L	3-./471 R/L	T 154	KS 1111
9-25 R/L-1.000	.118	.157	1.181	.661	—*	KI3F R/L	320....	T 154	KS 1111
9-25.471 R/L	.020 – .121	= W	1.181	.661	—*	KI3F R/L	3-./471 R/L	T 154	KS 1111
9-32 R/L-1.250	.020 – .121	= W	1.535	.866	UI 471 R/L	KI3W R/L	3-./471 R/L	T 205	T 5120
9-32 R/L-1.250	.118	.236	1.535	.866	20306 R/L	KI3W R/L	320....	T 205	T 5120
9-32 R/L-1.250	.157	.315	1.614	.945	20408 R/L	KI4W R/L	422....	T 205	T 5120
9-32 R/L-1.250	.197	.433	1.732	1.063	20511 R/L	KI5W R/L	525....	T 205	T 5120

* Monoblock holder (integrated support blade)

Please Note: Right hand holder -> Left hand spare parts

Left hand holder -> Right hand spare parts

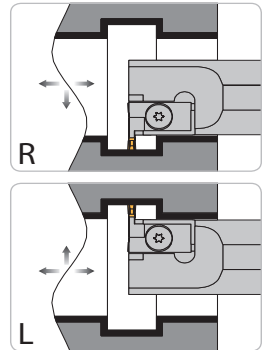
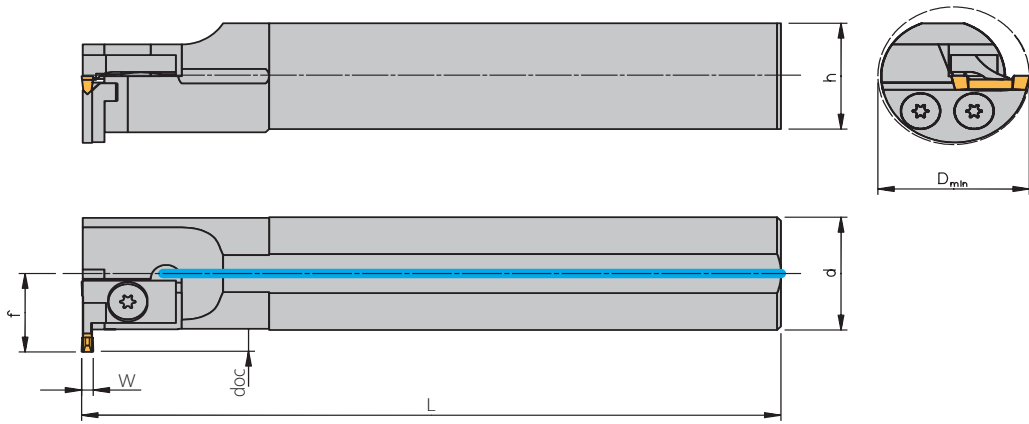
Basic holders are supplied with screws and key, however without support blade or clamp.

Internal groove turning from Ø .984" (25mm)

inch & metric



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Right hand execution shown

2

Basic holders

Designation	EDP		d	L	h
9-20 NC R/L-.750	10499	10497	.750	5.906	.709
9-20.471 NC R/L-.750	500069	501519	.750	5.906	.709
9-25 NC R/L-1.000	10511	10509	1.000	6.299	.906
9-25.471 NC R/L	10504	10503	.984	6.299	.906
9-32 NC R/L-1.250	10519	10517	1.250	7.087	1.181
9-40 NC R/L-1.500	10525	10523	1.500	9.449	1.496
9-50 NC R/L-2.000	10529	10527	2.000	11.811	1.890
91-50 NC R/L-2.000	10739	10737	2.000	11.811	1.890

* Monoblock holder (integrated support blade)

Please Note: Right hand holder -> Left hand spare parts

Left hand holder -> Right hand spare parts

Basic holders are supplied with screws and key, however without support blade or clamp.

Accessories on next page



Basic holders and accessories

Basic holders	W	doc	D _{min}	f	Support blade	Clamp	Insert	Screw	Key
9-20 NC R/L	.118	.157	.984	.563	—*	KI3F R/L	320....	T 154	KS 1111
9-20.471 NC R/L	.020 – .121	= W	.984	.563	—*	KI3F R/L	3-./471 R/L	T 154	KS 1111
9-25 NC R/L	.118	.157	1.181	.661	—*	KI3F R/L	320....	T 154	KS 1111
9-25.471 NC R/L	.020 – .121	= W	1.181	.661	—*	KI3F R/L	3-./471 R/L	T 154	KS 1111
9-32 NC R/L	.020 – .121	= W	1.535	.866	UI 471 R/L	KI3W R/L	3-./471 R/L	T 205	T 5120
9-32 NC R/L	.118	.236	1.535	.866	20306 R/L	KI3W R/L	320....	T 205	T 5120
9-32 NC R/L	.157	.315	1.614	.945	20408 R/L	KI4W R/L	422....	T 205	T 5120
9-32 NC R/L	.197	.433	1.732	1.063	20511 R/L	KI5W R/L	525....	T 205	T 5120
9-40 NC R/L	.020 – .121	= W	1.850	1.024	UI 471 R/L	KI3W R/L	3-./471 R/L	T 205	T 5120
9-40 NC R/L	.118	.236	1.850	1.024	20306 R/L	KI3W R/L	320....	T 205	T 5120
9-40 NC R/L	.157	.315	1.929	1.102	20408 R/L	KI4W R/L	422....	T 205	T 5120
9-40 NC R/L	.197	.433	2.047	1.220	20511 R/L	KI5W R/L	525....	T 205	T 5120
9-50 NC R/L	.020 – .121	= W	2.244	1.220	UI 471 R/L	KI3W R/L	3-./471 R/L	T 205	T 5120
9-50 NC R/L	.118	.236	2.244	1.220	20306 R/L	KI3W R/L	320....	T 205	T 5120
9-50 NC R/L	.157	.315	2.323	1.299	20408 R/L	KI4W R/L	422....	T 205	T 5120
9-50 NC R/L	.197	.433	2.441	1.417	20511 R/L	KI5W R/L	525....	T 205	T 5120
91-50 NC R/L	.118	.354	2.402	1.378	9-20310 R/L	KA3 R/L	320....	T 205	T 5120
91-50 NC R/L	.118	.591	2.756	1.732	9-UT 316 R/L	KT3 R/L	320....	T 205	T 5120
91-50 NC R/L	.157	.394	2.480	1.457	9-20412 R/L	KA4 R/L	422....	T 205	T 5120
91-50 NC R/L	.157	.709	2.874	1.850	9-UT 419 R/L	KT4 R/L	422....	T 205	T 5120
91-50 NC R/L	.197	.512	2.598	1.575	9-20515 R/L	KA5 R/L	525....	T 205	T 5120
91-50 NC R/L	.197	.827	2.992	1.969	9-UT 522 R/L	KT5 R/L	525....	T 205	T 5120
91-50 NC R/L	.236	.709	2.795	1.772	9-20620 R/L	KA6 R/L	630....	T 205	T 5120
91-50 NC R/L	.236	1.024	3.189	2.165	9-UT 627 R/L	KT6 R/L	630....	T 205	T 5120

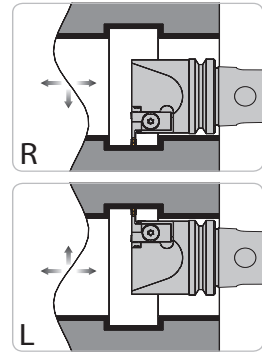
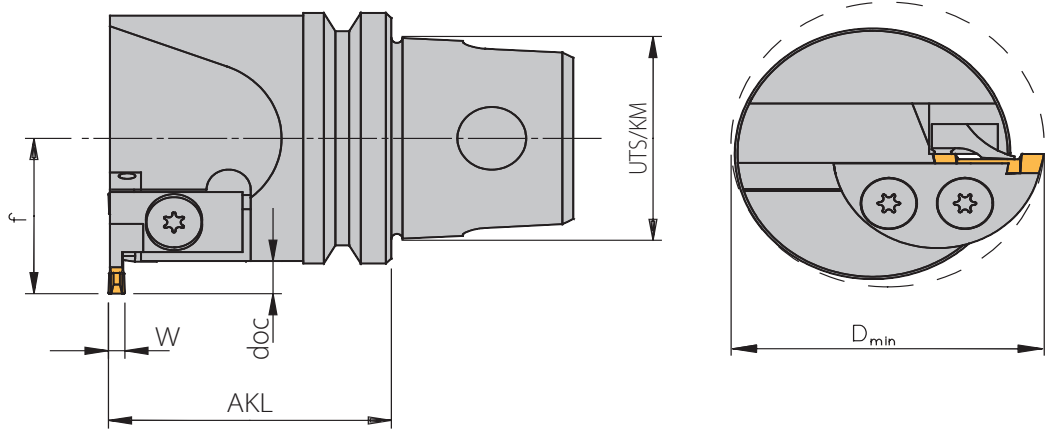
* Monoblock holder (integrated support blade)

Please note: Right hand holder -> Left hand spare parts

Left hand holder -> Right hand spare parts

Basic holders are supplied with screws and key, however without support blade or clamp.

Internal groove turning



Right hand execution shown

2

Basic holders

Designation	EDP		UTS / KM	AKL
UT32I3-5 R/L	27763	27762	1.260	1.575
UT40I3-5 R/L	27807	27806	1.575	1.791
UT50I3-5 R/L	27851	27850	1.969	2.008
UT63I3-5 R/L	27898	27897	2.480	2.047

Basic holders and accessories

Basic holders	W	doc	D _{min}	f	Support blade	Clamp	Insert	Screw	Key
UT32I3-5 R/L	.020 - .121	= W	1.535	.866	UI471 R/L	KI3W R/L	3-./471 R/L	T 205	T 5120
UT32I3-5 R/L	.118	.236	1.535	.866	20306 R/L	KI3W R/L	320....	T 205	T 5120
UT32I3-5 R/L	.157	.315	1.614	.945	20408 R/L	KI4W R/L	422....	T 205	T 5120
UT32I3-5 R/L	.197	.433	1.732	1.063	20511 R/L	KI5W R/L	525....	T 205	T 5120
UT40I3-5 R/L	.020 - .121	= W	1.850	1.024	UI471 R/L	KI3W R/L	3-./471 R/L	T 205	T 5120
UT40I3-5 R/L	.118	.236	1.850	1.024	20306 R/L	KI3W R/L	320....	T 205	T 5120
UT40I3-5 R/L	.157	.315	1.929	1.102	20408 R/L	KI4W R/L	422....	T 205	T 5120
UT40I3-5 R/L	.197	.433	2.047	1.220	20511 R/L	KI5W R/L	525....	T 205	T 5120
UT50I3-5 R/L	.020 - .121	= W	2.244	1.220	UI471 R/L	KI3W R/L	3-./471 R/L	T 205	T 5120
UT50I3-5 R/L	.118	.236	2.244	1.220	20306 R/L	KI3W R/L	320....	T 205	T 5120
UT50I3-5 R/L	.157	.315	2.323	1.299	20408 R/L	KI4W R/L	422....	T 205	T 5120
UT50I3-5 R/L	.197	.433	2.441	1.417	20511 R/L	KI5W R/L	525....	T 205	T 5120
UT63I3-5 R/L	.020 - .121	= W	2.756	1.476	UI471 R/L	KI3W R/L	3-./471 R/L	T 205	T 5120
UT63I3-5 R/L	.118	.236	2.756	1.476	20306 R/L	KI3W R/L	320....	T 205	T 5120
UT63I3-5 R/L	.157	.315	2.835	1.555	20408 R/L	KI4W R/L	422....	T 205	T 5120
UT63I3-5 R/L	.197	.433	2.953	1.673	20511 R/L	KI5W R/L	525....	T 205	T 5120

Please note: Right hand holder -> Left hand spare parts
Left hand holder -> Right hand spare parts

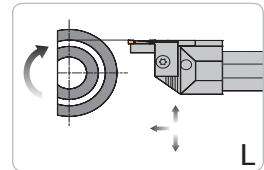
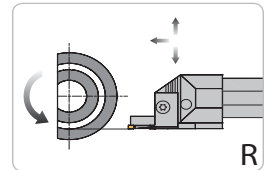
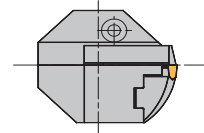
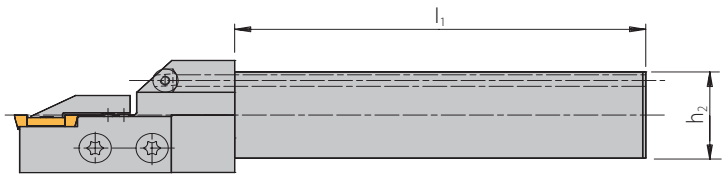
Basic holders are supplied with screws and key, however without support blade or clamp.

**Kontra-
Axial groove turning straight**

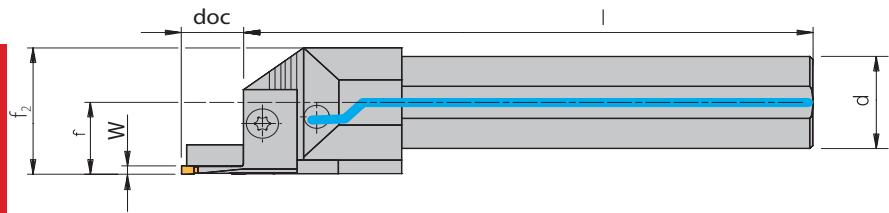
inch & metric



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Right hand execution shown



2

Basic holders

Designation	EDP		d	l	l ₁	f ₂	h ₂	f
732NC R/L-1.250*	40068	40070	1.260	7.087	5.118	1.732	1.181	.984
740NC R/L-1.500*	40074	40072	1.575	9.449	7.480	1.772	1.496	.984
750NC R/L-2.000*	40078	40076	1.969	11.811	9.843	2.165	1.890	1.181
37-50NC R/L-2.000**	82764	500716	1.969	11.811	9.449	2.205	1.890	1.240

* For dimension W = .236" (6mm) -> f + .020" (0,5mm)

** This holder can only be used for diameters 2.362" (60mm) and larger.

Basic holders and accessories

Basic holders	W	doc	OD	Support blade	Clamp	Insert	Screw	Key
732NC R/L-1.250 740NC R/L-1.500 750NC R/L-2.000	.118	.394	1.969 – 2.362	203S-5060 R/L Kontra	KAS3 R/L Kontra	320...	T 205	T 5120
	.118	.394	2.362 – 2.953	203S-6075 R/L Kontra	KAS3 R/L Kontra	320...	T 205	T 5120
	.118	.394	2.953 – 3.937	203S-75100 R/L Kontra	KAS3 R/L Kontra	320...	T 205	T 5120
	.118	.394	3.937 – 5.906	203S-100150 R/L Kontra	KAS3 R/L Kontra	320...	T 205	T 5120
	.118	.394	5.906 – 11.811	203S-150300 R/L Kontra	KAS3 R/L Kontra	320...	T 205	T 5120
	.118	.394	11.811 – 19.685	203S-300500 R/L Kontra	KAS3 R/L Kontra	320...	T 205	T 5120
	.118	.394	19.685 – ∞	203S-500XX R/L Kontra	KAS3 R/L Kontra	320...	T 205	T 5120
	.118	.669	1.969 – 2.362	UT3S-5060 R/L Kontra	KTS3 R/L Kontra	320...	T 205	T 5120
	.118	.669	2.362 – 2.953	UT3S-6075 R/L Kontra	KTS3 R/L Kontra	320...	T 205	T 5120
	.118	.669	2.953 – 3.937	UT3S-75100 R/L Kontra	KTS3 R/L Kontra	320...	T 205	T 5120
	.118	.669	3.937 – 5.906	UT3S-100150 R/L Kontra	KTS3 R/L Kontra	320...	T 205	T 5120
	.118	.669	5.906 – 11.811	UT3S-150300 R/L Kontra	KTS3 R/L Kontra	320...	T 205	T 5120
	.118	.669	11.811 – 19.685	UT3S-300500 R/L Kontra	KTS3 R/L Kontra	320...	T 205	T 5120
	.118	.669	19.685 – ∞	UT3S-500XX R/L Kontra	KTS3 R/L Kontra	320...	T 205	T 5120
	.157	.472	1.969 – 2.362	204S-5060 R/L Kontra	KAS4 R/L Kontra	422...	T 205	T 5120
	.157	.472	2.362 – 2.953	204S-6075 R/L Kontra	KAS4 R/L Kontra	422...	T 205	T 5120
	.157	.472	2.953 – 3.937	204S-75100 R/L Kontra	KAS4 R/L Kontra	422...	T 205	T 5120
	.157	.472	3.937 – 5.906	204S-100150 R/L Kontra	KAS4 R/L Kontra	422...	T 205	T 5120
	.157	.472	5.906 – 11.811	204S-150300 R/L Kontra	KAS4 R/L Kontra	422...	T 205	T 5120
	.157	.472	11.811 – 19.685	204S-300500 R/L Kontra	KAS4 R/L Kontra	422...	T 205	T 5120

More accessories on next page

Basic holders and accessories

Basic holders	W	doc	OD	Support blade	Clamp	Insert	Screw	Key
732NC R/L-1.250 740NC R/L-1.500 750NC R/L-2.000	.157	.472	19.685	204S-500XX R/L Kontra	KAS4 R/L Kontra	422....	T 205	T 5120
	.157	.787	1.969 – 2.362	UT4S-5060 R/L Kontra	KTS4 R/L Kontra	422....	T 205	T 5120
	.157	.787	2.362 – 2.953	UT4S-6075 R/L Kontra	KTS4 R/L Kontra	422....	T 205	T 5120
	.157	.787	2.953 – 3.937	UT4S-75100 R/L Kontra	KTS4 R/L Kontra	422....	T 205	T 5120
	.157	.787	3.937 – 5.906	UT4S-100150 R/L Kontra	KTS4 R/L Kontra	422....	T 205	T 5120
	.157	.787	5.906 – 11.811	UT4S-150300 R/L Kontra	KTS4 R/L Kontra	422....	T 205	T 5120
	.157	.787	11.811 – 19.685	UT4S-300500 R/L Kontra	KTS4 R/L Kontra	422....	T 205	T 5120
	.157	.787	19.685 – ∞	UT4S-500XX R/L Kontra	KTS4 R/L Kontra	422....	T 205	T 5120
	.197	.591	1.969 – 2.362	205S-5060 R/L Kontra	KAS5 R/L Kontra	525....	T 205	T 5120
	.197	.591	2.362 – 2.953	205S-6075 R/L Kontra	KAS5 R/L Kontra	525....	T 205	T 5120
	.197	.591	2.953 – 3.937	205S-75100 R/L Kontra	KAS5 R/L Kontra	525....	T 205	T 5120
	.197	.591	3.937 – 5.906	205S-100150 R/L Kontra	KAS5 R/L Kontra	525....	T 205	T 5120
	.197	.591	5.906 – 11.811	205S-150300 R/L Kontra	KAS5 R/L Kontra	525....	T 205	T 5120
	.197	.591	11.811 – 19.685	205S-300500 R/L Kontra	KAS5 R/L Kontra	525....	T 205	T 5120
	.197	.591	19.685 – ∞	205S-500XX R/L Kontra	KAS5 R/L Kontra	525....	T 205	T 5120
	.197	.906	1.969 – 2.362	UT5S-5060 R/L Kontra	KTS5 R/L Kontra	525....	T 205	T 5120
	.197	.906	2.362 – 2.953	UT5S-6075 R/L Kontra	KTS5 R/L Kontra	525....	T 205	T 5120
	.197	.906	2.953 – 3.937	UT5S-75100 R/L Kontra	KTS5 R/L Kontra	525....	T 205	T 5120
	.197	.906	3.937 – 5.906	UT5S-100150 R/L Kontra	KTS5 R/L Kontra	525....	T 205	T 5120
	.197	.906	5.906 – 11.811	UT5S-150300 R/L Kontra	KTS5 R/L Kontra	525....	T 205	T 5120
	.197	.906	11.811 – 19.685	UT5S-300500 R/L Kontra	KTS5 R/L Kontra	525....	T 205	T 5120
	.197	.906	19.685 – ∞	UT5S-500XX R/L Kontra	KTS5 R/L Kontra	525....	T 205	T 5120
	.236	.787	1.969 – 2.362	206S-5060 R/L Kontra	KAS6 R/L Kontra	630....	T 205	T 5120
	.236	.787	2.362 – 2.953	206S-6075 R/L Kontra	KAS6 R/L Kontra	630....	T 205	T 5120
	.236	.787	2.953 – 3.937	206S-75100 R/L Kontra	KAS6 R/L Kontra	630....	T 205	T 5120
	.236	.787	3.937 – 5.906	206S-100150 R/L Kontra	KAS6 R/L Kontra	630....	T 205	T 5120
	.236	.787	5.906 – 11.811	206S-150300 R/L Kontra	KAS6 R/L Kontra	630....	T 205	T 5120
	.236	.787	11.811 – 19.685	206S-300500 R/L Kontra	KAS6 R/L Kontra	630....	T 205	T 5120
	.236	.787	19.685 – ∞	206S-500XX R/L Kontra	KAS6 R/L Kontra	630....	T 205	T 5120
	.236	1.102	1.969 – 2.362	UT6S-5060 R/L Kontra	KTS6 R/L Kontra	630....	T 205	T 5120
	.236	1.102	2.362 – 2.953	UT6S-6075 R/L Kontra	KTS6 R/L Kontra	630....	T 205	T 5120
	.236	1.102	2.953 – 3.937	UT6S-75100 R/L Kontra	KTS6 R/L Kontra	630....	T 205	T 5120
	.236	1.102	3.937 – 5.906	UT6S-100150 R/L Kontra	KTS6 R/L Kontra	630....	T 205	T 5120
	.236	1.102	5.906 – 11.811	UT6S-150300 R/L Kontra	KTS6 R/L Kontra	630....	T 205	T 5120
.236	1.102	11.811 – 19.685	UT6S-300500 R/L Kontra	KTS6 R/L Kontra	630....	T 205	T 5120	
.236	1.102	19.685 – ∞	UT6S-500XX R/L Kontra	KTS6 R/L Kontra	630....	T 205	T 5120	
37-50NC R/L-2.000	.315	.984	2.953 – 3.937	308S-75100 R/L Kontra	KAS8 R/L Kontra	838....	T 206	T 5120
	.315	.984	3.937 – 5.906	308S-100150 R/L Kontra	KAS8 R/L Kontra	838....	T 206	T 5120
	.315	.984	5.906 – 11.811	308S-150300 R/L Kontra	KAS8 R/L Kontra	838....	T 206	T 5120
	.315	.984	11.811 – 19.685	308S-300500 R/L Kontra	KAS8 R/L Kontra	838....	T 206	T 5120
	.315	.984	19.685 – ∞	308S-500XX R/L Kontra	KAS8 R/L Kontra	838....	T 206	T 5120
	.315	1.260	2.953 – 3.937	UT8S-75100 R/L Kontra	KTS8 R/L Kontra	838....	T 206	T 5120
	.315	1.260	3.937 – 5.906	UT8S-100150 R/L Kontra	KTS8 R/L Kontra	838....	T 206	T 5120
	.315	1.260	5.906 – 11.811	UT8S-150300 R/L Kontra	KTS8 R/L Kontra	838....	T 206	T 5120
	.315	1.260	11.811 – 19.685	UT8S-300500 R/L Kontra	KTS8 R/L Kontra	838....	T 206	T 5120
	.315	1.260	19.685 – ∞	UT8S-500XX R/L Kontra	KTS8 R/L Kontra	838....	T 206	T 5120
	.394	1.378	2.953 – 3.937	310S-75100 R/L Kontra	KAS10 R/L Kontra	1046....	T 206	T 5120
	.394	1.378	3.937 – 5.906	310S-100150 R/L Kontra	KAS10 R/L Kontra	1046....	T 206	T 5120
	.394	1.378	5.906 – 11.811	310S-150300 R/L Kontra	KAS10 R/L Kontra	1046....	T 206	T 5120
	.394	1.378	11.811 – 19.685	310S-300500 R/L Kontra	KAS10 R/L Kontra	1046....	T 206	T 5120
	.394	1.378	19.685 – ∞	310S-500XX R/L Kontra	KAS10 R/L Kontra	1046....	T 206	T 5120
	.394	1.654	2.953 – 3.937	UT10S-75100 R/L Kontra	KTS10 R/L Kontra	1046....	T 206	T 5120
	.394	1.654	3.937 – 5.906	UT10S-100150 R/L Kontra	KTS10 R/L Kontra	1046....	T 206	T 5120
	.394	1.654	5.906 – 11.811	UT10S-150300 R/L Kontra	KTS10 R/L Kontra	1046....	T 206	T 5120
	.394	1.654	11.811 – 19.685	UT10S-300500 R/L Kontra	KTS10 R/L Kontra	1046....	T 206	T 5120
	.394	1.654	19.685 – ∞	UT10S-500XX R/L Kontra	KTS10 R/L Kontra	1046....	T 206	T 5120

Basic holders are supplied with screws and key, however without support blade or clamp.



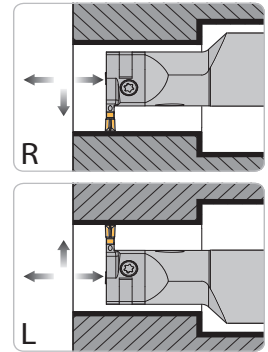
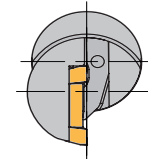
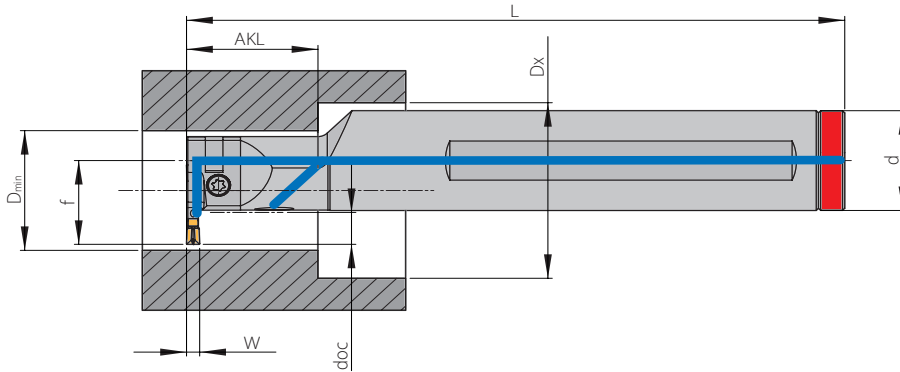
Internal groove turning

metric only

with IC

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2



Right hand execution shown

Basic holders

Designation	EDP	D_{min}	W	doc	AKL	d	L	f	D_x	Insert
SIN20M-045-20-16 R/L	82720 82718	.630	.079	.177	.787	.630	4.331	.512	1.083	212...
SIN20M-045-30-16 R/L	82722 82724	.630	.079	.177	1.181	.630	4.331	.512	1.083	212...
SIN30M-055-27-20 R/L	81565 81563	.787	.118	.217	1.063	.787	5.315	.650	1.299	316...
SIN30M-055-40-20 R/L	81567 81569	.787	.118	.217	1.575	.787	5.315	.650	1.299	316...
SIN30-080-30-20 R/L	78072 78060	1.102	.118	.315	1.181	.787	5.315	.728	1.220	320...
SIN30-080-50-20 R/L	78076 78062	1.102	.118	.315	1.969	.787	5.315	.728	1.220	320...
SIN30-080-30-25 R/L	78074 78066	1.102	.118	.315	1.181	.984	5.906	.827	1.614	320...
SIN30-080-50-25 R/L	78078 78070	1.102	.118	.315	1.969	.984	5.906	.827	1.614	320...
SIN30-110-30-25 R/L	78080 78068	1.260	.118	.433	1.181	.984	5.906	.945	1.693	320...
SIN30-110-50-25 R/L	78082 78064	1.260	.118	.433	1.969	.984	5.906	.945	1.693	320...

Basic holders and accessories

Basic holders	Screw	Locking ring
SIN20M.....-16 R/L	AS 0018	KVR16
SIN30M.....-20 R/L	AS 0019	KVR20
SIN30-.....-20 R/L	SS 1111	KVR20
SIN30-.....-25 R/L	SS 1111	KVR25



Standard Geometry:

Application: Plunge Grooving

Materials: Steels, Stainless Steels, Cast Iron, Non Ferrous, and Hardened Alloys

1st Choice Grade: AM35C (Steels)

1st Choice Grade: AM350 (Stainless Steels)

1st Choice Grade: AR27C (Cast Iron)

1st Choice Grade: AK10 (Non Ferrous)

1st Choice Grade: AH7520 (Hardened Alloys)

- Precision ground insert
- Two cutting edges
- Special geometry with chip contraction
- For grooving with small to medium chip cross section
- Low cutting forces because of sharp cutting edges
- For a number of workpiece materials
- For internal and external machining



-12 Geometry:

Application: Plunge Grooving & Copy-Turning

Materials: Steels, Stainless Steels and High Temperature Alloys

1st Choice Grade: AM5035 (Stainless Steels)

1st Choice Grade: AM35C (Steels)

1st Choice Grade: AM5035 (High Temperature Alloys)

- Precision ground insert
- Two cutting edges
- Special geometry for chip contraction
- 12° positive rake angle on all three cutting edges
- Same application as standard execution, but also for copy-turning with medium chip cross section
- For internal and external machining



-AM Geometry:

Application: Plunge Grooving & Copy-Turning

Materials: Steels and Stainless Steels

1st Choice Grade: AM27C (Steels)

1st Choice Grade: AM350 (Stainless Steels)

- Precision sintered double sided insert
- Inserts for groove-turning, grooving and part-off
- Higher stock removing capability due to stable cutting edge
- Minimum cutting force via positive cutting geometry
- For internal and external machining



-V Full Radius Geometry:

Application: Plunge Grooving

Materials: Steels, Cast Iron, Non Ferrous, and Hardened Alloys

1st Choice Grade: AM35C (Steels)

1st Choice Grade: AK10 (Non Ferrous and Cast Iron)

1st Choice Grade: AH7520 (Hardened Alloys)

- Precision ground insert
- Two cutting edges
- Full radius
- For grooving and copy-turning operations with small chip cross section
- Machining of short chipping materials
- For internal and external machining

2



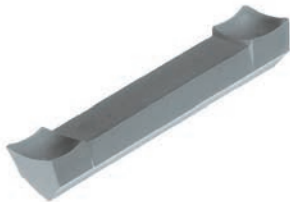
-VK Full Radius Geometry with Chip-Breaker

Application: Plunge Grooving & Copy-Turning
Materials: Steels, Stainless Steels, Cast Iron, Non Ferrous
1st Choice Grade: AM35C (Steels)
1st Choice Grade: AM5035 (Stainless Steels)
1st Choice Grade: AK10 (Non Ferrous)
1st Choice Grade: AT10 (Cast Irons)

- Precision ground insert
- Two cutting edges, full radius
- For grooving and copy-turning operations up to medium chip cross section

Specialty:

- Special geometry for controlled chip breaking when machining long chipping materials
- For internal and external machining



-ALU Aluminum Geometry:

Application: Plunge Grooving & Copy-Turning
Materials: Non Ferrous, Plastics and very soft ductile Steels
1st Choice Grade: AK10 (Non Ferrous and Plastics)
1st Choice Grade: AM35C (Soft Ductile Steels)

- Precision ground insert
- Polished surfaces
- Up-Sharp cutting edge condition
- Two cutting edges
- Special geometry for chip contraction
- 25° positive rake angle on all three cutting edges
- Grooving and copy-turning of non-ferrous materials and plastics
- For internal and external machining



Circlip Grooving Insert: DIN471

Application: Plunge Grooving
Materials: Stainless Steel, Steels, Non Ferrous and Cast Iron
1st Choice Grade: AM35C (Stainless Steels and Steels)
1st Choice Grade: AK10 (Non Ferrous and Cast Iron)

- Precision ground insert
- Two cutting edges
- For all grooves according to DIN 471/472 by using only one support blade for all widths
- For internal and external machining

Coated

AM27C (P25, K20)

CVD-multilayer coating

Machining steel, cast steel as well as grey cast iron, at medium to high cutting speeds, medium to large chip cross sections and varying depths of cut. Used for finishing and medium roughing.

AM35C (P35, M30)

CVD-multilayer coating

Machining steel, stainless steel and cast steel, at medium to large chip cross sections and medium to low cutting speeds under unfavorable machining conditions where good toughness is required.

AM350 (P35, M30)

CVD-multilayer coating

Grade with a good combination of wear resistance and toughness for turning steel, stainless steel as well as cast steel at medium chip cross sections and medium to high cutting speeds. Can also be used under unfavorable machining conditions. Special grade for stainless steel (austenitic). Apply in finishing and medium roughing applications.

AM5035 (P40, M35)

PVD-multilayer coating

An improved PVD coating on a tough and wear resistant carbide grade. Due to the higher cobalt content this grade contains all the required toughness for part-off and grooving applications. AM5035 is excellent at machining most steel, stainless steel and difficult to machine materials.

AR17C (P15, K10)

CVD-multilayer coating

For machining grey cast iron, cast iron with graphite and hard cast material. Also suitable for stainless steel, steel and cast steel at medium to high cutting speeds. Apply in finishing and lighter roughing applications.

AR27C (P25, M20, K25)

CVD-multilayer coating

Machining of steel, stainless steel, spheroidal cast iron, cast steel and grey cast iron at high cutting speeds under stable machining conditions.

AT10 (P10, M20, K10, S10)

PVD-multilayer coating

Grade for machining aluminum and aluminum alloy, copper, brass, non-ferrous materials and refractory metals at medium machining and under unfavourable cutting conditions. Also suitable for stainless steel.

Uncoated

AK10 (K10, N10, S10)

Submicron carbide grade for machining cast materials and non-ferrous materials, refractory metals, hardened steels up to 55 HRC. In connection with chipbreaker-ALU specially suitable for machining Al- and Cu-alloys.

CERMET

Machining of steel, steels with medium tensile strength as well as stainless steel and spheroidal cast iron. Limited use on grey cast iron.

AH7520 (CBN)

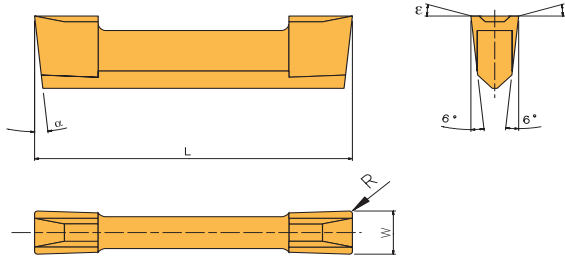
Machining of hardened materials (hardened steels). For example, hard cast iron, hardened steel 50+HRC, Ni-hard and stellite.

AN8020 (PCD)

Machining of non-ferrous metals, aluminum alloys with silicon, glass- and coal-fiber reinforced materials, spheroidal cast iron, at high cutting speeds. Sharp cutting edges enable low cutting forces and extremely good surface finish. Finishing and super finishing even at interrupted cuts.

2

NC-Standard
Standard geometry



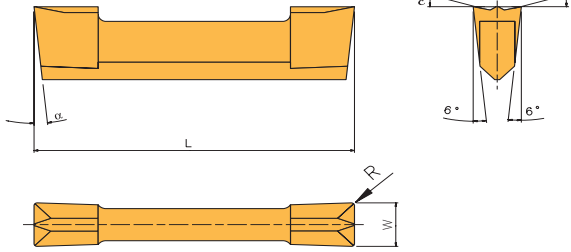
Designation	W ± .0008	L ± .0008	α	R	ε	Application	EDP									
							coated							uncoated	ultra-hard	
							AM27C	AM35C	AM350	AM5035	AR17C	AR27C	AT10	AK10	CERMET	AH7520
21201	.079	.472	7/15°	.004	12°	External and internal	6154	6153	85295	6155	68827		6152		103975	
21201FN	.079	.472	7/15°	.004	0°										6165	
21201TN	.079	.472	7/15°	.004	0°										6166	
21204	.079	.472	7/15°	.016	12°			6169		85297						
31602	.118	.630	7/15°	.008	12°			8087	8086	77677	8088	68829		8085		103979
31602FN	.118	.630	7/15°	.008	0°											8103
31602TN	.118	.630	7/15°	.008	0°											8104
31604	.118	.630	7/15°	.016	12°			8105		85285						
32002	.118	.787	6/16°	.008	12°			8177	8176	77681	8178	68831		8175		103983
32002FN	.118	.787	6/16°	.008	0°											8188
32002TN	.118	.787	6/16°	.008	0°											8189
32004	.118	.787	6/16°	.016	12°			8190		85287						
42202	.157	.866	6/9,5°	.008	12°			8874	8873	77685	8875	68833		8872		103987
42202FN	.157	.866	6/9,5°	.008	0°											8885
42202TN	.157	.866	6/9,5°	.008	0°											8886
42204	.157	.866	6/9,5°	.016	12°			8887		85289						
42210	.157	.866	6/9,5°	.039	12°			8903								
52502	.197	.984	6/8,5°	.008	12°			9420	9419	77689	9421	68835		9418		103991
52502FN	.197	.984	6/8,5°	.008	0°											9429
52502TN	.197	.984	6/8,5°	.008	0°											9430
52504	.197	.984	6/8,5°	.016	12°		9431		85291							
63002	.236	1.181	6°	.008	12°		9632	9631	77693	9633	68837		9630		103995	
63002FN	.236	1.181	6°	.008	0°										9642	
63002TN	.236	1.181	6°	.008	0°										9643	
63004	.236	1.181	6°	.016	12°		9644		85293							
63010	.236	1.181	6°	.039	12°		9660									
83804	.315	1.496	6°	.016	12°		10389	10388	85301	10390		10387			113,00	
83804FN	.315	1.496	6°	.016	0°										10395	
83804TN	.315	1.496	6°	.016	0°										10396	
104604	.394	1.811	6°	.016	12°		218	217	85303	219		216			103971	
104604FN	.394	1.811	6°	.016	0°										224	
104604TN	.394	1.811	6°	.016	0°										225	

Remark for AN8020 and AH7520:
Single-sided inserts with a rake angle of 0°
ε = Rake angle

- Main application
- 2nd application

P	●	○	○	○	○			
M	○	●	●	○	○			
K				●	●	●		
N						●		●
S	○	○	○		○	○		
H				○				●

-12
Copy-turning geometry (ground)



ground

2

Designation	W ± .0008	L ± .0008	α	R	ε	Application	EDP										
							coated							uncoated		ultra-hard	
							AM27C	AM35C	AM350	AM5035	AR17C	AR27C	AT10	AK10	CERMET	AH7520	AN8020
21201-12	.079	.472	7/15°	.004	12°	External and internal	6157	6158		85299						6159	
21202-12	.075	.469	7/15°	.008	12°											64815	
31602-12	.118	.630	7/15°	.008	12°			8090	8091		77679					8092	
31604-12	.114	.614	7/15°	.016	12°											64817	
32002-12	.118	.787	6/16°	.008	12°			8180	8181		77683					8182	
32004-12	.114	.776	6/16°	.016	12°											64819	
42202-12	.157	.866	6/9,5°	.008	12°			8877	8878		77687					40148	
42204-12	.154	.854	6/9,5°	.016	12°											64821	
52502-12	.197	.984	6/8,5°	.008	12°			9423	9424		77691					9425	
52504-12	.193	.969	6/8,5°	.016	12°											64823	
63002-12	.236	1.181	6°	.008	12°	External only	9635	9636		77695							
83804-12	.315	1.496	6°	.016	12°						10392						
104604-12	.394	1.811	6°	.016	12°						221						

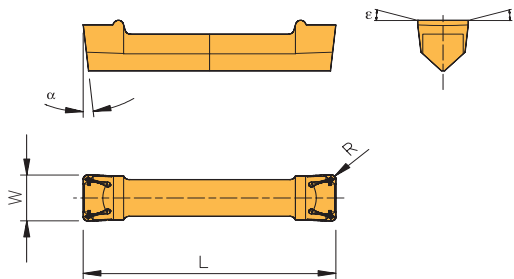
ε = Rake angle

● Main application

○ 2nd application

P	●	●	○			●	
M	○	○	●			○	
K						○	
N							
S	○	○	○				
H							

-AM
Copy-turning geometry (sintered)



sintered

Designation	W ± .002	L	α	R	ε	Application	EDP							uncoated		ultra-hard		
							coated							AK10	CERMET	AH7520	AN8020	
							AM27C	AM35C	AM350	AM5035	AR17C	AR27C	AT10					
21202-AM	.081	.472	6/15°	.008	6°/20°	External and internal	6167		6168									
31602-AM	.120	.630	6/15°	.008	6°/20°		8096		8097									
32002-AM	.120	.787	6/15°	.008	6°/20°		8186		8187									
42204-AM	.160	.866	6/9,5°	.016	6°/20°		8889		8890									
52504-AM	.199	.984	6/8,5°	.016	6°/20°		9432		9433									
63008-AM	.239	1.181	6°	.031	6°/20°	9645		9646										
83808-AM	.317	1.496	6°	.031	6°/20°	10397		10398										
104608-AM	.396	1.811	6°	.031	6°/20°	226		227										

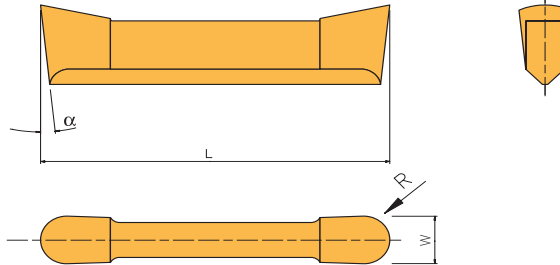
ε = Rake angle

- Main application
- 2nd application

P	●		○				
M	○		●				
K							
N							
S	○		○				
H							

2

-V
Full radius execution



2

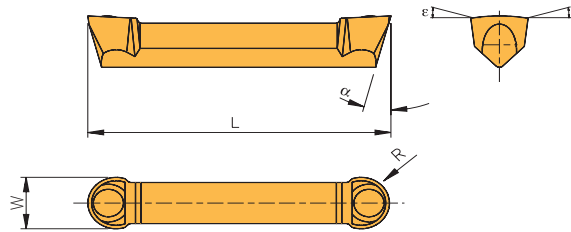
Designation	W ± .0008	L ± .0008	α	R	ε	Application	EDP											
							coated					uncoated		ultra-hard				
							AM27C	AM35C	AM350	AM5035	AR17C	AR27C	AT10	AK10	CERMET	AH7520	AN8020	
21210V	.079	.472	7/15°	.039	12°	External and internal		6172						6171			103977	
21210V-FN	.079	.472	7/15°	.039	0°													6174
21210V-TN	.079	.472	7/15°	.039	0°													6175
31615V	.118	.630	7/15°	.059	12°			8118							8117			103981
31615V-FN	.118	.630	7/15°	.059	0°													8120
31615V-TN	.118	.630	7/15°	.059	0°													8121
32015V	.118	.787	6/16°	.059	10°			8205							8204			103985
32015V-FN	.118	.787	6/16°	.059	0°													8207
32015V-TN	.118	.787	6/16°	.059	0°													8208
42220V	.157	.866	6/9,5°	.079	10°			8917							8916			103989
42220V-FN	.157	.866	6/9,5°	.079	0°													8919
42220V-TN	.157	.866	6/9,5°	.079	0°													8920
52525V	.197	.984	6/8,5°	.098	10°			9458							9457			103993
52525V-FN	.197	.984	6/8,5°	.098	0°													9460
52525V-TN	.197	.984	6/8,5°	.098	0°													9461
63030V	.236	1.181	6°	.118	10°			9672							9671			103997
63030V-FN	.236	1.181	6°	.118	0°												9674	
63030V-TN	.236	1.181	6°	.118	0°												9675	
83840V	.315	1.496	6°	.157	10°		10418							10417			104001	
83840V-FN	.315	1.496	6°	.157	0°												10420	
83840V-TN	.315	1.496	6°	.157	0°												10421	
104650V	.394	1.811	6°	.197	10°		247							246			103973	
104650V-FN	.394	1.811	6°	.197	0°												249	
104650V-TN	.394	1.811	6°	.197	0°												250	

Attention: The use of full radius inserts require a slightly modified support blade.
Remark for AN8020 and AH7520: Single-sided inserts with a rake angle of 0°
ε = Rake angle

- Main application
- 2nd application

	P	M	K	N	S	H
AM27C	●	○				
AM35C	○					
AM350						
AM5035						
AR17C						
AR27C						
AT10						
AK10			●			
CERMET				●		
AH7520						●
AN8020						●

-VK
Full radius execution



Designation	W ± .0008	L ± .0008	α	R	ε	Application	EDP											
							coated					uncoated	ultra-hard					
							AM27C	AM35C	AM350	AM5035	AR17C	AR27C	AT10	AK10	CERMET	AH7520	AN8020	
21210VK	.079	.472	7/15°	.039	3°	External and internal		6176		85305			6178	6176				
31615VK	.118	.630	7/15°	.059	3°			8123		85307			8124	8122				
32015VK	.118	.787	6/16°	.059	3°			8210		85309			8211	8209				
42220VK	.157	.866	6/9,5°	.079	3°			8922		85311			8923	8921				
52525VK	.197	.984	6/8,5°	.098	3°			9463		81338			9464	8923				
63030VK	.236	1.181	6°	.118	3°	External only		9677		85314			9678	9676				
83840VK	.315	1.496	6°	.157	3°			10423		85316			10424	10422				
104650VK	.394	1.811	6°	.197	3°			252		85319			253	251				

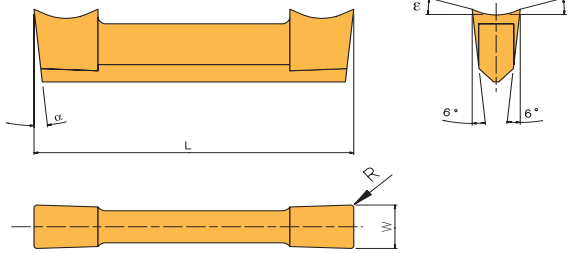
Attention: The use of full radius inserts require a slightly modified support blade.
ε = Rake angle

- Main application
- 2nd application

P	●		○														
M	○		●														
K													●	●			
N													●	●			
S	○												○	○			
H																	

2

-ALU Aluminum geometry



2

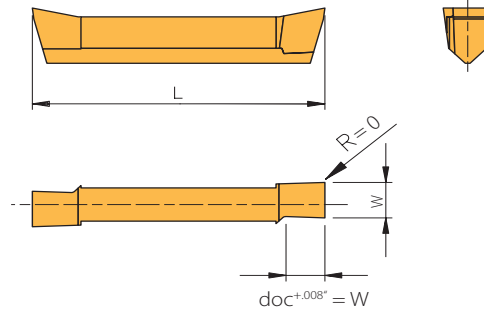
Designation	W ± .0008	L ± .0008	α	R	ε	Application	EDP											
							coated					uncoated	ultra-hard					
							AM27C	AM35C	AM350	AM5035	AR17C	AR27C	AT10	AK10	CERMET	AH7520	AN8020	
21201-ALU	.079	.472	8/15°	.004	25°	External and internal							6162	6160				
31602-ALU	.118	.630	8/15°	.008	25°									8095	8093			
32002-ALU	.118	.787	8/16°	.008	25°									8185	8183			
42202-ALU	.157	.866	8°	.008	25°									8882	8880			
52502-ALU	.197	.984	8°	.008	25°									9428	9426			
63002-ALU	.236	1.181	8°	.008	25°	External only		9639					9641	9638				
83804-ALU	.315	1.496	8°	.016	25°									10394	10393			
104604-ALU	.394	1.811	8°	.016	25°									223	222			

ε = Rake angle

- Main application
- 2nd application

	P	M	K	N	S	H
AM27C	●					
AM35C		○				
AM350						
AM5035						
AR17C						
AR27C						
AT10				●	●	
AK10				●	●	
CERMET						
AH7520						
AN8020						

-DIN471 Circlip grooving execution



Right hand version shown

Designation	W ± .002	L ± .0012	ε	Application	EDP							uncoated		ultra-hard		
					AM27C	AM35C	AM350	AM5035	AR17C	AR27C	AT10	AK10	CERMET	AH7520	AN8020	
2-04/471 R/L	.022	.472	12°	External and internal	5551	5549						5550	5548			
2-06/471 R/L	.030	.472	12°		5555	5553						5554	5552			
2-07/471 R/L	.033	.472	12°		5559	5557						5558	5556			
2-08/471 R/L	.037	.472	12°		5563	5561						5562	5557			
2-10/471 R/L	.045	.472	12°		5567	5565						5566	5564			
2-12/471 R/L	.053	.472	12°		5571	5569						5570	5568			
2-15/471 R/L	.065	.472	12°		5575	5573						5574	5572			
2-175/471 R/L	.075	.472	12°		5579	5577						5578	5576			
3-04/471 R/L	.022	.787	12°		7782	7780						7781	7779			
3-06/471 R/L	.030	.787	12°		7786	7784						7785	7783			
3-07/471 R/L	.033	.787	12°		7790	7788						7789	7787			
3-08/471 R/L	.037	.787	12°		7794	7792						7793	7791			
3-10/471 R/L	.045	.787	12°		7798	7796						7797	7795			
3-12/471 R/L	.053	.787	12°		7802	7800						7801	7799			
3-15/471 R/L	.065	.787	12°		7806	7804						7805	7803			
3-175/471 R/L	.075	.787	12°		7810	7808						7809	7807			
3-20/471 R/L	.087	.787	12°		7814	7812						7813	7811			
3-25/471 R/L	.106	.787	12°		7818	7816						7817	7815			
3-30/471 R/L	.123	.787	12°		7822	7820						7821	7819			
3M-04/471 R/L	.022	.630	12°		8688	8687										
3M-06/471 R/L	.030	.630	12°		8690	8689										
3M-07/471 R/L	.033	.630	12°		8692	8691										
3M-08/471 R/L	.037	.630	12°		8694	8693										
3M-10/471 R/L	.045	.630	12°		8696	8695										
3M-12/471 R/L	.053	.630	12°		8698	8697										
3M-15/471 R/L	.065	.630	12°		8700	8699										
3M-175/471 R/L	.075	.630	12°		8702	8701										
3M-20/471 R/L	.087	.630	12°		8704	8703										
3M-25/471 R/L	.106	.630	12°		8706	8705										
3M-30/471 R/L	.123	.630	12°		8708	8707										

ε = Rake angle

- Main application
- 2nd application

P	●		
M	○		
K		●	
N		●	
S	○		
H			

2

Item	EDP	
Support blade		
10208 R/L	193	192
102-2530 R/L	179	178
102-3040 R/L	183	182
102-4050 R/L	185	184
102-5060 R/L	187	186
102-6075 R/L	189	188
102-75100 R/L	191	190
102-100150 R/L	175	174
102-150300 R/L	177	176
102-300500 R/L	181	180
10312 R/L	215	214
103-2530 R/L	201	200
103-3040 R/L	205	204
103-4050 R/L	207	206
103-5060 R/L	209	208
103-6075 R/L	211	210
103-75100 R/L	213	212
103-100150 R/L	197	196
103-150300 R/L	199	198
103-300500 R/L	203	202
20306 R/L	5637	5636
20310 R/L	5639	5638
203-5060 R/L	5627	5626
203-6075 R/L	5630	5628
203-75100 R/L	5634	5632
203-100150 R/L	5616	5614
203-150300 R/L	5620	5618
203-300500 R/L	5624	5622
203-500XX R/L	52627	52625
203S-5060 R/L Kontra	5654	5653
203S-6075 R/L Kontra	5656	5655
203S-75100 R/L Kontra	5658	5657
203S-100150 R/L Kontra	5646	5645
203S-150300 R/L Kontra	5648	5647
203S-300500 R/L Kontra	5650	5649
203S-500XX R/L Kontra	5652	5651
20408 R/L	5682	5681
20412 R/L	5684	5683
204-5060 R/L	5672	5671
204-6075 R/L	5675	5673
204-75100 R/L	5679	5677
204-100150 R/L	5661	5659
204-150300 R/L	5665	5663
204-300500 R/L	5669	5667
204-500XX R/L	52629	52631
204S-5060 R/L Kontra	5694	5693
204S-6075 R/L Kontra	5696	5695
204S-75100 R/L Kontra	5698	5697
204S-100150 R/L Kontra	5686	5685
204S-150300 R/L Kontra	5688	5687
204S-300500 R/L Kontra	5690	5689
204S-500XX R/L Kontra	5692	5691
20511 R/L	5770	5769
20515 R/L	5808	5807
205-5060 R/L	5712	5711
205-6075 R/L	5715	5713
205-75100 R/L	5719	5717
205-100150 R/L	5701	5699
205-150300 R/L	5705	5703
205-300500 R/L	5709	5707
205-500XX R/L	52633	52635
205S-5060 R/L Kontra	5862	5861
205S-6075 R/L Kontra	5864	5863
205S-75100 R/L Kontra	5866	5865
205S-100150 R/L Kontra	5854	5853
205S-150300 R/L Kontra	5856	5855
205S-300500 R/L Kontra	5858	5857
205S-500XX R/L Kontra	5860	5859
20620 R/L	5890	5889
206-5060 R/L	5880	5879
206-6075 R/L	5883	5881
206-75100 R/L	5887	5885
206-100150 R/L	5869	5867
206-150300 R/L	5873	5871
206-300500 R/L	5877	5875
206-500XX R/L	52639	52637
206S-5060 R/L Kontra	5900	5899
206S-6075 R/L Kontra	5902	5901

Item	EDP	
Support blade		
206S-75100 R/L Kontra	5904	5903
206S-100150 R/L Kontra	5892	5891
206S-150300 R/L Kontra	5894	5893
206S-300500 R/L Kontra	5896	5895
206S-500XX R/L Kontra	5898	5897
30817 R/L	7893	7892
308-75100 R/L	7888	7887
308-100150 R/L	7877	7875
308-150300 R/L	7881	7879
308-300500 R/L	7885	7883
308-500XX R/L	52641	52643
308S-75100 R/L Kontra	7905	7904
308S-100150 R/L Kontra	7897	7896
308S-150300 R/L Kontra	7899	7898
308S-300500 R/L Kontra	7901	7900
308S-500XX R/L Kontra	7903	7902
31025 R/L	7998	7997
310-75100 R/L	7944	7943
310-100150 R/L	7933	7931
310-150300 R/L	7937	7935
310-300500 R/L	7941	7939
310-500XX R/L	52645	52647
310S-75100 R/L Kontra	8013	8012
310S-100150 R/L Kontra	8005	8004
310S-150300 R/L Kontra	8007	8006
310S-300500 R/L Kontra	8009	8008
310S-500XX R/L Kontra	8011	8010
9-20310 R/L	10487	10486
9-20412 R/L	10489	10488
9-20515 R/L	10491	10490
9-20620 R/L	10493	10492
9-UT 316 R/L	10531	10530
9-UT 419 R/L	10533	10532
9-UT 522 R/L	10535	10534
9-UT 627 R/L	10537	10536
UA2/471 R/L	27615	27614
UA3/471 R/L	27617	27616
UA471 R/L	27619	27618
UI 471 R/L	27647	27646
UT316 R/L	27757	27756
UT3-5060 R/L	27747	27746
UT3-6075 R/L	27750	27748
UT3-75100 R/L	27754	27752
UT3-100150 R/L	27736	27734
UT3-150300 R/L	27740	27738
UT3-300500 R/L	27744	27742
UT3-500XX R/L	52651	52649
UT3S-5060 R/L Kontra	27773	27772
UT3S-6075 R/L Kontra	27775	27774
UT3S-75100 R/L Kontra	27777	27776
UT3S-100150 R/L Kontra	27765	27764
UT3S-150300 R/L Kontra	27767	27766
UT3S-300500 R/L Kontra	27769	27768
UT3S-500XX R/L Kontra	27771	27770
UT419 R/L	27809	27808
UT4-5060 R/L	27791	27790
UT4-6075 R/L	27794	27792
UT4-75100 R/L	27798	27796
UT4-100150 R/L	27780	27778
UT4-150300 R/L	27784	27782
UT4-300500 R/L	27788	27786
UT4-500XX R/L	52653	52651
UT4S-5060 R/L Kontra	27819	27818
UT4S-6075 R/L Kontra	27821	27820
UT4S-75100 R/L Kontra	27823	27822
UT4S-100150 R/L Kontra	27811	27810
UT4S-150300 R/L Kontra	27813	27812
UT4S-300500 R/L Kontra	27815	27814
UT4S-500XX R/L Kontra	27817	27816
UT522 R/L	27854	27853
UT5-5060 R/L	27837	27836
UT5-6075 R/L	27840	27838
UT5-75100 R/L	27844	27842
UT5-100150 R/L	27826	27824
UT5-150300 R/L	27830	27828
UT5-300500 R/L	27834	27832
UT5-500XX R/L	52655	52657
UT5S-5060 R/L Kontra	27864	27863

Item	EDP	
Support blade		
UT5S-6075 R/L Kontra	27866	27865
UT5S-75100 R/L Kontra	27868	27867
UT5S-100150 R/L Kontra	27856	27855
UT5S-150300 R/L Kontra	27858	27857
UT5S-300500 R/L Kontra	27860	27859
UT5S-500XX R/L Kontra	27862	27861
UT627 R/L	27892	27891
UT6-5060 R/L	27882	27881
UT6-6075 R/L	27885	27883
UT6-75100 R/L	27889	27887
UT6-100150 R/L	27871	27869
UT6-150300 R/L	27875	27873
UT6-300500 R/L	27879	27877
UT6-500XX R/L	52659	52661
UT6S-5060 R/L Kontra	27908	27907
UT6S-6075 R/L Kontra	27910	27909
UT6S-75100 R/L Kontra	27912	27911
UT6S-100150 R/L Kontra	27900	27899
UT6S-150300 R/L Kontra	27902	27901
UT6S-300500 R/L Kontra	27904	27903
UT6S-500XX R/L Kontra	27906	27905
UT832 R/L	27928	27927
UT8-75100 R/L	27926	27925
UT8-100150 R/L	27915	27913
UT8-150300 R/L	27919	27917
UT8-300500 R/L	27923	27921
UT8-500XX R/L	52663	52665
UT8S-75100 R/L Kontra	27938	27937
UT8S-100150 R/L Kontra	27930	27929
UT8S-150300 R/L Kontra	27932	27931
UT8S-300500 R/L Kontra	27934	27933
UT8S-500XX R/L Kontra	27936	27935
UT1040 R/L	27723	27722
UT10-75100 R/L	27721	27720
UT10-100150 R/L	27710	27708
UT10-150300 R/L	27714	27712
UT10-300500 R/L	27718	27716
UT10-500XX R/L	52671	52669
UT10S-75100 R/L Kontra	27733	27732
UT10S-100150 R/L Kontra	27725	27724
UT10S-150300 R/L Kontra	27727	27726
UT10S-300500 R/L Kontra	27729	27728
UT10S-500XX R/L Kontra	27731	27730

Item	EDP	
Clamp		
KA3 R/L	19293	19291
KA4 R/L	19297	19295
KA5 R/L	19301	19299
KA6 R/L	19305	19303
KA8 R/L	19309	19307
KA10 R/L	19289	19287
KAK8 R/L	19317	19315
KAK10 R/L	19313	19311
KAM2 R/L	19321	19319
KAM2 R/L Kontra	19322	19320
KAM3 R/L	19325	19323
KAM3 R/L Kontra	19326	19324
KAML3 R/L	19328	19327
KAS3 R/L Kontra	19336	19334
KAS4 R/L Kontra	19340	19338
KAS5 R/L Kontra	19344	19342
KAS6 R/L Kontra	19348	19346
KAS8 R/L Kontra	19352	19350
KAS10 R/L Kontra	19332	19330
KI2F R/L	19445	19444
KI3F R/L	19447	19446
KI3W R/L	19449	19448
KI4W R/L	19451	19450
KI5W R/L	19453	19452
KT3 R/L	19663	19661
KT4 R/L	19667	19665
KT5 R/L	19671	19669
KT6 R/L	19675	19673
KTM2 R/L Kontra	19690	19689
KTM3 R/L Kontra	19692	19691
KTS3 R/L Kontra	19700	19698
KTS4 R/L Kontra	19704	19702
KTS5 R/L Kontra	19708	19706
KTS6 R/L Kontra	19712	19710
KTS8 R/L Kontra	19716	19714
KTS10 R/L Kontra	19696	19694
MKI3F R/L	20336	20335

Item	EDP	
Coolant jet		
KMD 0519	64746	
KMD 0830	68347	
KMD 0818	69728	
Screw		
AS 0018	50672	
AS 0019	50674	
AS 0020	64901	
M154	20101	
SS 1111	24747	
T154	25040	
T205	25045	
T206	25046	
Key		
KS 1111	19652	
KVR 16	81439	
KVR 20	70537	
KVR 25	70540	
T5120	25055	

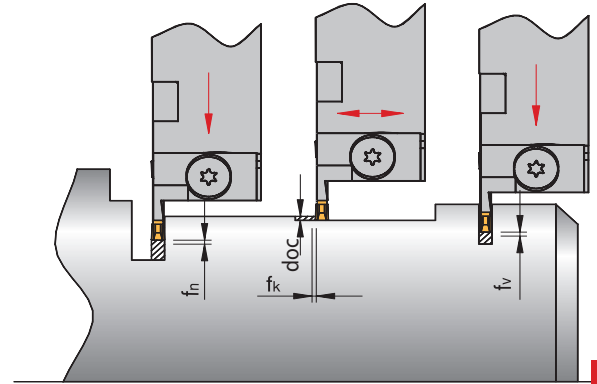
Grooving

ISO	Material	Tensile strength (N/mm ²)	Cutting speed V _c (f/min)											
			coated					uncoated		ultra-hard				
			AM27C	AM35C	AM350	AM5035	AR17C	AR27C	AT10	AK10	CERMET	AH7520	AN8020	
P	Unalloyed steel and cast steel	< 0.15 % C/hardened and tempered	350	460-850	390-520	460-660	460-660	490-820	520-920	-	-	430-1310	-	-
		0.15- 0.45% C/hardened and tempered	650	360-620	200-460	360-490	360-490	360-590	390-660	-	-	330-1070	-	-
		> 0.45% C/hardened and tempered	1000	330-520	230-360	300-390	300-390	300-520	330-430	-	-	260-900	-	-
	Low alloyed steel and cast steel	annealed	600	430-720	230-330	430-590	430-590	330-560	490-750	-	-	330-820	-	-
		hardened and tempered	900	390-520	230-330	330-490	330-490	260-490	430-590	-	-	300-980	-	-
			1200	330-520	200-300	300-390	300-390	230-390	330-490	-	-	200-490	-	-
	High alloyed steel	annealed	700	390-490	200-260	300-490	300-490	300-430	460-560	-	-	260-590	-	-
	High alloyed tool steel and cast steel	hardened	1100	300-390	200-260	230-390	230-390	230-360	300-430	-	-	200-460	-	-
Stainless steel	ferritic, annealed	700	460-820	300-390	360-590	360-590	360-560	460-790	-	-	260-720	-	-	
Cast steel	martensitic, hardened and tempered	1000	390-490	200-300	200-300	200-300	300-460	200-330	-	-	230-590	-	-	
M	Stainless steel	austenitic and austenitic/ ferritic, chilled	450-600	430-660	330-590	360-660	360-660	260-460	430-660	-	-	330-820	-	-
		600-900	260-430	260-490	260-390	260-390	230-330	260-430	-	-	260-590	-	-	
K	Cast iron	pearlitic/ferritic	500-700	-	-	-	-	390-520	430-720	460-660	390-520	-	-	
		pearlitic/martensitic	700-850	-	-	-	-	390-490	330-520	390-560	330-460	-	-	
			800-1100	-	-	-	-	330-430	330-430	330-460	260-390	-	-	
	Cast iron with nodular graphite	ferritic	550	-	-	-	-	520-660	520-750	360-590	300-490	720-980	-	-
		pearlitic	800	-	-	-	-	330-460	390-560	390-720	330-590	590-750	-	-
	Malleable cast iron	ferritic	450	-	-	-	-	390-460	490-690	390-820	330-660	820-1150	-	-
pearlitic		750	-	-	-	-	300-430	390-660	330-660	260-520	520-820	-	-	
N	Aluminum alloys long chipping	not heat treatable	200	-	-	-	-	-	390-3120	330-2620	-	-	-	
		heat treatable, heat treated	350	-	-	-	-	-	330-3120	260-2620	-	-	1150-9840	
	Casted aluminum alloys	≤ 12 % Si, heat treated	250	-	-	-	-	-	-	330-1970	260-1640	-	-	1150-9840
		≤ 12 % Si, heat treatable, heat treated	300	-	-	-	-	-	-	-	-	-	-	1150-9840
		≤ 12 % Si, not heat treatable	450	-	-	-	-	-	-	-	-	-	-	1150-9840
	Copper and copper alloys (Brass/Bronze)	Lead alloys, Pb > 1 %	400	-	-	-	-	-	-	390-980	330-820	-	-	1150-9840
		Brass, Bronze	300	-	-	-	-	-	-	820-1970	660-1640	-	-	1970-3940
		Aluminum bronze	500	-	-	-	-	-	-	980-1970	820-1640	-	-	1970-3940
Copper and electrolyte copper		200	-	-	-	-	-	-	490-1150	430-980	-	-	1970-3940	
Non-ferrous materials	Duroplastic	-	-	-	-	-	-	-	390-1970	330-1640	-	-	1970-3940	
	Re-inforced plastics	-	-	-	-	-	-	-	330-590	260-490	-	-	260-4920	
	Hard rubber	-	-	-	-	-	-	-	390-820	330-660	-	-	260-4920	
S	High temperature resistant alloys	Fe-alloyed, annealed	700	100-160	-	-	-	100-160	80-150	-	-	-	260-4920	
		Fe-alloyed, heat treated	950	80-130	70-130	70-130	70-130	80-110	70-130	-	-	-	-	
		Ni- or Co-alloyed, annealed	800	30-100	70-100	70-100	70-100	50-80	50-80	-	-	-	-	
		Ni- or Co-alloyed, casting	1100	30-70	-	-	-	30-70	30-70	-	-	-	-	
		Ni- or Co-alloyed, heat treated	1200	30-50	-	-	-	30-80	30-70	-	-	-	-	
Titanium alloys	Pure titanium	500-700	-	-	-	-	330-490	-	330-490	260-430	-	-	200-260	
Alpha- and Beta-alloys	heat treated	700-1000	-	-	-	-	130-200	-	160-260	130-230	-	-	160-230	
H	Hardened steel	hardened	55 HRC	-	-	-	-	110-150	30-70	-	-	-	-	
		60 HRC	-	-	-	-	-	-	-	-	-	260-750	-	
	Hard cast iron	casting	41 HRC	-	-	-	-	30-70	30-70	-	-	-	200-590	
Hardened cast iron	hardened	55 HRC	-	-	-	-	110-150	30-70	-	-	-	260-750		

The recommended cutting data are only approximate values. It may be necessary to adjust them to each individual machining application.

Maximum feed rate and depth of cut

- f_v ("/U) = Feed rate into solid
- f_n ("/U) = Feed rate for re-grooving
- f_k ("/U) = Feed rate for copying
- doc (") = Depth of cut



2

Standard geometry

	Insert							
	21201	31602	32002	42202	52502	63002	83804	104604
f_v	.0008-.003	.0008-.003	.002-.005	.003-.007	.003-.007	.003-.007	.004-.010	.004-.010
f_n	.0008-.003	.0008-.003	.002-.005	.003-.007	.003-.007	.003-.007	.004-.012	.004-.012
f_k	.0008-.002	.0008-.002	.002-.004	.002-.004	.002-.004	.003-.006	.005-.010	.005-.010
doc max	.012	.012	.020	.020	.020	.020	.039	.039

-12 Geometry for copy-turning

-12

	Insert							
	21201-12	31602-12	32002-12	42202-12	52502-12	63002-12	83804-12	104604-12
f_v	.0008-.003	.0008-.003	.002-.006	.003-.007	.003-.007	.003-.007	.004-.007	.004-.007
f_n	.0008-.003	.0008-.003	.002-.006	.003-.007	.003-.007	.003-.007	.004-.012	.004-.012
f_k	.0008-.002	.0008-.002	.002-.004	.003-.007	.003-.007	.003-.007	.004-.012	.004-.016
doc max	.020	.020	.059	.079	.098	.098	.138	.157

-AM Geometry for copy-turning

-AM

	Insert							
	21202-AM	31602-AM	32002-AM	42204-AM	52504-AM	63008-AM	83808-AM	104608-AM
f_v	.0008-.003	.0008-.003	.002-.006	.003-.007	.003-.010	.004-.010	.004-.016	.004-.016
f_n	.0008-.003	.0008-.003	.002-.006	.003-.007	.003-.010	.004-.010	.004-.016	.004-.016
f_k	.0008-.005	.0008-.005	.002-.006	.003-.007	.003-.010	.004-.010	.004-.016	.004-.016
doc max	.020	.020	.059	.079	.098	.098	.138	.157

-V Full radius execution


-V

	Insert							
	21210 V	31615 V	32015 V	42220 V	52525 V	63030 V	83840 V	104650 V
f_v	.0008-.002	.0008-.002	.002-.004	.002-.004	.002-.004	.003-.005	.003-.006	.003-.006
f_n	.0008-.002	.0008-.002	.002-.004	.002-.004	.002-.004	.003-.005	.003-.006	.003-.006
f_k	.0008-.002	.0008-.002	.002-.004	.002-.004	.002-.004	.003-.005	.003-.006	.003-.006
doc max	.012	.012	.020	.020	.020	.020	.039	.039

The recommended cutting data are only approximate values. It may be necessary to adjust them to each individual machining application.

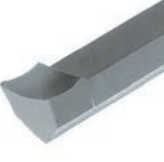
-VK Full radius execution

-VK

	Insert							
	21210 VK	31615 VK	32015 VK	42220 VK	52525 VK	63030 VK	83840 VK	104650 VK
f_v	.0008-.002	.0008-.002	.002-.005	.002-.005	.002-.005	.003-.005	.003-.006	.003-.006
f_n	.0008-.002	.0008-.002	.002-.005	.002-.005	.002-.005	.003-.010	.003-.012	.003-.012
f_k	.0008-.002	.0008-.002	.002-.006	.002-.005	.003-.005	.003-.012	.003-.012	.003-.016
a_{p max}	.020	.020	.059	.079	.098	.118	.157	.197


-ALU Aluminum geometry

-ALU

	Insert							
	21201-ALU	31602-ALU	32002-ALU	42202-ALU	52502-ALU	63002-ALU	83804-ALU	104604-ALU
f_v	.0008-.003	.0008-.005	.002-.007	.002-.007	.002-.007	.002-.007	.004-.010	.004-.010
f_n	.0008-.003	.0008-.005	.002-.007	.002-.007	.002-.007	.002-.007	.004-.012	.004-.012
f_k	.0008-.004	.0008-.006	.002-.008	.002-.008	.002-.008	.002-.008	.004-.014	.004-.014
a_{p max}	.020	.020	.079	.098	.118	.118	.157	.197

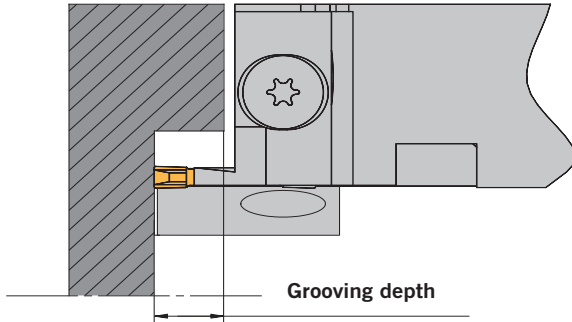
2

Circlip grooving execution

	Insert		
	2-...	3M-...	3-...
f_v	.0004-.002	.0004-.002	.0004-.004

The recommended cutting data are only approximate values. It may be necessary to adjust them to each individual machining application.

Selecting the tool holder



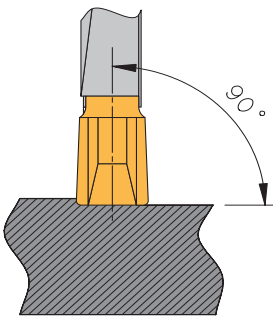
The maximum shank size possible should be used. In order to minimize vibration, the tool and support blade should be setup with minimum overhang.

Selecting the inserts

In order to achieve maximum stability, the widest possible insert (depending on the size of the tool holder) should be selected. The grooving depth of the tool is depending on the width. The largest possible corner radius should be used. An insert with a larger corner radius gives more stability and better tool life, as the cutting forces are equalized. A large corner radius improves the surface quality. The radius should be larger than the chosen feed rate. The smallest depth of cut should not be less than the corner radius of the insert.

2

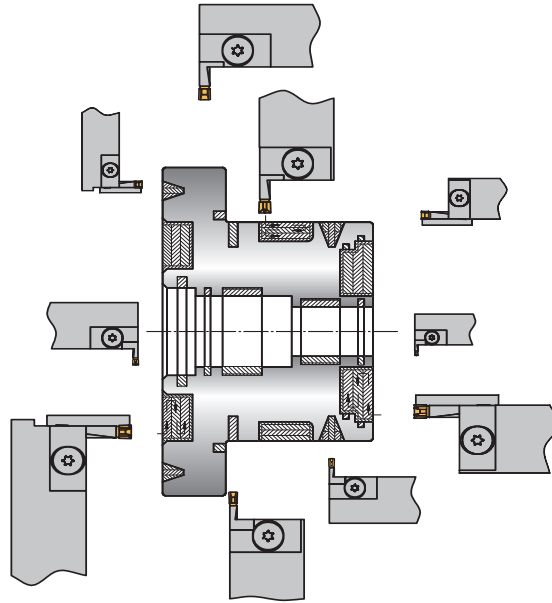
Set up of the tool



Optimal processing results can only be achieved if the tool is correctly mounted. Whereby it should be noted that the tool (cutting edge) must be always mounted at right angles to the work piece rotating axis (or respectively parallel with axial groove turning). When copy-turning, the second corner should be released .002" (0.05mm).

ATTENTION: If cutting edges are not set correctly, vibrations can be caused.

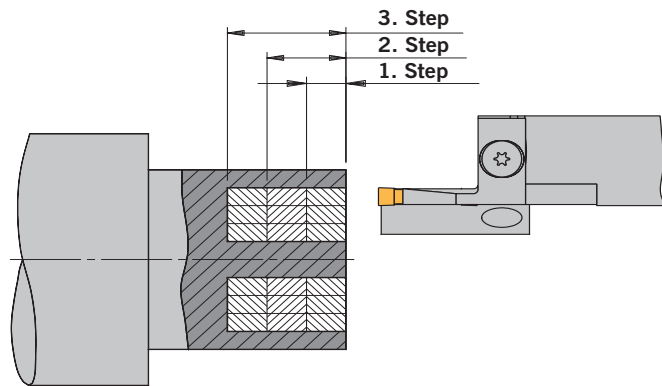
Examples



- The shaded area shows the sequence of operations as well as the final profiling cut, with the NC Grooving tools.
- A low tensile steel was used for this component
 - Average cutting speed 490 SFM (150m/min)
 - Feed rates .004" up to .010"/rev (0.1mm to 0.25mm/rev).

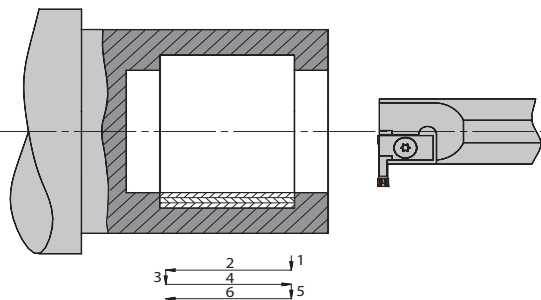
2

Grooving into solid



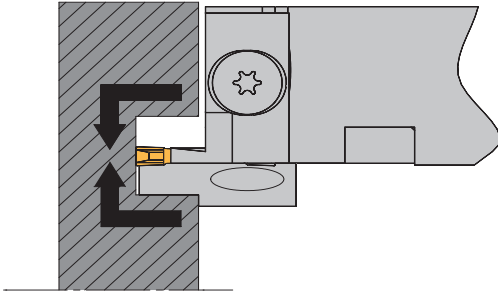
If large groove depths are required, rough out in a series of plunges, before finishing the profile down each side and blending into the center.

Internal grooving



Using insert geometries -12 or -AM

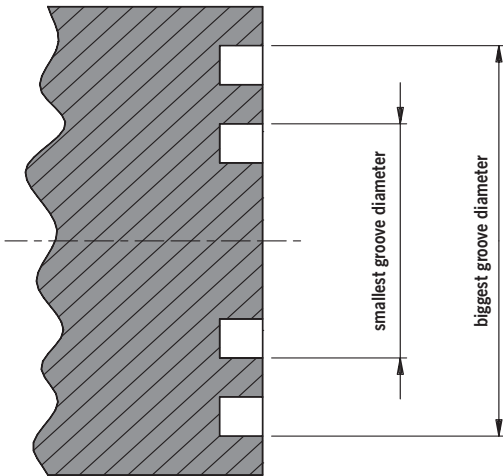
Inward or outward copy-turning



Inward copy-turning gives a more uniform chip breaking and minimizes insert wear. In order to achieve rectangular faces, we recommend inward copy-turning.

Cutting forces should always go into the holder. On the picture on the left that is the case for inward copy turning. On a Kontra blade it would be outward turning.

Axial grooving and facing



Axial grooving is only possible within the diameter range (e.g. 50–60mm (1.969-2.362")). If not, the tool can be damaged or destroyed.

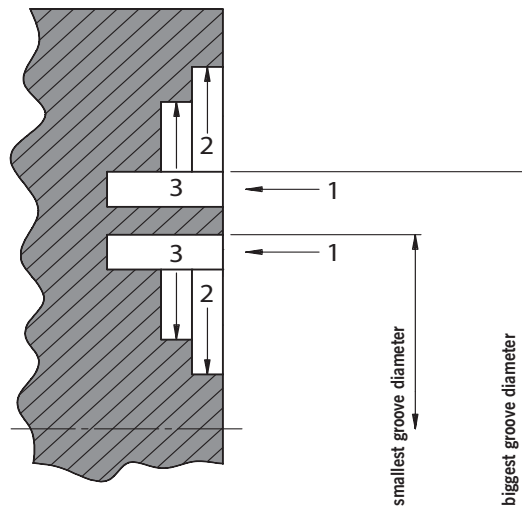
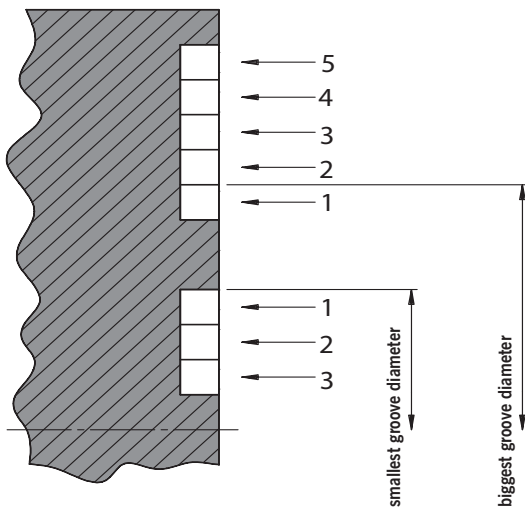
ATTENTION: The specified diameter range in all cases refers to the outer diameter of the groove!

2

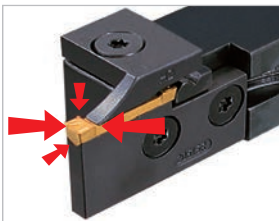
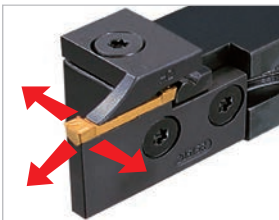
Attention

When axial grooving always begin at the groove outside diameter. Once the first plunge is complete, it is possible to widen the groove above and below the diameter range quoted.

The first groove made must be within the quoted diameter range. The depth of the next cut must not be deeper than the depth of the first groove.



2



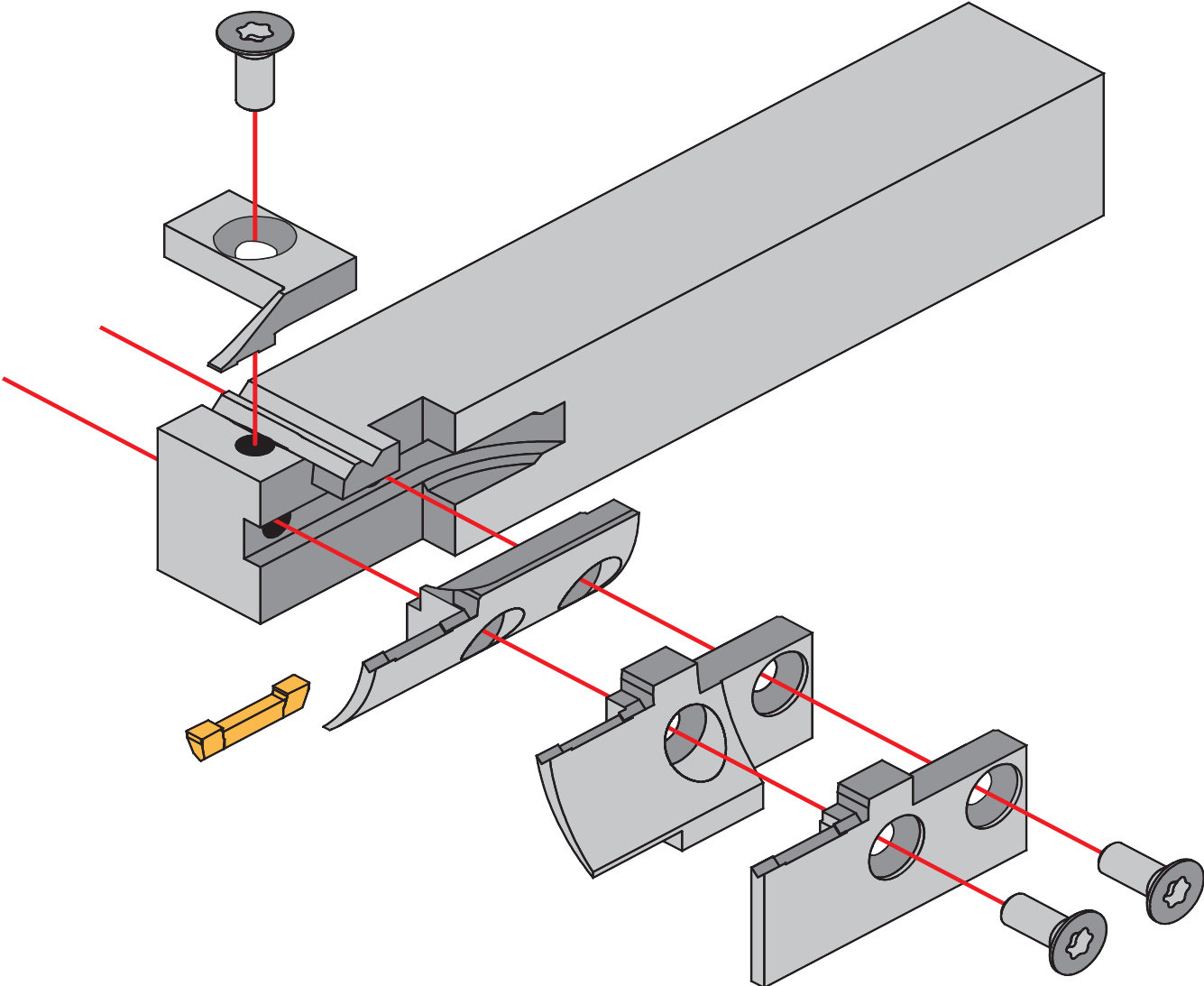
- A modular grooving and copy-turning system giving different tool variations from one basic holder by simply exchanging the support blade and clamp.
- A complete program for external radial and axial grooving in various widths.
- For internal machining a range of boring bars with and without coolant feed and inserts in different widths are available.
- For deep grooving applications special support blades and clamps can be designed and manufactured.
- Toolholder are available with VDI or UTS/KM and Capto® shanks, which can give improved stability. These holders are used in conjunction with standard support blades, clamps and inserts.

- Precision or sintered ground inserts with two cutting edges for use on internal and external grooving applications.
- Variety of chipbreaker geometries with coated and uncoated carbide grades. Combined they offer optimum cutting performance on a wide range of materials.
- Inserts have a ground v-shaped seating for a positive location into the support blade. This ensures maximum stability when side turning or copying.
- The positive insert geometry minimises deflection (less than .0004" (0.01mm)) and is therefore particularly suitable for finishing operations.
- Tools operate in three directions offering the opportunity to consolidate several operations into one tool and reduce the number of tool changes.

- The design of the insert clamping and the v-location provides for accurate indexing of inserts. High repeatability is achievable.
- The relief in the support blade means the insert is supported under the ends to ensure high stability and optimum rigidity.

- To complete the NC Grooving program, there are monoblock holders for axial grooving available starting at outside diameters of .591" (15mm) upward. Also an internal boring bar for .433" (11mm) minimum bore diameter is part of the program.

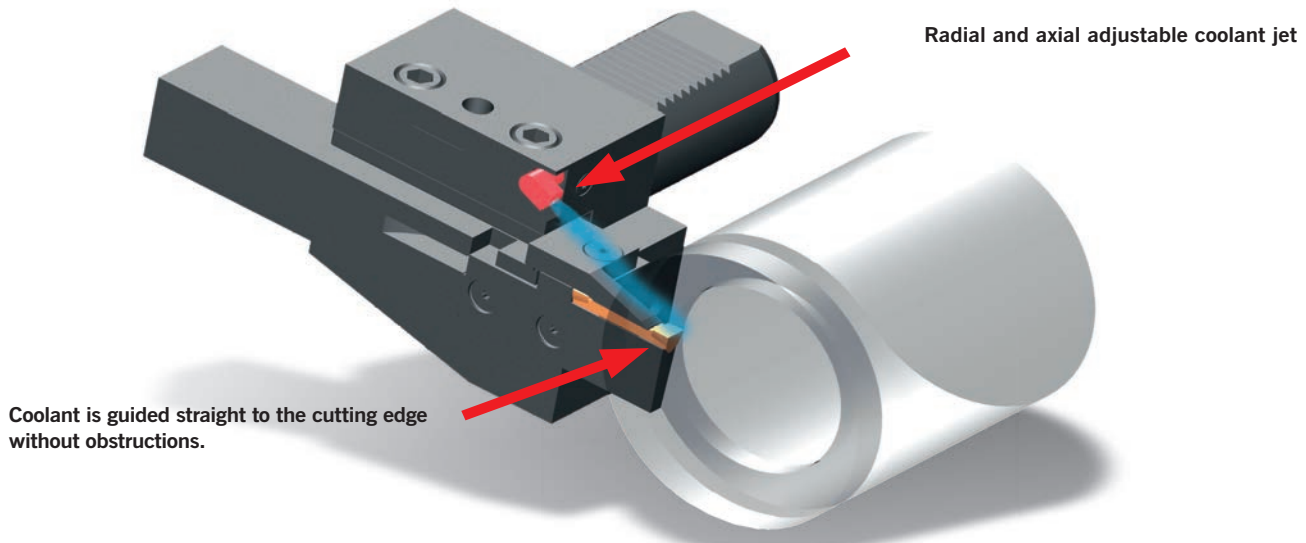
Assembly of ARNO NC Grooving system



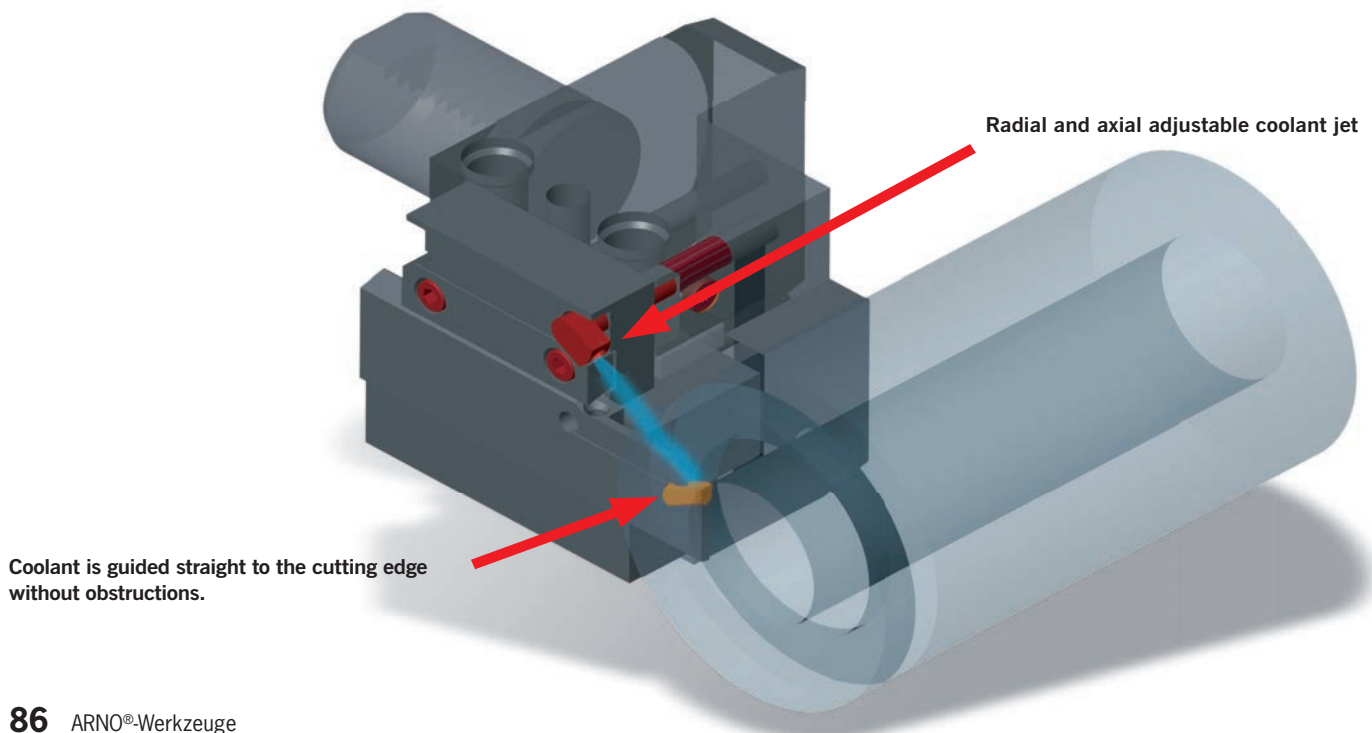
2

System overview SBN/KMH

KMH – Tool holder



SBN Clamping block



SHORT-Cut®

System for external and internal grooving and turning

• Introduction	88 – 89
• Designation system	90 – 91
• Tool shank options	92
• Monoblock holders – External groove turning	93 – 95
• SIS Boring bars – Internal groove turning	96
• Insert geometries	91
• Grade description	98
• Inserts	100 – 102
• Spare parts and accessories	103
• Cutting data	104 – 105

3**3**

The rigid system for grooving and turning with one tool

SHORT-Cut® groove turning system for external and internal groove and turn
Internal from Dmin 1.161" (29.5mm)

3

Monoblock holders

External groove and turn



SIS Boring bars

Internal groove and turn



Introduction

The combination of optimum stability of the holder (short overhang, latest clamping technique) and sintered double-sided insert (special chip geometry and cutting edge preparation) makes the SHORT-Cut® system the best partner for high machining outputs in grooving and turning applications.

Facts

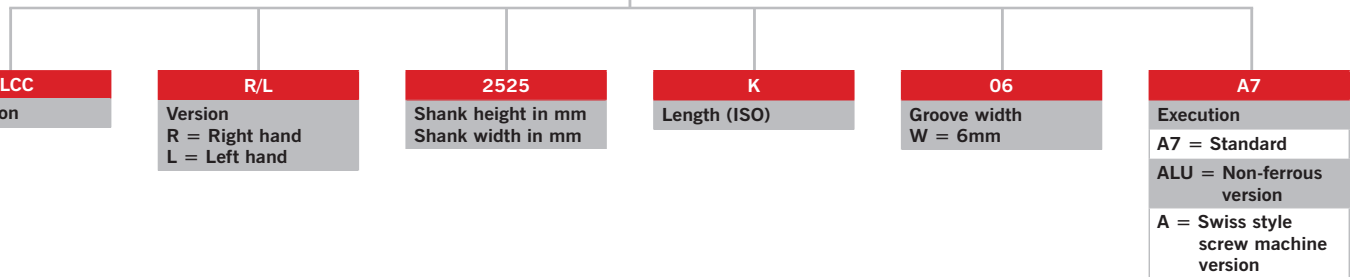
Monoblock holders

- Shank sizes metric only
10x10 to 32x25mm
- 7 insert sizes (LOMX...)
- Precision sintered
- Groove width .083"–.398" (2.1–10.1mm)
- Groove depth up to 1.063" (27mm)

Boring bars (metric only shanks)

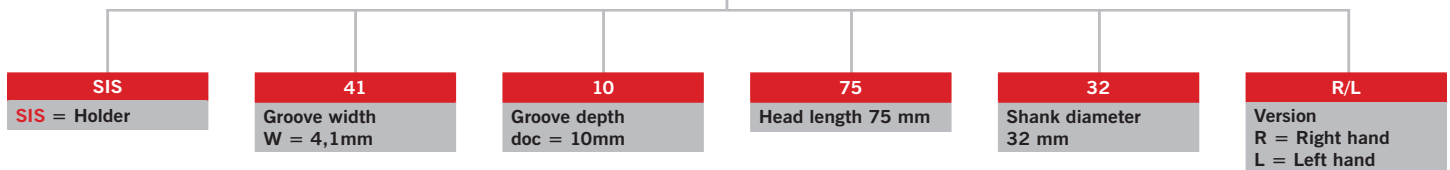
- Through tool coolant supply
- 2 insert sizes (LOMX...)
- Groove width .122" and .161" (3.1 and 4.1mm)
- Groove depth up to .551" (14mm)

Monoblock holders

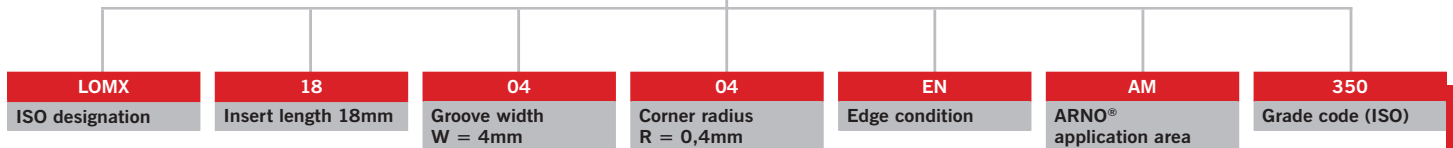


3

SIS Boring bars



Inserts





Monoblock holders – External groove and turn

Pages **147 – 149**

3



SIS Boring bars – Internal groove and turn

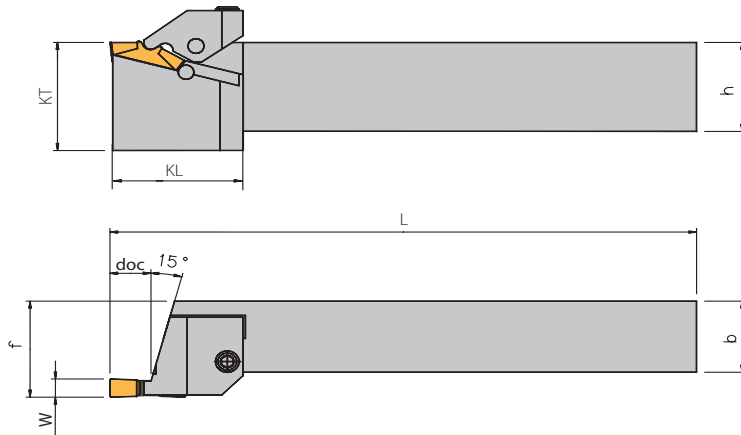
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Inserts

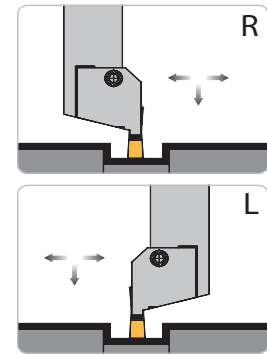
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Radial groove and turn



metric only

X without IC *i* Page 158-159



Left hand version shown

Designation	EDP		W	doc	h	b	L	KL	KT	f	Insert
CLCC R/L 1616J03-A7	13115	13068	.122	.256-.413	.630	.630	4.331	-	-	.906	LOMX 15
CLCC R/L 1616J04-A7	13119	13072	.161	.335-.512	.630	.630	4.331	-	-	.906	LOMX 18
CLCC R/L 2020K03-A7	13127	13080	.122	.256-.413	.787	.787	4.921	-	-	1.063	LOMX 15
CLCC R/L 2020K04-A7	13131	13084	.161	.335-.512	.787	.787	4.921	-	-	1.063	LOMX 18
CLCC R/L 2020K05-A7	13135	13088	.201	.413-.591	.787	.787	4.921	-	-	1.063	LOMX 20
CLCC R/L 2020K06-A7	13136	13089	.240	.492-.728	.787	.787	4.921	1.535	.984	1.063	LOMX 24
CLCC R/L 2525M03-A7	13140	13093	.122	.256-.413	.984	.984	5.906	-	-	1.260	LOMX 15
CLCC R/L 2525M04-A7	13144	13097	.161	.335-.512	.984	.984	5.906	-	-	1.260	LOMX 18
CLCC R/L 2525M05-A7	13148	13101	.201	.413-.591	.984	.984	5.906	-	-	1.260	LOMX 20
CLCC R/L 2525M06-A7	13149	13102	.240	.492-.728	.984	.984	5.906	-	-	1.260	LOMX 24
CLCC R/L 2525M08-A7	61917	61919	.319	.571-.984	.984	.984	5.906	1.890	1.260	1.024	LOMX 32
CLCC R/L 2525M10-A7	61915	61921	.398	.650-1.063	.984	.984	5.906	1.890	1.260	1.024	LOMX 40
CLCC R/L 3225P05-A7	13153	13106	.201	.413-.591	1.260	.984	6.693	-	-	1.260	LOMX 20
CLCC R/L 3225P06-A7	13154	13107	.240	.492-.728	1.260	.984	6.693	-	-	1.260	LOMX 24
CLCC R/L 3225P08-A7	13155	13108	.319	.571-.984	1.260	.984	6.693	-	-	1.024	LOMX 32
CLCC R/L 3225P10-A7	13156	13109	.398	.650-1.063	1.260	.984	6.693	-	-	1.024	LOMX 40

The standard depth of cut of the standard execution is shown on column doc. At the request of the customer, the depth of cut can be extended to the maximum recess depth doc_{max} shown in the same column. Rigidity of the tool will be reduced when reworking. Please reduce cutting speeds by 30%.

When ordering make sure to specify the recess depth on the order form, e.g.: CLCCL 2525M04-A7-12

Spare parts

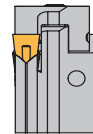
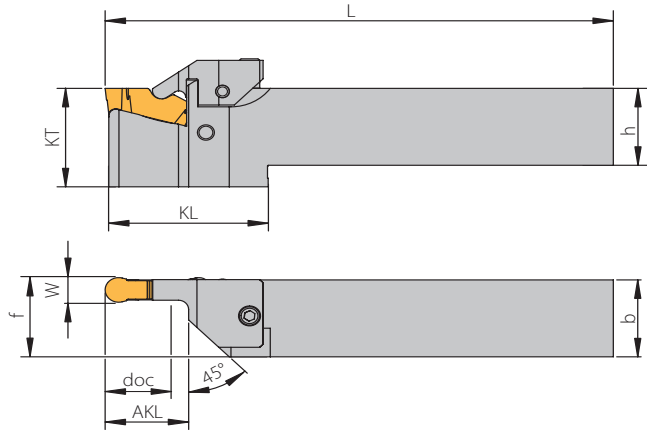
Holder	Clamp	Clamping pin	Screw	Support pin	Key
CLCC R/L 03-A7	KTC3 R/L	STC .. 1	GTC6N	ATC1N	KP1111
CLCC R/L 04-A7	KTC4 R/L	STC .. 1	GTC6N	ATC1N	KP1111
CLCC R/L 05-A7	KTC5 R/L	STC .. 1	GTC6N	ATC1N	KP1111
CLCC R/L 06-A7	KTC6 R/L	STC .. 1	GTC6N	ATC1N	KP1111
CLCC R/L 08-A7	KTC8 R/L	STC 2N	GTC6N	ATC2N	KP1111
CLCC R/L 10-A7	KTC10 R/L	STC 2N	GTC6N	ATC2N	KP1111

1 Shank 20 mm -> Clamping pin STC 1N

Shank 25 and 32 mm -> Clamping pin STC 2N

Shank 16 mm -> Clamping pin STC 3N

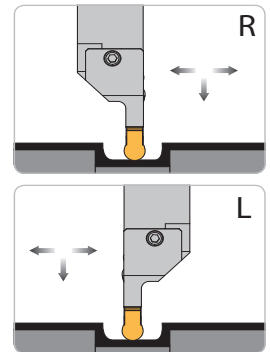
Radial groove and turn for non-ferrous materials



metric only

X
without IC

i Page
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Left hand version shown

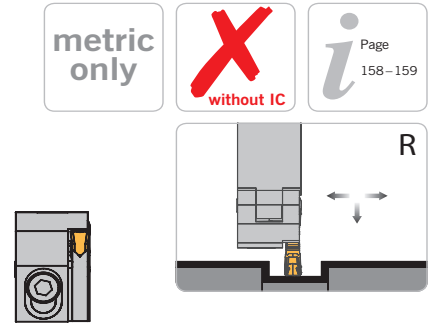
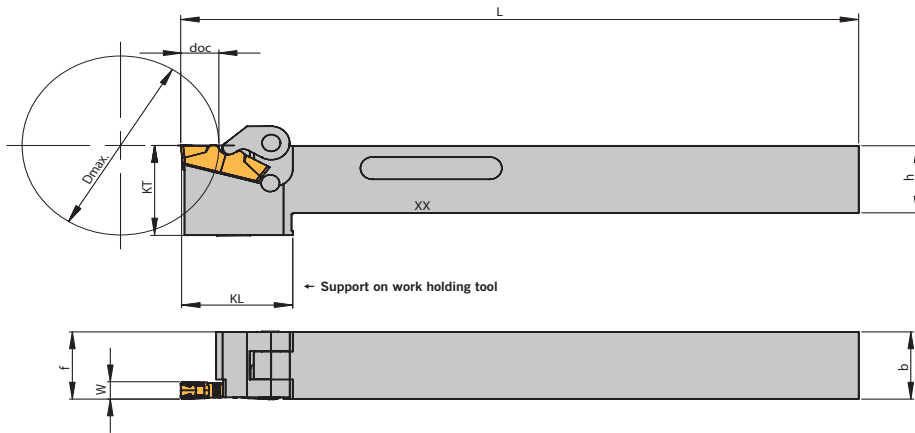
3

Designation	EDP	W	doc	h	b	L	KL	KT	f	AKL	Insert
CLCC R/L 2525M06-ALU	61035 61033	.236	.827	.984	.984	5.906	1.890	1.260	1.008	.945	LOMX 2406...FN-ACB
CLCC R/L 2525M08-ALU	61029 61031	.315	.945	.984	.984	5.906	1.890	1.260	1.014	.945	LOMX 3208...FN-ACB

Spare parts

Holder	Clamp	Clamping pin	Screw	Support pin	Key
CLCC R/L....06...	KTC 6 R/L-ALU	STC 4N	GTC 6N	-	KP 1111
CLCC R/L....08...	KTC 8 R/L-ALU	STC 4N	GTC 6N	-	KP 1111

Radial groove and turn for swiss style auto lathes



Left hand version shown

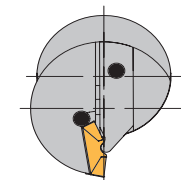
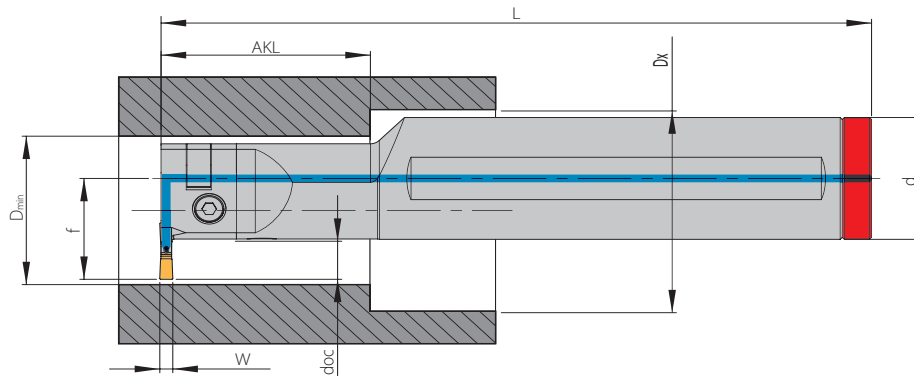
Designation	EDP	W	doc	h	b	L	KL	KT	f	D _{max}	Insert
CLCCR 1010 J02-A7-A	81787	.083	.157	.394	.394	4.331	.787	.551	.394	1.260	LOMX 12....
CLCCR 1212 J02-A7-A	81785	.083	.157	.472	.472	4.331	.787	.630	.472	1.260	LOMX 12....
CLCCR 1212 J03-A7-A	61037	.122	.236	.472	.472	4.331	.787	.630	.472	1.260	LOMX 15....
CLCCR 1616 J04-A7-A	64923	.161	.315	.630	.630	4.331	-	-	.630	1.260	LOMX 18....
CLCCR 1616 J05-A7-A	77361	.201	.374	.630	.630	4.331	1.024	.807	.630	1.260	LOMX 20....
CLCCR 1616 J06-A7-A	95902	.240	.374	.630	.630	4.331	1.024	.984	.630	1.260	LOMX 24....

3

Spare parts

Holder	Clamp	Clamping pin	Spring	Screw	Key
CLCCR J02-A7-A	KTC2 R-10A	DIN6325-3m6x10	D-0900	DIN912-M4x10	KP 1111
CLCCR J03-A7-A	KTC3 R-12A	DIN6325-3m6x12	D-0900	DIN912-M4x10	KP 1111
CLCCR J04-A7-A	KTC4 R-16A	DIN6325-3m6x12	D-0900	DIN912-M4x10	KP 1111
CLCCR J05-A7-A	KTC5 R-16A	DIN6325-3m6x14	D-0900	DIN912-M4x10	KP 3421
CLCCR J06-A7-A	KTC6 R-16A	DIN6325-4m6x14	D-0900	DIN912-M4x16	KP1321

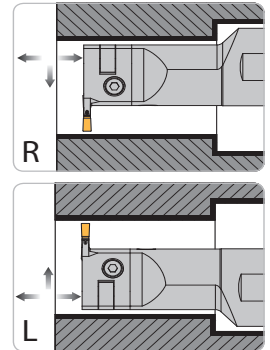
Internal groove and turn



metric only



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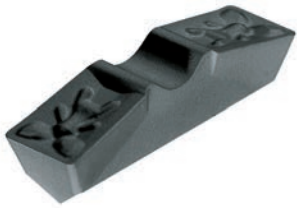
Left hand version shown

3

Designation	EDP	D_{min}	W	doc	AKL	d	L	f	D_x	Insert
SIS31-08-20 R/L	68312 68314	1.161	.122	.315	1.181	.787	5.118	.728	-	LOMX 1503...
SIS31-08-40-25 R/L	78255 78253	1.161	.122	.315	1.575	.984	5.906	.827	1.555	LOMX 1503...
SIS31-08-60-25 R/L	78257 78259	1.161	.122	.315	2.362	.984	5.906	.827	1.555	LOMX 1503...
SIS31-10-25 R/L	68318 68316	1.437	.122	.394	1.575	.984	5.906	.906	-	LOMX 1503...
SIS31-10-50-32 R/L	78263 78261	1.437	.122	.394	1.969	1.260	6.693	1.043	1.988	LOMX 1503...
SIS31-10-75-32 R/L	78265 78267	1.437	.122	.394	2.953	1.260	6.693	1.043	1.988	LOMX 1503...
SIS41-10-25 R/L	68320 68322	1.437	.161	.394	1.575	.984	5.906	.906	-	LOMX 1804...
SIS41-10-32 R/L	68326 68324	1.713	.161	.394	1.575	1.260	5.906	1.043	-	LOMX 1804...
SIS41-10-50-32 R/L	78271 78269	1.437	.161	.394	1.969	1.260	6.693	1.043	1.988	LOMX 1804...
SIS41-10-65-40 R/L	78279 78277	1.713	.161	.394	2.559	1.575	7.874	1.201	2.323	LOMX 1804...
SIS41-10-75-32 R/L	78273 78275	1.437	.161	.394	2.953	1.260	6.693	1.043	1.988	LOMX 1804...
SIS41-10-100-40 R/L	78281 78283	1.713	.161	.394	3.937	1.575	7.874	1.201	2.323	LOMX 1804...
SIS41-14-32 R/L	68328 68330	1.870	.161	.551	1.575	1.260	7.087	1.201	-	LOMX 1804...

Spare parts

Holder	Screws	Locking ring
SIS31-08-20 R/L	DIN912-M3x10 -12.9	KVR20
SIS31-08-40-25 R/L	DIN912-M3x10 -12.9	KVR25
SIS31-08-60-25 R/L	DIN912-M3x10 -12.9	KVR25
SIS31-10-25 R/L	DIN912-M4x16 -12.9	KVR25
SIS31-10-50-32 R/L	DIN912-M4x16 -12.9	KVR32
SIS31-10-75-32 R/L	DIN912-M4x16 -12.9	KVR32
SIS41-10-25 R/L	DIN912-M4x16 -12.9	KVR25
SIS41-10-32 R/L	DIN912-M4x16 -12.9	KVR32
SIS41-10-50-32 R/L	DIN912-M4x16 -12.9	KVR32
SIS41-10-65-40 R/L	DIN912-M4x16 -12.9	KVR40
SIS41-10-75-32 R/L	DIN912-M4x16 -12.9	KVR32
SIS41-10-100-40 R/L	DIN912-M4x16 -12.9	KVR40
SIS41-14-32 R/L	DIN912-M4x16 -12.9	KVR32



Standard geometry

- Sintered insert
- Two cutting edges
- For grooving and turning with medium to large chip cross section
- Strong cutting edge for interrupted cutting and changing chip cross sections
- Universal insert for various materials



-AM Geometry

- Sintered insert
- Two cutting edges
- For grooving and copy-turning at medium to large chip cross sections
- Special soft cutting geometry
- Machining of all steel materials



-ACB Geometry

- Periphery ground insert
- two cutting edges
- Polished top surface
- For groove turning and copy-turning with medium to large chip cross section
- Special chipbreaker for controlled chip breaking
- Machining of aluminum and aluminum alloys, non-ferrous metals as well as titanium and titanium alloys

Coated**AM27C**

CVD-multilayer coating

Machining steel, cast steel as well as grey cast iron, at medium to high cutting speeds, medium to large chip cross sections and varying depths of cut. Used for finishing and medium roughing.

AM35C

CVD-multilayer coating

Machining steel, stainless steel and cast steel, at medium to large chip cross sections and medium to low cutting speeds under unfavorable machining conditions where good toughness is required.

AM350

CVD-multilayer coating

Grade with a good combination of wear resistance and toughness for turning steel, stainless steel as well as cast steel at medium chip cross sections and medium to high cutting speeds. Can also be used under unfavorable machining conditions. Special grade for stainless steel (austenitic).

AR27C

CVD-multilayer coating

Machining of steel, stainless steel, spheroidal cast iron, cast steel and grey cast iron at high cutting speeds under stable machining conditions.

Uncoated**AK10**

Submicron carbide grade for machining cast materials and non-ferrous materials, refractory metals, hardened steels up to 55 HRC. In connection with chipbreaker -ACB specially suitable for machining Al- and Cu-alloys.

AN8020 (PCD)

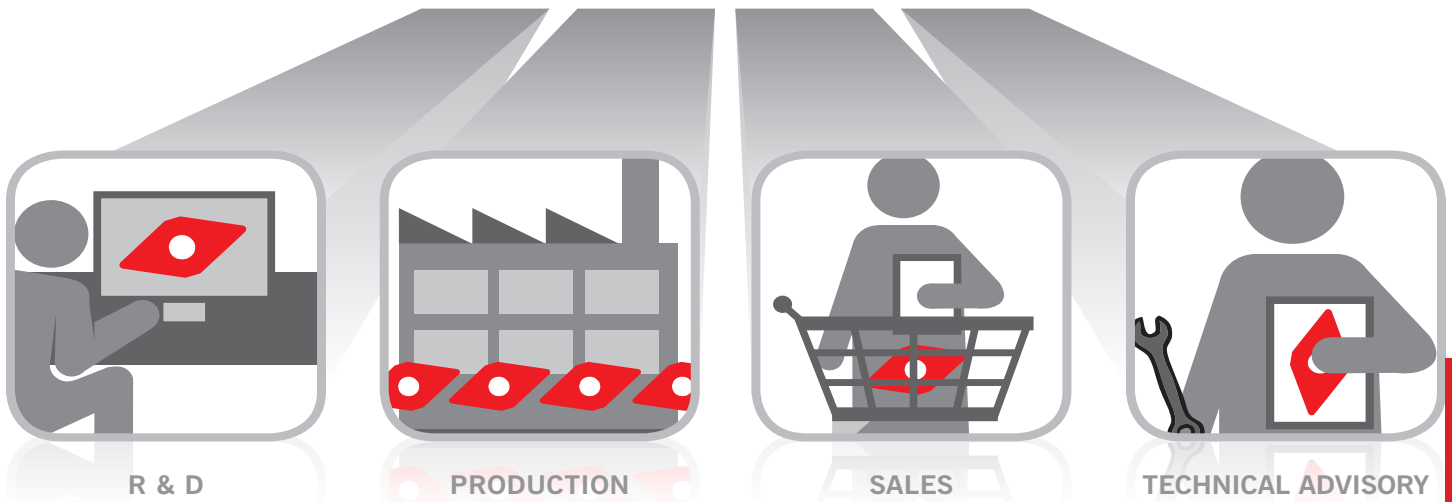
Machining of non-ferrous metals, aluminum alloys with silicon, glass- and coal-fiber reinforced materials, spheroidal cast iron, at high cutting speeds. Sharp cutting edges enable low cutting forces and extremely good surface finish. Finishing and super finishing even at interrupted cuts.

AP40

Machining of steel, cast steel and austenitic steel, at medium to low cutting speeds, medium to large chip cross sections, also under unfavorable conditions.

3

ARNO[®] WERKZEUGE



3

Quick, flexible and responsive

To have R&D, production and sales, all under one roof

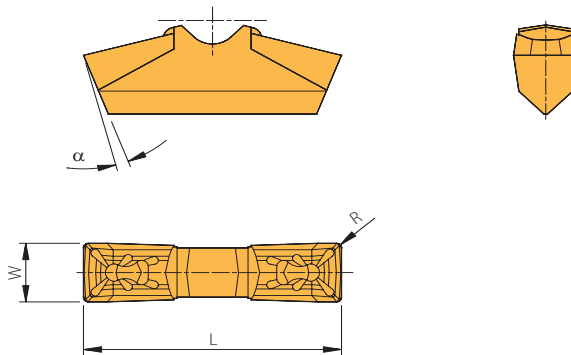
is the perfect way of providing standard and special products.

95% of the standard stocked items are available from stock in Illinois.
Orders received by 3:30 Central Time are shipped the same day and could be on your machine the next day.

Our competent team of sales engineers is always available for service and support. In many cases, they can even assist you on site.

Find more information under
www.arnousa.com

Radial groove and turn



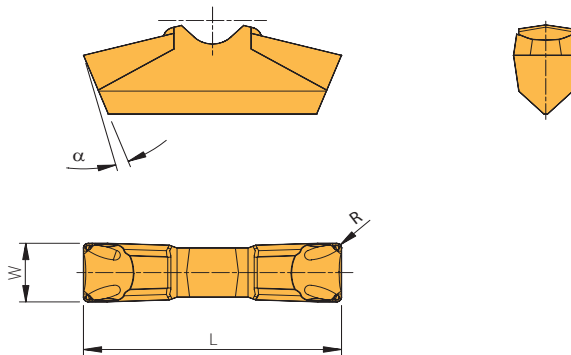
3

Designation	W ± .002"	L	α	R	EDP				uncoated		PCD
					coated	coated	coated	coated	AK10	AP40	AN8020
					AM27C	AM35C	AM350	AR27C			
LOMX 120202EN	.083	.472	6°	.008			81166				
LOMX 150302EN	.122	.591	6°	.008	20022	20024	20023	20026	20021	20025	
LOMX 180404EN	.161	.709	6°	.016	20032	20034	20033	20036	20031	20035	
LOMX 200504EN	.201	.787	6°	.016	20042	20044	20043	20046	20041	20045	
LOMX 200508EN	.201	.787	6°	.031	20053	20054		20056		20055	
LOMX 240608EN	.240	.945	6°	.031	20059	20061	20060	20063	20058	20062	
LOMX 320800FN	.315	1.260	6°	.157							65657
LOMX 320800FN-AEC	.315	1.260	6°	.157					65756		
LOMX 320800TN-ALU	.315	1.260	6°	.157							81783

- Main application
- 2nd application

	P	M	K	N	S	H
AM27C	●	○	○	○	○	○
AM35C	○	○	○	○	○	○
AM350	○	○	○	○	○	○
AR27C	○	○	○	○	○	○
AK10	○	○	○	○	○	○
AP40	○	○	○	○	○	○
AN8020	○	○	○	○	○	○

-AM-Geometry for groove and turn



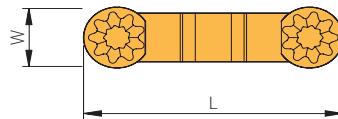
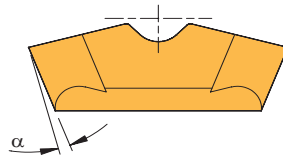
Designation	W ± .002"	L	α	R	EDP				uncoated		PCD
					AM27C	AM35C	AM350	AR27C	AK10	AP40	AN8020
LOMX 150302EN-AM	.122	.591	6°	.008	20028		20030				
LOMX 150304EN-AM	.122	.591	6°	.016			46192				
LOMX 180402EN-AM	.161	.709	6°	.008			46194				
LOMX 180404EN-AM	.161	.709	6°	.016	20038		20040				
LOMX 200504EN-AM	.201	.787	6°	.016	20048		20050				
LOMX 240608EN-AM	.240	.945	6°	.031	20065		20067				
LOMX 320800FN-AMF	.315	1.260	6°	.157					81282		
LOMX 320808EN-AM	.319	1.260	6°	.031	20072		20074				
LOMX 401008EN-AM	.398	1.575	6°	.031	20079		20081				

- Main application
- 2nd application

	P	M	K	N	S	H
AM27C	●	○				
AM35C		●				
AM350					○	
AR27C						
AK10			●	●		
AP40					○	
AN8020						

3

-ACB-Geometry for groove and turn



Designation	W ± .0008"	L ± .007"	α	R	EDP				uncoated		PCD
					coated	coated	coated	coated	AK10°	AP40	AN8020
					AM27C	AM35C	AM350	AR27C			
LOMX 240600FN-ACB	.236	.945	6°	.118					20057		77534
LOMX 320800EN-ACB1	.315	1.260	6°	.157							82062
LOMX 320800FN-ACB	.315	1.260	6°	.157					20068		
LOMX 320800TN-ACB	.315	1.260	6°	.157							65749
LOMX 320800TN-ACB4	.315	1.260	6°	.157							92546

3

Attention: Support has to be reworked for full radius insert!
 Note: AN8020 inserts are single-sided with a rake angle of 0°.
 ● Submicron carbide grade

- Main application
- 2nd application

P	M	K	N	S	H
			●		
			●		●
			○		

Item	EDP	
Screw		
DIN912-M3x10-12.9	68948	
DIN912-M4x10-12.9	104673	
DIN912-M4x16-12.9	68950	
GTC6N	19077	
Key		
KP 1111	19646	
KP 1321	19647	
KP 3421	19649	
Clamping pin		
DIN6325-3M6x10	104846	
DIN6325-3M6x12	104848	
DIN6325-3M6x14	104844	
DIN6325-4M6x14	104842	
STC1N	24817	
STC2N	24818	
STC3N	24819	
STC4N	501097	
Compressing spring		
D-0900	104850	
Locking ring		
KVR 20	70537	
KVR 25	70540	
KVR 32	70542	
KVR 40	78984	
Support pin		
ATC1N	11303	
ATC2N	77697	
Clamp		
KTC2 R-10A	104852	
KTC3 R/L	19680	19679
KTC3 R-12A	104854	
KTC4 R/L	19682	19681
KTC4 R-16A	104856	
KTC5 R/L	19684	19683
KTC5 R-16A	104858	
KTC6 R/L	19686	19685
KTC6 R/L-ALU	104862	104864
KTC6 R-16A	104860	
KTC8 R/L	19688	19687
KTC8 R/L-ALU	91283	105221
KTC10 R/L	19678	19677

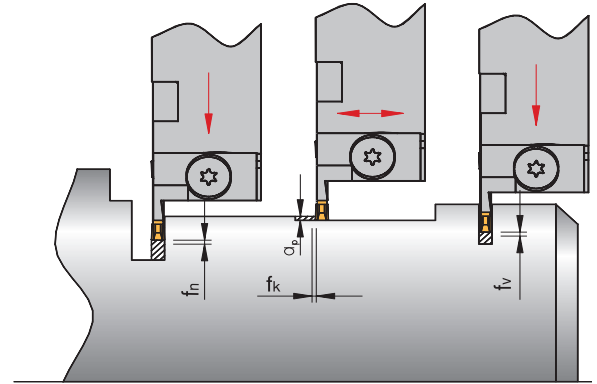
Grooving

ISO	Material	Tensile strength (N/mm ²)	Cutting speed V _c (f/min)							
			coated				uncoated		PCD	
			AM27C	AM35C	AM350	AR27C	AK10	AP40	AN8020	
P	Unalloyed steel and cast steel	< 0.15 % C/hardened and tempered	350	460-850	390-520	460-660	520-920	-	300-390	-
		0.15- 0.45% C/hardened and tempered	650	360-620	200-460	360-490	390-660	-	210-280	-
		> 0.45% C/hardened and tempered	1000	330-520	230-360	300-390	330-430	-	160-230	-
	Low alloyed steel and cast steel	annealed	600	430-720	230-330	430-590	490-750	-	230-330	-
		hardened and tempered	900	390-520	230-330	330-490	430-590	-	200-260	-
			1200	330-520	200-300	300-390	330-490	-	160-230	-
	High alloyed steel	annealed	700	390-490	200-260	300-490	460-560	-	160-230	-
	High alloyed tool steel and cast steel	hardened	1100	300-390	200-260	230-390	300-430	-	160-230	-
Stainless steel	ferritic, annealed	700	460-820	300-390	360-590	460-790	-	260-390	-	
Cast steel	martensitic, hardened and tempered	1000	390-490	200-300	200-300	200-330	-	200-330	-	
M	Stainless steel	austenitic and austenitic/	450-600	430-660	330-590	360-660	430-660	-	-	-
		ferritic, chilled	600-900	260-430	260-490	260-390	260-430	-	-	-
K	Cast iron	pearlitic/ferritic	500-700	-	-	-	430-720	390-520	-	-
		pearlitic/martensitic	700-850	-	-	-	330-520	330-460	-	-
			800-1100	-	-	-	330-430	260-390	-	-
	Cast iron with nodular graphite	ferritic	550	-	-	-	520-750	300-490	-	-
		pearlitic	800	-	-	-	390-560	330-590	-	-
	Malleable cast iron	ferritic	450	-	-	-	490-690	330-660	-	-
pearlitic		750	-	-	-	390-660	260-520	-	-	
N	Aluminum alloys long chipping	not heat treatable	200	-	-	-	-	330-2620	-	-
		heat treatable, heat treated	350	-	-	-	-	260-2620	-	1150-9840
	Casted aluminum alloys	≤ 12 % Si, heat treated	250	-	-	-	-	260-1640	-	1150-9840
		≤ 12 % Si, heat treatable, heat treated	300	-	-	-	-	-	-	1150-9840
		≤ 12 % Si, not heat treatable	450	-	-	-	-	-	-	1150-9840
	Copper and copper alloys (Brass/Bronze)	Lead alloys, Pb > 1 %	400	-	-	-	-	330-820	-	1150-9840
		Brass, Bronze	300	-	-	-	-	660-1640	-	1970-3940
		Aluminum bronze	500	-	-	-	-	820-1640	-	1970-3940
		Copper and electrolyte copper	200	-	-	-	-	430-980	-	1970-3940
	Non-ferrous materials	Duroplastic	-	-	-	-	-	330-1640	-	1970-3940
Re-inforced plastics		-	-	-	-	-	260-490	-	260-4920	
Hard rubber		-	-	-	-	-	330-660	-	260-4920	
S	High temperature resistant alloys	Fe-alloyed, annealed	700	100-160	-	-	80-150	-	-	260-4920
		Fe-alloyed, heat treated	950	80-130	70-130	70-130	70-130	-	-	-
		Ni- or Co-alloyed, annealed	800	30-100	70-100	70-100	50-80	-	-	-
		Ni- or Co-alloyed, casting	1100	30-70	-	-	30-70	-	-	-
		Ni- or Co-alloyed, heat treated	1200	30-50	-	-	30-70	-	-	-
	Titanium alloys	Pure titanium	500-700	-	-	-	-	260-430	-	-
Alpha- and Beta-alloys	heat treated	700-1000	-	-	-	-	130-230	-	200-260	
H	Hardened steel	hardened	55 HRC	-	-	-	30-70	-	-	160-230
		60 HRC	-	-	-	-	-	-	-	-
	Hard cast iron	casting	41 HRC	-	-	-	30-70	-	-	-
Hardened cast iron	hardened	55 HRC	-	-	-	30-70	-	-	-	

The recommended cutting data are only approximate values. It may be necessary to adjust them to each individual machining application.

Maximum feed rate and depth of cut

- f_v (" / U) = Feed rate into solid
- f_n (" / U) = Feed rate for re-grooving
- f_k (" / U) = Feed rate for copying
- doc (") = Depth of cut



Groove and turn

SHORT-Cut®

	Insert				
	LOMX 120202 EN	LOMX 150302 EN	LOMX 180404 EN	LOMX 200504/08 EN	LOMX 240608 EN
f_v	.002-.006	.003-.006	.004-.010	.004-.010	.004-.012
f_n	.002-.006	.003-.006	.004-.012	.004-.014	.004-.016
f_k	.002-.004	.003-.006	.004-.010	.004-.010	.004-.012
doc_{max}	.008-.039	.008-.059	.016-.079	.016-.098	.031-.118

Groove and turn

SHORT-Cut® -AM

3

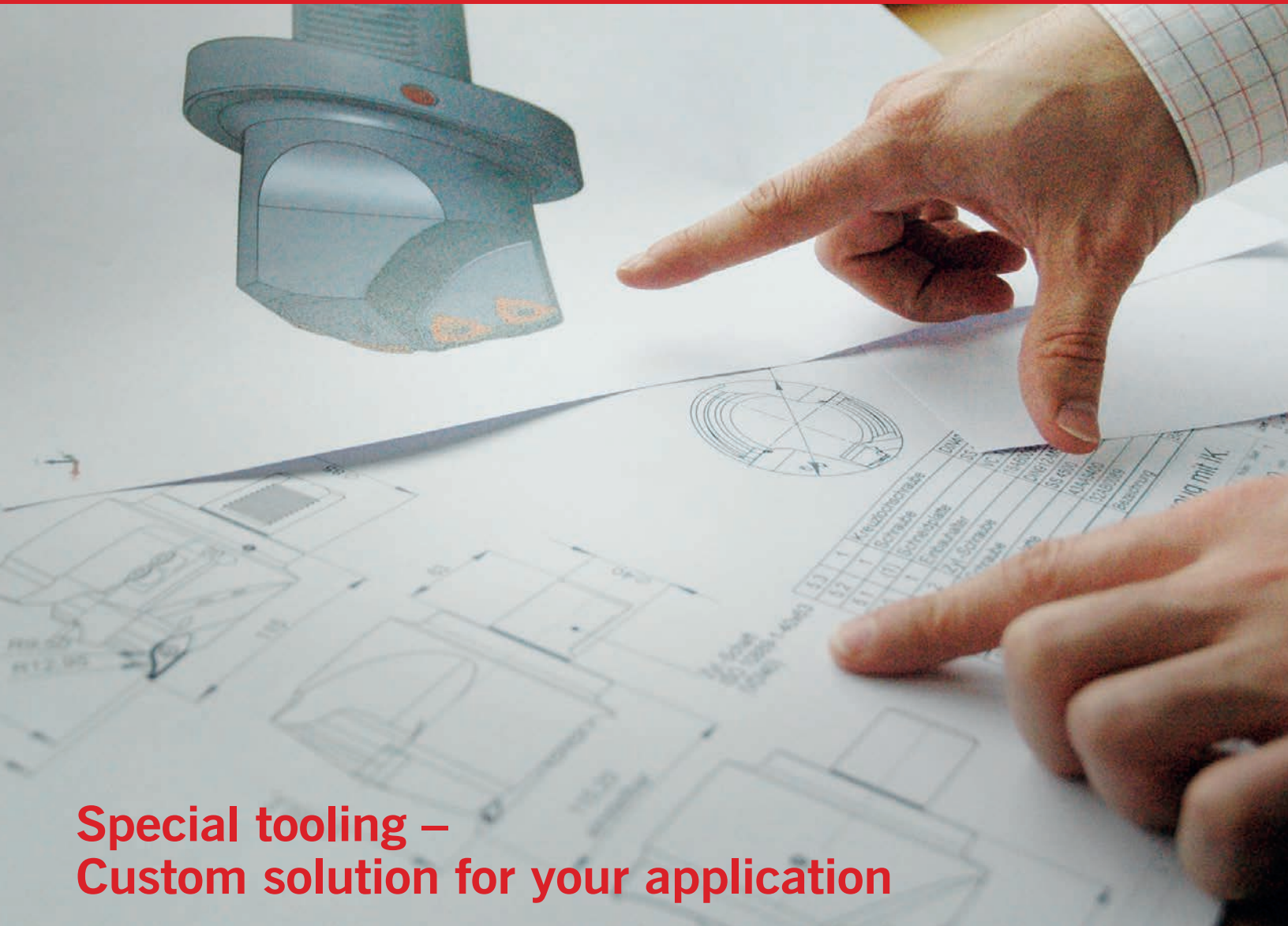
	Insert					
	LOMX 150302 EN-AM	LOMX 180404 EN-AM	LOMX 200504/08 EN-AM	LOMX 240608 EN-AM	LOMX 320808 EN-AM	LOMX 401008 EN-AM
f_v	.003-.006	.004-.010	.004-.012	.004-.012	.004-.014	.004-.014
f_n	.003-.006	.004-.012	.004-.014	.004-.016	.004-.016	.004-.016
f_k	.003-.008	.004-.012	.004-.012	.004-.014	.004-.014	.004-.014
doc_{max}	.008-.059	.016-.079	.016-.098	.031-.118	.031-.157	.031-.197

Groove and turn

SHORT-Cut® -ACB

	Insert	
	LOMX 240600 FN-ACB	LOMX 320800 FN-ACB
f_v	.006-.012	.007-.016
f_n	.006-.018	.007-.024
f_k	.006-.018	.007-.024
doc_{max}	.118	.157

The recommended cutting data are only approximate values. It may be necessary to adjust them to each individual machining application.



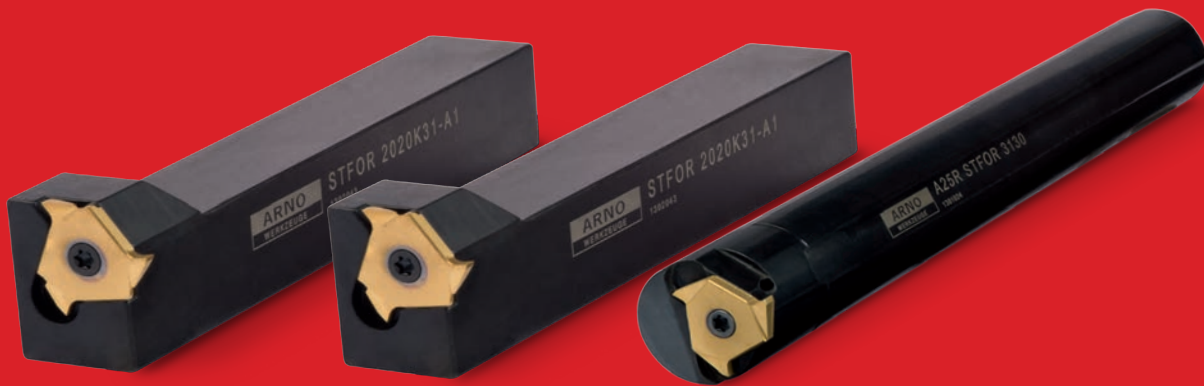
Special tooling – Custom solution for your application

You have an application – We have a solution

Take advantage of our many years of experience in special solutions. Benefit from more efficient and cost effective custom tooling made by ARNO.

Whether it is special inserts or complex combination tools – we can offer precise, fast and flexible solutions to almost any application.

Find more information under
www.arnousa.com



Clip-Groove®

Grooving system for external and internal grooving

• Introduction	108 – 109
• Designation system	110 – 111
• Tool shank options	112
• Monoblock holders – External grooving	113 – 114
• Boring bars – Internal grooving	115
• Geometry	116
• Grade description	117
• Inserts	118 – 127
• Spare parts and accessories	128
• Cutting data	129
• Application reference	130

4

4

Circlip grooving system for radial or axial application with 3-edged insert

Monoblock holders

External grooving



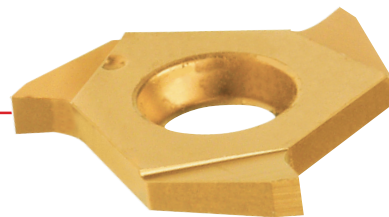
4

Boring bars

Internal grooving



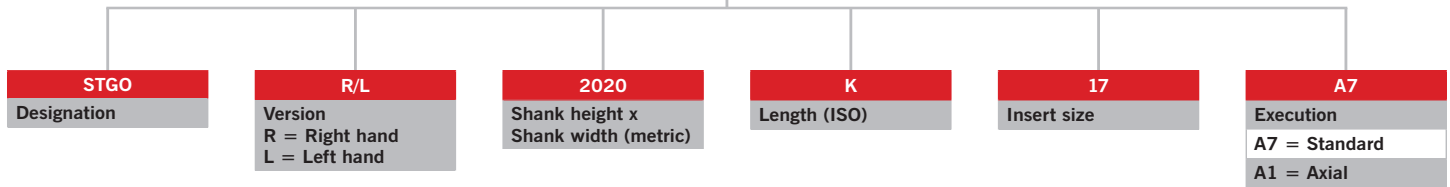
3-edged inserts



Features

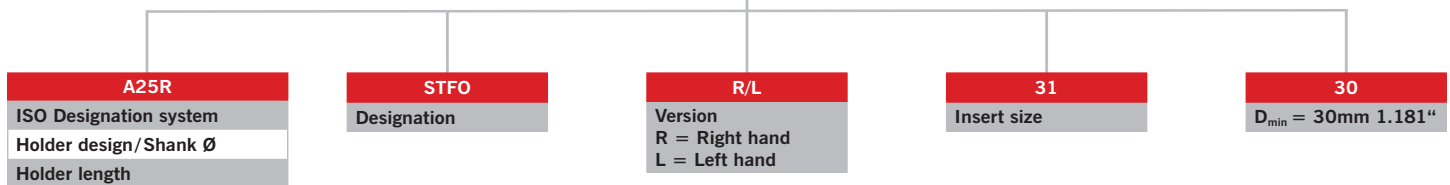
- Two insert sizes TNMU 17 and TNMU 31
- Groove width from .022" to .197" (0.55-5mm)
- Groove depth up to .138" (3.5mm)
- Selection of groove shapes for the same tool holder
- Application areas
 - Radius grooves
 - Cir-clip grooves DIN 471/472
 - Straight grooves
 - Custom grooves
- Optimum clamping and insert location with screw clamping
- 3-edged inserts
- Special profiles possible up to .276" (7mm) width
- Quick change of inserts
- Clip-Groove® axial for face grooving

Monoblock holders

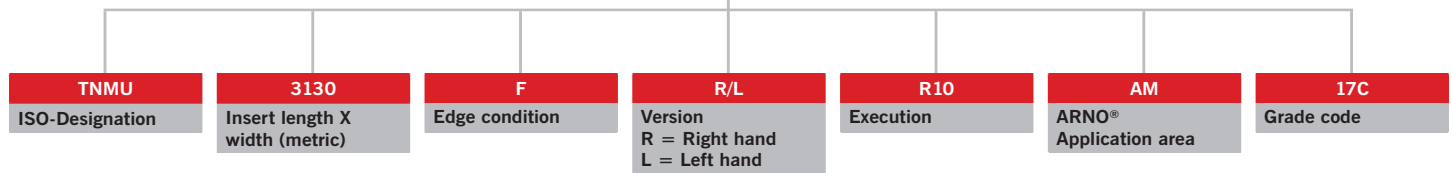
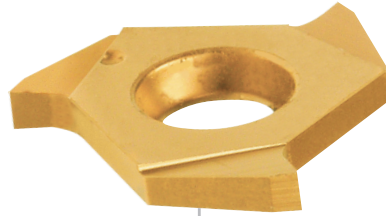


4

Boring bars



Inserts

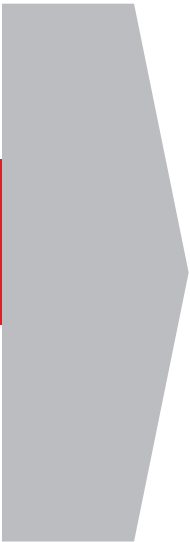




Monoblock holders – External grooving

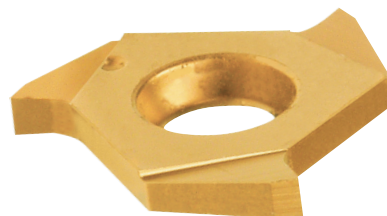
Page **113-114**

4



Boring bars – Internal grooving

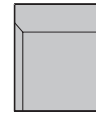
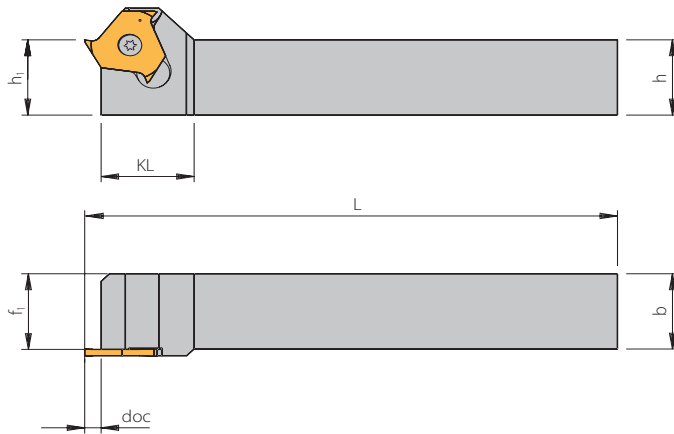
Page **115**



Inserts

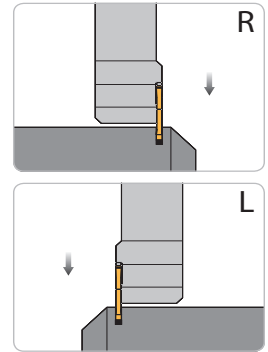
Page **116-127**

Radial grooving



inch & metric

X without IC *i* Page 183-184



Right hand execution shown

Designation	EDP		doc	h	b	L	f ₁	h ₁	KL	Insert
STGO R/L 1010 E17-A7-.375	501451	501523	.079 ①	.375	.394	2.854	.394	.394	.689	TNMU 17...
STGO R/L 1212 F17-A7	24863	24851	.079 ①	.472	.472	3.248	.472	.472	.689	TNMU 17...
STGO R/L 1616 J17-A7-.625	501197	501524	.079 ①	.625	.630	4.429	.630	.630	.689	TNMU 17...
STGO R/L 1616 J17-A7/3-.625 ②	501526	501525	.079 ①	.625	.630	4.429	.583	.630	.689	TNMU 17...
STGO R/L 2020 K17-A7-.750	501139	501192	.079 ①	.750	.787	5.020	.787	.787	.689	TNMU 17...
STGO R/L 2020 K17-A7/3-.750 ②	501527	501528	.079 ①	.750	.787	5.020	.740	.787	.689	TNMU 17...
STGO R/L 2525 M17-A7	24872	24860	.079 ①	.984	.984	6.004	.984	.984	.689	TNMU 17...
STGO R/L 2525 M17-A7/3 ②	65225	65223	.079 ①	.984	.984	6.004	.937	.984	.689	TNMU 17...
STGO R/L 1616 J31-A7-.625	501529	501531	.0138 ②	.625	.630	4.488	.630	.630	.886	TNMU 31...
STGO R/L 1616 J31-A7/4-.625 ③	501530	501532	.0138 ②	.625	.630	4.488	.543	.630	.886	TNMU 31...
STGO R/L 2020 K31-A7-.750	501533	501535	.0138 ②	.750	.787	5.079	.787	.787	.886	TNMU 31...
STGO R/L 2020 K31-A7/4-.750 ④	501534	501536	.0138 ②	.750	.787	5.079	.701	.787	.886	TNMU 31...
STGO R/L 2525 M31-A7	24873	24861	.0138 ②	.984	.984	6.063	.984	.984	.886	TNMU 31...
STGO R/L 2525 M31-A7/4 ④	43513	43515	.0138 ②	.984	.984	6.063	.898	.984	.886	TNMU 31...

- ① Cutting depth is limited to the dimension "t" if using insert with width (W) smaller than .063" (1.6mm).
- ② Cutting depth is limited to the dimension "t" if using insert with width (W) smaller than .073" (1.85mm).
- ③ Holder STGO R/L.../3 can only hold inserts: TNMU 1730F R/L, TNMU 1731F R/L, TNMU 1735F R/L and TNMU 1740F R/L!
- ④ Holder STGO R/L.../4 can only hold inserts: TNMU 3140F R/L, TNMU 3145F R/L and TNMU 3150F R/L!

Note: Clip Groove system can also be used for special profiles up to grooving width of .276" (7mm).

4

Spare parts

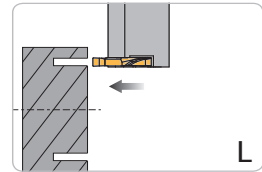
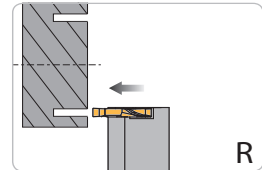
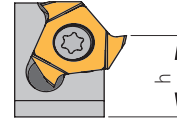
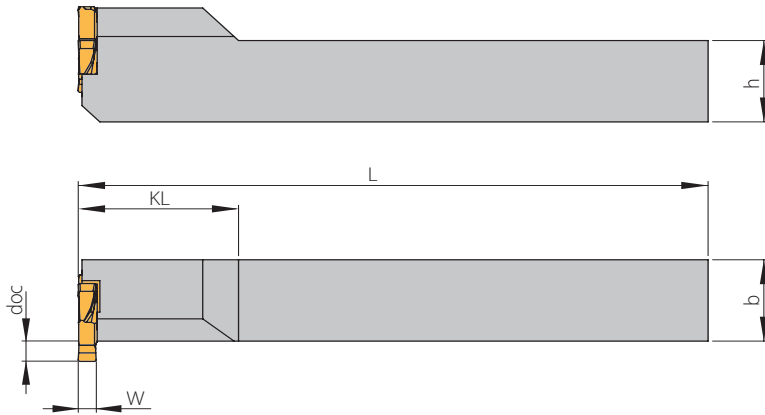
Holder	Screw	Key
STGO R/L ... K17-...	AS 0007	KS 1751
STGO R/L ... K31-...	AS 0002	KS 1111

Axial grooving

inch & metric

X
without IC

i Page
183-184



Right hand execution shown

Designation	EDP		W	doc	D _{min}	h	b	L	KL	Insert
STFO R/L 2020 K17-A1-.750	501537	501538	.039-.079	.059-.079	.394	.750	.787	4.921	.689	TNMU 17...
STFO R/L 2020 K31-A1-.750	501539	501540	.059-.098	.079-.118	.787	.750	.787	4.921	.886	TNMU 31...

Please note: Right hand holder -> Left hand insert,
Left hand holder -> Right hand insert

4

Spare parts

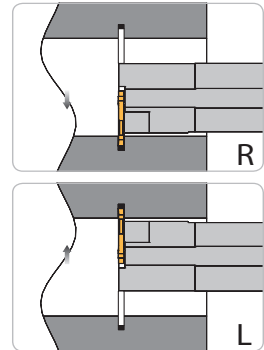
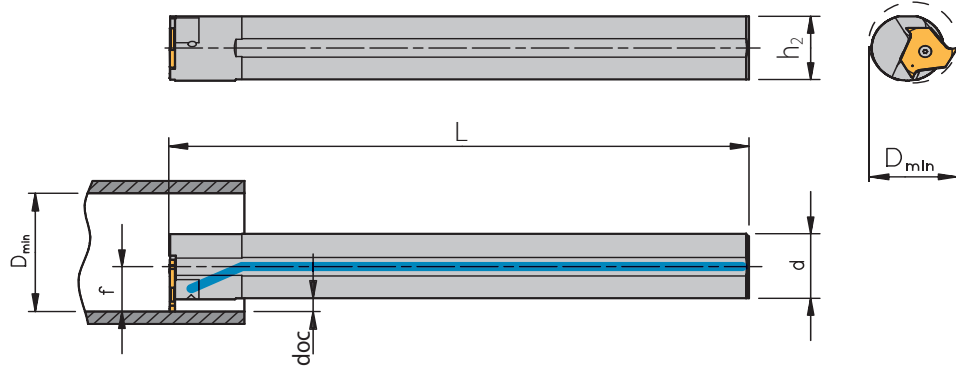
Holder	Screw	Key
STFO R/L ... K17-...	AS 0007	KS 1751
STFO R/L ... K31-...	AS 0002	KS 1111

Internal grooving

inch & metric



Page 183-184



Right hand execution shown

Designation	EDP		D _{min}	doc	d	h ₂	L	f	Insert
A12K STFO R/L 1716 ⑤	10843	10841	.630	.079 ①	.472	.433	5.000	.335	TN MU 17...
A12K STFOL 1716/3 ⑤		81557	.630	.079 ①	.472	.433	5.039	.335	TN MU 17...
A16M STFO R/L 1716-.625 ⑤	501541	501543	.630	.079 ①	.625	.591	5.984	.335	TN MU 17...
A16M STFO R/L 1716/3-.625 ⑤	501542	501544	.630	.079 ①	.625	.591	6.024	.335	TN MU 17...
A20Q STFO R/L 1716-.750 ⑤	500689	501545	.630	.079 ①	.750	.748	7.165	.335	TN MU 17...
A20Q STFO R/L 1725-.750	501546	501548	.906	.079 ①	.750	.748	7.165	.492	TN MU 17...
A20Q STFO R/L 1725/3-.750 ⑤	501547	501549	.906	.079 ①	.750	.748	7.205	.492	TN MU 17...
A25R STFO R/L 3130	10983	10981	1.181	.157 ②	.984	.945	7.953	.669	TN MU 31...
A25R STFO R/L 3130/4 ④	43485	43483	1.181	.157 ②	.984	.945	8.031	.669	TN MU 31...
A32S STFO R/L 3137-1.250	501550	501552	1.457	.157 ②	1.250	1.181	9.921	.807	TN MU 31...
A32S STFO R/L 3137/4-1.250 ④	501551	501553	1.457	.157 ②	1.250	1.181	10.000	.807	TN MU 31...

- ① Cutting depth is limited to the dimension "t" if using insert with width (W) smaller than .063" (1.6mm).
- ② Cutting depth is limited to the dimension "t" if using insert with width (W) smaller than .073" (1.85mm).
- ③ Holder STFO R/L.../3 can only hold inserts: TNMU 1730F R/L, TNMU 1731F R/L, TNMU 1735F R/L and TNMU 1740F R/L!
- ④ Holder STFO R/L.../4 can only hold inserts: TNMU 3140F R/L, TNMU 3145F R/L and TNMU 3150F R/L!
- ⑤ Only up to width W = .079" (2mm)

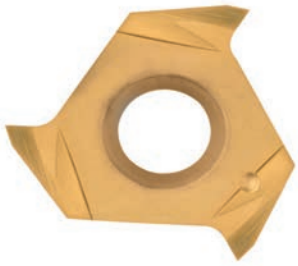
Note: For holders using insert TNMU 17... the cutting edge is .020" (0.5mm) above center!

Please note: Right hand holder -> Left hand insert,
Left hand holder -> Right hand insert

4

Spare parts

Holder	Screw	Key
STFO R/L ... K17-...	AS 0007	KS 1751
STFO R/L ... K31-...	AS 0002	KS 1111

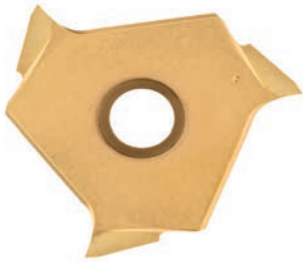
**TNMU 17**

- 3-edged ground insert
- For internal and external machining
- Several form grooves

**TNMU 31**

- 3-edged ground insert
- For internal and external machining
- Several form grooves

4

**TNMU Axial**

- 3-edged ground insert
- For external machining
- Several form grooves

Coated

AM17C

CVD-multilayer coating

Submicron carbide grade for universal machining of all materials, e.g. steel, stainless steel, cast iron and non-ferrous materials.

PVD2

PVD-multilayer coating

Wear resistant grade with good cutting edge stability for machining non-ferrous materials, e.g. Al and Al-alloys, copper brass and refractory metals under unfavourable machining conditions. Also suitable for finishing steel and stainless steel under favorable machining conditions.

Uncoated

AK10

Submicron carbide grade for machining cast materials and non-ferrous materials, refractory metals, hardened steels up to 55 HRC.

AK20

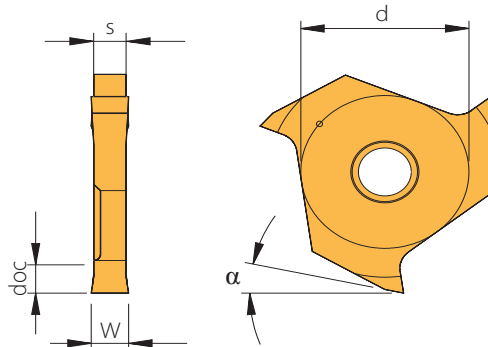
A grade with higher toughness for machining Al and Al-alloys, copper, brass, non-ferrous and refractory metals with medium chip cross sections under unfavorable machining conditions and interrupted cuts.

CERMET

Machining of steel, steels with medium tensile strength as well as stainless steel and spheroidal cast iron. Limited use on grey cast iron.

TNMU 17

Inserts for circlip grooves to DIN 471/472 - partial profile



4

Designation	W + .002"	doc	d	s	α	EDP (RH only)				
						coated		uncoated		
						AM17C	PVD2	AK10	AK20	CERMET
TNMU 1705F R/L	.022	.028	.295	.060	12°	26450	26451	26448	26449	
TNMU 1707F R/L	.030	.039	.295	.060	12°	26458	26459	26456	26457	
TNMU 1708F R/L	.033	.051	.295	.060	12°	26466	26467	26464	26465	
TNMU 1709F R/L	.037	.051	.295	.060	12°	26474	26475	26472	26473	
TNMU 1711F R/L	.045	.059	.295	.060	12°	26500	26501	26498	26499	
TNMU 1713F R/L	.053	.059	.295	.060	12°	26520	26521	26518	26519	
TNMU 1716F R/L	.065	.079	.295	.060	12°	26544	26545	26542	26543	
TNMU 1718F R/L	.075	.079	.295	.070	12°	26562	26563	26560	26561	
TNMU 1721F R/L	.087	.079	.295	.081	12°	26590	26591	26588	26589	50644
TNMU 1726F R/L	.106	.079	.295	.101	12°	26606	26607	26604	26605	50642
TNMU 1731F R/L	.126	.079	.295	.121	12°	26622	26623	26620	26621	50640

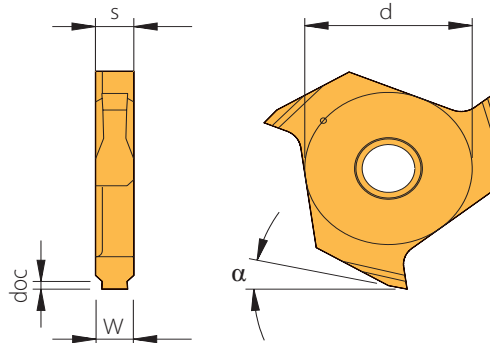
Note: EDP numbers for left hand inserts are available on request.

- Main application
- 2nd application

	P	M	K	N	S	H
AM17C	●	○			○	
PVD2		○		●		
AK10			●	●	○	
AK20				●	○	
CERMET						●

TNMU 17

Inserts for circlip grooves to DIN 471/472 - full profile



Designation	W + .002"	doc	d	s	α	EDP				
						coated		uncoated		
						AM17C	PVD2	AK10	AK20	CERMET
TNMU 1711F R/L-V020	.045	.008	.295	.070	12°	26503	26489	26502	26488	
TNMU 1711F R/L-V025	.045	.010	.295	.070	12°	26505	26491	26504	26490	
TNMU 1711F R/L-V030	.045	.012	.295	.070	12°	26507	26493	26506	26492	
TNMU 1711F R/L-V035	.045	.014	.295	.070	12°	26509	26495	26508	26494	
TNMU 1711F R/L-V040	.045	.016	.295	.070	12°	26511	26497	26510	26496	
TNMU 1713F R/L-V055	.053	.022	.295	.081	12°	26523	26517	26522	26516	
TNMU 1716F R/L-V070	.065	.028	.295	.101	12°	26547	26537	26546	26536	
TNMU 1716F R/L-V085	.065	.033	.295	.101	12°	26549	26539	26548	26538	
TNMU 1716F R/L-V100	.065	.039	.295	.101	12°	26551	26541	26550	26540	
TNMU 1718F R/L-V100	.075	.039	.295	.121	12°	26565	26557	26564	26556	
TNMU 1718F R/L-V125	.075	.049	.295	.121	12°	26567	26559	26566	26558	

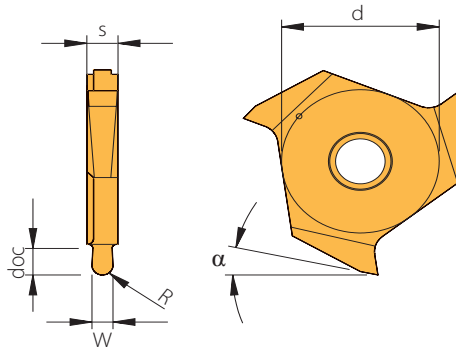
- Main application
- 2nd application

P	●		
M	●		
K		●	
N		●	
S	○		○
H			

4

TNMU 17

Inserts full radius



Designation	W ± .0008"	R	doc	d	s	α	EDP (RH only)				
							coated		uncoated		
							AM17C	PVD2	AK10	AK20	CERMET
TNMU 1710F R/L-R05	.039	.020	.039	.295	.060	12°	26482	26483	26480	26481	
TNMU 1720F R/L-R10	.079	.039	.059	.295	.101	12°	26582	26583	26580	26581	50622

Note: EDP numbers for left hand inserts are available on request.

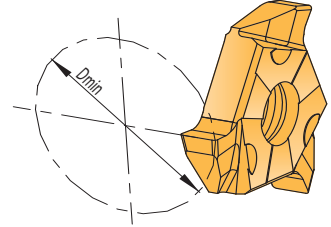
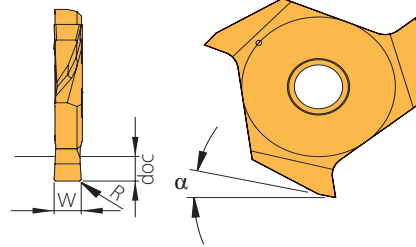
- Main application
- 2nd application

	P	M	K	N	S	H
AM17C	●	●			○	
PVD2	○	○		●		
AK10			●	●	○	
AK20				●	○	
CERMET						●

4

TNMU 17

Inserts axial grooving



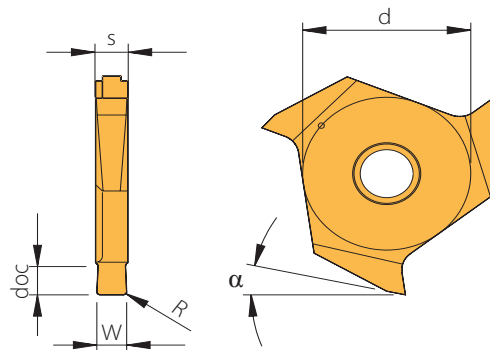
Designation	W	R	doc	D _{min}	α	EDP				
						coated		uncoated		
						AM17C	PVD2	AK10	AK20	CERMET
TNMU 1710F R/L-AX10	.039	.004	.059	.394	12°	81729	81727	81725	81723	
TNMU 1715F R/L-AX10	.059	.004	.079	.394	12°	81715	81717	81719	81721	
TNMU 1720F R/L-AX10	.079	.008	.079	.394	12°	81738	81736	81731	81734	

● Main application	P	○			
○ 2nd application	M	○			
	K			●	
	N	●		●	
	S			○	
	H				

4

TNMU 17

Inserts with straight dimensions



Designation	W ±.0008"	R	doc	d	s	α	EDP (RH only)				
							coated		uncoated		
							AM17C	PVD2	AK10	AK20	CERMET
TNMU 1715F R/L	.059	.004	.071	.295	.070	12°	26530	26531	26528	26529	
TNMU 1720F R/L	.079	.004	.071	.295	.081	12°	26578	26579	26576	26577	50626
TNMU 1725F R/L	.098	.008	.071	.295	.101	12°	26598	26599	26596	26597	50628
TNMU 1730F R/L	.118	.008	.071	.295	.121	12°	26614	26615	26612	26613	
TNMU 1735F R/L	.138	.008	.071	.295	.141	12°	26627		26626		
TNMU 1740F R/L	.157	.008	.071	.295	.172	12°	26631		26630		

4

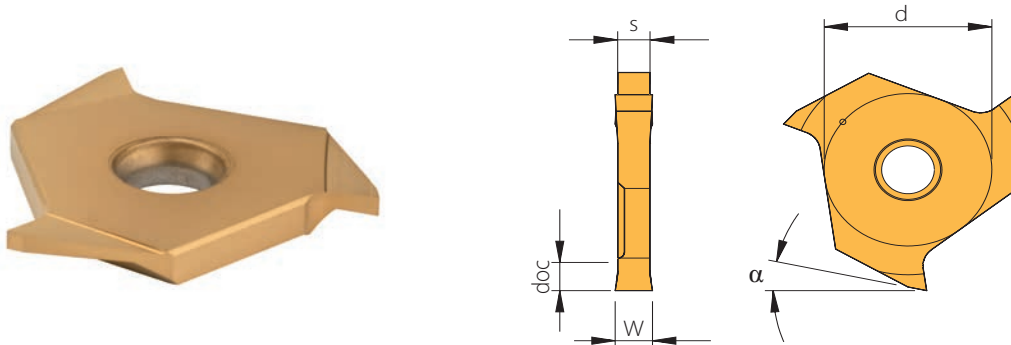
Note: For insert TNMU 1730 F R/L and wider, please use holder STGO R/L .../3!
 Note: EDP numbers for left hand inserts are available on request.

- Main application
- 2nd application

	AM17C	PVD2	AK10	AK20	CERMET
P	●	○			●
M	●	○			○
K			●	●	○
N		●	●	●	
S	○		○	○	
H					

TNMU 31

Inserts for circlip grooves to DIN 471/472 - partial profile



Designation	W + .002"	doc	d	s	α	EDP (RH only)				
						coated		uncoated		
						AM17C	PVD2	AK10	AK20	CERMET
TNMU 3105F R/L	.022	.028	.551	.101	14°	26638	26639	26636	26637	
TNMU 3107F R/L	.030	.039	.551	.101	14°	26646	26647	26644	26645	
TNMU 3108F R/L	.033	.075	.551	.101	14°	26654	26655	26652	26653	
TNMU 3109F R/L	.037	.079	.551	.101	14°	26662	26663	26660	26661	
TNMU 3111F R/L	.045	.079	.551	.101	14°	26680	26681	26678	26679	
TNMU 3113F R/L	.053	.079	.551	.101	14°	26700	26701	26698	26699	
TNMU 3116F R/L	.065	.079	.551	.101	14°	26716	26717	26714	26715	
TNMU 3118F R/L	.075	.138	.551	.101	14°	26734	26735	26732	26733	
TNMU 3121F R/L	.087	.138	.551	.101	14°	26764	26765	26762	26763	69146
TNMU 3126F R/L	.106	.138	.551	.101	14°	26786	26787	26784	26785	50620
TNMU 3131F R/L	.126	.138	.551	.120	14°	26816	26817	26814	26815	50618

Note: EDP numbers for left hand inserts are available on request.

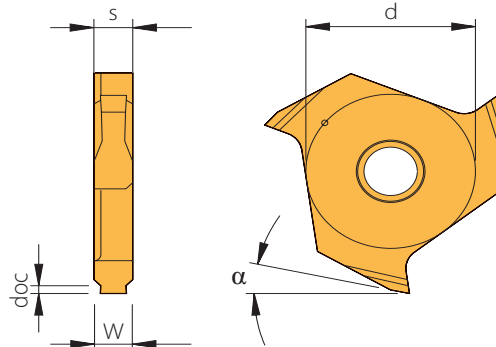
- Main application
- 2nd application

	P	M	K	N	S	H
AM17C	●	○				
PVD2	○	○		●		
AK10			●	●		
AK20				●		
CERMET						●

4

TNMU 31

Inserts for circlip grooves to DIN 471/472 - full profile



4

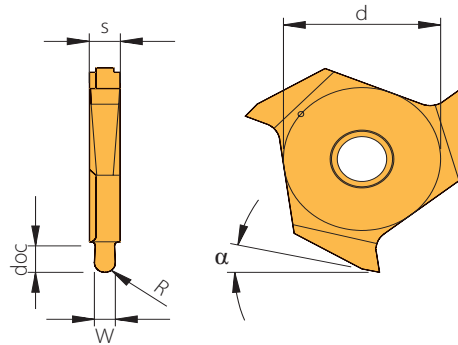
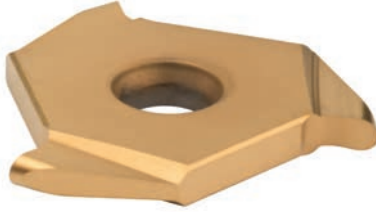
Designation	W + .002"	doc	d	s	α	EDP				
						coated		uncoated		
						AM17C	PVD2	AK10	AK20	CERMET
TNMU 3111F R/L-V020	.045	.008	.551	.101	14°	26683 26669		26682 26668		
TNMU 3111F R/L-V025	.045	.010	.551	.101	14°	26685 26671		26684 26670		
TNMU 3111F R/L-V030	.045	.012	.551	.101	14°	26687 26673		26686 26672		
TNMU 3111F R/L-V035	.045	.014	.551	.101	14°	26689 26675		26688 26674		
TNMU 3111F R/L-V040	.045	.016	.551	.101	14°	26691 26677		26690 26676		
TNMU 3113F R/L-V055	.053	.022	.551	.101	14°	26703 26697		26702 26696		
TNMU 3116F R/L-V070	.065	.028	.551	.101	14°	26719 26709		26718 26708		
TNMU 3116F R/L-V085	.065	.033	.551	.101	14°	26721 26711		26720 26710		
TNMU 3116F R/L-V100	.065	.039	.551	.101	14°	26723 26713		26722 26712		
TNMU 3118F R/L-V100	.075	.039	.551	.120	14°	26737 26729		26736 26728		
TNMU 3118F R/L-V125	.075	.049	.551	.120	14°	26739 26731		26738 26730		
TNMU 3121F R/L-V150	.087	.059	.551	.140	14°	26767 26761		26766 26760		
TNMU 3126F R/L-V150	.106	.059	.551	.172	14°	26789 26781		26788 26780		
TNMU 3126F R/L-V175	.106	.069	.551	.172	14°	26791 26783		26790 26782		
TNMU 3131F R/L-V175	.126	.069	.551	.193	14°	26819 26813		26818 26812		

- Main application
- 2nd application

P	●		
M	●		
K		●	
N		●	
S	○		○
H			

TNMU 31

Inserts full radius



Designation	W ± .0008"	R	doc	d	s	α	EDP (RH only)				
							coated		uncoated		
							AM17C	PVD2	AK10	AK20	CERMET
TNMU 3120F R/L-R10	.079	.039	.118	.551	.101	14°	26754	26755	26752	26753	50602
TNMU 3130F R/L-R15	.118	.059	.118	.551	.140	14°	26806	26807	26804	26805	50608
TNMU 3140F R/L-R20	.157	.079	.118	.551	.172	14°	26842	26843	26840	26841	50610

Note: EDP numbers for left hand inserts are available on request.

● Main application

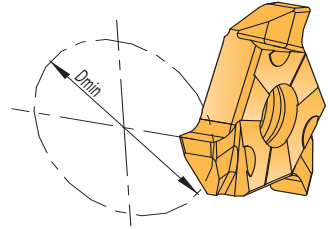
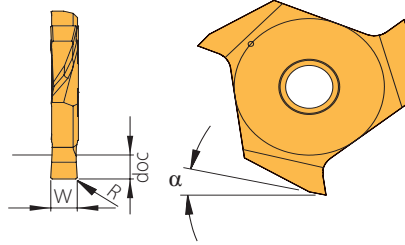
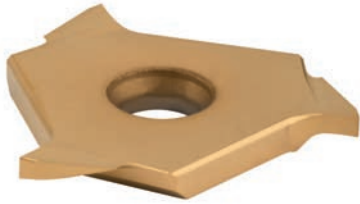
○ 2nd application

	AM17C	PVD2	AK10	AK20	CERMET
P	●	○			●
M	●	○			○
K			●	●	○
N		●	●	●	
S	○		○	○	
H					

4

TNMU 31

Inserts axial grooving



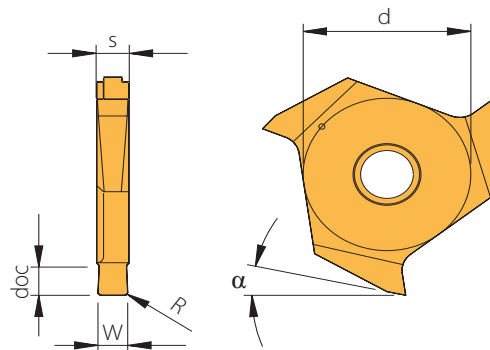
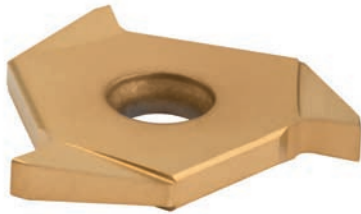
Designation	W	R	doc	D _{min}	α	EDP				
						coated		uncoated		
						AM17C	PVD2	AK10	AK20	CERMET
TNMU 3115F R/L-AX20	.059	.004	.079	.787	12°		81758 81756		81744 81746	
TNMU 3120F R/L-AX20	.079	.008	.118	.787	12°		81762 81752		81740 81750	
TNMU 3125F R/L-AX20	.098	.008	.118	.787	12°		81760 81754		81742 81748	

● Main application	P	○			
○ 2nd application	M	○			
	K		●		
	N		●	●	
	S			○	
	H				

4

TNMU 31

Inserts straight dimensions



Designation	W ± .0008"	R	doc	d	s	α	EDP (RH only)				
							coated		uncoated		
							AM17C	PVD2	AK10	AK20	CERMET
TNMU 3120F R/L	.079	.004	.118	.551	.101	14°	26750	26751	26748	26749	50600
TNMU 3125F R/L	.098	.008	.118	.551	.101	14°	26774	26775	26772	26773	50598
TNMU 3130F R/L	.118	.008	.118	.551	.120	14°	26802	26803	26800	26801	50596
TNMU 3135F R/L	.138	.008	.118	.551	.140	14°	26826	26827	26824	26825	50594
TNMU 3140F R/L	.157	.008	.118	.551	.172	14°	26838	26839	26836	26837	50592
TNMU 3145F R/L	.177	.008	.118	.551	.193	14°	26847		26846		
TNMU 3150F R/L	.197	.008	.118	.551	.193	14°	26851		26850		

Note: For insert TNMU 3140F R/L and wider, please use holders STGO R/L.../4 or STFO R/L.../4!

Note: EDP numbers for left hand inserts are available on request.

- Main application
- 2nd application

P	●	○			●
M	●	○			○
K			●	●	○
N		●	●	●	
S	○		○	○	
H					

4

Item	EDP
Screw	
AS 0002	11293
AS 0007	43468
Key	
KS 1111	19652
KS 1751	19654


Grooving

ISO	Material	Tensile strength (N/mm ²)	Cutting speed V _c (f/min)					
			coated		uncoated			
			AM17C	PVD2	AK10	AK20	CERMET	
P	Unalloyed steel and cast steel	< 0.15% C/hardened and tempered	350	460-590	330-430	-	-	430-1310
		0.15- 0.45% C/hardened and tempered	650	360-520	-	-	-	390-1150
		> 0.45% C/hardened and tempered	1000	260-390	200-330	-	-	260-900
	Low alloyed steel and cast steel	annealed	600	300-430	230-360	-	-	330-820
		hardened and tempered	900	260-390	200-330	-	-	300-750
			1200	230-300	160-230	-	-	200-490
	High alloyed steel	annealed	700	300-460	230-360	-	-	260-590
	High alloyed tool steel and cast steel	hardened	1100	230-300	160-230	-	-	200-460
Stainless steel	ferritic, annealed	700	520-720	430-660	-	-	260-720	
Cast steel	martensitic, hardened and tempered	1000	230-360	200-300	-	-	230-590	
M	Stainless steel	austenitic and austenitic/	450-600	330-520	430-660	-	-	330-820
		ferritic, chilled	600-900	230-390	200-300	-	-	260-590
K	Cast iron	pearlitic/ferritic	500-700	590-720	460-590	330-590	330-590	-
		pearlitic/martensitic	700-850	460-590	360-460	300-390	300-390	-
			800-1100	520-590	330-460	260-390	260-390	-
	Cast iron with nodular graphite	ferritic	550	520-660	390-520	330-460	330-520	720-980
		pearlitic	800	390-590	330-460	260-390	230-390	590-750
	Malleable cast iron	ferritic	450	590-790	460-660	230-300	260-590	820-1150
pearlitic		750	520-660	390-520	200-230	230-490	520-820	
N	Aluminum alloys long chipping	not heat treatable	200	330-3280	330-2620	2130-3280	330-2620	-
		heat treatable, heat treated	350	330-2620	330-1970	980-2300	260-2620	-
	Casted aluminum alloys	≤ 12% Si, heat treated	250	330-1640	330-1310	660-1970	260-2620	-
		≤ 12% Si, heat treatable, heat treated	300	330-1640	330-1310	490-1310	-	-
		≤ 12% Si, not heat treatable	450	330-1640	330-1310	330-980	-	-
	Copper and copper alloys (Brass/Bronze)	Lead alloys, Pb > 1%	400	260-980	260-980	820-1970	260-820	-
		Brass, Bronze	300	-	490-1970	670-1310	490-1640	-
Aluminum bronze		500	-	330-1310	820-1640	330-980	-	
Copper and electrolyte copper		200	-	260-980	430-980	260-820	-	
Non-ferrous materials	Duroplastic	-	260-1640	260-1310	260-1640	330-1640	-	
	Re-inforced plastics	-	260-660	260-520	200-490	160-490	-	
	Hard rubber	-	-	330-980	330-820	330-980	-	
S	High temperature resistant alloys	Fe-alloyed, annealed	700	100-160	80-130	30-100	100-130	-
		Fe-alloyed, heat treated	950	80-100	70-90	50-100	80-110	-
		Ni- or Co-alloyed, annealed	800	50-80	40-70	50-100	50-80	-
		Ni- or Co-alloyed, casting	1100	30-80	30-50	-	30-70	-
		Ni- or Co-alloyed, heat treated	1200	30-70	30-70	-	30-70	-
	Titanium alloys	Pure titanium	500-700	-	-	50-160	330-490	-
Alpha- and Beta-alloys	heat treated	700-1000	-	-	130-230	130-230	-	
H	Hardened steel	hardened	55 HRC	-	-	-	-	-
			60 HRC	-	-	-	-	-
	Hard cast iron	casting	41 HRC	-	-	-	-	-
Hardened cast iron	hardened	55 HRC	-	-	-	-	-	

4

The recommended cutting data are only approximate values. It may be necessary to adjust them to each individual machining application.

Grooving

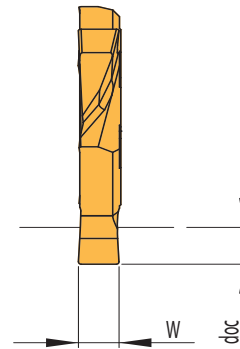
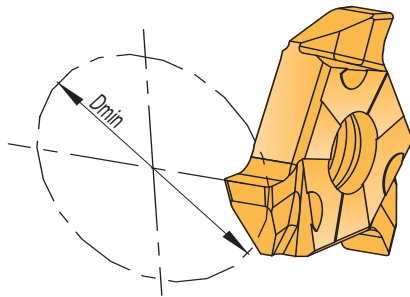
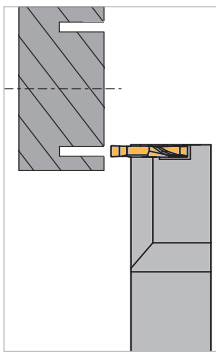
	Insert	
	TNMU 17	TNMU 31
f_v	.0008" – .0047"	.0008" – .0059"
f_n	.0008" – .0047"	.0008" – .0059"
f_k	❶	❶

Remark: When using right or left-hand inserts, reduce feed by 30 – 50%.

❶ Copy-turning is not possible!

- f_v (" / U) = Feed rate into solid
- f_n (" / U) = Feed rate for re-grooving
- f_k (" / U) = Feed rate for copying

Clip-Groove® axial



Clip-Groove® axial – special geometry for face grooving



Profil-Cut

Form grooving system

• Introduction	132 – 133
• Designation system	134
• Tool shank options	135
• Monoblock holders	136 – 137
• Grade description	138
• Inserts	139
• Spare parts and accessories	140
• Cutting data	141

5

5

Form grooving system for one plunge groove cutting

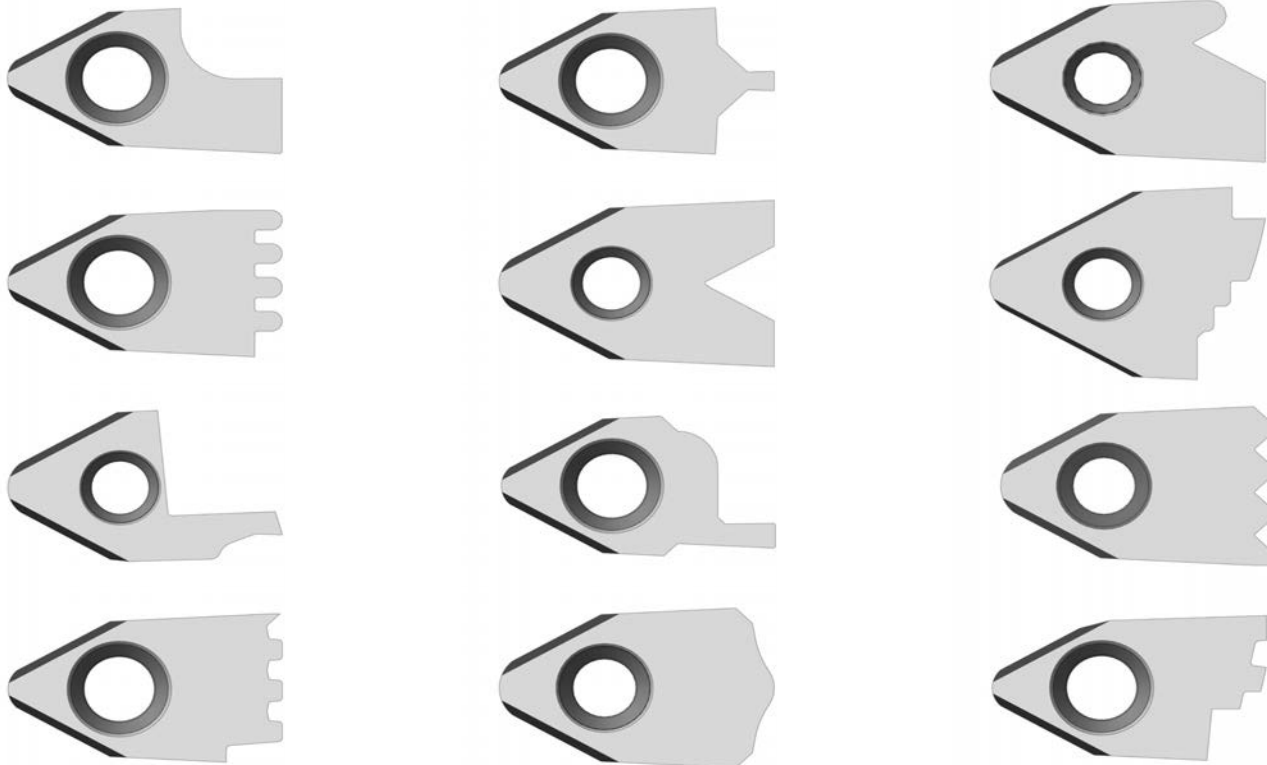


By utilizing the Profil-Cut you could benefit from vast cost savings in tooling costs and machine time. We are ready to produce your specific profile form inserts; we grind them in-house, accurately and quickly.

Alternatively we can supply our blanks which you can grind yourself.

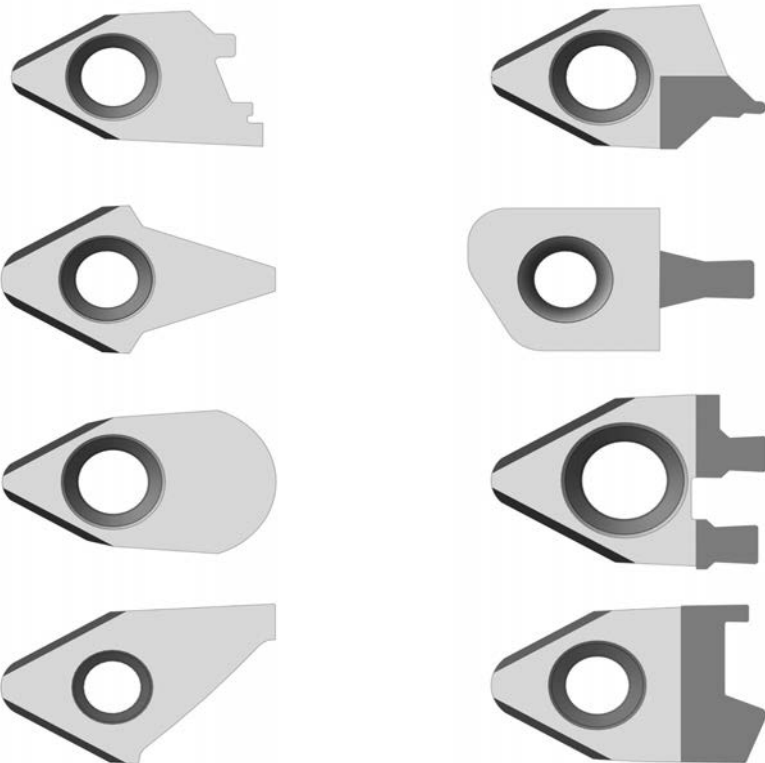
Examples

5



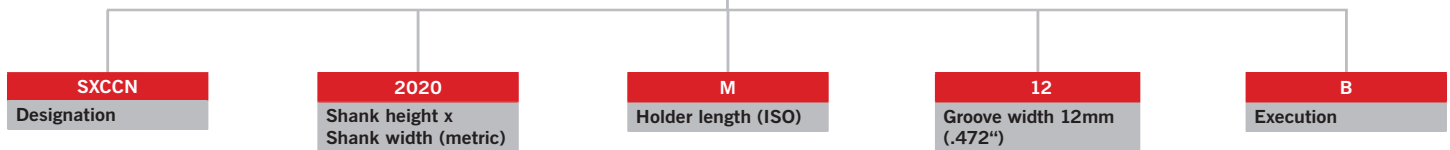
Features

- Different blanks for special profile grooves
- Easiest assembly for simple handling and quick insert changes
- Secure insert seat for absolute process reliability (dove tail)
- Special profiles up to a width of .984" (25mm) possible
- Customer specific shapes on request

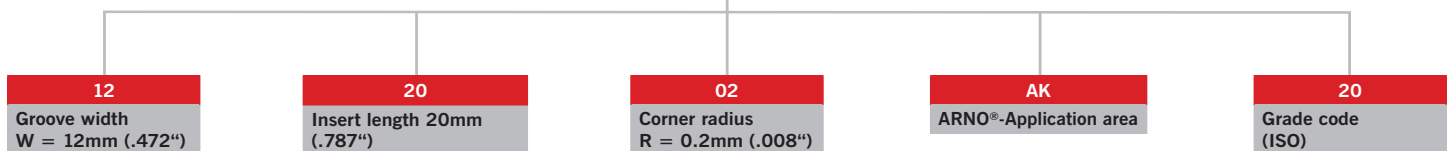
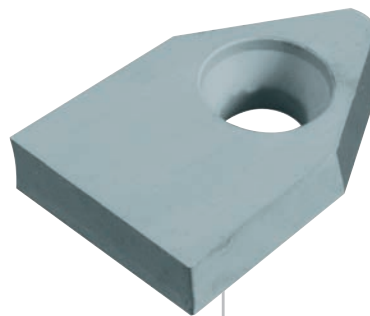


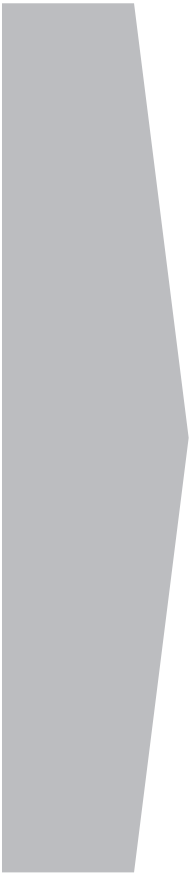
We also supply PCD or CBN tipped inserts on request.

Monoblock holders



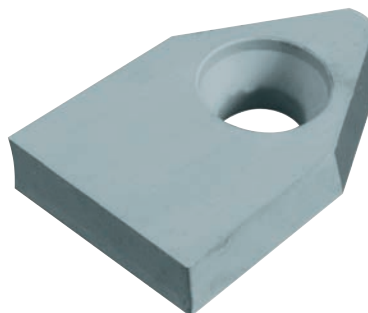
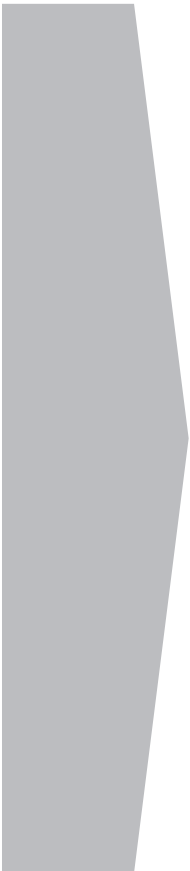
5 Inserts





Monoblock holders

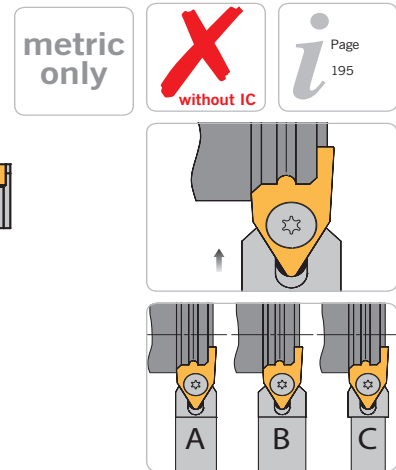
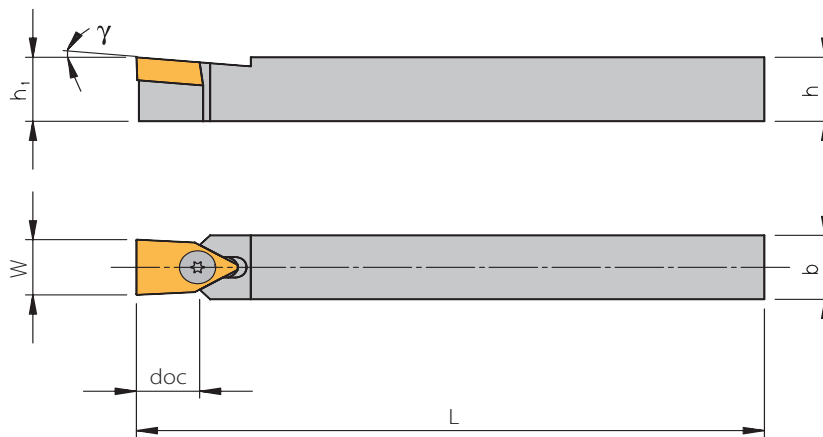
Page **136-137**



Inserts

Page **138-139**

Form grooving



Designation	EDP	W	doc	h	h ₁	b	L	γ	Insert
SXCCN 1212 K12-A	25014	.472	-	.472	.472	.472	4.921	5°	122002...
SXCCN 1414 K12-B	25015	.472	.492	.551	.551	.551	4.921	5°	122002...
SXCCN 1414 K16-C	25016	.630	.866	.551	.551	.551	4.921	5°	162502...
SXCCN 1612 K12-A	25017	.472	-	.630	.630	.472	4.921	5°	122002...
SXCCN 1616 K12-B	25018	.472	.492	.630	.630	.630	4.921	5°	122002...
SXCCN 1616 K16-A	25019	.630	-	.630	.630	.630	4.921	5°	162502...
SXCCN 1616 K21-C	25020	.827	1.181	.630	.630	.630	4.921	5°	213202...
SXCCN 2020 M12-B	25021	.472	.496	.787	.787	.787	5.906	5°	162502...
SXCCN 2020 M16-B	25022	.630	.571	.787	.787	.787	5.906	5°	162502...
SXCCN 2020 M21-A	25023	.827	-	.787	.787	.787	5.906	5°	213202...
SXCCN 2025 M25-A	41036	.984	.551	.787	.787	.984	5.906	8°	253202...
SXCCN 2525 M12-B	25024	.472	.496	.984	.984	.984	5.906	5°	122002...
SXCCN 2525 M16-B	25025	.630	.571	.984	.984	.984	5.906	5°	162502...
SXCCN 2525 M21-B	25026	.827	.717	.984	.984	.984	5.906	5°	213202...
SXCCN 2525 M25-A	41034	.984	.551	.984	.984	.984	5.906	8°	253202...

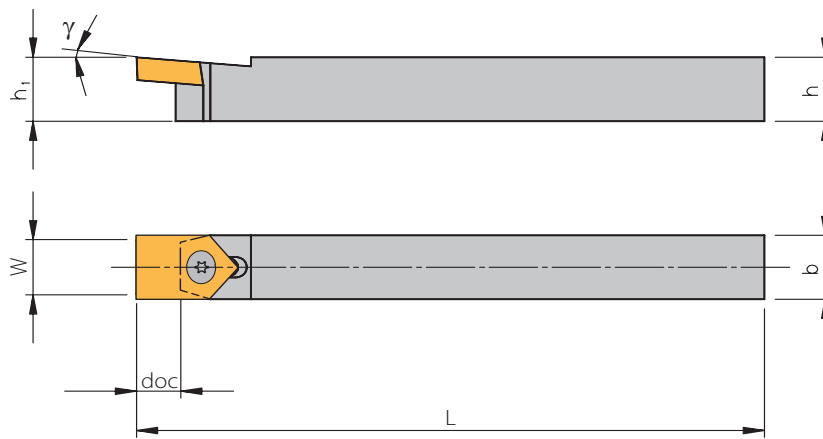
5

Spare parts

Holder	Screw	Key
SXCCN...12..	SS1221	KS1111
SXCCN...16..	SS9950	KS2520
SXCCN...21..	SS9980	KS2525
SXCCN...25..	SS9980	KS2525

Form grooving

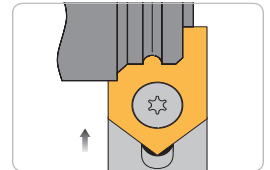
Universal holder with shorter support for using multiple different shaped inserts.



metric only

X
without IC

i Page 195



Designation	EDP	W	doc	h	h ₁	b	L	γ	Insert
GXCCN 1212 K12	19084	.472	.197	.472	.472	.472	4.921	5°	122002...
GXCCN 1616 K16	19085	.630	.256	.630	.630	.630	4.921	5°	162502...
GXCCN 2020 M21	19086	.827	.374	.787	.787	.787	5.906	5°	213202...
GXCCN 2025 M25	41189	.984	.374	.787	.984	.984	5.906	8°	253202...



Spare parts

Holder	Screw	Key
GXCCN 1212 K12	SS1221	KS1111
GXCCN 1616 K16	SS9950	KS2520
GXCCN 2020 M21	SS9980	KS2525
GXCCN 2025 M25	SS9980	KS2525

Uncoated

AK20

A grade with great resilience for machining Al and Al-alloys, copper, brass, non-ferrous and refractory metals with medium chip cross sections under unfavorable machining conditions and interrupted cuts.

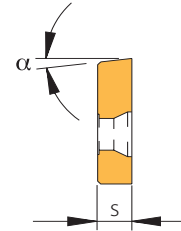
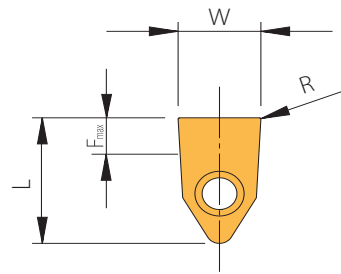
CERMET

Machining of steel, steels with medium tensile strength as well as stainless steel and spheroidal cast iron. Limited use on grey cast iron.

AP40

Machining of steel, cast steel and austenitic steel, at medium to lower cutting speeds, medium to large chip-cross-sections, also under unfavorable conditions.

Form grooving



Designation	W	s	L	F _{max}	α	R	EDP uncoated		
							AK20	AP40	CERMET
122002	.472	.197	.787	.295	7°	.008	876	877	875
162502	.630	.256	.984	.394	7°	.008	2430	2431	2429
213202	.827	.295	1.260	.472	7°	.008	6197	6198	6196
253202	.984	.197	1.260	.472	7°	.008	41040	41038	41042

Note: Special form inserts (to customer's drawing) and coatings on request!

- Main application
- 2nd application

P		●	●
M			○
K	●		○
N	●		
S	○		
H			



Item	EDP
Screw	
SS 1221	24749
SS 9950	24762
SS 9980	24763
Key	
KS 1111	19652
KS 2520	19658
KS 2525	19659

Grooving

uncoated

ISO	Material	Tensile strength (N/mm ²)	Cutting speed V _c (f/min)		
			AK20	AP40	CERMET
P	Unalloyed steel and cast steel	< 0.15% C/hardened and tempered	350		
		0.15 - 0.45% C/hardened and tempered	650		
		> 0.45% C/hardened and tempered	1000		
	Low alloyed steel and cast steel	annealed	600		
		hardened and tempered	900		
	High alloyed steel	annealed	700		
	High alloyed tool steel and cast steel	hardened	1100		
	Stainless steel	ferritic, annealed	700		
Cast steel	martensitic, hardened and tempered	1000			
M	Stainless steel	austenitic and austenitic/ ferritic, chilled	450 - 600		
K	Cast iron	pearlitic/ferritic	500 - 700		
		pearlitic/martensitic	700 - 850		
	Cast iron with nodular graphite	ferritic	550		
		pearlitic	800		
	Malleable cast iron	ferritic	450		
		pearlitic	750		
N	Aluminum alloys long chipping	not heat treatable	200		
		heat treatable, heat treated	350		
	Casted aluminum alloys	≤ 12% Si, heat treated	250		
		≤ 12% Si, heat treatable, heat treated	300		
		≤ 12% Si, not heat treatable	450		
	Copper and copper alloys (Brass/Bronze)	Lead alloys, Pb > 1%	400		
		Brass, Bronze	300		
Aluminum bronze		500			
Copper and electrolyte copper		200			
Non-ferrous materials	Duroplastic	-			
	Re-inforced plastics	-			
	Hard rubber	-			
S	High temperature resistant alloys	Fe-alloyed, annealed	700		
		Fe-alloyed, heat treated	950		
		Ni- or Co-alloyed, annealed	800		
		Ni- or Co-alloyed, casting	1100		
		Ni- or Co-alloyed, heat treated	1200		
Titanium alloys	Pure titanium	500 - 700			
Alpha- and Beta-alloys	heat treated	700 - 1000			
H	Hardened steel	hardened	55 HRC		
			60 HRC		
	Hard cast iron	casting	41 HRC		
Hardened cast iron	hardened	55 HRC			

Cutting data depends on form of the insert

5

The recommended cutting data are only approximate values. It may be necessary to adjust them to each individual machining application.



SAV
ARNO®-Mini-System

Axial Deep Face Grooving

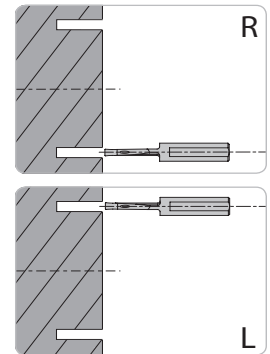
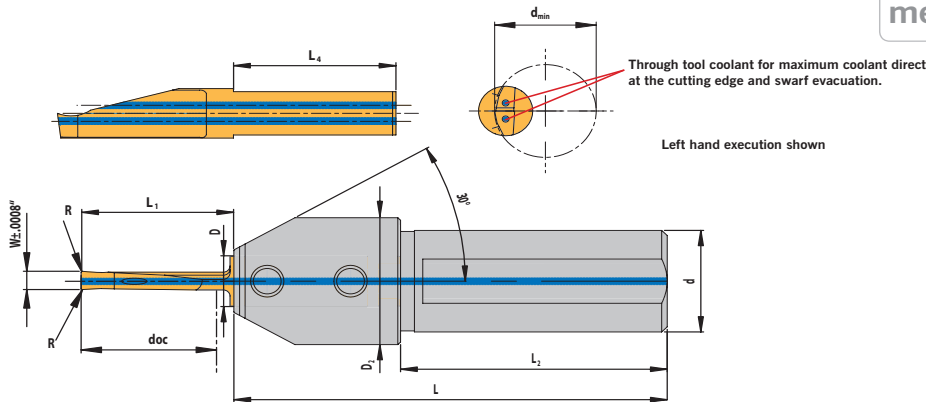
• Holders and inserts	143
• Grade description	144
• Cutting data	145

Deep face grooving

inch & metric



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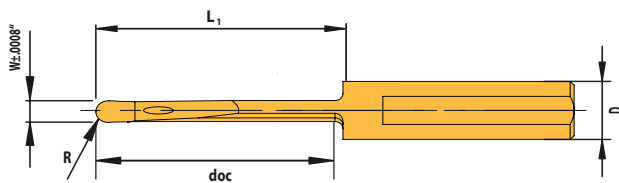
Insert							Holder											
d _{min}	W	doc	L ₁	L ₄	R	Designation	EDP				D	D ₂	d	L	L ₁	Designation	EDP	
							Coated	Uncoated		AL40								AK40
.394	.059	.394	.512	.630	.004	SAV151006-IK-R/L	77400	77398	77392	77390	.236	.984	.750	3.071	1.890	HSAV2006-.750	500033	
		.591	.709			SAV151506-IK-R/L	77404	77402	77394	77396								
		.472	.630			SAV201206-IK-R/L	69752	69749	69747	69745								
		.787	.906			SAV202006-IK-R/L	69754	69756	69760	69758								
.472	.079	.787	.906	.039	.008	SAV202006-V-IK-R/L	97931	97933	97919	97921								
		.787	.906															
.591	.098	.787	.866	.945	.008	SAV252008-IK-R/L	65579	65577	65565	65567	.315	.984	.750	3.071	1.890	HSAV2008-.750	500006	
		.787	.866			SAV302008-IK-R/L	65581	65583	65571	65569								
	.118	1.181	1.339		SAV303008-IK-R/L	65587	65585	65573	65575									
		1.181	1.339		SAV303008-V-IK-R/L	97929	97927	97925	97923									
1.181	.157	1.181	1.339	.945	.008	SAV403010-IK-R/L	69266	69268	69264	69262	.394	.984	.750	3.071	1.890	HSAV2010-.750	500005	
		1.575	1.732			SAV404010-IK-R/L	69284	69282	69280	69278								

When face grooving into solid the maximum groove depth can only be obtained in a diameter range up to 1.969" (50mm).

V = Full radius execution

L₄ = Position of clamping flat

Full radius execution



Spare parts

Insert	Holder
SAV...06-IK-L/R	HSAV...06...
SAV...08-IK-L/R	HSAV...08...
SAV...10-IK-L/R	HSAV...10...

SAV – Coated

AL40

PVD multilayer coating

High temperature resistant coating for machining steel, austenitic steel, all cast steels, high temperature alloys and titanium alloys.

SAV – Uncoated

AK40

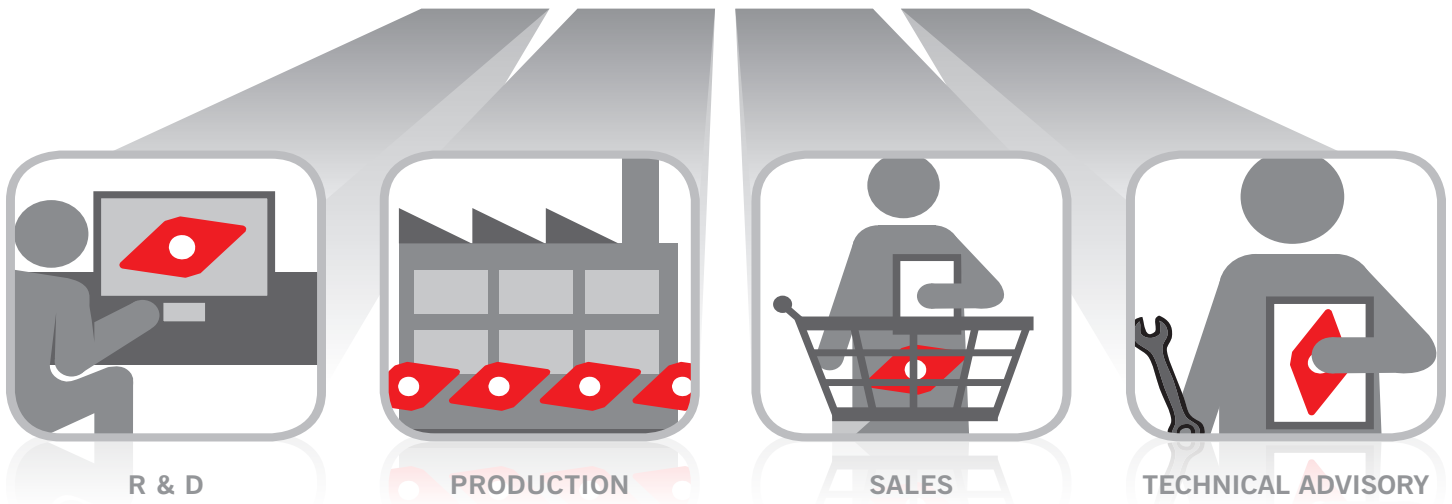
Micro-grain carbide grade with strong edge stability and high toughness for machining steel, all cast steels and non-ferrous materials.

SAV – Face grooving

Material	Tensile strength (HB)	AL40		AK40	
		Feed rate inch/rev	Cutting speed (f/min)	Feed rate inch/rev	Cutting speed (f/min)
Alloyed steel, tool steel	250	0.0004 – 0.0012	260 – 330	0.0004 – 0.0008	160 – 200
Alloyed steel, tool steel	300	0.0004 – 0.0012	230 – 300	0.0004 – 0.0008	160 – 200
Alloyed steel, tool steel	400	0.0004 – 0.0008	160 – 200	0.0004 – 0.0008	100 – 130
High temperature resistant alloys	150 – 200	0.0004 – 0.0008	160 – 260	0.0004 – 0.0008	130 – 200
Cast iron	200 – 250	0.0004 – 0.0012	160 – 230	0.0004 – 0.0008	130 – 200
Aluminum alloys	100	0.0008 – 0.002	390 – 590	0.0008 – 0.002	330 – 490
Copper alloys, Brass, non-ferrous metals	100	0.0008 – 0.002	390 – 590	0.0008 – 0.002	330 – 490

The recommended cutting data gives only approximate values.
It may be necessary to adjust them to each individual machining application.

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www.arnousa.com



Information

- Material - Cross reference **136-137**
- Insert wear and its solution **153**
- Application reference **154-160**



ISO	W-Nr.	Germany DIN	Belgium NBN	France AFNOR	Great Britain B.S.	Italy UNI
Structural and constructional steels						
P	1.0401	C15	–	AF37C12	080A15	C15
	1.0402	C22	C25-1	AF42C20	055M15	C20
	1.0501	C35	C35-1	1C35	080A32	C35
	1.0503	C45	C45-1	1C45	060A47	C45
	1.0535	C55	C55-1	1C55	070M55	C55
	1.0601	C60	C60-1	1C60	060A62	C60
	1.0715	9SMn28	–	S250	230M07	CF9SMn28
	1.0718	9SMnPb28	–	S250Pb	–	CF9SMnPb28
	1.0722	10SPb20	–	10PbF2	–	CF10SPb20
	1.0726	10SPb2035S20	–	35MF6	212M36	–
	1.0736	9SMn36	–	S300	–	CF9SMn36
	1.0737	9SMnPb36	–	S300Pb	–	CF9SMnPb36
	1.1141	Ck15	C16-2	XC12	040A15	C15
	1.1157	40Mn4	–	35M5	150M36	–
	1.1158	C25E	C25-2	2C25	–	C25
	1-1167	36Mn5	–	35M5	150M36	–
	1.1170	28Mn6	28Mn6	20M5	–	C28Mn
	1.1183	Cf35	C36	XC38H1TS	080A35	C36
	1.1191	C45E	C45-2	2C45	080M46	C45
	1.1203	C55E	C55-2	2C55	060A57	C55
	1.1213	Cf53	C53	XC48H1TS	070M55	C53
	1.1221	C60E	C60-2	2C60	060A62	C60
	1.1274	Ck101	–	XC100	–	C100
	1.3401	X120Mn12	–	Z120M12	–	GX120Mn12
	1.3505	100Cr6	–	100C6	2S135	100Cr6
	1.5415	16Mo3	16Mo3	15D3	1503-243B	16Mo3
	1.5423	16Mo5	16Mo5	–	–	16Mo5KG
	1.5622	14Ni6	18Ni6	16N6	–	14Ni6KG
	1.5662	X8Ni9	10Ni36	9Ni490	1501-510	X10Ni9
	1.5680	X12Ni5	12Ni20	Z18N5	–	–
	1.5752	14NiCr14	13NiCr12	12NC15	655H13	–
	1.6511	36CrNiMo4	–	36CrNiMo4	817M37	38NiCrMo4
	1.6523	21NiCrMo2	–	20NCD2	805H20	20NiCrMo2
	1.6546	40NiCrMo2-2	40NiCrMo2	40NCD2	3111-Type7	40NiCrMo2
	1.6582	34CrNiMo6	35CrNiMo6	34CrNiMo8	816M40	35NiCrMo6KB
	1.6587	17CrNiMo6	17CrNiMo7	18NCD6	–	–
	1.6657	14NiCrMo13-4	14NiCrMo13	16NCD13	832H13	15NiCrM13
	1.7015	15Cr3	15Cr2	12C3	523M15	–
	1.7033	34Cr4	34Cr4	32C4	530A32	34Cr4
	1.7035	41Cr4	41Cr4	41Cr4	530A40	41Cr4
	1.7045	42Cr4	–	42C4TS	530A40	41Cr4
	1.7131	16MnCr5	16MnCr5	16MC4	527M17	16MnCr5
	1.7176	55Cr3	55Cr3	55C3	525A58	55Cr3
	1.7218	25CrMo4	25CrMo4	25CD4	708A25	25CrMo4
	1.7220	34CrMo4	34CrMo4	34CrMo4	708A37	34CrMo4KB
1.7223	41CrMo4	41CrMo4	42CD4TS	708M40	41CrMo4	
1.7225	42CrMo4	42CrMo4	42CD4	708A42	38CrMo4KB	
1.7262	15CrMo5	–	12CD4	–	–	
1.7335	13CrMo4-5	14CrMo45	15CD3,5	620-440	14CrMo3	
1.7361	32CrMo12	32CrMo12	30CD12	722M24	32CrMo12	
1.7380	10CrMo9-10	–	12CD9.10	1501-622/515	12CrMo910	
1.7715	14MoV6-3	13MoCrV6	–	1503-660-460	–	
1.8159	51CrV4	50CrV4	50CV4	735A51	50CrV4	
1.8509	41CrAlMo7	41CrAlMo7	40CAD6.12	905M39	41CrAlMo7	
1.8523	39CrMoV13-9	39CrMoV13	–	897M39	–	
Tool steels						
P	1.1545	C105W1	–	C105E2U	–	C100KU
	1.1663	C125W	–	C120E3U	–	C120KU
	1.2067	102Cr6	–	100Cr6	–	–
	1.2080	X210Cr12	–	X200Cr12	BD3	X205Cr12KU
	1.2344	X40CrMoV5-1	–	X40CrMoV5	BH13	X40CrMoV511KU
	1.2363	X100CrMoV5-1	–	X100CrMoV5	BA2	X100CrMoV511KU
	1.2419	105WCr6	–	105WCr5	–	107WCr5KU
	1.2436	X210CrW12	–	X210CrW12-1	–	X215CrW121KU
	1.2542	45WCrV17	–	45WCrV8	BS1	45WCrV8KU
	1.2581	X30WCrV9-3	–	X30WCrV9	BH21	X30WCrV93KU
	1.2601	X165CrMoV12	–	–	–	X165CrMoV12KU
	1.2713	55NiCrMoV6	–	55NiCrMoV7	BH224/5	–
	1.2833	100V1	–	C105E2UV1	BW2	102V2KU
	1.3243	S6-5-2-5	–	Z85WDKCV06-05-04-02	BM35	HS6-5-2-5
	1.3255	S18-1-2-5	–	HS18-1-1-5	BT4	HS18-1-1-5
	1.3343	S6-5-2	–	HS6-5-2	BM2	HS6-5-2
	1.3348	S2-9-2	–	HS2-9-2	–	HS2-9-2
	1.3355	S18-0-1	–	HS18-0-1	BT1	HS18-0-1

ISO	Japan JIS	Sweden SS	Russia GOST	Spain UNE	USA AISI/SAE/ASTM	
Structural and constructional steels						
P	S15C	1350	–	F.111	M1015	
	S20C	1450	20	1C22	M1020	
	S35C	1572	35	F.113	1035	
	S45C	1672	45	F.114	1045	
	S55C	1655	55	–	1055	
	S58C	–	60	–	1060	
	SUM22	1912	–	F.2111-11SMn28	1213	
	SUM22L	1914	–	F.2112-11SMnPb28	12L13	
	–	–	–	F.2122-10SPb20	11L08	
	–	1957	–	F.210.G	1140	
	SUM25	–	–	F.2113-12SMn35	1215	
	–	1926	–	F.2114-12SMnPb35	12L14	
	S15	1370	15	F.1110-C15k	1015	
	–	–	40G	–	1035	
	S25C	–	25	F.1120-C25k	1025	
	SMn438	2120	35G2	F.1203-36Mn6	1335	
	SCMn1	–	30G	28Mn6	1330	
	S35C	1572	35	–	1035	
	S45C	1672	45	F.1140-C45k	1045	
	S55C	1655	55	F.1150-C55k	1055	
	S50C	1674	50	–	1050	
	S58C	1665	60	–	1060	
	SUP4	1870	–	–	1095	
	SCMnH1	2183	–	110G13L	F.8251-AM-X120Mn12	A128
	SUJ2	2258	–	SchCh15	F.1310-100Cr6	52100
	–	2912	–	–	F.2601-16Mo3	A204Gr.A
	SB450M	–	–	–	F.2602-16Mo5	4520
	–	–	–	–	F.2641-15Ni6	A350-LF5
	SL9N53	–	–	–	F.2645-X8Ni09	A353
	–	–	–	–	–	2515
	SNC815	–	–	–	–	3310
	–	–	–	40ChN2MA	F.1280-35NiCrMo4	4340
	SNCM220	2506	–	–	F.1522-20NiCrMo2	8620
	SNCM240	–	–	38ChGNM	F.1204-40NiCrMo2	8740
	SNCM447	2541	–	38Ch2N2MA	F.1272-40NiCrMo7	4337
	–	–	–	–	F.1560-14NiCrMo13	–
	–	–	–	–	F.1560-14NiCrMo13	9310
	SCr415	–	–	15Ch	–	5015
	SCr430	–	–	35Ch	F.8221-35Cr4	5132
	SCr440	–	–	40Ch	F.1211-41Cr4DF	5140
	SCr440	2245	–	40Ch	F.1202-42Cr4	5140
	–	2173	–	18ChG	F.1516-16MnCr5	5115
	SUP9	2253	–	50ChGA	F.1431-55Cr3	5155
	SCM420	2225	–	20ChM	F.8372-AM26CrMo4	4130
	SCM432	2234	–	AS38ChGM	F.8331-AM34CrMo4	4135
SCM440	2244	–	40ChFA	F.8332-AM42CrMo4	4140	
SCM440	2244	–	–	F.8332-AM42CrMo4	4140	
SCM415	–	–	–	F.1551-12CrMo4	–	
SFVA12	2216	–	12ChM	F.2613-14CrMo45	A182-F11	
–	2240	–	–	F.124.A	–	
SFVAF22A	2218	–	12Ch8	TU.H	A182F22	
–	–	–	–	F.2621-13MoCrV6	–	
SUP10	2230	–	50ChGFA	F.1430-51CrV4	6145	
SACM645	2940	–	38ChMJuA	F.1740-41CrAlMo7	A355Cl.A	
–	–	–	–	–	–	
Tool steels						
P	SK3	1880	U10A-1	F.515	W110	
	SK2	–	U13-1	F.5123-C120	W112	
	SUJ2	–	Ch	F.5230-100Cr6	L1	
	SKD1	–	Ch12	F.5212-X210Cr12	D3	
	SKD61	2242	4Ch5MF1S	F.5318-X40CrMoV5	H13	
	SKD12	2260	–	F.5227-X100CrMoV5	A2	
	SKD2	2140	–	F.5233-105WCr5	–	
	–	2312	–	F.5213-X210CrW12	–	
	–	2710	5ChW2SF	F.5241-45WCrSi8	S1	
	SKD5	–	3Ch2W8F	F.5323-X30WCrV9	H21	
	–	–	–	F.5211-X160CrMoV12	–	
	SKT4	–	5ChNM	F.520S	L6	
	SKS43	–	–	–	W210	
	SKH55	2733	–	–	–	
	SKH3	–	–	F.5613-6-5-2-5	–	
	SKH51	2722	–	F.5530-18-1-1-5	T4	
	–	2782	R6M5	F.5603-6-5-2	M2	
	–	–	–	F.5607-2-9-2	M7	
SKH2	–	R18	F.5520-18-0-1	T1		

ISO	W-Nr.	Germany DIN	Belgium NBN	France AFNOR	Great Britain B.S.	Italy UNI
Stainless and heat resisting steels						
P	1.4000	X6Cr13	–	Z8C12	403S17	X6Cr13
	1.4001	X7Cr14	–	Z8C13FF	403S17	X6Cr13
	1.4006	X12Cr13	–	Z10C13	410S21	X12Cr13
	1.4016	X6Cr17	–	Z8C17	430S17	X8Cr17
	1.4027	GX20Cr14	–	Z20C13M	ANC1B	–
	1.4034	X46Cr13	–	Z44C14	–	X40Cr14
	1.4057	X20CrNi172	–	Z15CN16-02	431S29	X16CrNi16
	1.4104	X12CrMoS17	–	Z13CF17	–	X10CrS17
	1.4113	X6CrMo17-1	–	–	434S17	X8CrMo17
	1.4313	X4CrNi134	–	Z4CND13.4M	425C11	GX6CrNi1304
	1.4408	GX5CrNiMo19-11	–	–	316C16	–
	1.4718	X45CrSi9-3	–	Z45CS9	401S45	X45CrSi8
	1.4724	X10CrAl13	–	Z13C13	–	X10CrAl12
	1.4742	X10CrAl18	–	Z12CAS18	–	–
	1.4747	X80CrNiSi20	–	Z80CNS20-02	443S65	X80CrSiNi20
	1.4762	X10CrAl24	–	Z12CAS25	–	–
	M	1.4301	X5CrNi1810	–	Z4Cn19-10FF	304S11
1.4305		X10CrNiS189	–	Z8CNF19-09	303S22	X10CrNiS1809
1.4306		X2CrNi19-11	–	Z1CN18-12	304S11	X3CrNi1811
1.4308		GX5CrNi19-10	–	Z6CN18.10M	304C15	–
1.4310		X12CrNi177	–	Z11CN17-08	301S21	X12CrNi1707
1.4311		X2CrNiN18-10	–	Z3CN18-07Az	304S61	X2CrNiN1811
1.4401		X5CrNiMo17122	–	Z3CND17-11-01	316S13	X5CrNiMo1712
1.4429		X2CrNiMoN17-13-3	–	Z3CND17-12Az	316S63	X2CrNiMoN1713
1.4435		X2CrNiMo18-14-3	–	Z3CND17-12-03	316S11	X2CrNiMo1713
1.4438		X2CrNiMo18164	–	Z2CND19-15-04	317S12	X2CrNiMo1816
1.4460		X4CrNiMoN2752	–	Z5CND27-05Az	–	–
1.4541		X6CrNiTi18-10	–	Z6CNT18-10	321S31	X6CrNiTi1811
1.4550		X6CrNiNb18-10	–	Z6CNNb18-10	347S20	X6CrNiNb1811
1.4571		X6CrNiMoTi17-12-2	–	Z6CNDT17-12	320S18	X6CrNiMoTi1712
1.4581		GX5CrNiMoNb1810	–	Z4CNDNb18.12M	318C17	GX6CrNiMoNb2011
1.4583		X10CrNiMoNb18-12	–	–	–	X6CrNiMoNb1713
1.4828		X15CrNiSi20-12	–	Z9CN24-13	309S24	X16CrNi2314
1.4845		X12CrNi25-21	–	Z8CN25-20	310S16	X6CrNi2521
1.4864		X12NiCrSi36-16	–	Z20NCS33-16	NA17	–
1.4865		GX40NiCrSi38-18	–	–	330C11	GX50NiCr3919
1.4871		X53CrMnNiN21-9	–	Z53CMNS21-09Az	349S54	X53CrMnNiN219
1.4878		X12CrNiTi18-9	–	Z6CNT18-10	321S51	–
Cast materials						
K	–	GG10	–	Ft10D	–	G10
	–	GG15	–	Ft15D	Grade150	G15
	–	GG20	–	Ft20D	Grade220	G20
	–	GG25	–	Ft15D	Grade260	G25
	–	GG30	–	Ft30D	Grade300	G30
	–	GG35	–	Ft35D	Grade350	G35
	–	GG40	–	Ft40D	Grade400	–
	–	GGG40	–	FGS400-12	420/12	GS400-12
	–	GGG40.3	–	FGS370-17	370/17	GS042/15
	–	GGG50	–	FGS500-7	500/7	GS500/7
	–	GGG60	–	FGS600-3	600/3	GS600/3
	–	GGG70	–	FGS700-2	700/2	GS700/2
	–	GGGNiMn137	–	S-NM137	S-NiMn137	–
	–	GGGNiCr202	–	S-NC202	S-NiCr202	–



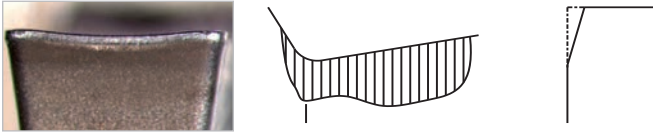
ISO	Japan JIS	Sweden SS	Russia GOST	Spain UNE	USA AISI/SAE/ASTM	
Stainless and heat resisting steels						
P	SUS403	2301	08Ch13	F.3110-X6Cr13	403	
	SUS410S	2301	08Ch13	F.8401-AM-X12Cr13	410S	
	SUS410	2302	12Ch13	F.3401-X10Cr13	410	
	SUS430	2320	12Ch17	F.3113-X6Cr17	430	
	SCS2	-	20Ch13L	-	-	
	-	-	40Ch13	F.3405-X45Cr13	-	
	SUS431	2321	20Ch17N2	F.3427-X19CrNi172	431	
	SUS430F	2383	-	F.3117-X10CrS17	430F	
	SUS434	2325	-	F.3116-X6CrMo171	434	
	SCS5	-	-	-	-	
	SCS14	2385	07Ch18N10G2S2M2L	F.8414-AM-X7CrNiMo2010	CF-8M	
	SUH1	-	40Ch9S2	F.3220-X4CrSi09-03	HNV3	
	-	-	10Ch13SJ	F.3152-X10CrAl13	-	
	SUH21	-	15Ch18SJ	F.3153-X10CrAl18	-	
SUH4	-	-	F.3222-X80CrSiNi20-02	HNV6		
-	-	-	F.3154-X10CrAl24	-		
M	SUS304	2332	08Ch18N10	F.3504-X5CrNi1810	304	
	SUS303	2346	-	F.3508-X10CrNiS18-09	303	
	SCS19	2352	03Ch18N11	F.3503-X2CrNi1810	304L	
	SCS13	2333	07Ch18N9L	-	CF-8	
	SUS301	2331	-	F.3517-X12CrNi177	301	
	SUS304LN	2371	-	F.3541-X2CrNiN1810	304LN	
	SUS316	2347	-	F.3534-X5CrNiMo17122	316	
	-	2375	-	F.3543-X2CrNiMoN17313	316LN	
	SUS316L	2353	03Ch17N14M3	F.3533-X2CrNiMo17132	316L	
	SUS317L	2367	-	F.3539-X2CrNiMo18164	317L	
	SUS329J1	2324	-	F.3309-X8CrNiMo27-05	329	
	SUS321	2337	06Ch18N10T	F.3523-X6CrNiTi1810	321	
	SUS347	2338	08Ch18N12B	F.3524-X6CrNiNb1810	347	
	SUS316Ti	2353	10Ch17N13M2T	F.3535-X6CrNiMoTi17122	316Ti	
	SCS22	-	-	-	-	
	-	-	-	-	318	
	SUH309	-	20Ch20N14S2	F.3312-X15CrNiSi20-12	309	
	SUH310	2361	20Ch23N18	-	310S	
	SUH330	-	-	F.3313-X12CrNiSi36-16	330	
	SCH15	-	-	-	-	
	SUH35	-	55Ch20G9AN4	F.3217-X53CrMnNiN21-09	EV8	
	SUS321	-	-	-	321	
	Cast materials					
	K	FC10	0110-00	Sc10	FG10	A48-20B
		FC15	0115-00	Sc15	FG15	A48-25B
		FC20	0120-00	Sc20	FG20	A48-30B
FC25		0125-00	Sc25	FG25	A48-40B	
FC30		0130-00	Sc30	FG30	A48-45B	
FC35		0135-00	Sc35	FG35	A48-50B	
-		0140-00	Sc40	Ft40D	A48-60B	
FCD40		0717-02	VC42-12	-	60-40-18	
-		0717-15	VC42-12	-	-	
FCD50		0727-02	VC50-2	-	65-45-12	
FCD60		0732-03	VC60-2	-	80-55-06	
FCD70		0737-01	VC70-2	-	100-70-03	
-		-	-	-	-	
-		-	-	-	A439TypeD-2	



Hardness comparison

Tensile strength N/mm ²	Vickers HV	Brinell HB	Rockwell HRC	Shore „SH“
700		200	–	28
740		210	–	29
770		220	–	30
810		230	19,2	31
840		240	21,2	33
880		250	23,0	34
910		260	24,7	35
950		270	26,1	36
980		280	27,6	37
1020		290	29,0	39
1050		300	30,0	40
1090		310	31,5	41
1120		320	32,9	42
1150		330	33,8	43
1190		340	34,9	44
1230		350	36,0	45
1260	360	359	37,0	46
1300	370	368	38,0	47
1330	380	373	38,9	48
1370	390	385	39,8	49
1400	400	393	40,7	50
1440	410	400	41,5	51
1470	420	407	42,3	52
1510	430	416	43,2	53
1540	440	423	44,0	54
1580	450	429	44,8	55
1610	460	435	45,5	56
1650	470	441	46,3	57
1680	480	450	47,0	58
1720	490	457	47,7	59
1750	500	465	48,3	60
1790	510	474	49,0	61
1820	520	482	49,6	62
1860	530	489	50,3	63
1890	540	496	50,9	64
1930	550	503	51,5	65
1960	560	511	52,1	66
2000	570	520	52,7	67
2030	580	527	53,3	68
2070	590	533	53,8	69
2100	600	533	54,4	70
2140	610	543	54,9	71
2170	620	549	55,4	72
2210	630	555	55,9	73
2240	640	561	56,4	74
2280	650	568	56,9	75
2310	660	574	57,4	75
2350	670	581	57,9	76
2380	680	588	58,7	77
2410	690	595	58,9	78
2450	700	602	59,3	79
2480	710	609	59,8	80
2520	720	616	60,2	81
2550	730	622	60,7	82
2590	740	627	61,1	83
2630	750	633	61,5	83
2660	760	639	61,9	84
2700	770	644	62,3	85
2730	780	650	62,7	86
2770	790	656	63,1	86
2800	800	661	63,5	87
2840	810	666	63,9	87
2870	820	670	64,3	88
2910	830	677	64,6	89
2940	840	682	65,0	89
2980	850	–	65,3	90
3010	860	–	65,7	90
3050	870	–	66,0	91
3080	880	–	66,3	91
3120	890	–	66,6	92
3150	900	–	66,9	92
3190	910	–	67,2	–
3220	920	–	67,5	–
3260	930	–	67,7	–
3290	940	–	68,0	–

Flank wear



Abrasion on the flank, normal wear after a certain machining time.

- Reasons:
- Cutting speed too high
 - Carbide grade with insufficient wear resistance
 - Insufficient amount of cooling lubricant

- Solution:
- Reduce cutting speed
 - Select more wear resistant carbide grade
 - Improve coolant supply

Plastic deformation



High machining temperature and simultaneous mechanical stress may lead to plastic deformation.

- Reasons:
- Machining temperature too high, resulting in softening of substrate
 - Wear/heat resistance of carbide grade too low
 - Incorrect coolant supply

- Solution:
- Reduce cutting speed
 - Choose carbide grade with higher wear resistance
 - Provide cooling

Edge chipping

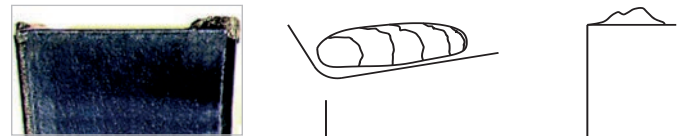


Chipping can occur through excessive mechanical stress at the cutting edge.

- Reasons:
- Grade too hard (high wear resistance)
 - Vibrations
 - Feed rate too high or excessive depth of cut

- Solution:
- Use tougher grade
 - Use negative cutting edge geometry with chip groove
 - Reduce overhang; check center height
 - Increase stability of cutting edge

Build-up edge



Built-up edge occurs when the chip is not evacuated properly due to insufficient cutting temperature.

- Reasons:
- Cutting speed too low
 - Rake angle too small
 - Wrong cutting material
 - Lack of cooling/lubrication

- Solution:
- Increase cutting speed
 - Enlarge rake angle
 - Apply TiN-coating
 - Use emulsion with higher concentration

Cratering



The hot chip which is being evacuated causes cratering at the rake face of the cutting edge.

- Reasons:
- Cutting speed and/or feed rate too high
 - Rake angle too shallow
 - Grade with insufficient wear resistance
 - Incorrect coolant supply

- Solution:
- Reduce cutting speed and/or feed rate
 - Increase coolant quantity and/or pressure, optimize coolant supply
 - Use grade which is more resistant to cratering

Notching



Notch at the maximum depth of cut.

- Reasons:
- Oxidation of the cutting edge
 - Excessive heat on the cutting edge

- Solution:
- Use various depths of cut
 - Reduce cutting speed
 - Improve coolant supply

Calculation units

D	Diameter	(inch)	n	Spindle revolution	(rev/min)
l	Length	(inch)	Q	Chip removal rate	(inch ³ /min)
v _c	Cutting speed	(f/min)	P _c	Net Power	(HP)
k _c	Specific cutting force	(N/inch ²)	f _n	Feed rate per revolution	(inch/U)
a _p	Depth of cut	(inch)			

Formulas

Cutting speed

$$v_c = \frac{\pi \cdot D \cdot n}{12}$$

Revolutions

$$n = \frac{v_c \cdot 12}{\pi \cdot D}$$

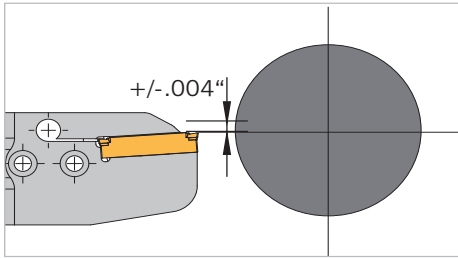
Chip removal rate

$$Q = v_c \cdot a_p \cdot f_n \cdot 12$$

Power

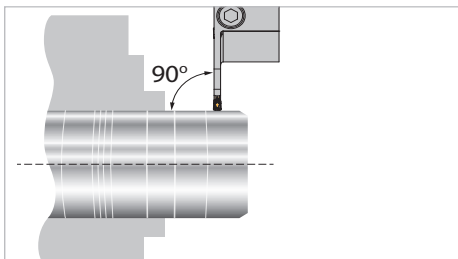
$$P_c = \frac{a_p \cdot f_n \cdot k_c \cdot v_c}{33 \cdot 10^3}$$

Edge height



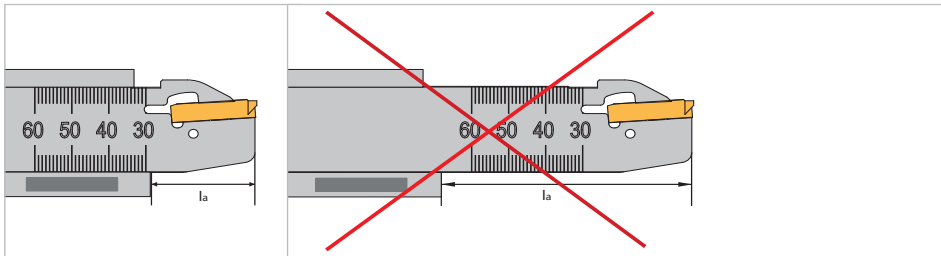
The edge height should be within a tolerance of $\pm .004''$ from the center line.

Tool positioning



The part-off tool should be positioned in 90° angle to the tool axis, the component should be held with minimum overhang.

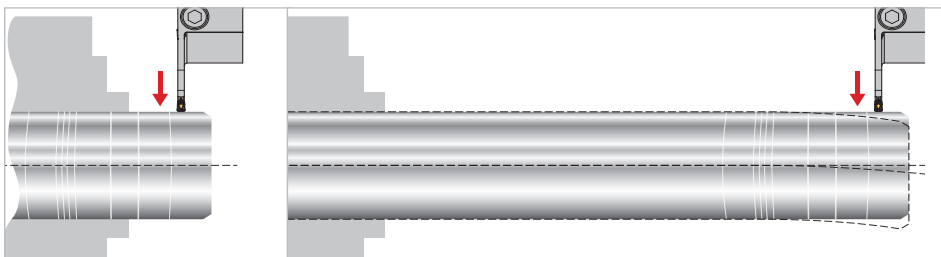
Tool overhang



For optimum stability it is important always to keep the tool overhang to a minimum. Ideally, overhang l_a should not be more than 8x the groove width.

- Better straightness
- Reduced vibration
- Improved tool life

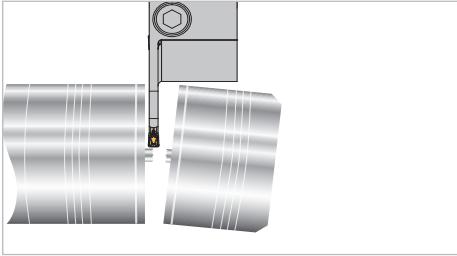
Component overhang



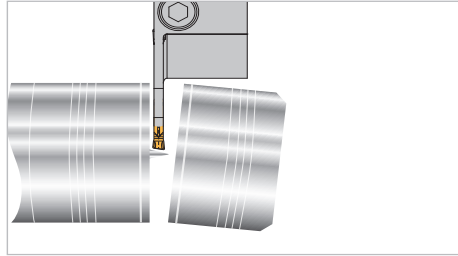
In order to reduce vibrations the component should always be clamped with as little overhang as possible. Always machine as close to chuck as possible.



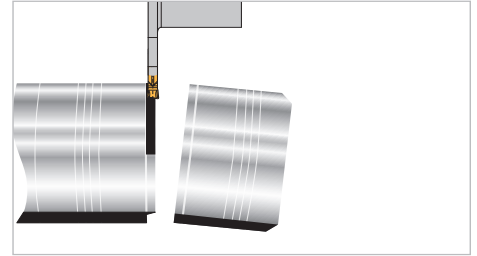
Recommendations for parting-off



From $\varnothing .197''$ (5mm) reduce the feed rate "f" by approximately 50%. Do not cut across center (risk of breakage).

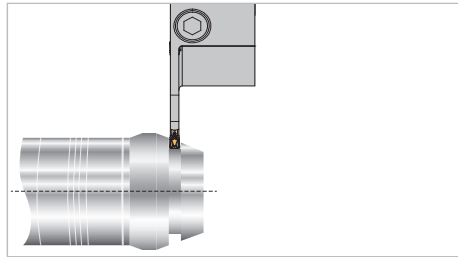
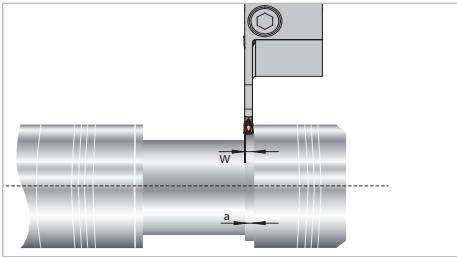


For "pip" free parting-off, use either right or left handed insert. To minimize deflection reduce the feed rate by 20-50%.



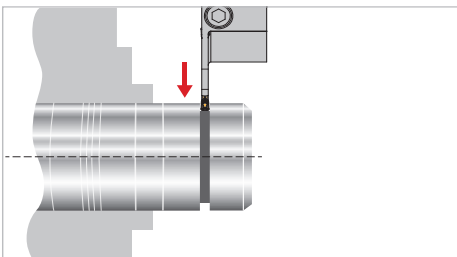
To avoid ring formation use right or left handed inserts. Reduce feed rate by 20 - 50%.

Recommendations for grooving

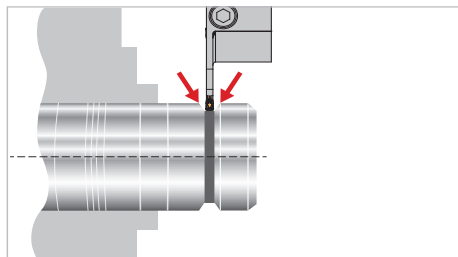


- When grooving with an axial displacement the width "a" should be a minimum of 70% of the groove width W.
- When grooving into an angled surface reduce feed rate by 20 - 50% until in full cut.

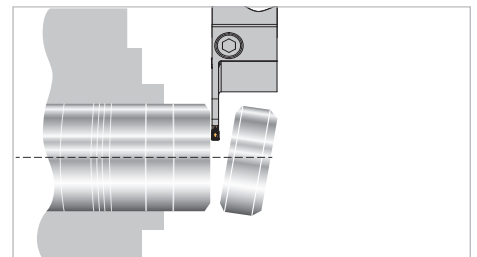
Chamfering and parting off



1. Pre-grooving

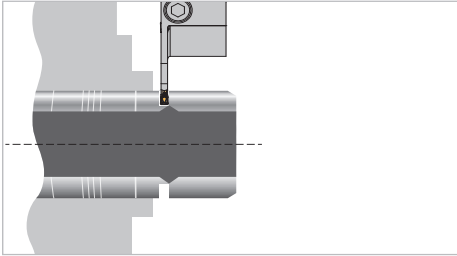


2. Chamfering



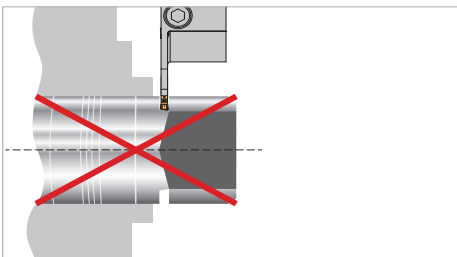
3. Parting off

Internal chamfering before parting off

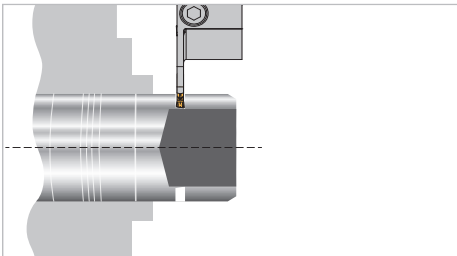


The cutting edges of the chamfer tool and part-off tool must match accurately to achieve burr free machining.

Parting-off bore



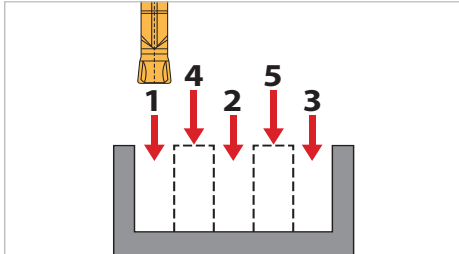
The bore must be deep enough to allow the full width of the part-off insert to break into the hole.



Machining of external grooves

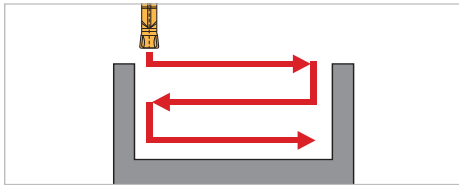
The most popular way of producing wide grooves in between two shoulders is by multiple grooving, groove turning, ramping, and pocketing.

Multiple grooving



First the full grooves are machined. Grooves 1, 2 and 3, afterwards 4 and 5. This protects the corner radius and the swarf comes of the centre of the chip breaker. Widths of 4 and 5 should be 60-80% of insert width (W).

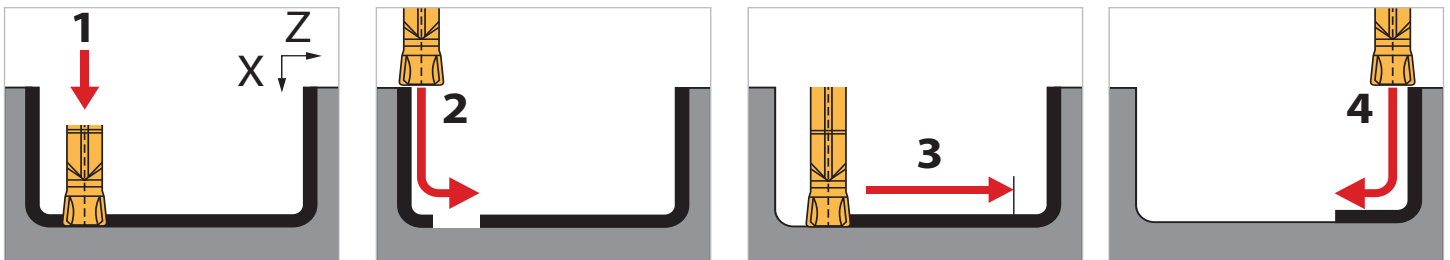
Groove turning



The groove depth (ap) depends on the width of the insert, material and the edge length of the inserts.

General rule:
 $ap_{max.} = W \times 0.7$
 $ap_{min.} = \text{Corner radius "r"}$

Groove finish machining



Take care when finishing. The radius of the insert moves mainly in the z-axis and this can produce a very thin swarf which can lead to vibrations and poor surface finish.

This can be avoided by using the machine path shown.

Axial and radial cutting depth should be between .020" - .040".

General information

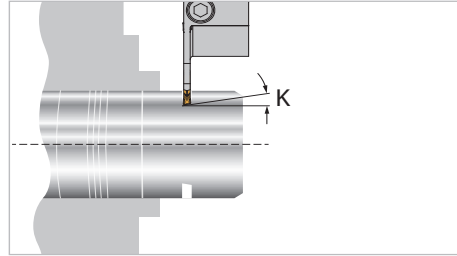
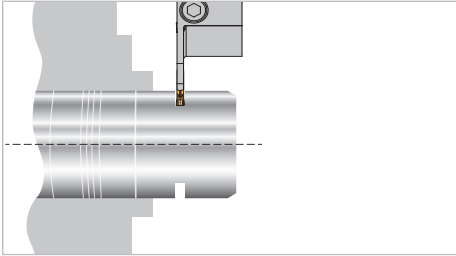
Pay attention to select the correct tools. Tools should have minimum overhang to reduce vibrations and increase of tool life.

When selecting inserts, consider:

- Parting-off width in mm
- Chip breaker for the material
- Approach angle and corner radius

Select insert width as narrow as possible and as wide as necessary. By reducing the insert width, the cutting forces are reduced. You will also waste less material, especially in mass production. Whenever possible it is always recommended to use neutral inserts that offer better swarf control and tool life.

Effects on machining



When selecting corner radius:

- A smaller radius reduces the pressure on the component and reduces burr formation
- A bigger radius offers higher feed rate potential and longer tool life.

Criteria	Neutral insert	Left or right handed insert
Stability	Good	Bad
Pip leftover	Big	Good
Burr formation	Big	Good
Vibrations	Less	More
Surface finish	Good	Bad
Straightness	Good	Bad
Chip flow	Good	Bad
Tool life	Good	Bad

Pip free parting-off

In order to reduce the pip formation we recommend ground inserts in left or right hand execution with as small as possible approach angle.

This may be the only way of achieving the desired surface requirement. Please note that a larger approach angle can reduce the pip formation, however can also lead to poor flatness, reduced surface finish and worse tool life.

To obtain maximum stability always select a holder with minimum overhang.

Burr free parting off

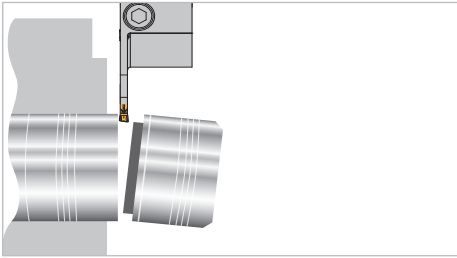
In order to obtain a good burr free surface finish we recommend ground inserts in left or right hand execution and with minimum approach angle.

Please note that a larger approach angle can improve the burr formation.

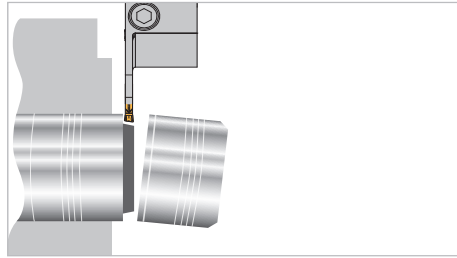
With short tool overhang and secure strong insert locking you achieve excellent stability and straightness while parting-off.



Parting off tubes



Excessive tool overhang often leads to instability, tool breakage and poor component finish.



Always select tools as short and narrow as possible. Bigger approach angle will lead to lower cutting forces.

Wall thickness (inch)	Insert width (inch)
< .197"	.039
.197 – .315	.059-0.79
.315 – .472	.098
.472 – .630	.118
.630 – .787	.157
.787 – .945	.197
.945 – 1.181	.236

Parting-off small diameters and thin walled components

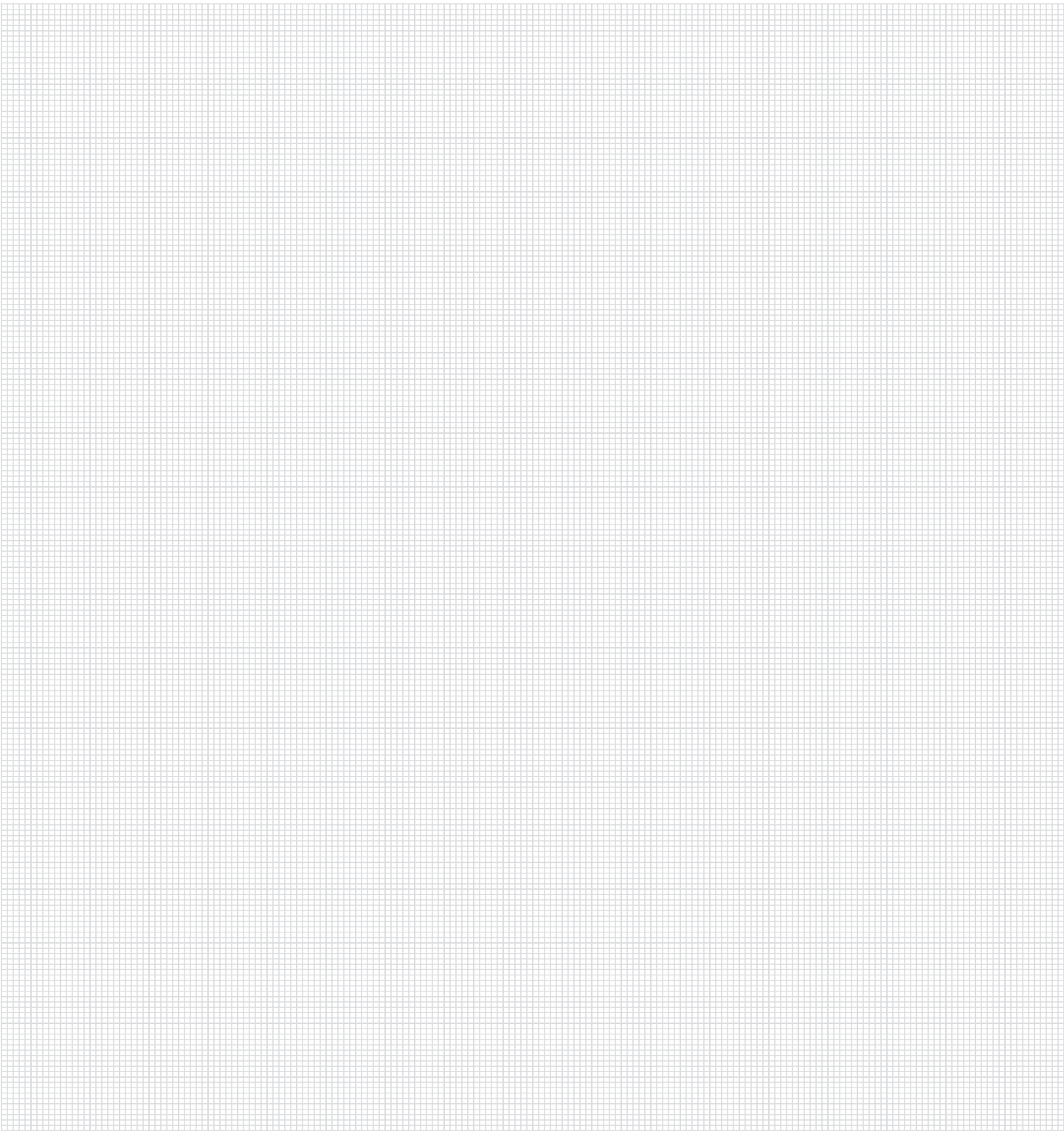
In order to reduce cutting forces, we recommend ground inserts.

Narrow part-off widths with sharp cutting edges are recommended.

Precision grooving

Precision grooving is the most economical and productive method of groove production.

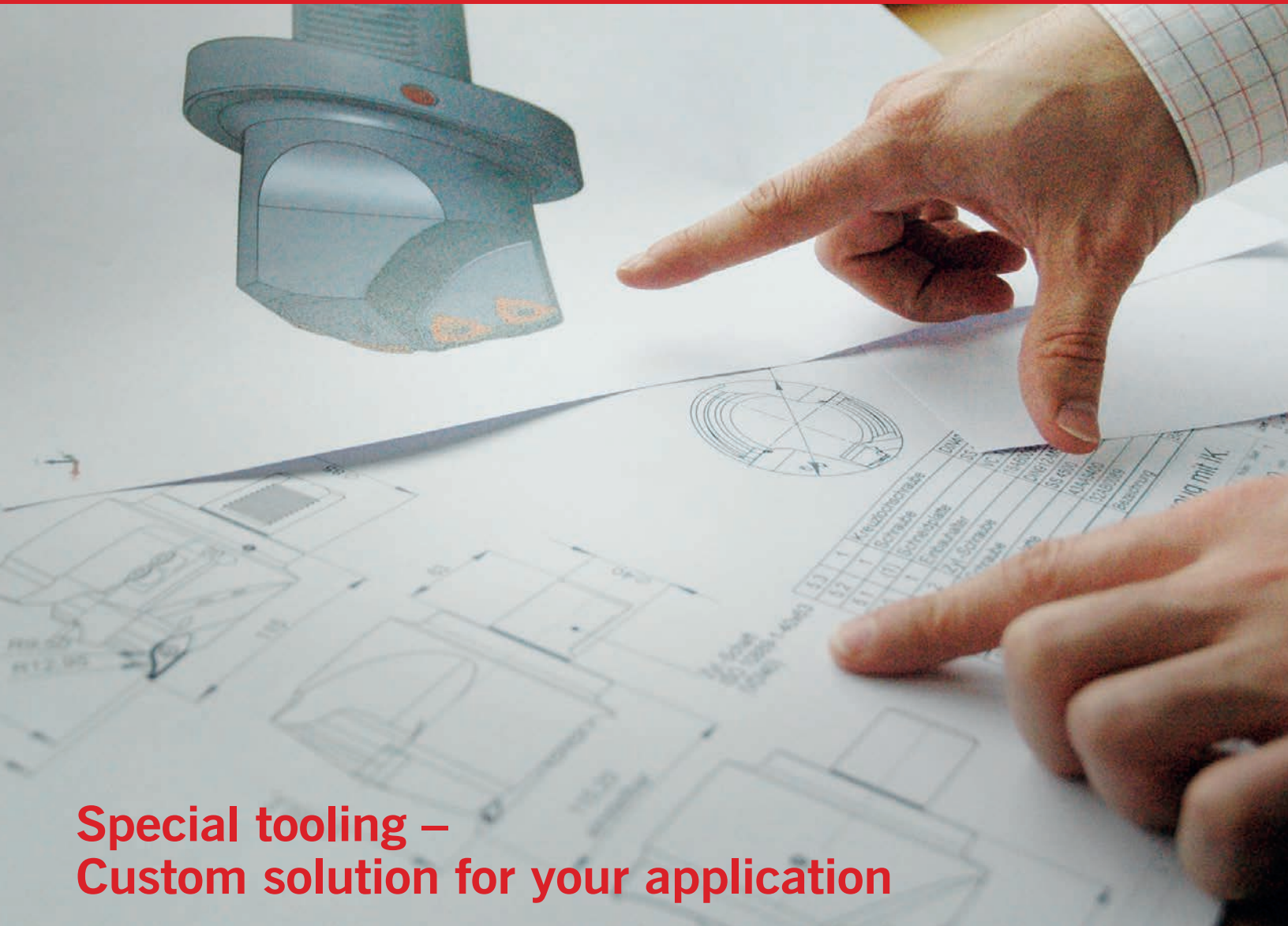
In the ARNO grooving product range you will find numerous groove widths, ground to +/- .0008" width tolerance.



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An audit was performed, Report No. **70013372**
Proof has been furnished that the requirements
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ISO 9001:2008

are fulfilled. The certificate is valid in conjunction
with the main-certificate from **2015-11-11**
Certificate Registration No. **12 100 21067/01 TMS**



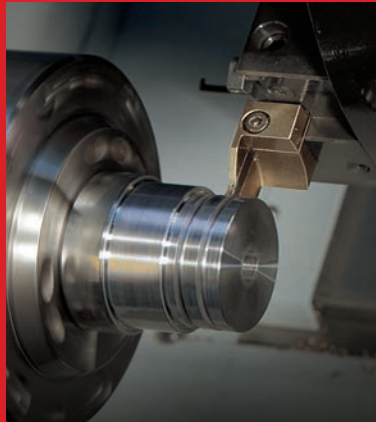
Munich, 2012-12-03



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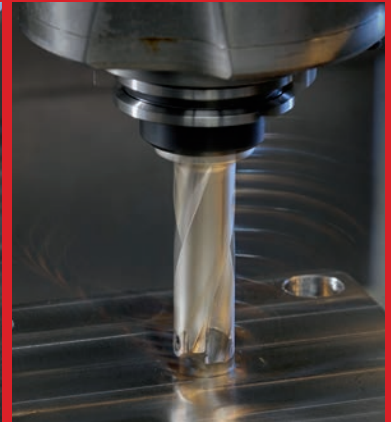
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