KEMMER
HARTMETALLWERKZEUGE GmbH

A different world of performance



2016

GripLock®

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9 mm Stanzung

40 years KEMMER







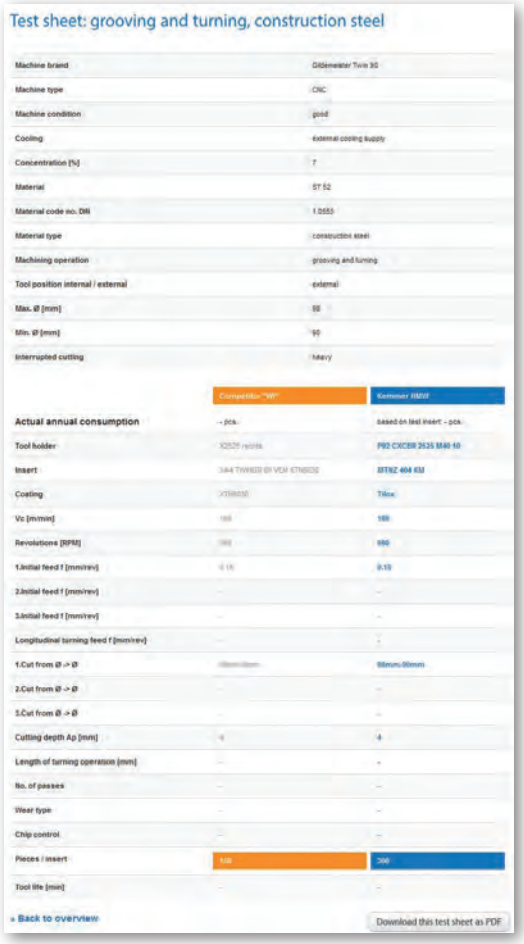
Zertifiziert durch QUACERT DIN EN ISO 9001

Proofed system complying DIN EN ISO 9001:2008
in the field of:
Development, production and distribution of carbide tools of all kinds as well es customized special tools.

Immerse yourself in the GripLock world wide web world with interactive miniatur views and test sheet database with comprehensive application parameters.

Test sheet - database

Detailed, authentic test sheets, wich helps in some situations maybe.

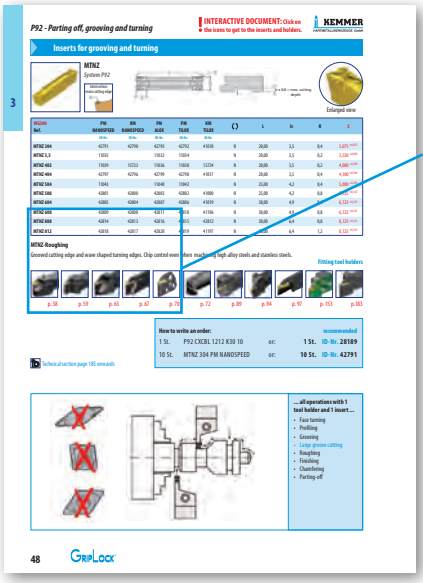


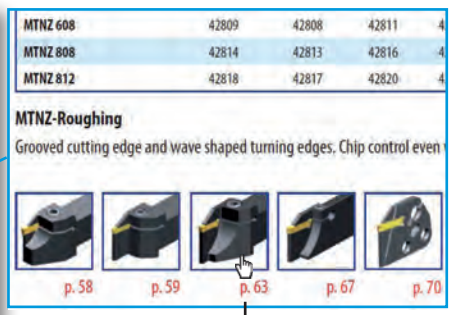


Interactive catalogue

Click simply the miniatur views or the page numbers and the corresponding page appaeres.





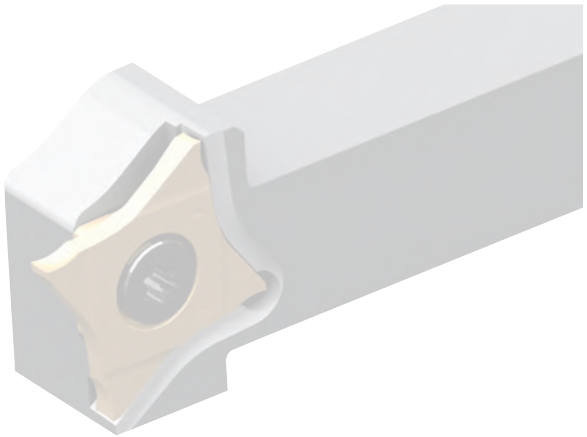


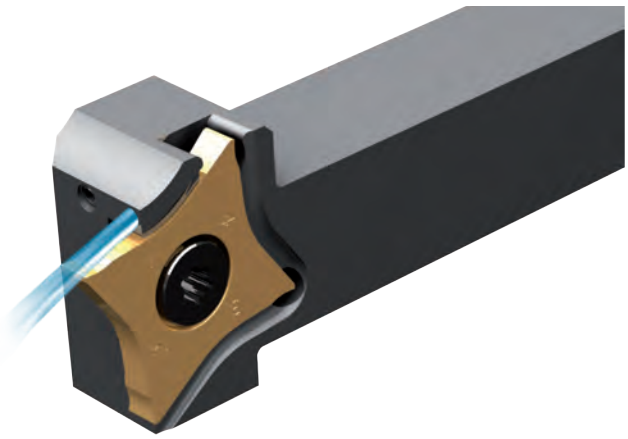


New trademark

Spirit of Perfection

Trademark and logo
are showing our dedication to perfection.





KEMMER
HARTMETALLWERKZEUGE GmbH

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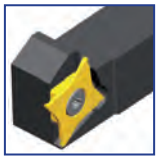
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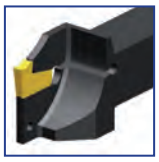
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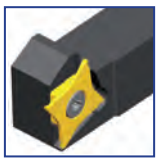
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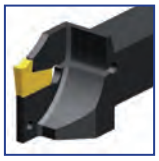
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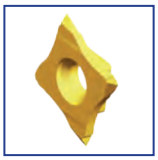
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KEMMER HARTMETALLWERKZEUGE GmbH

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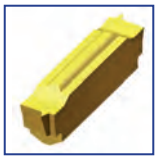
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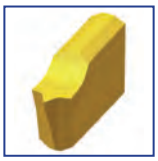
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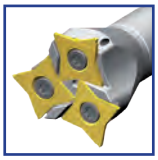
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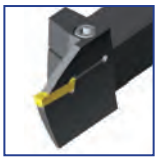
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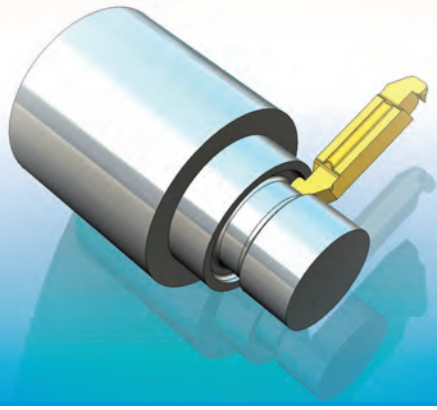
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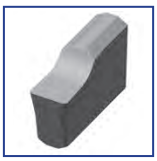
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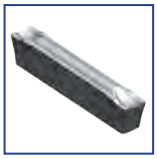


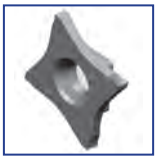
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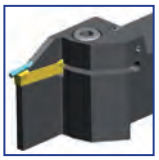


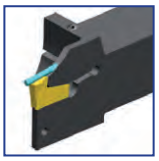
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new

StexxFix *Coolant-Quick coupling system*

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Our goal

To solve problems



One must take into consideration the complexity of the work to be done. In order to manufacture a precise component, one needs aligned tools for each particular task. The varied selection of:
Tool holders, chipbreakers, cutting material and **coatings** require a **great deal of "know-how" of application technology** in order to select the appropriate tool for the particular task.

Our skills



We have acquired a vast knowledge of application technology by means of continuous testing operations which enable us to do the analysis to provide a strong price performance ratio.

Our task and goal is...



... to provide a strong price performance ratio in order to help you to solve the problem.

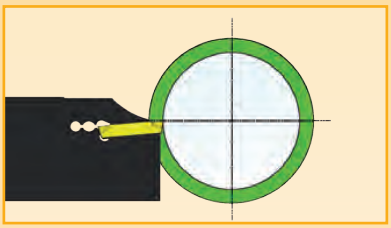
Cost controlling

- Cutting operations are far more expensive than turning or milling operations.
  For this reason the price performance ratio is essential.

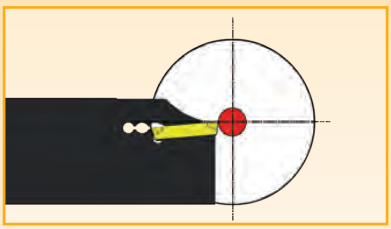
Turning insert	Turning insert	Milling insert	Parting off insert
			
CNMG 1204 **4 + 4 edges**	**SNMG 1204** **8 edges**	**ODKT 1205** **8 edges**	**ITN 4** **1 edge**
~ 1 € / edge	**~ 1 € / edge**	**~ 1 € / edge**	**~ 8 € / edge**

- The "perfect" quality of insert grades is essential
- It is one of our goals to provide the best possible price performance ratio and offer you the best service for your job.

The difficult way to the center



- The way towards the center isn't easy at all:
  When beginning the operation all conditions are ideal:
  - → cutting speed (Vc)
  - → cooling and
  - → chip removal



- The more the cutting edge arrives at the center the more conditions deteriorate gradually
  - → cutting speed decreases to zero
  - → cooling becomes inefficient
  - → chip removal becomes very difficult

- Parting off is a difficult and expensive operation.
  Therefore professional and CASH SAVING applications are essential

. . . an intelligent way to save
a lot of money



Important characteristics for a good result

Insert pockets	Clamping force	Tool extension

- Parting off:
  The stronger the tool, the higher the gripping power, the better performance and results are, like:

  - ✓ True and straight run
  - ✓ Clean faces
  - ✓ Plane parallel faces
  - ✓ Tool life
  - ✓ Purposful cooling

Premium tool choice:

- TWIN "Schwert" P92 TMS
- Holder for deep cuts P92 A CXCB R/L
- Reinforced parting off blades with dovetail shank P92 CXCB R/L...X
- Reinforced parting off blades for inserts with 1 edge F16 R/L 65
- Hi pressure cooling tools

Additional information on page 205 onwards.

Typical weak points:

- insufficient clamping force between tools and machine tool
- insufficient clamping force between tool holders and inserts
- insufficient chucking force



P92 A CXCBL

- **For parting off don't compromise! Choose the tools with the best solidity.**

Product overview

KEMMER HARTMETALLWERKZEUGE GmbH

M92-System - MULTICUT — 4 edges

Cutting inserts

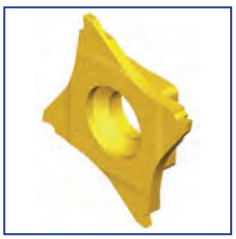


OFQ16R/L...N...
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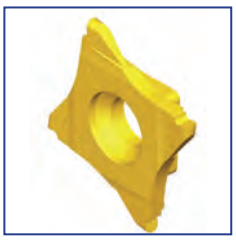
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Precision cutting inserts



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Full radius inserts



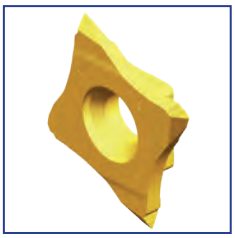
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Threading inserts



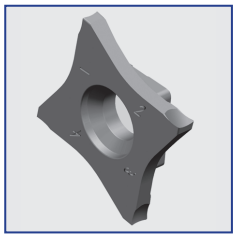
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Inserts for hard material machining



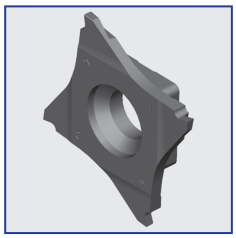
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Full radius inserts hard material machining



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Precision inserts hard material machining



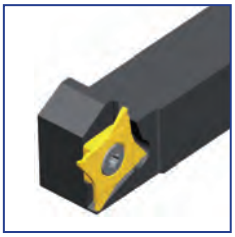
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Threading inserts hard material machining



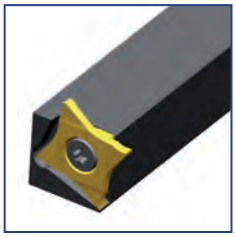
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Holder



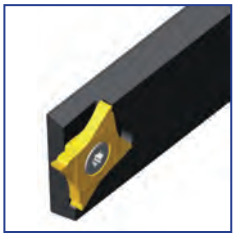
M92 Q FXCBR/L...K...
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Holder for many diff. turning applications



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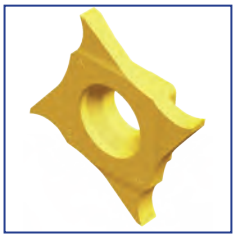


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GLRM92 MULTICUT Circular milling — 4 edges

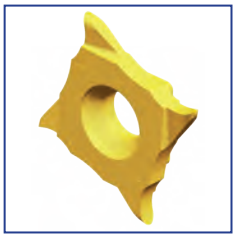
Inserts for shaft mills D28

Cutting inserts



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Full radius inserts



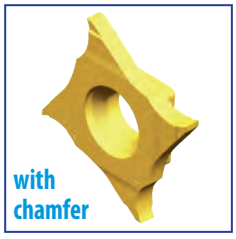
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Precision cutting inserts



OFQ16L..P35S
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Precision cutting inserts



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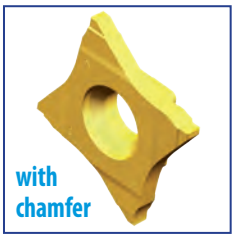
GLRM92 MULTICUT Circular milling — 4 edges

Cutting inserts for milling heads and shaft mills D 52-80

Milling heads and shaft mills

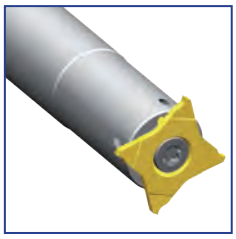


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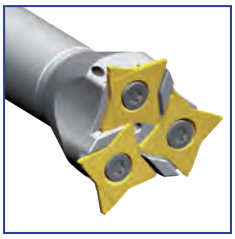
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Shaft mill D28



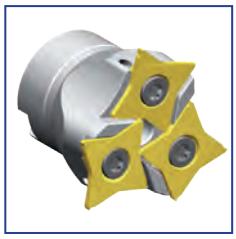
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Shaft mill D52



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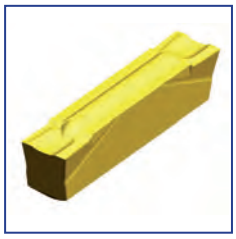
Milling head D52-80



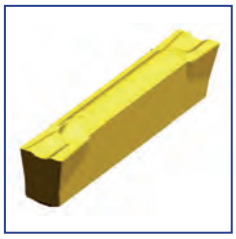
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P92-System — 2 edges

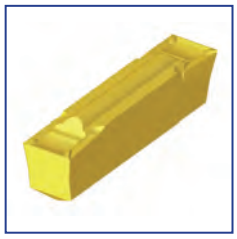
Cutting and turning inserts



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BTNX
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CTDS
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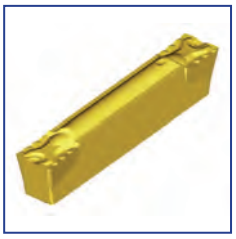


MTNS
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new



MTNSG
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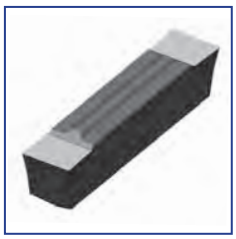


MTNZ
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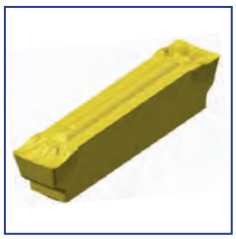
new



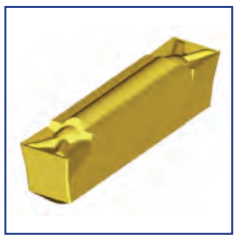
OTXC
p. 52



OTXS
p. 53



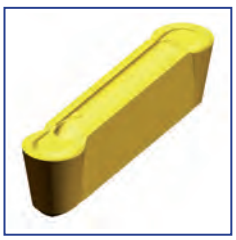
STNZ / STNG
p. 54



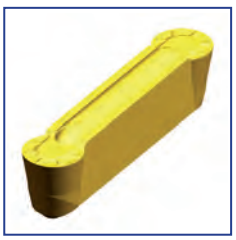
VTNS
p. 54



XTNS
p. 55



RTNG
p. 56



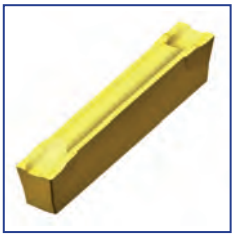
RTNX
p. 56

Product overview

KEMMER HARTMETALLWERKZEUGE GmbH

P92-System — 2 edges

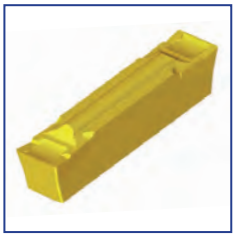
Parting off inserts



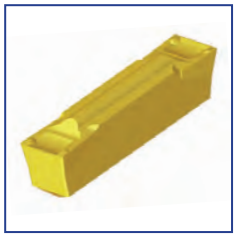
BTN
p. 57



BTN F
p. 59



CT ALU
p. 60



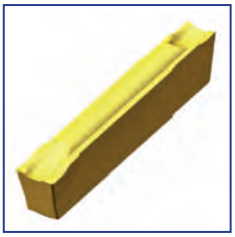
CT
p. 61

new



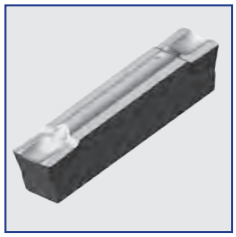
SCTD
p. 62

Parting off inserts for large diameters



A BTNN
p. 77

Cutting and turning inserts for hard material machining



BTNG
p. 181

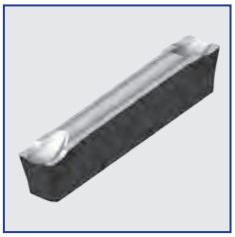


MTNS
p. 181



RTNG
p. 182

Cutting inserts for hard machining



BTNN
p. 182



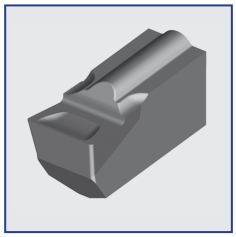
CTD ALU
p. 183

new

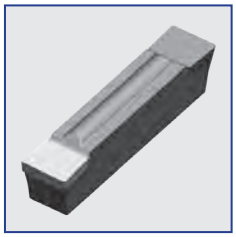


SCTD
p. 183

Grooving inserts for hard machining

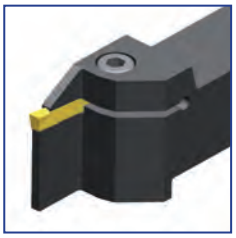


KCTD
p. 184



OTX EST/p..ST CBN
p. 189

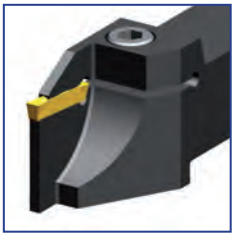
Holders, boring bars and blades for cutting, grooving and turning



P92 CXCBR/L...
p. 63



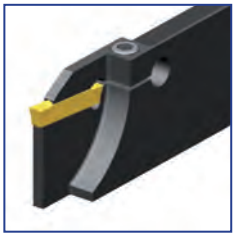
P92 90 UNI
p. 68



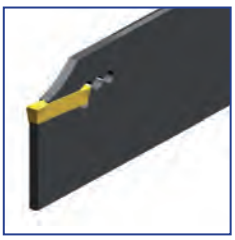
P92 A CXCBR/L...
p. 69 D42-56



P92 A CXCBR/L...
p. 70 D65-80



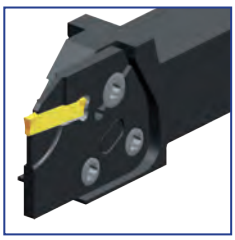
P92 CXCBR/L...R/L
p. 73



P92 TMS
p. 74



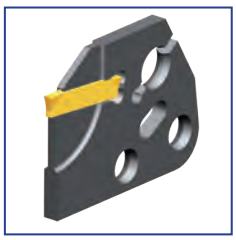
P92 TMS 52
p. 74



P92 C N..H
p. 75



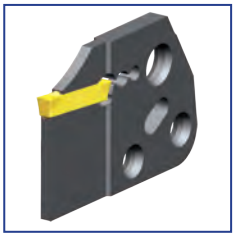
P92 C90..R/L
p. 75



P92 C N
p. 76

P92-System — 2 edges

Holders, boring bars and blades for cutting, grooving and turning



P92 CT
p. 76



P92 CGR/L
p. 78

P92-System — 2 edges

Holders and cartridges for face grooving and face turning



P92 2 CXCLD
p. 95



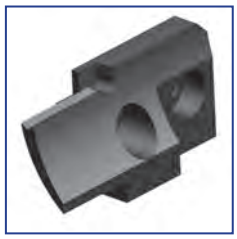
P92 2 CXCRD
p. 96



P92 90 CXCLD
p. 97

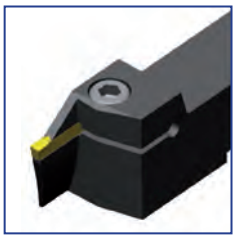


P92 90 CXCRD
p. 98

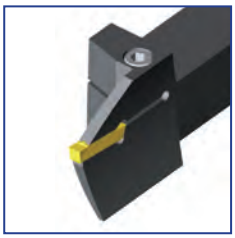


C92 LD/RD
p. 95-98

Monoblock holders for face grooving and -turning

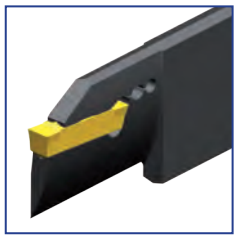


P92 2 CXCBR
p. 100-102



P92 2 CXCBL
p. 100-102

Blades for face grooving and -turning



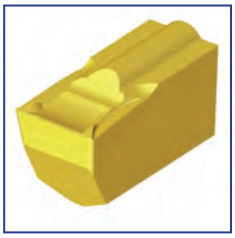
P92 2 TMS
p. 103

P92-System — 1 edge

Small Boring bars and inserts for cutting, grooving and turning



KCTD
p. 79



KCTDS
p. 79



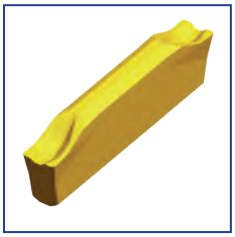
P92 CGR/L..30C
p. 79

Product overview

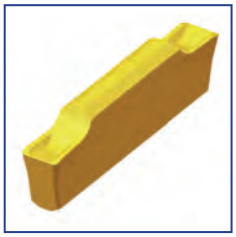
KEMMER HARTMETALLWERKZEUGE GmbH

P92 S-System (2 mm cutting width) — 2 edges

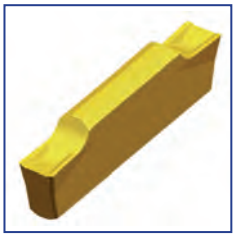
Inserts for parting off and small threading inserts



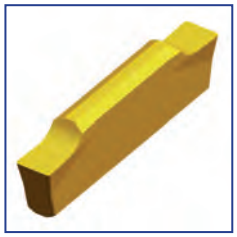
BTNS
p. 83



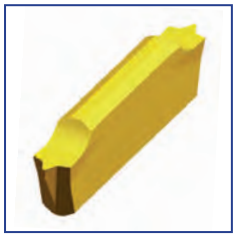
ITNS
p. 84



STNS
p. 84

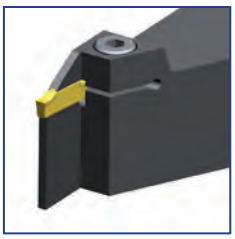


HTNS / HTNST
p. 83, 85

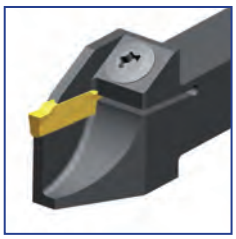


HTNG 2 ER / IR
p. 86-87

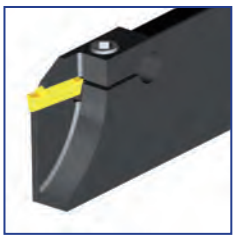
Holders, blades and boring bars for cutting, grooving, turning and threading



P92 S CXCBR/L
p. 88



P92 S CXCBR/L..11
p. 89

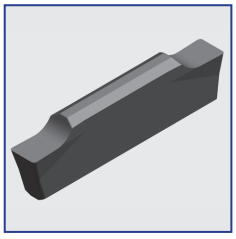


P92 S CXCBR/L...X
p. 89

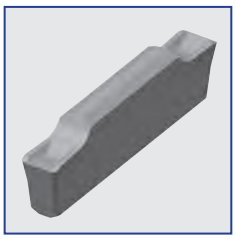


P92 S CGR/L
p. 90

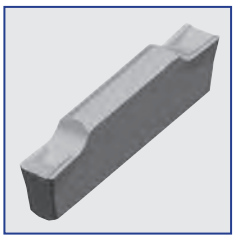
Inserts for hard material machining



HTNS
p. 184



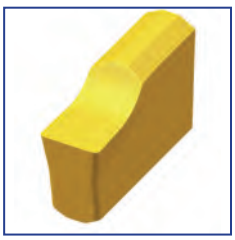
ITNS
p. 184



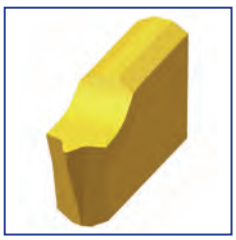
STNS
p. 184

P92 S-System — 1 edge

Inserts for cutting and threading

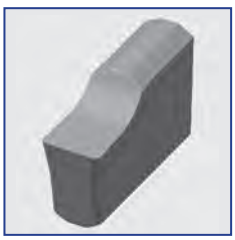


KHTNS 2
p. 85



KHTNG 2 IR
p. 88

Inserts for hard material machining



KHTNS
p. 184

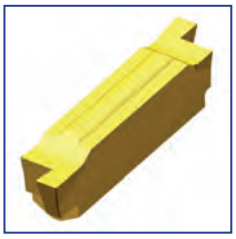
and fitting boring bars



P92 S CGR/L M20C
p. 90

P92 P-System — 2 edges

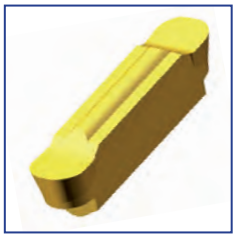
Precision inserts



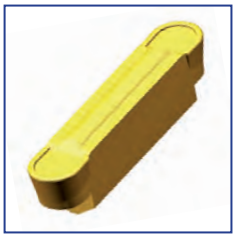
OTX...R/L
p. 107



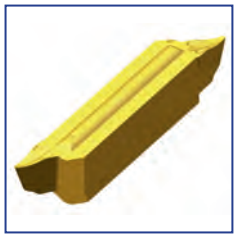
OTXR...R/L
p. 108



OTXR...N
p. 109

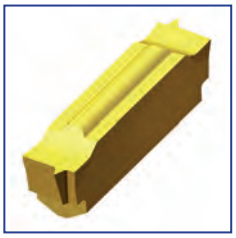


OTX.R...N R
p. 109

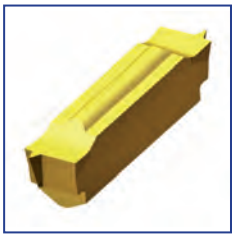


STV R/L
p. 110

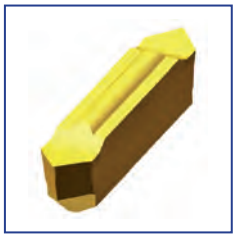
ISO-threading inserts (internal and external)



OTX ER Vollprofil
p. 112

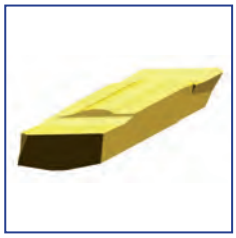


OTX IR Vollprofil
p. 112



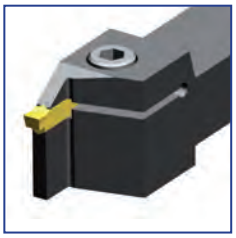
OTX EIR Teilprofil
p. 113

Inserts for longitudinal turning

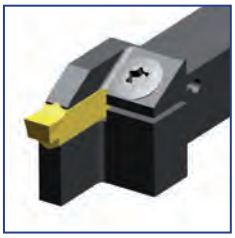


OTX DECO
p. 111

Precision tool holders and boring bars for OTX inserts



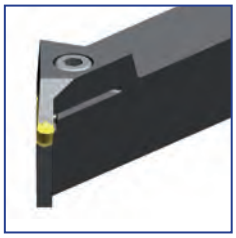
P92 P CXCBR/L
p. 114



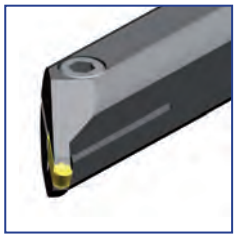
P92 P CXCBR/L..K4 11
p. 115



P92 P CGR/L
p. 117



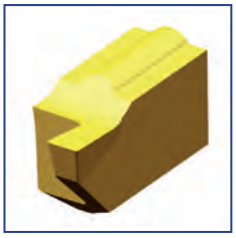
P92 P 45 CXCBR/L
p. 119



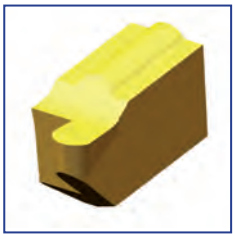
P92 P 45 CGR
p. 119

P92 P-System — 1 edge

Precision grooving and threading inserts (internal)



KOTX...R/L
p. 120

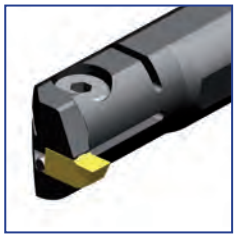


KOTX R...R/L
p. 120



KOTX 4 IR Vollprofil
p. 121

and fitting boring bars



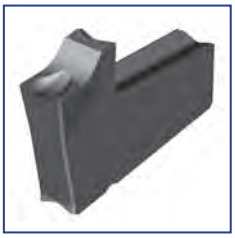
P92 P CGR...4C
p. 121

Product overview

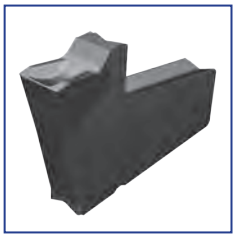
KEMMER HARTMETALLWERKZEUGE GmbH

FLEX FIX - System — 1 edge

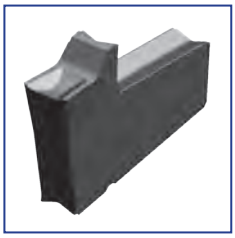
Parting off inserts



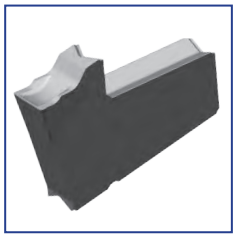
BFN
p. 126



IFN
p. 127

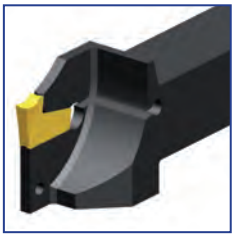


SFN
p. 128

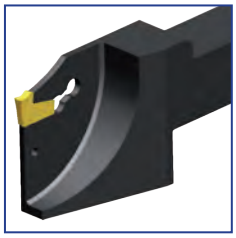


IF ALU
p. 128

Holders and blades



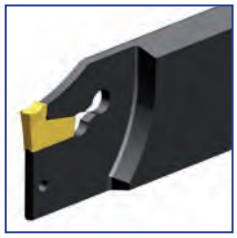
F16 R/L 42
p. 129



F16 R/L 65
p. 130



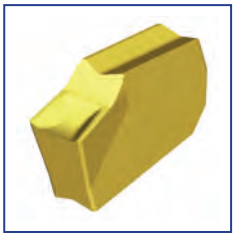
F16 T
p. 130



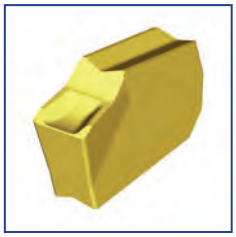
F16 R/L
p. 131

passt perfekt-System (ground top guide) — 1 edge

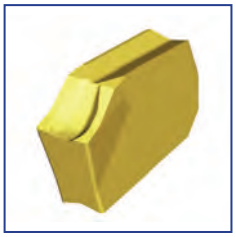
Parting off inserts



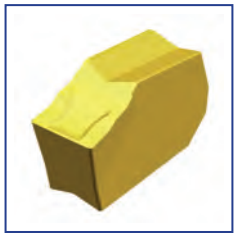
SNP
p. 132



ITP
p. 133

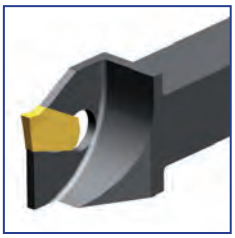


BGP
p. 134

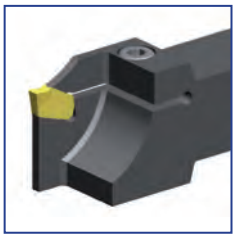


ITP ALU
p. 135

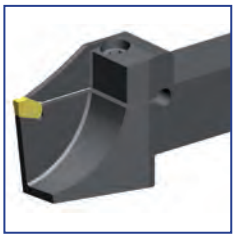
Holders and blades



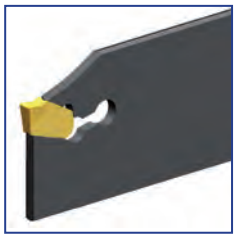
HPPL/R
p. 136



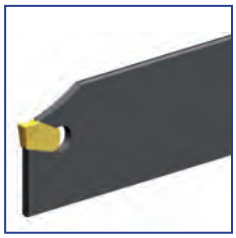
CLPPL/R
p. 137



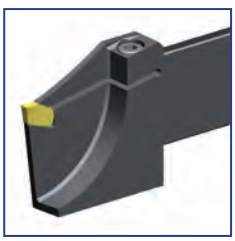
CLPPL/R...X65
p. 138



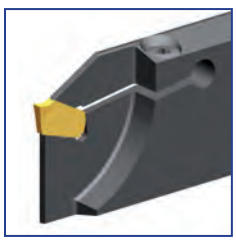
TMSPP
p. 138



TPP
p. 139



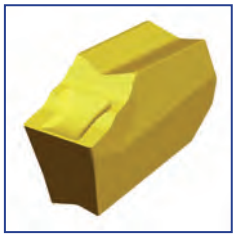
CLPPL/R...X...R/L
p. 139



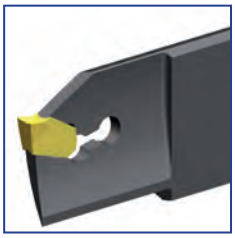
TMSPR/L
p. 140

passt perfekt-System (ground top guide) 1 edge

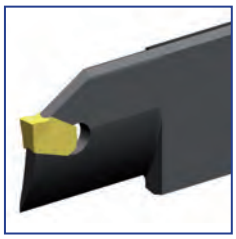
Inserts and blades for face grooving and face turning



PPTNR/L
p. 135



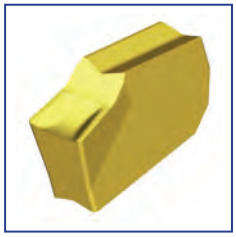
PPSMSR/L
p. 141



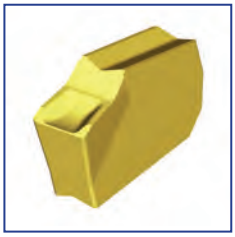
PPSTR
p. 141

Standard Design-System (precision sintered) 1 edge

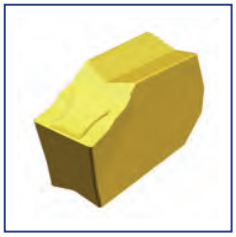
Parting off inserts



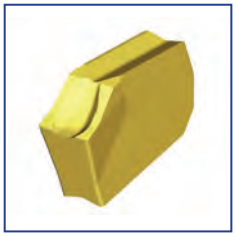
SNT.
p. 142



IT.
p. 143

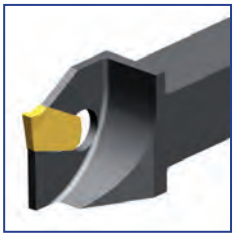


IT. ALU
p. 144

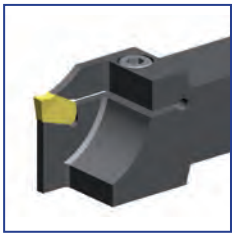


BGN/R/L
p. 144

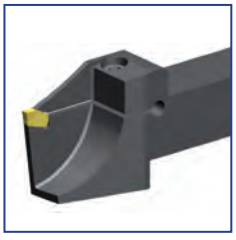
Holder and blades



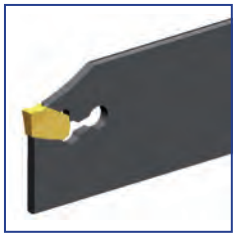
HR/L
p. 145



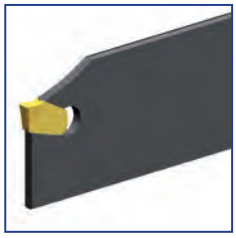
CLCBR/L
p. 146



CLCBR/L...X
p. 147

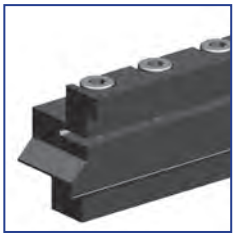


TMS
p. 148



T
p. 148

Tool blocks



TS
p. 149



KL
p. 149



KL 52
p. 150

new



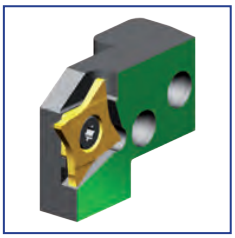
KLV
p. 150

Product overview

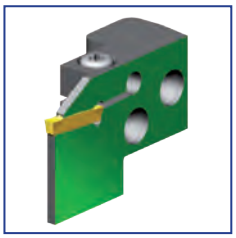
KEMMER HARTMETALLWERKZEUGE GmbH

GLM - GripLock Modular System

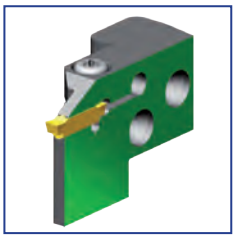
Cartridges



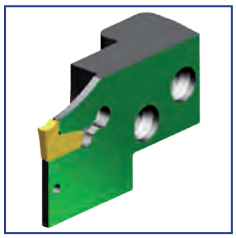
GLMCL/R M92 Q
p. 159



GLMCL/R P92
p. 159



GLMCL/R P92 P
p. 160



GLMCL/R F16
p. 160

ISO-cartridges



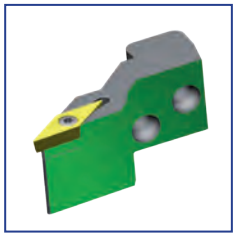
GLMCL/R 16EL/R ISO
p. 161



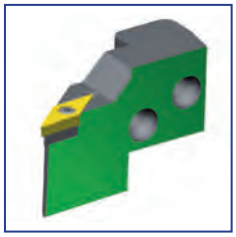
GLMCL/R CC09T3
p. 162



GLMCL/R DC11T3
p. 162



GLMCL/R VC1604
p. 162



GLMCL/R VC1303
p. 162



GLMCL/R CN1204
p. 163



GLMCL/R WN0804
p. 163



GLMCL/R VN1604
p. 163



GLMCL/R DN1506
p. 163

Tool holders



GLM HR/L
p. 155



GLM PSC..R/L 0
p. 156



GLM PSC..R/L 90
p. 156



GLM HSK63T..R/L 0
p. 157



GLM HSK63T..R/L 10
p. 157



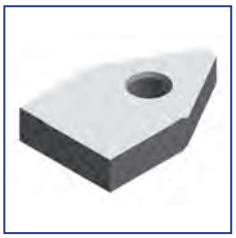
GLM HSK63T..R/L 45
p. 157



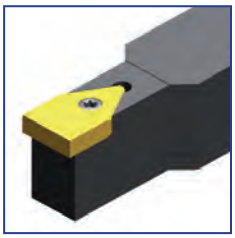
GLM HSK63T..R/L 90
p. 158

F92 Profiling tool system

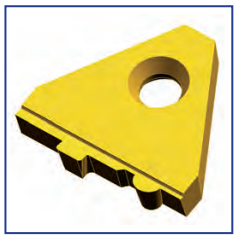
Inserts and holders for profile cutting



F 00000
p. 169



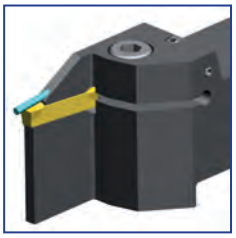
F92 SFCCN
p. 170



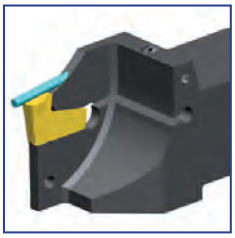
e.g. Profile insert
p. 169, 175

Hi pressure cooling system

Semifinished holder for system P92 and Flex Fix



P92 CXCBL/R HP
p. 193



F16 L/R HP
p. 194

StexxFix Coolant Quick-Coupling System

new



Plug
p. 198

new



Coupling
p. 198

new



Plug-in adapter
p. 198, 202

new



Angle coupling
p. 198

new



Thread adapter
p. 202

new



Tube set
p. 199

new



Tube set
p. 199

new



Tube set
p. 199

new



Angle plug with flexible pipe
p. 200

new



Angle plug with flexible pipe and nozzle
p. 200

Product overview

KEMMER HARTMETALLWERKZEUGE GmbH

Hi pressure cooling system

StexxFix Coolant Quick-Coupling System

new



connection set
p. 200

new



Distribution block 5-fold
p. 201

new



Distribution block 8-fold
p. 201

new



Distribution block 3-fold
p. 201

new



Distribution block 4-fold
p. 202

Torque keys

Torque tools



Torque VARIO ST plus
p. 228



Torque Vario-S
p. 228



TX 25 10
p. 229

Torque interchangeable blades



WT/F Torx
p. 228



WS/F hexagonal
p. 228

M92 Q MULTICUT 4

The perfect grooving and cutting system for many applications

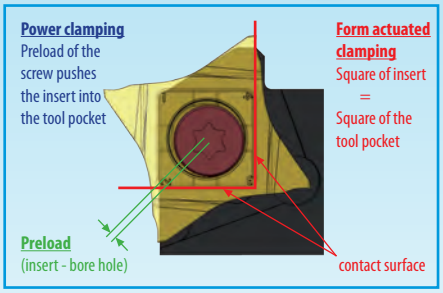
- Parting off and grooving
- Threading
- Precision grooving
- Full radius grooving
- Special profiles





M92 Q MULTICUT 4

The perfect Grooving and Cutting System for many applications



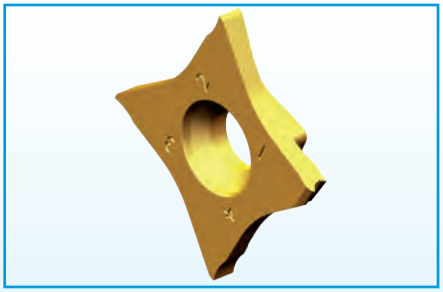
Vertical positioned inserts are well known. However, the segmented MULTICUT 4 inserts represent the new state of art technology. This improved development features a lot of advantages:

Perfect power and form actuated clamping.



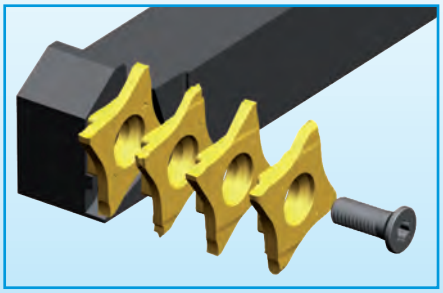
Reinforced solidity of insert suppresses vibrations. Achieves high and consistant tool life. Maintains reliability on cutting operations.

Reinforced area of the cutting edge grants stability.



In case a cutting edge is damaged all other edges can be used independently.

Precise re-positioning when changing cutting edges.



Fast and safe fixing in pocket.

Only 1 insert pocket for many inserts for different cutting operations.



New cutting geometry!

MULTICUT 4 - Insert Designation Code

O F Q 16 R 000 000 R 00 TILOX

- Top rake
- 4-edges
- Insert system: square and vertical
- Ø Inside diameter
- Right hand insert
- Cutting width
- Corner radius
- Rotation
- Lead angle
- Coating

MULTICUT 4 Sharp teeth - sharp edges


Threading


Cutting


Precision grooving


Selections

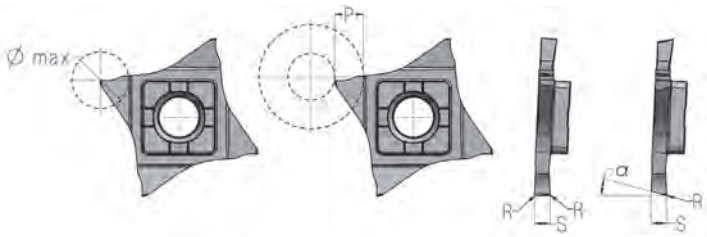
MULTICUT 4 -Cutting insert with 4 edges for grooving and parting off

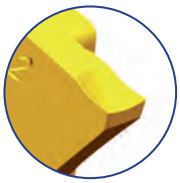


OFQ16L..N/L

System M92-Q






Enlarged view

WG400 Ref.	FM NANOSPEED	FM TILOX	KM CARBOSPEED		P	R	S ±0,05	α°	Ømax.
	ID-Nr.	ID-Nr.	ID-Nr.						
OFQ16L 050 000 N 00	31019	31020	43890	N	2,5	0,00	0,50	0	5,0
OFQ16L 100 000 N 00	31021	31022	43891	N	3,5	0,00	1,00	0	7,0
OFQ16L 120 000 N 00	35046	38719	43892	N	6,5	0,00	1,20	0	13,0
OFQ16L 150 010 N 00	31239	31238	43893	N	6,5	0,10	1,50	0	13,0
OFQ16L 200 010 N 00	31026	31027	43894	N	6,5	0,10	2,00	0	13,0
OFQ16L 200 020 N 00	43669	43670	44154	N	6,5	0,20	2,00	0	13,0
OFQ16L 250 010 N 00	30946	31028	43895	N	6,5	0,10	2,50	0	13,0
OFQ16L 250 020 N 00	43671	43672	44155	N	6,5	0,20	2,50	0	13,0
OFQ16L 300 010 N 00	31029	31030	43896	N	6,5	0,10	3,00	0	13,0
OFQ16L 300 020 N 00	43673	43674	44156	N	6,5	0,20	3,00	0	13,0
OFQ16L 100 000 L 06	31031	31032	43897	L	3,5	0,00	1,00	6	7,0
OFQ16L 100 000 L 15	31033	31034	43898	L	3,5	0,00	1,00	15	7,0
OFQ16L 120 000 L 06	38720	38721	43899	L	6,5	0,00	1,20	6	13,0
OFQ16L 150 010 L 06	37813	26738	43900	L	6,5	0,10	1,50	6	13,0
OFQ16L 150 010 L 15	31266	31265	43901	L	6,5	0,10	1,50	15	13,0
OFQ16L 200 010 L 06	31039	31040	43902	L	6,5	0,10	2,00	6	13,0
OFQ16L 200 020 L 06	43675	43676	44157	L	6,5	0,20	2,00	6	13,0
OFQ16L 200 010 L 15	31041	31042	43903	L	6,5	0,10	2,00	15	13,0
OFQ16L 200 020 L 15	43677	43678	44158	L	6,5	0,20	2,00	15	13,0

Comment:

Segmented and ground micrograin insert.
Positive top-rake with **chipforming** groove, beginning with 1,5 mm width to 3 mm. * LH = Left Hand = for clockwise (cw) rotation

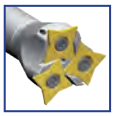
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Fitting tool holders and blades


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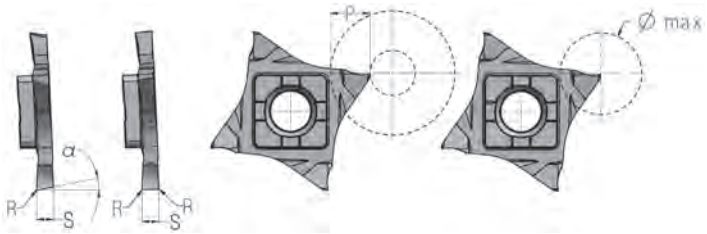
MULTICUT 4 - Cutting insert with 4 edges for grooving and parting off



OFQ16R...N/R

System M92-Q







Enlarged view

WG 400 Ref.	FM NANOSPEED	FM TILOX	KM CARBOSPEED		P	R	S ±0,05	α°	Ømax.
	ID-Nr.	ID-Nr.	ID-Nr.						
OFQ16R 050 000 N 00	30971	30972	43904	N	2,5	0,00	0,50	0	5,0
OFQ16R 100 000 N 00	30973	30974	43905	N	3,5	0,00	1,00	0	7,0
OFQ16R 120 000 N 00	35044	38722	43906	N	6,5	0,00	1,20	0	13,0
OFQ16R 150 010 N 00	31257	31237	43907	N	6,5	0,10	1,50	0	13,0
OFQ16R 200 010 N 00	30977	30978	43908	N	6,5	0,10	2,00	0	13,0
OFQ16R 200 020 N 00	43679	43680	44159	N	6,5	0,20	2,00	0	13,0
OFQ16R 250 010 N 00	30945	30979	43909	N	6,5	0,10	2,50	0	13,0
OFQ16R 250 020 N 00	43681	43682	44160	N	6,5	0,20	2,50	0	13,0
OFQ16R 300 010 N 00	30980	30981	43910	N	6,5	0,10	3,00	0	13,0
OFQ16R 300 020 N 00	43683	43684	44161	N	6,5	0,20	3,00	0	13,0
OFQ16R 100 000 R 06	30982	30983	43911	R	3,5	0,00	1,00	6	7,0
OFQ16R 100 000 R 15	30984	30985	43912	R	3,5	0,00	1,00	15	7,0
OFQ16R 120 000 R 06	38723	38724	43913	R	6,5	0,00	1,20	6	13,0
OFQ16R 150 010 R 06	31262	31261	43914	R	6,5	0,10	1,50	6	13,0
OFQ16R 150 010 R 15	31264	31263	43915	R	6,5	0,10	1,50	15	13,0
OFQ16R 200 010 R 06	30990	30991	43916	R	6,5	0,10	2,00	6	13,0
OFQ16R 200 020 R 06	43685	43686	44162	R	6,5	0,20	2,00	6	13,0
OFQ16R 200 010 R 15	30992	30993	43917	R	6,5	0,10	2,00	15	13,0
OFQ16R 200 020 R 15	43687	43688	44163	R	6,5	0,20	2,00	15	13,0

Comment:

Segmented and ground micro-grain insert.
Positive top-rake with **chipforming** groove, beginning with 1,5 mm width to 3 mm.

* RH = Right Hand = for counter clockwise (ccw) rotation

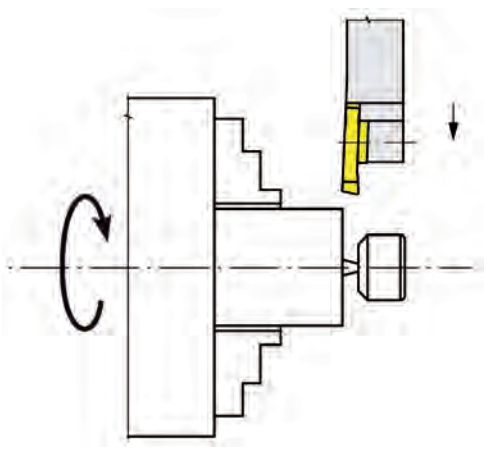
Fitting tool holders and blades


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MULTICUT 4

Only 1 insert pocket for many different applications.

- Parting off and grooving
- Threading
- Precision grooving
- Full radius grooving
- Special profiles

Technical section page 205 onwards

MULTICUT 4 - V chip breaker, inserts with 4 edges grooving and parting off

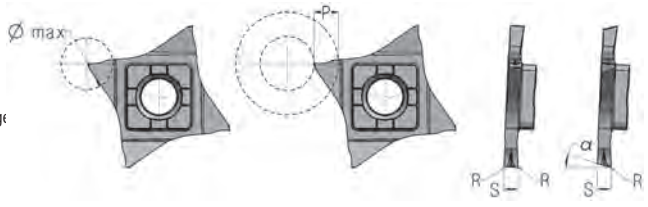
new!



OFQ16L..N/L V

System M92-Q







Enlarged view

WG400 Ref.	FM NANOSPEED	FM TILOX		P	R	S ±0,05	α°	Ømax.
	ID-Nr.	ID-Nr.						
OFQ16L 150 000 N 00 V	33125	33123	N	6,5	0,00	1,50	0	13,0
OFQ16L 200 010 N 00 V	33127	33126	N	6,5	0,10	2,00	0	13,0
OFQ16L 250 010 N 00 V	33130	33128	N	6,5	0,10	2,50	0	13,0
OFQ16L 300 010 N 00 V	33151	33150	N	6,5	0,10	3,00	0	13,0
OFQ16L 150 000 L 06 V	33133	33132	L	6,5	0,00	1,50	6	13,0
OFQ16L 200 010 L 06 V	33135	33134	L	6,5	0,10	2,00	6	13,0
OFQ16L 200 010 L 15 V	33137	33136	L	6,5	0,10	2,00	15	13,0

Segmented and ground micrograin insert. Positve top-rake with **chipforming** groove.

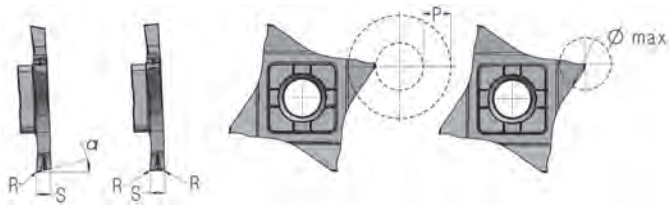
new!



OFQ16R..N/R V

System M92-Q







Enlarged view

WG400 Ref.	FM NANOSPEED	FM TILOX		P	R	S ±0,05	α°	Ømax.
	ID-Nr.	ID-Nr.						
OFQ16R 150 000 N 00 V	33139	33138	N	6,5	0,00	1,50	0	13,0
OFQ16R 200 010 N 00 V	33141	33140	N	6,5	0,10	2,00	0	13,0
OFQ16R 250 010 N 00 V	33143	33142	N	6,5	0,10	2,50	0	13,0
OFQ16R 300 010 N 00 V	33153	33152	N	6,5	0,10	3,00	0	13,0
OFQ16R 150 000 R 06 V	33145	33144	R	6,5	0,00	1,50	6	13,0
OFQ16R 200 010 R 06 V	33147	33146	R	6,5	0,10	2,00	6	13,0
OFQ16R 200 010 R 15 V	33149	33148	R	6,5	0,10	2,00	15	13,0

Segmented and ground micrograin insert. Positve top-rake with **chipforming** groove.

MULTICUT 4 - Perfect chip forming with V-Chip breakers

OFQ16R 200 010 N00 **V** FM NANOSPEED

1.4571

Vc = 80 m/min
F = 0,08 mm/U.



1.4571

Vc = 80 m/min
F = 0,12 mm/U.



1.7227

Vc = 150 m/min
F = 0,08 mm/U.



1.7227

Vc = 150 m/min
F = 0,12 mm/U.



1.7131

Vc = 150 m/min
F = 0,08 mm/U.



1.7131

Vc = 150 m/min
F = 0,12 mm/U.

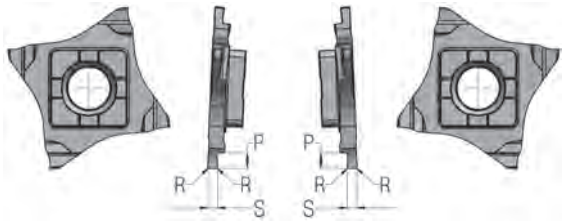


MULTICUT 4 - Precision grooving inserts according to DIN 471



OFQ16L...N
System M92-Q





OFQ16R...N
System M92-Q



WG400 Ref.	FM NANOSPEED	FM TILOX		P	R		S -0,05
	ID-Nr.	ID-Nr.					
OFQ16L 050 000 N	31152	31153	L	1,0	0,00	0,50	0,57
OFQ16L 060 000 N	31154	31155	L	1,0	0,00	0,60	0,67
OFQ16L 070 000 N	31156	31157	L	1,5	0,00	0,70	0,77
OFQ16L 080 000 N	31158	31159	L	1,5	0,00	0,80	0,87
OFQ16L 090 000 N	31160	31161	L	1,5	0,00	0,90	0,97
OFQ16L 100 000 N	38725	38727	L	1,5	0,00	1,00	1,07
OFQ16L 110 010 N	31162	31163	L	1,5	0,10	1,10	1,24
OFQ16L 130 010 N	31164	31165	L	1,5	0,10	1,30	1,44
OFQ16L 160 010 N	31172	31173	L	2,0	0,10	1,60	1,74
OFQ16L 185 010 N	31174	31175	L	2,0	0,10	1,85	1,99
OFQ16L 215 010 N	31176	31177	L	2,5	0,10	2,15	2,29
OFQ16L 265 010 N	31178	31179	L	2,5	0,10	2,65	2,79
OFQ16L 315 010 N	31180	31181	L	2,5	0,10	3,15	3,29
OFQ16R 050 000 N	31127	31128	R	1,0	0,00	0,50	0,57
OFQ16R 060 000 N	31129	31130	R	1,0	0,00	0,60	0,67
OFQ16R 070 000 N	31131	31132	R	1,5	0,00	0,70	0,77
OFQ16R 080 000 N	31133	31134	R	1,5	0,00	0,80	0,87
OFQ16R 090 000 N	31136	31137	R	1,5	0,00	0,90	0,97
OFQ16R 100 000 N	38726	38728	R	1,5	0,00	1,00	1,07
OFQ16R 110 010 N	31138	31139	R	1,5	0,10	1,10	1,24
OFQ16R 130 010 N	31140	31141	R	1,5	0,10	1,30	1,44
OFQ16R 160 010 N	31142	31143	R	2,0	0,10	1,60	1,74
OFQ16R 185 010 N	31144	31145	R	2,0	0,10	1,85	1,99
OFQ16R 215 010 N	31146	31147	R	2,5	0,10	2,15	2,29
OFQ16R 265 010 N	31148	31149	R	2,5	0,10	2,65	2,79
OFQ16R 315 010 N	31150	31151	R	2,5	0,10	3,15	3,29

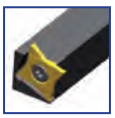
Comment:

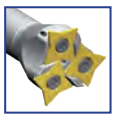
Segmented and ground micrograin insert.
Horizontal cutting edge and positive top rake.

Fitting tool holders and blades


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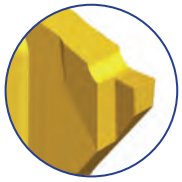

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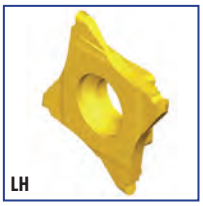
Enlarged LH edge



Enlarged RH edge

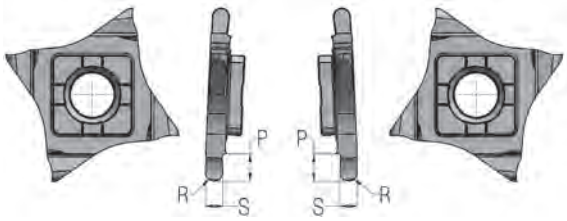
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MULTICUT 4 - Full radius insert for grooving and copying



OFQ16L..R..N
System M92-Q





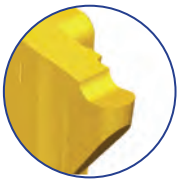
OFQ16R..R..N
System M92-Q



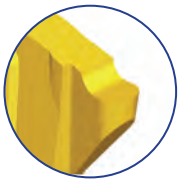
WG400 Ref.	FM NANOSPEED	FM TILOX	↻	P	R	S +0,05
	ID-Nr.	ID-Nr.				
OFQ16L 100 R050 N	31202	31203	L	1,0	0,50	1,00
OFQ16L 150 R075 N	31204	31205	L	1,5	0,75	1,50
OFQ16L 200 R100 N	31206	31207	L	2,0	1,00	2,00
OFQ16L 250 R125 N	31208	31209	L	2,5	1,25	2,50
OFQ16L 300 R150 N	31210	31211	L	3,0	1,50	3,00
OFQ16R 100 R050 N	31187	31188	R	1,0	0,50	1,00
OFQ16R 150 R075 N	31189	31190	R	1,5	0,75	1,50
OFQ16R 200 R100 N	31191	31192	R	2,0	1,00	2,00
OFQ16R 250 R125 N	31193	31194	R	2,5	1,25	2,50
OFQ16R 300 R150 N	31195	31196	R	3,0	1,50	3,00

Comment:

Segmented and ground micrograin insert.
Horizontal cutting edge and positive top rake.



Enlarged LH edge



Enlarged RH edge

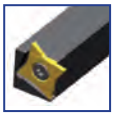
Fitting tool holders and blades



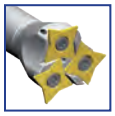
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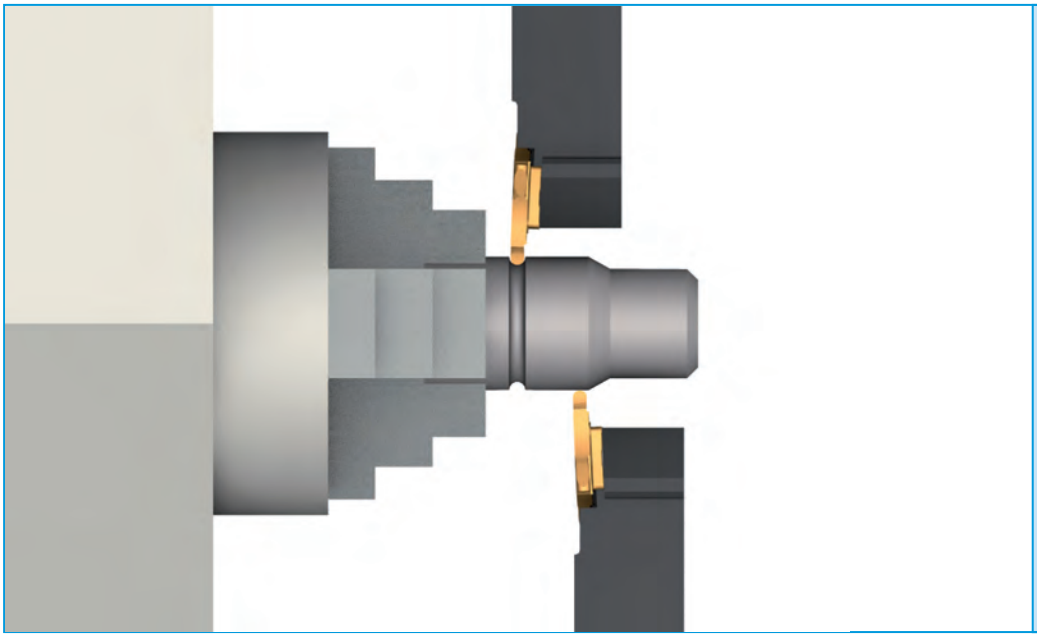
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Full radius groove and copying with MC4 full radius inserts.

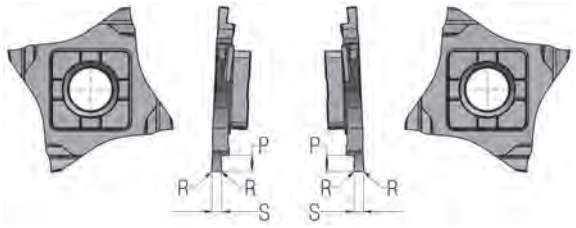
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MULTICUT 4 - Precision threading inserts external for ISO- and Whitworth full profile



OFQ16L...EL
System M92-Q





OFQ16R...ER
System M92-Q

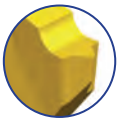


WG400 Ref.	FM NANOSPEED	FM TILOX			A	P	S	α°
	ID-Nr.	ID-Nr.						
OFQ16L 200 050 EL ISO	31418	31419	L	0,50	0,5	6,5	2,0	60
OFQ16L 200 070 EL ISO	31420	31421	L	0,70	0,5	6,5	2,0	60
OFQ16L 200 075 EL ISO	31422	31423	L	0,75	0,5	6,5	2,0	60
OFQ16L 200 080 EL ISO	31424	31425	L	0,80	0,7	6,5	2,0	60
OFQ16L 200 100 EL ISO	31426	31427	L	1,00	0,7	6,5	2,0	60
OFQ16L 200 125 EL ISO	31428	31429	L	1,25	0,7	6,5	2,0	60
OFQ16L 200 28W EL	31430	31431	L	28 G/Zoll	1,0	6,5	2,0	55
OFQ16L 200 19W EL	31432	31433	L	19 G/Zoll	1,0	6,5	2,0	55
OFQ16L 350 14W EL	31434	31435	L	14 G/Zoll	1,3	6,5	3,5	55
OFQ16L 350 11W EL	31436	31437	L	11 G/Zoll	1,5	6,5	3,5	55
OFQ16L 350 150 EL ISO	31438	31439	L	1,50	0,8	6,5	3,5	60
OFQ16L 350 175 EL ISO	31440	31441	L	1,75	0,9	6,5	3,5	60
OFQ16L 350 200 EL ISO	31442	31443	L	2,00	1,0	6,5	3,5	60
OFQ16L 350 250 EL ISO	37451	34994	L	2,50	1,3	6,5	3,5	60
OFQ16L 350 300 EL ISO	37452	34995	L	3,00	1,8	6,5	3,5	60
OFQ16R 200 050 ER ISO	31294	31297	R	0,50	0,5	6,5	2,0	60
OFQ16R 200 070 ER ISO	31298	31299	R	0,70	0,5	6,5	2,0	60
OFQ16R 200 075 ER ISO	31393	31394	R	0,75	0,5	6,5	2,0	60
OFQ16R 200 080 ER ISO	31395	31396	R	0,80	0,7	6,5	2,0	60
OFQ16R 200 100 ER ISO	31397	31400	R	1,00	0,7	6,5	2,0	60
OFQ16R 200 125 ER ISO	31401	31402	R	1,25	0,7	6,5	2,0	60
OFQ16R 200 28W ER	31403	31404	R	28 G/Zoll	1,0	6,5	2,0	55
OFQ16R 200 19W ER	31405	31406	R	19 G/Zoll	1,0	6,5	2,0	55
OFQ16R 350 14W ER	31407	31408	R	14 G/Zoll	1,3	6,5	3,5	55
OFQ16R 350 11W ER	31409	31410	R	11 G/Zoll	1,5	6,5	3,5	55
OFQ16R 350 150 ER ISO	31411	31412	R	1,50	0,8	6,5	3,5	60
OFQ16R 350 175 ER ISO	31413	31414	R	1,75	0,9	6,5	3,5	60
OFQ16R 350 200 ER ISO	31415	31417	R	2,00	1,0	6,5	3,5	60
OFQ16R 350 250 ER ISO	37450	34992	R	2,50	1,3	6,5	3,5	60
OFQ16R 350 300 ER ISO	34130	34993	R	3,00	1,8	6,5	3,5	60

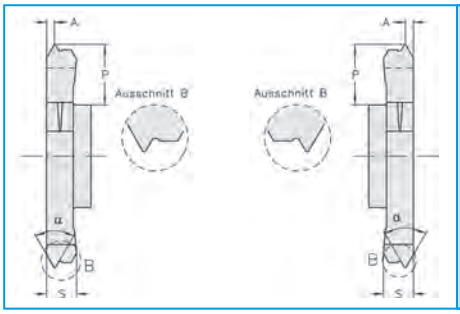
LH inserts: Delivery time and price on request, minimum purchase 3 pieces.



Enlarged LH edge



Enlarged RH edge



Precision ground threading inserts for external threads:

The vertical position of the insert, its positive top rake, large chip chambers, large front clearance and coated micrograin carbide together create perfect conditions for difficult threading operations.

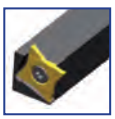
Fitting tool holders and blades



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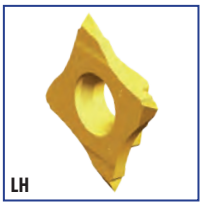


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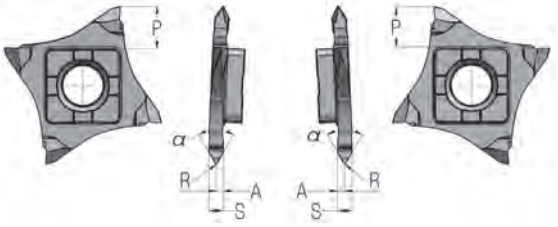
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MULTICUT 4 - Part profile threading inserts for ISO- and Whitworth full profile



OFQ16L...EIR
System M92-Q





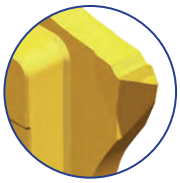
OFQ16R...EIR
System M92-Q



WG400 Ref.	FM NANOSPEED	FM TILOX			A	P	R	S	α°
	ID-Nr.	ID-Nr.							
OFQ16L 200 EIR55 28 W	43128	43129	L	28-20 G/Zoll	0,9	6,5	0,1	2,0	55
OFQ16L 200 EIR60 050	43130	43131	L	0,5-1,00	0,9	6,5	0,1	2,0	60
OFQ16L 250 EIR55 19 W	43132	43133	L	19-14 G/Zoll	1,2	6,5	0,2	2,5	55
OFQ16L 250 EIR60 125	43134	43135	L	1,25-1,75	1,2	6,5	0,2	2,5	60
OFQ16L 350 EIR55 12 W	43136	43137	L	12-10 G/Zoll	1,8	6,5	0,3	3,5	55
OFQ16L 350 EIR60 200	43138	43139	L	2,00-3,00	1,8	6,5	0,3	3,5	60
OFQ16R 200 EIR55 28 W	43140	43141	R	28-20 G/Zoll	0,9	6,5	0,1	2,0	55
OFQ16R 200 EIR60 050	43142	43143	R	0,5-1,00	0,9	6,5	0,1	2,0	60
OFQ16R 250 EIR55 19 W	43144	43145	R	19-14 G/Zoll	1,2	6,5	0,2	2,5	55
OFQ16R 250 EIR60 125	43146	43147	R	1,25-1,75	1,2	6,5	0,2	2,5	60
OFQ16R 350 EIR55 12 W	43148	43149	R	12-10 G/Zoll	1,8	6,5	0,3	3,5	55
OFQ16R 350 EIR60 200	43150	43151	R	2,00-3,00	1,8	6,5	0,3	3,5	60

LH inserts: Delivery time and price on request, minimum purchase 3 pieces.


Enlarged LH edge


Enlarged RH edge

Fitting tool holders and blades


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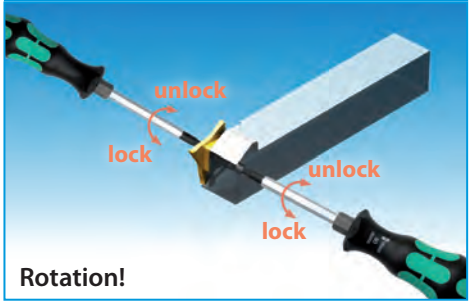

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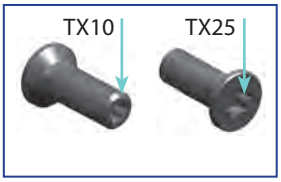

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Optimal clamping and releasing - Special screwdriver for MULTICUT 4 holders and blades

(included in orderextensive

Special screwdriver and torx screws with interchangeable blade to change MULTICUT 4 inserts in confined spaces







ET-Nr.	WG355 Ref.	ID-Nr.	Item	Recommended torque max. [Nm]
33	TXM5x14 10 25	44641	Torxschraube L=14	4,5
34	TXM5x10 10 25	44817	Torxschraube L=10	4,5

Ordering data

WG355 Ref.	ID-Nr.	Item
TX25 10 1	45131	Setcontents: 39 + 40 + 33
TX25 10 2	45132	Setcontents: 39 + 40 + 34

Technical section page 205 onwards

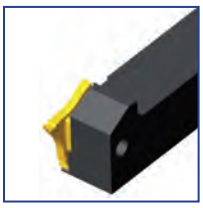
Detailed description on page 229

MULTICUT 4 - Tool Designation Code

M92 Q FXCB L 2020 M 16

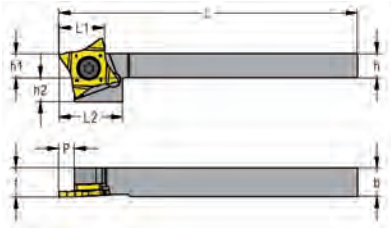
- M92 — Tool family
- Q — Insert type
- FXCB — Screw clamped holder for inserts with 4 edges
- L — Rotation
- 2020 — Shank dimensions
- M — ISO-Code length of holder
- 16 — Ø Inside diameter

MULTICUT 4 - holders for cutting, threading and precision grooving inserts



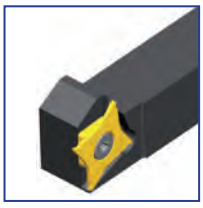
M92 Q...L
System M92-Q

LH holder for LH insert



M92 Q...R
System M92-Q

RH holder for RH inserts

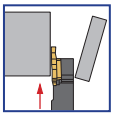


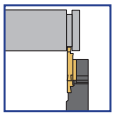
WG402 Ref.	ID-Nr.		h	h1	h2	b	f	P	L	L1	L2	
M92 Q FXCBL 1012 K16	30306	L	10	10	10	12	12,3	6,5	125	19,5	27	34+39+40
M92 Q FXCBL 1212 K16	30312	L	12	12	8	12	12,3	6,5	125	19,5	27	34+39+40
M92 Q FXCBL 1616 K16	30316	L	16	16	4	16	16,3	6,5	125	19,5	19,5	33+39+40
M92 Q FXCBL 2020 K16	29120	L	20	20	-	20	20,3	6,5	125	19,5	-	33+39+40
M92 Q FXCBL 2525 M16	30320	L	25	25	-	25	25,3	6,5	150	19,5	-	33+39+40
M92 Q FXCBR 1012 K16	30324	R	10	10	10	12	12,3	6,5	125	19,5	27	34+39+40
M92 Q FXCBR 1212 K16	30328	R	12	12	8	12	12,3	6,5	125	19,5	27	34+39+40
M92 Q FXCBR 1616 K16	30332	R	16	16	4	16	16,3	6,5	125	19,5	19,5	33+39+40
M92 Q FXCBR 2020 K16	30302	R	20	20	-	20	20,3	6,5	125	19,5	-	33+39+40
M92 Q FXCBR 2525 M16	30336	R	25	25	-	25	25,3	6,5	150	19,5	-	33+39+40

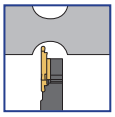
Remark:

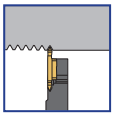
Only RH inserts will fit into RH tool holders and blades.
Only LH inserts will fit into LH tool holders and blades.

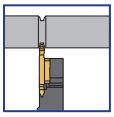
Fitting inserts


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p. 33-34


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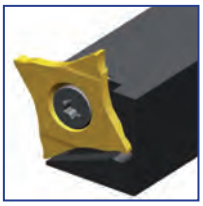


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How to write an order:

			recommended
1 St.	M92 Q FXCB**R** 1012 K16	or:	**1 St.** ID-Nr. **30324**
5 St.	OFQ 16**R** 050 000N FM TILOX	or:	**5 St.** ID-Nr. **31128**

MULTICUT 4 - 90° holders for many different turning applications



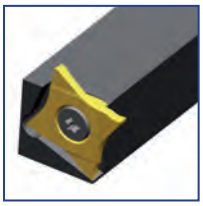
M92 Q 90 FXCBL
System M92-Q

LH holder for RH inserts



M92 Q 90 FXCBR
System M92-Q

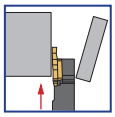
RH holder for LH inserts

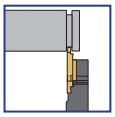


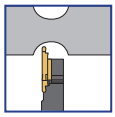
WG402 Ref.	ID-Nr.	↻	h	h1	b	P	L	
M92 Q 90 FXCBL 2020 K16	43343	L	20	20	20	6,5	125	33+39+40
M92 Q 90 FXCBR 2020 K16	43342	R	20	20	20	6,5	125	33+39+40

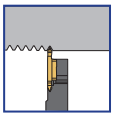
Attention:
RH inserts fit LH holders.
LH inserts fit RH holders.

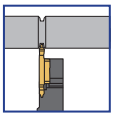
Fitting inserts


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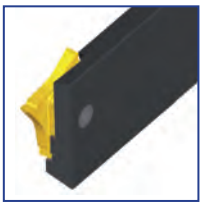

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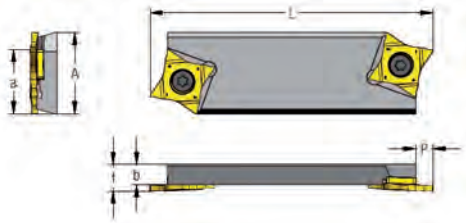
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MULTICUT 4 - blades for cutting, threading and precision grooving inserts



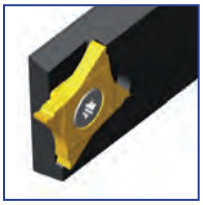
M92 Q...X..L
System M92-Q

LH blade for LH inserts



M92 Q...X..R
System M92-Q

RH blade for RH inserts



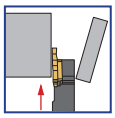
WG401 Ref.	ID-Nr.	↻	A	a	b	f	P	L	
M92 Q FXCBL 2608 X16L	30349	L	26	21,4	8	10,5	6,5	110	34+39+40
M92 Q FXCBL 3208 X16L	29116	L	32	25,0	8	10,5	6,5	110	34+39+40
M92 Q FXCBR 2608 X16R	30353	R	26	21,4	8	10,5	6,5	110	34+39+40
M92 Q FXCBR 3208 X16R	30345	R	32	25,0	8	10,5	6,5	110	34+39+40

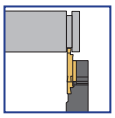
Remark:

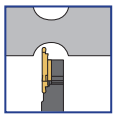
Each blade has got **2 insert pockets.**
Only RH inserts will fit into RH tool holders and blades.
Only LH inserts will fit into LH tool holders and blades.

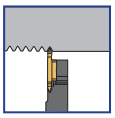
LH = Left Hand = for clockwise (CW) rotation
RH = Right Hand = for counter clockwise (CCW) rotation

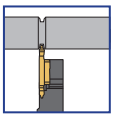
Fitting inserts


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p. 33-34


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How to write an order:

			recommended
1 St.	M92 Q FXCB**R** 2608 X16R	or:	**1 St. ID-Nr. 30353**
5 St.	OFQ 16**R** 050 000N FM TILOX	or:	**5 St. ID-Nr. 31128**

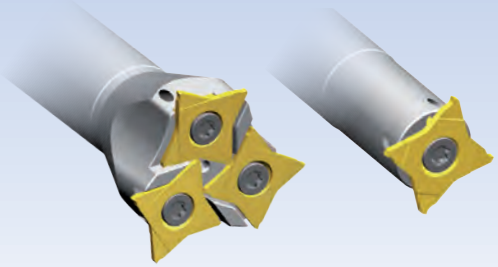


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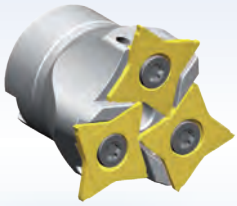
Circular milling cutter MULTICUT 4

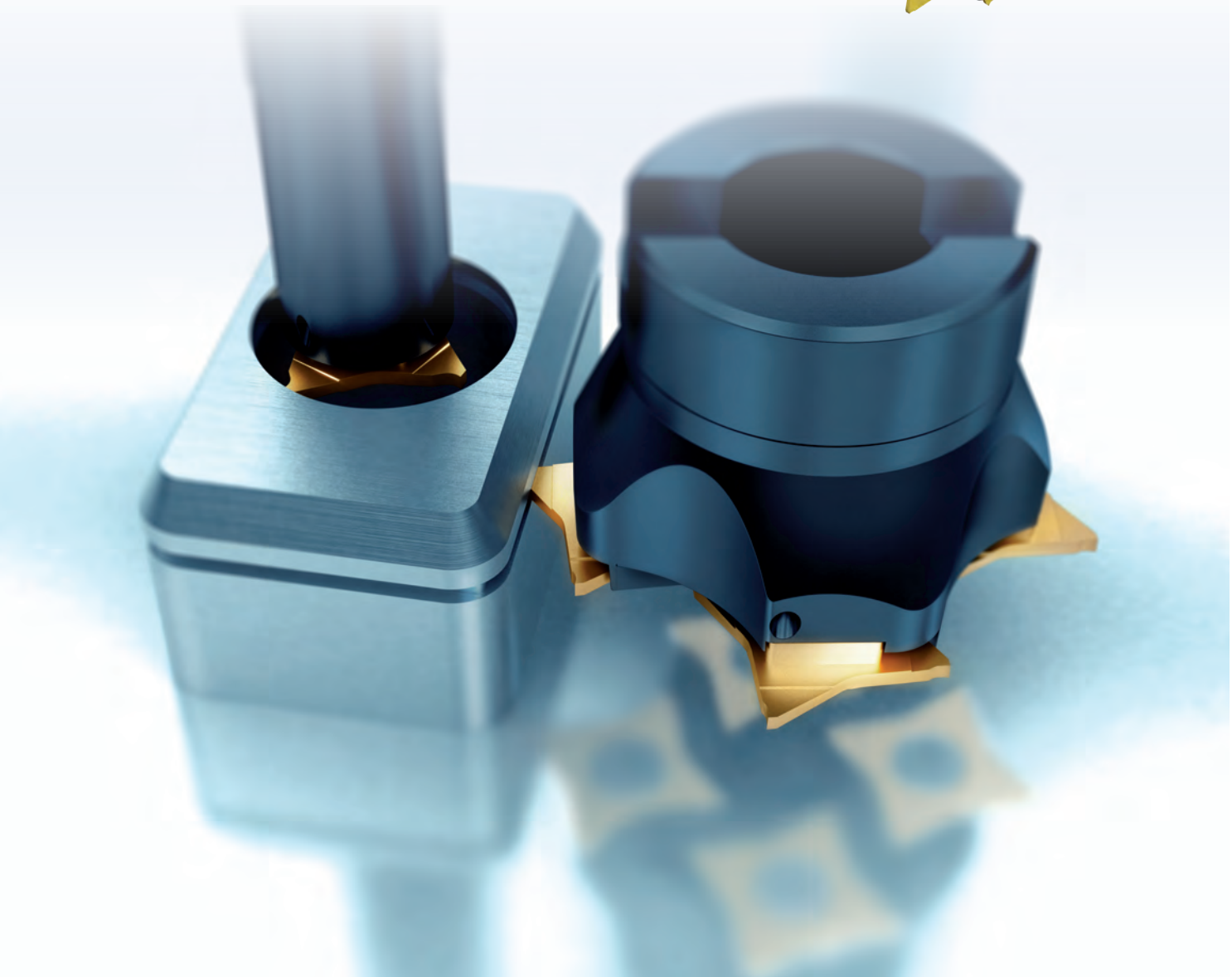
The advantages of MULTICUT 4 system combined with the applications on rotary tools

- *Shank end mills*



- *Milling heads*



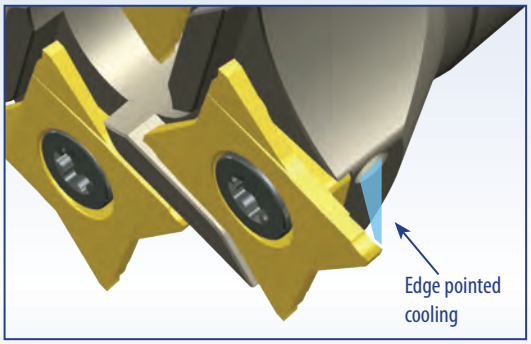


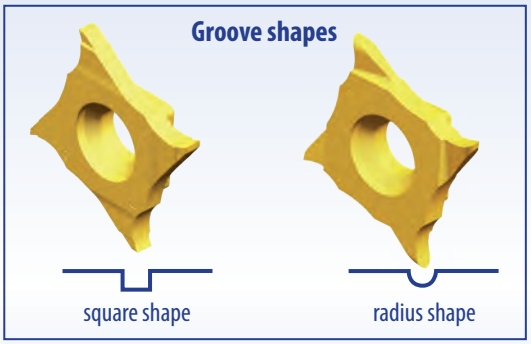
Circular milling cutter MULTICUT 4

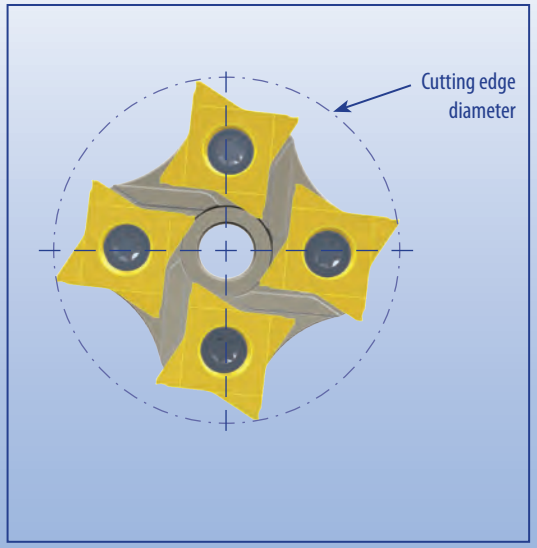
The advantages of MULTICUT 4 System combined with the applications of rotary tools

Advantages of the MULTICUT 4 System:

- *Perfect power and form actuated clamping.*
- *Reinforced insert*
- *Reinforced cutting edges*
- *High efficiency (In case a cutting edge is damaged all other edges can be used independently)*
- *Only 1 insert pocket size for many different cutting and turning operations*







Milling heads	Shank end mills
Cutting edges: 3-5 **cutting edge diameter Ø:** 52 mm - 80 mm	This end mill needs special inserts, displayed on the following pages **Cutting edges:** 4 **Cutting edge diameter Ø:** 28 mm
	More than one pocket **Cutting edges:** 3 **Cutting edge diameter Ø:** 52 mm

Dimension Z describes the amount of cutting edges in action. Z does not describe the amount of inserts on a milling cutter.

Designation Code of milling heads and shank end mills

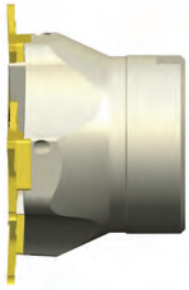
O F Q 16 L 000 000 P00 S NANOSPEED

- Top rake
- 4-edges
- Insert system: square and vertical
- Inside diameter Ø 16
- Right hand insert
- Cutting with
- Corner radius
- Cutting depth P
- Milling type: S = shank end mill; M = milling head
- Coating

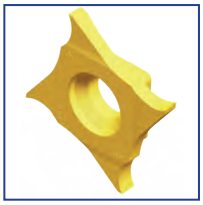
Shank end mill with 1 insert
All 4 cutting edges are engaged



Shank end mills D52 and milling heads D52 - 80 with 3-5 inserts
Only one cutting edge of each insert is engaged

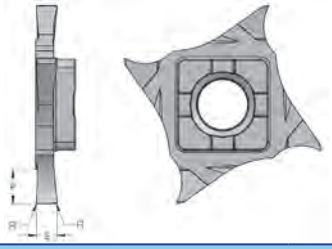


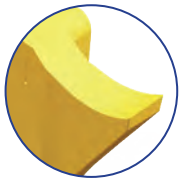
Cutting inserts for shank end mills with D =28 mm



OFQ16L..P..S
Circular

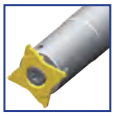





Enlarged view

WG400 Ref.	KM NANOSPEED		P	R	S ±0,05
	ID-Nr.				
OFQ16L 050 000 P25 S	43091	L	2,5	0,10	0,50
OFQ16L 100 000 P35 S	43092	L	3,5	0,10	1,00
OFQ16L 150 010 P35 S	43093	L	3,5	0,15	1,50
OFQ16L 200 010 P35 S	43094	L	3,5	0,15	2,00
OFQ16L 250 010 P35 S	43095	L	3,5	0,15	2,50
OFQ16L 300 010 P35 S	43096	L	3,5	0,15	3,00

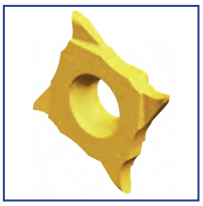
Fitting milling tools



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Technical section page 205 onwards

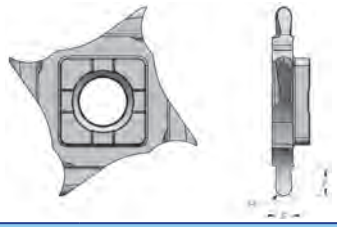
Full radius inserts for shank end mills with D =28 mm

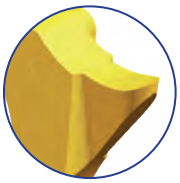


OFQ16L..R..P..S

Circular



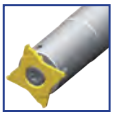




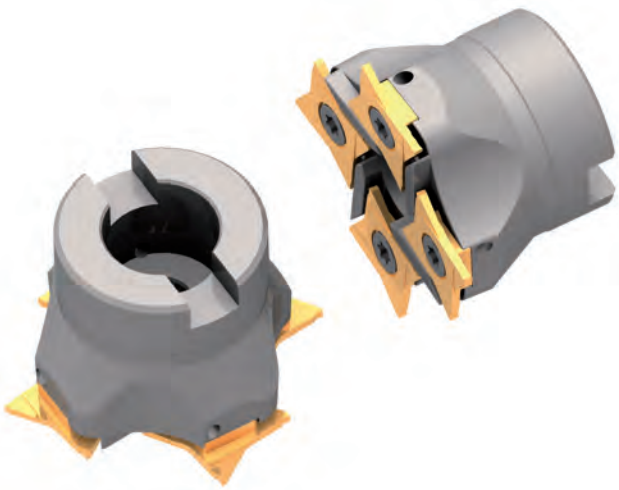
Enlarged view

WG400 Ref.	KM NANOSPEED		P	R	S +0,05
	ID-Nr.				
OFQ16L 100 R050 P35 S	43110	L	3,5	0,50	1,00
OFQ16L 150 R075 P35 S	43111	L	3,5	0,75	1,50
OFQ16L 200 R100 P35 S	43112	L	3,5	1,00	2,00
OFQ16L 250 R125 P35 S	43113	L	3,5	1,25	2,50
OFQ16L 300 R150 P35 S	43114	L	3,5	1,50	3,00

Fitting milling tools



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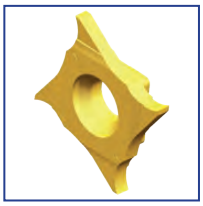


Application: left hand insert

Only left hand inserts fit in milling heads and shank end mills.

Technical section page 205 onwards

Precision grooving inserts for shank end mills with D =28 mm

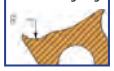


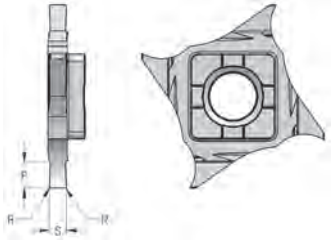
OFQ16L..P..S

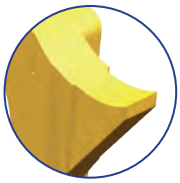
Circular

Inserts without chamfer

Intersection main cutting edge







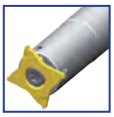
Enlarged view

WG400 Ref.	KM NANOSPEED		P	R		$S^{-0,05}$
	ID-Nr.					
OFQ16L 130 010 P35 S	43115	L	3,5	0,10	1,30	1,44
OFQ16L 160 010 P35 S	43116	L	3,5	0,10	1,60	1,74
OFQ16L 185 015 P35 S	43117	L	3,5	0,15	1,85	1,99
OFQ16L 215 015 P35 S	43118	L	3,5	0,15	2,15	2,29
OFQ16L 265 015 P35 S	43119	L	3,5	0,15	2,65	2,79
OFQ16L 315 015 P35 S	43120	L	3,5	0,15	3,15	3,29

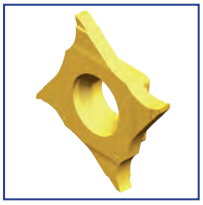
Remark

Recommended for grooves to DIN 471 (outside) and DIN 472 (inside).

Fitting milling tools



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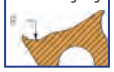


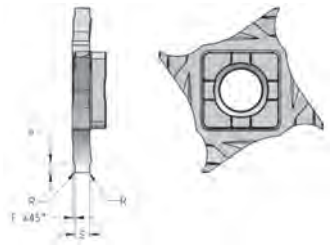
OFQ16L..P..S

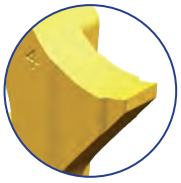
Circular

Inserts with chamfer

Intersection main cutting edge



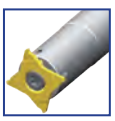




Enlarged view

WG400 Ref.	KM NANOSPEED		F	P	R		$S^{-0,05}$
	ID-Nr.						
OFQ16L 110 010 P050 S	43121	L	0,15	0,50	0,10	1,10	1,24
OFQ16L 130 010 P067 S	43122	L	0,15	0,67	0,10	1,30	1,44
OFQ16L 160 010 P100 S	43123	L	0,15	1,00	0,10	1,60	1,74
OFQ16L 185 015 P125 S	43124	L	0,20	1,25	0,15	1,85	1,99
OFQ16L 215 015 P150 S	43125	L	0,20	1,50	0,15	2,15	2,29
OFQ16L 265 015 P150 S	43126	L	0,20	1,50	0,15	2,65	2,79
OFQ16L 265 015 P175 S	43127	L	0,20	1,75	0,15	2,65	2,79

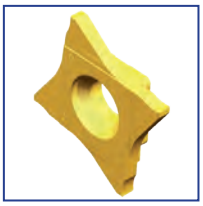
Fitting milling tools



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Technical section page 205 onwards

Precision inserts for milling heads and shank end mills

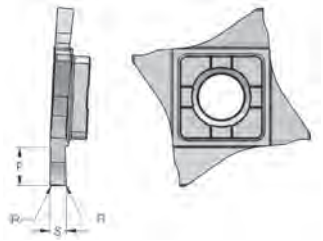


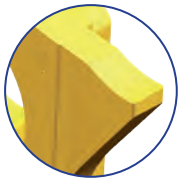
OFQ16L..P..M

Circular

Inserts without chamfer







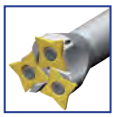
Enlarged view

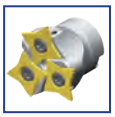
WG400 Ref.	KM NANOSPEED		P	R		S -0,05
	ID-Nr.					
OFQ16L 130 010 P55 M	43097	L	5,5	0,10	1,30	1,44
OFQ16L 160 010 P55 M	43098	L	5,5	0,10	1,60	1,74
OFQ16L 185 015 P55 M	43099	L	5,5	0,15	1,85	1,99
OFQ16L 215 015 P55 M	43100	L	5,5	0,15	2,15	2,29
OFQ16L 265 015 P55 M	43101	L	5,5	0,15	2,65	2,79
OFQ16L 315 015 P55 M	43102	L	5,5	0,15	3,15	3,29

Remark:

These inserts may as well be used with the MULTICUT 4 cutting tool holders as displayed in the GripLock catalogue.
Recommended for grooves to DIN 471 (outside) and DIN 472 (inside).

Fitting tool holders


p. 43

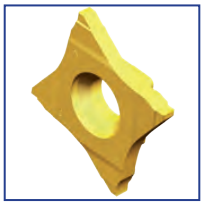

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p. 35


p. 36


p. 36


p. 159

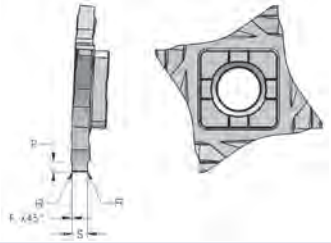


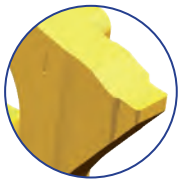
OFQ16L..P..M

Circular

Inserts with chamfer







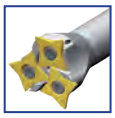
Enlarged view

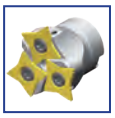
WG400 Ref.	KM NANOSPEED		F	P	R		S -0,05
	ID-Nr.						
OFQ16L 110 010 P050 M	43103	L	0,15	0,50	0,10	1,10	1,24
OFQ16L 130 010 P067 M	43104	L	0,15	0,67	0,10	1,30	1,44
OFQ16L 160 010 P100 M	43105	L	0,15	1,00	0,10	1,60	1,74
OFQ16L 185 015 P125 M	43106	L	0,20	1,25	0,15	1,85	1,99
OFQ16L 215 015 P150 M	43107	L	0,20	1,50	0,15	2,15	2,29
OFQ16L 265 015 P150 M	43108	L	0,20	1,50	0,15	2,65	2,79
OFQ16L 265 015 P175 M	43109	L	0,20	1,75	0,15	2,65	2,79

Remark:

These inserts may as well be used with the MULTICUT 4 cutting tool holders as displayed in the GripLock catalogue.
Special insers to machine grooves to DIN 471 or DIN 472.

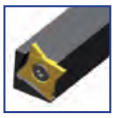
Fitting tool holders


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p. 36


p. 36


p. 159

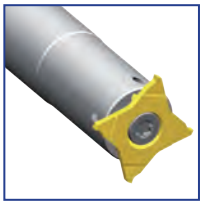
Technical section page 205 onwards

Designation code for shank end mills and milling heads

GLR M92 28 20 SW 16 3 04

- GLR — system designation for GripLock rotary tools
- M92 — clamping system M92
- 28 — edge diameter (milling head or shank end millls equipped with inserts)
- 20 — shaft diameter / location whole diameter
- SW — type of milling cutter: slot cutter = T, milling head = M, shank end mill = S (additional for Weldon clamping = W), example: SW= shank end mill with Weldon attachement
- 16 — insert type Multicut 4
- 3 — maximum cutting depth = P
- 04 — amount of edges in action

Shank end mills



GLRM92 28..SW...

Circular

Shank end mill with one insert pocket



WG600 Ref.	ID-Nr.	D	d1	Insert pockets	P	Z	d	L	
GLR M92 28 20 SW 16 3.5 04	41052	28	20	1	3.5	4	-	125	35

Attention, please!

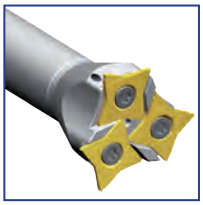
On the shank end mill diameter = 28mm only the inserts, described on pages 39-41 will fit.

Fitting inserts


p. 39


p. 40

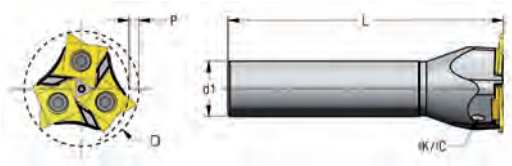

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GLRM92 52..SW...

Circular

Shank end mill with more than 1 insert pocket



WG600 Ref.	ID-Nr.	D	d1	Insert pockets	P	Z	d	L	
GLR M92 52 25 SW 16 3.5 03	41053	52	25	3	3.5	3	-	125	35

Fitting inserts


p. 27 - 29

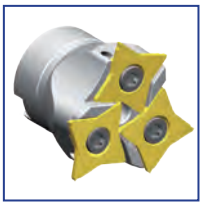

p. 31


p. 32


p. 42

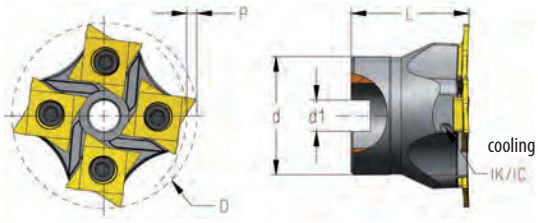
Technical section page 205 onwards

Milling heads



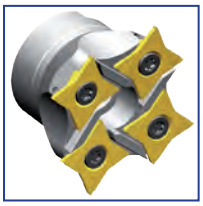
GLRM92..M...
Circular

Milling head with 3 insert pockets



GLRM92..M...
Circular

Milling head with 4 insert pockets



WG600 Ref.	ID-Nr.	D	d1	Insert-pockets	Pmax	Z	d	L	
GLR M92 52 16 M 16 3.5 03	41054	52	16	3	3.5	3	32	40	32+35
GLR M92 63 22 M 16 4.5 04	41055	63	22	4	4.5	4	40	40	35
GLR M92 80 27 M 16 5.5 05	41056	80	27	5	5.5	5	55	50	35

Attention, please!

Only left hand MC4 inserts will fit on shank end mills and milling heads

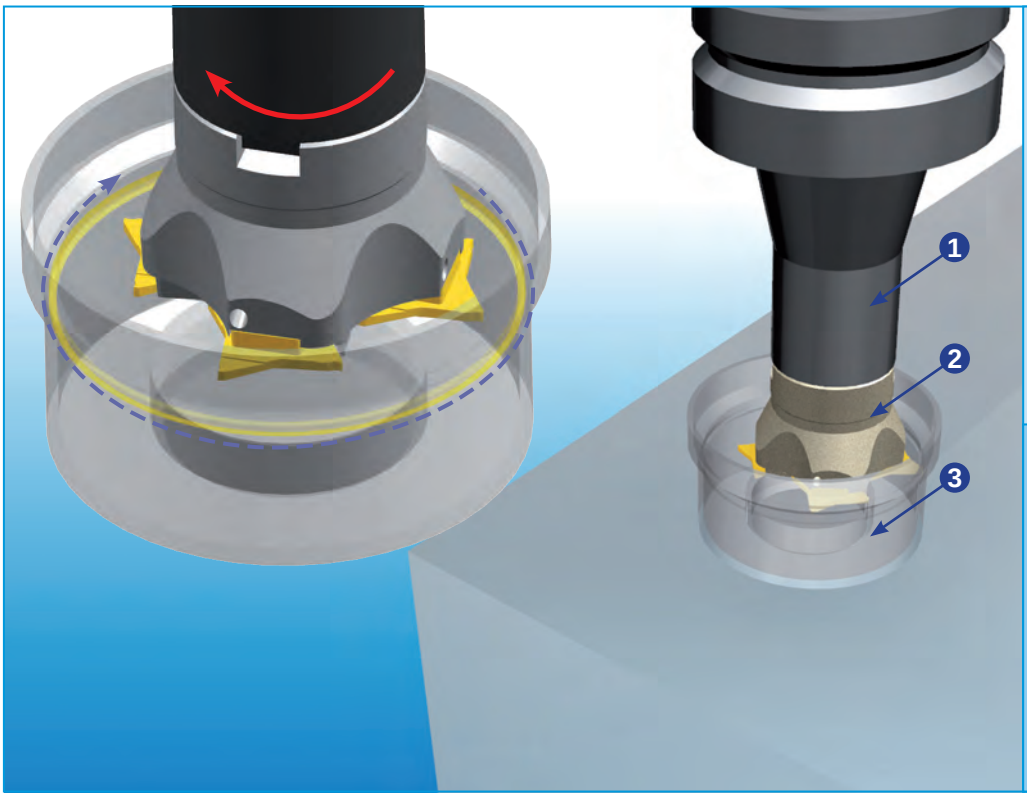
Fitting inserts


p. 27- 29


p. 31


p.32


p. 42



Internal milling with MC4 milling head

1. Milling head fixture
2. Milling head MC4
3. Component

Attention please!

For internal milling operations, the milling head (equipped with inserts)diameter has got to be smaller than the diameter of the component.

Technical section and recommendations page 205 onwards

P92 - Parting off, grooving and turning

A gread variety of applications

- Grooving
- Turning
- Parting off



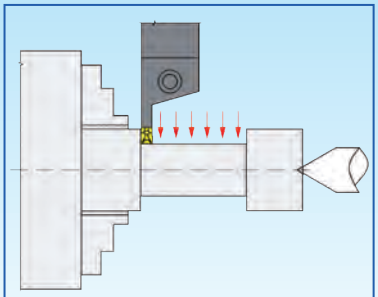
P92 - Parting off, grooving and turning

A great variety of applications

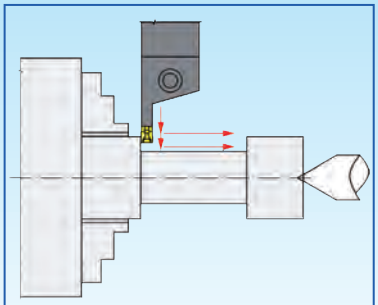
Cutting and turning machining

The major cutting edge cuts a groove and then the minor edge turns in longitudinal direction

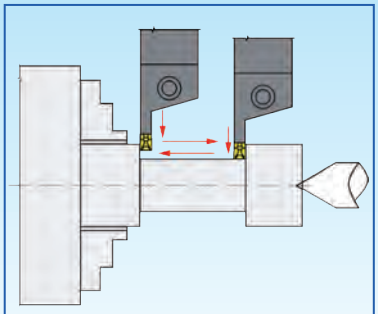
Different methods of cutting and turning



Parallel cuts

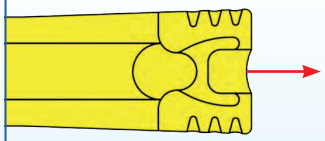


Cutting and one-way turning

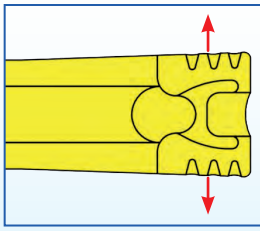


Cutting and two-way turning

The cutting edges

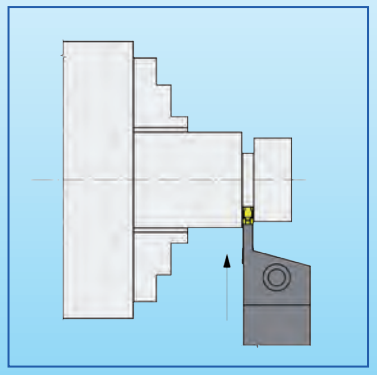


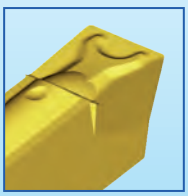
The major cutting edge features an efficient chip breaker for cutting applications.



The minor cutting edges, left and right, feature efficient chip breaker for longitudinal turning.

Grooving

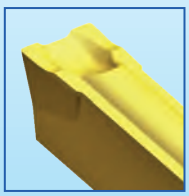




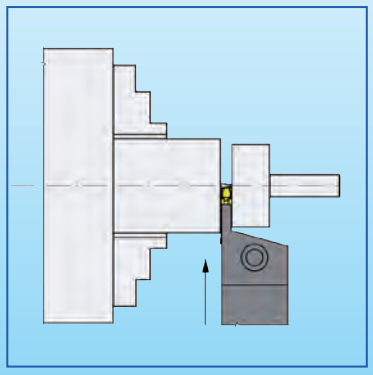
Grooving: MTNS insert with solid and rounded cutting edge

The major cutting edge cuts a groove.

Parting off



Parting off: BTNN insert featuring a large and efficient chip breaker



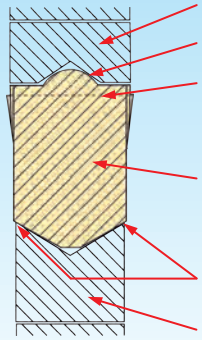
The major edge parts off a component from the bar.

P92 - Parting off, grooving and turning

A great variety of applications

Team work: Insert and holder

The insert has to fit perfectly into the pocket for all machining operations.

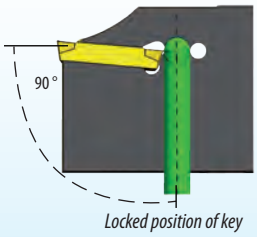


Cross section of insert pocket

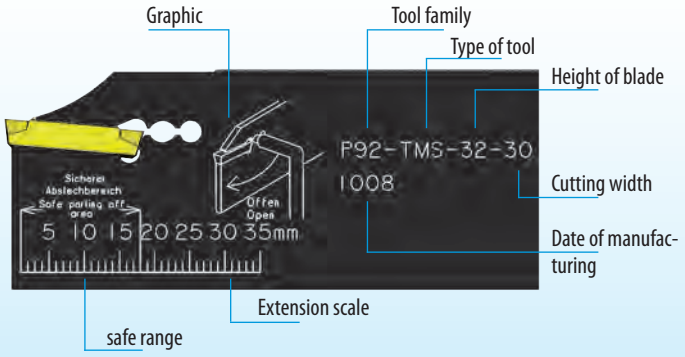
TWIN blade P92-TMS

on page 74

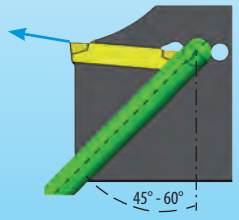
Insert in locked condition



Insert firmly locked



Insert in unlocked condition

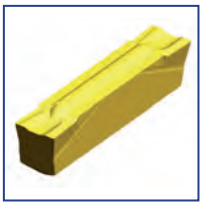


Insert to be removed

Advantages

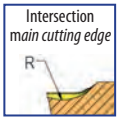
- ✓ Increased profitability compared to blades holding 1-edge inserts
- ✓ Reinforced solidity
- ✓ Perfect clamping
- ✓ Easy handling
- ✓ Marking for easy understanding
- ✓ Excellent tool life together with parting off inserts BTNN and A BTNN
- ✓ Steady run

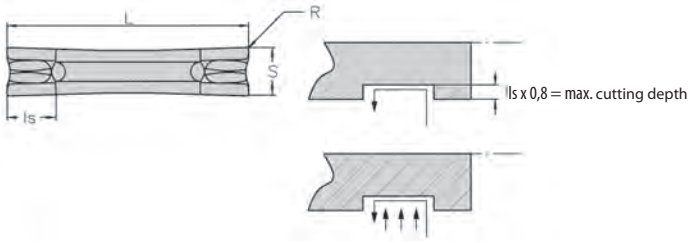
Inserts for grooving and turning

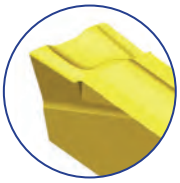


BTNG

System P92







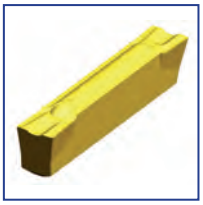
Enlarged view

WG260 Ref.	GF110	GF110 NANOSPEED	GF110 TILOX	( )	L	ls	R	S ±0,025
	ID-Nr.	ID-Nr.	ID-Nr.					
BTNG 202	32649	34264	34263	N	20,00	2,00	0,2	2,00
BTNG 2,5	32652	34005	34004	N	20,00	2,00	0,2	2,50
BTNG 302	13403	13404	-	N	20,00	3,50	0,2	3,00
BTNG 304	13405	13406	-	N	20,00	3,50	0,4	3,00
BTNG 402	13407	13408	-	N	20,00	3,50	0,2	4,00
BTNG 404	13409	13410	-	N	20,00	3,50	0,4	4,00
BTNG 408	13411	13412	-	N	20,00	3,50	0,8	4,00
BTNG 504	13402	13124	-	N	25,00	4,20	0,4	5,00
BTNG 508	13396	13395	-	N	25,00	4,20	0,8	5,00
BTNG 604	19292	20502	-	N	30,00	4,90	0,4	6,00
BTNG 608	19293	20503	-	N	30,00	4,90	0,8	6,00
BTNG 808	19294	20504	-	N	30,00	6,40	0,8	8,00
BTNG 812	19295	20505	-	N	30,00	6,40	1,2	8,00
BTNG 1008	19296	20506	-	N	30,00	8,10	0,8	10,00
BTNG 1012	19297	20507	-	N	30,00	8,10	1,2	10,00

BTNG-Finishing

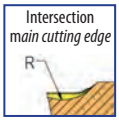
Fitting tool holders at the bottom

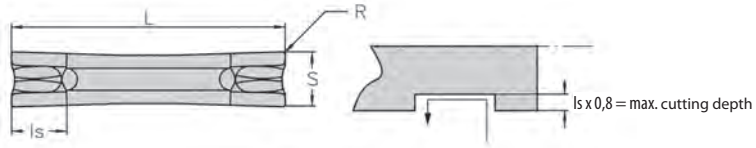
Grooved cutting edge. Horizontal turning edges with parallel chip breakers. The **precision ground micrograin insert** is recommended especially for heat resistant alloys.

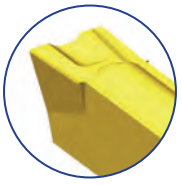


BTNX

System P92







Enlarged view

WG300 Ref.	GS 530 NANOSPEED	KM TILOX	( )	L	ls	R	S
	ID-Nr.	ID-Nr.					
BTNX 202	32658	38825	N	20,10	2,00	0,2	2,05 +0,10
BTNX 2,5	32661	38824	N	20,10	2,00	0,2	2,62 +0,10
BTNX 302	12669	38826	N	20,00	3,50	0,2	3,05 +0,15
BTNX 304	12687	38827	N	20,00	3,50	0,4	3,05 +0,15
BTNX 404	12691	38828	N	20,00	3,50	0,4	4,05 +0,15
BTNX 408	12686	38829	N	20,00	3,50	0,8	4,05 +0,15
BTNX 504	12692	38830	N	25,00	4,20	0,4	5,05 +0,25
BTNX 508	12685	38831	N	25,00	4,20	0,8	5,05 +0,25

BTNX-Semi finishing

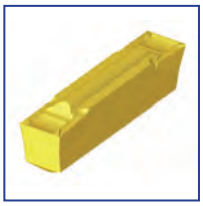
Grooved cutting edge. Horizontal turning edges with parallel chip breakers. The TIN-coated **cermet insert** is recommended for high speed finishing. The insert can be used universally. The grade KM TILOX is recommended for semi finishing to roughing machining.

Fitting tool holders



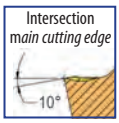
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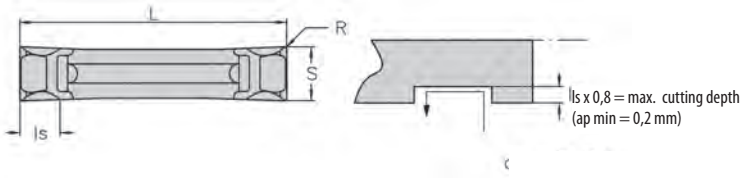
Inserts for grooving and turning

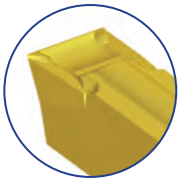


CTDS

System P92







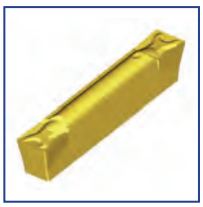
Enlarged view

WG300 Ref.	PM NANOSPEED	PM TILOX	KM TILOX	( )	L	ls	R	S ±0,10
	ID-Nr.	ID-Nr.	ID-Nr.					
CTDS 302	10418	10417	15318	N	20 ±0,15	3,0	0,2	3,08
CTDS 402	10422	10421	21412	N	20 ±0,15	3,0	0,2	4,08
CTDS 502	10426	10425	-	N	25 ±0,20	3,0	0,2	5,13

CTDS-Super finishing

Fitting tool holders at the bottom

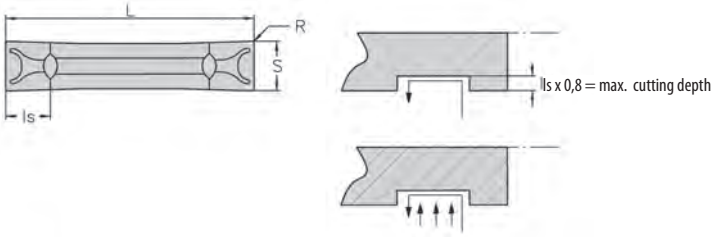
Chamfered cutting edge and sharply ground turning edges. Excellent chip control even on turning with small cutting depths.



MTNS

System P92







Enlarged view

WG300 Ref.	PM NANO-SPEED	KM NANO-SPEED	PM ALOX	KM TILOX	PM TILOX	GF110 TILOX	GF110 ALOX	KM CARBO-SPEED	( )	L	ls	R	S
	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.					
MTNS 202	54647	33879	54917	33878	54918	54925	54929	43918	N	20,10	2,0	0,2	2,05 +0,10
MTNS 2,5	54649	33889	54916	33888	54919	30851	54928	43919	N	20,10	2,0	0,2	2,62 +0,10
MTNS 302	11011	54618	11008	38482	11010	26719	44290	43920	N	20,00	3,5	0,2	3,0 +0,15
MTNS 304	11015	54619	11012	38541	11014	26720	36063	43921	N	20,00	3,5	0,4	3,0 +0,15
MTNS 402	11019	54620	11016	38542	11018	26721	44291	43922	N	20,00	3,5	0,2	4,0 +0,20
MTNS 404	11023	54621	11020	38543	11022	26722	44275	43923	N	20,00	3,5	0,4	4,0 +0,20
MTNS 408	21555	54622	21344	13170	43814	43815	44292	43816	N	20,00	3,5	0,8	4,0 +0,15
MTNS 504	11031	54623	11028	38544	11030	25964	39451	43817	N	25,00	4,2	0,4	5,0 +0,25
MTNS 508	43821	54624	43822	13413	43823	24807	44293	40998	N	25,00	4,2	0,8	5,05 +0,25
MTNS 604	43827	54625	43828	19268	43829	26723	44294	43836	N	30,00	4,9	0,4	6,05 +0,25
MTNS 608	21557	54626	32197	19269	40340	20861	21022	43837	N	30,00	4,9	0,8	6,05 +0,25
MTNS 612	54651	54642	54912	19270	54920	54633	54930	43840	N	30,00	4,9	1,2	6,05 +0,25
MTNS 808	21559	54627	28346	19271	29875	54635	54927	43841	N	30,00	6,4	0,8	8,05 +0,25
MTNS 812	54653	54643	54915	19272	54921	54637	54931	43842	N	30,00	6,4	1,2	8,05 +0,25
MTNS 1008	54655	54644	54913	19274	54922	54639	54932	43843	N	30,00	8,1	0,8	10,05 +0,25
MTNS 1012	54657	54645	54914	19275	54923	54641	54933	43844	N	30,00	8,1	1,2	10,05 +0,25

MTNS-Roughing

Cutting edge with large parting off chip breakers. Excellent chip control in the range ls x 0,8.
Especially recommended for carbon steels, low and high alloy steels.

Fitting tool holders



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Inserts for grooving and turning



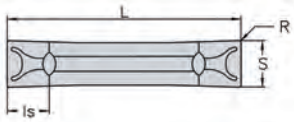
new!

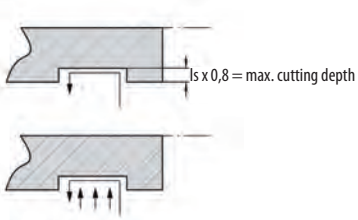
MTNSG

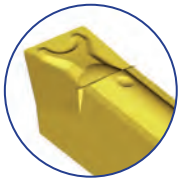
System P92



Intersection
main cutting edge







Vergrößerung

WG 260 Ref.	KM TILOX		L	ls	R	S$^{\pm 0,025}$
MTNSG 202	49957	N	20,00	2,0	0,2	1,95
MTNSG 2,5	49958	N	20,10	2,0	0,2	2,45
MTNSG 302	49959	N	19,95	3,5	0,2	2,95
MTNSG 304	49960	N	19,95	3,5	0,4	2,95
MTNSG 402	49961	N	19,85	3,5	0,2	3,95
MTNSG 404	49962	N	19,85	3,5	0,4	3,95
MTNSG 408	49963	N	19,85	3,5	0,8	3,95
MTNSG 504	49964	N	24,85	4,2	0,4	5,00
MTNSG 508	49965	N	24,85	4,2	0,8	5,00
MTNSG 604	49966	N	29,80	4,9	0,4	6,00
MTNSG 608	49967	N	29,80	4,9	0,8	6,00
MTNSG 612	49968	N	29,80	4,9	1,2	6,00
MTNSG 808	49969	N	29,65	6,4	0,8	7,95
MTNSG 812	49970	N	29,65	6,4	1,2	7,95
MTNSG 1008	49971	N	29,70	8,1	0,8	9,95
MTNSG 1012	49972	N	29,70	8,1	1,2	9,95

MTNSG Cutting and turning chip breaker...

Circumferentially ground cutting edges slightly honed with polished top-rake. Recommended for stainless steels, titanium, nickel alloys and aluminium alloy steels.

Fitting tool holders



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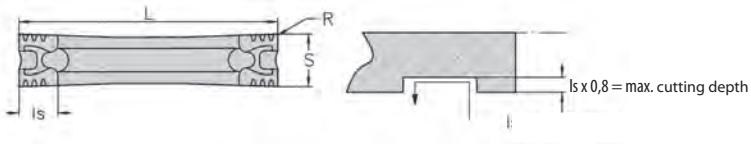
Inserts for grooving and turning



MTNZ

System P92







Enlarged view

WG300 Ref.	PM NANOSPEED	KM NANOSPEED	PM ALOX	PM TILOX	KM TILOX		L	ls	R	S
	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.					
MTNZ 304	42791	42790	42793	42792	41018	N	20,00	3,5	0,4	3,075 $^{\pm 0,075}$
MTNZ 3,5	11035	-	11032	11034	-	N	20,00	3,5	0,2	3,550 $^{+0,080}$
MTNZ 402	11039	15723	11036	11038	15724	N	20,00	3,5	0,2	4,000 $^{+0,200}$
MTNZ 404	42797	42796	42799	42798	41017	N	20,00	3,5	0,4	4,100 $^{\pm 0,100}$
MTNZ 504	11043	54667	11040	11042	54668	N	25,00	4,2	0,4	5,000 $^{+0,250}$
MTNZ 508	42801	42800	42803	42802	41000	N	25,00	4,2	0,8	5,125 $^{\pm 0,125}$
MTNZ 604	42805	42804	42807	42806	41019	N	30,00	4,9	0,4	6,125 $^{\pm 0,125}$
MTNZ 608	42809	42808	42811	42810	41196	N	30,00	4,9	0,8	6,125 $^{\pm 0,125}$
MTNZ 808	42814	42813	42816	42815	42812	N	30,00	6,4	0,8	8,125 $^{\pm 0,125}$
MTNZ 812	42818	42817	42820	42819	41197	N	30,00	6,4	1,2	8,125 $^{\pm 0,125}$

MTNZ-Roughing

Grooved cutting edge and wave shaped turning edges. Chip control even when machining high alloy steels and stainless steels.

Fitting tool holders

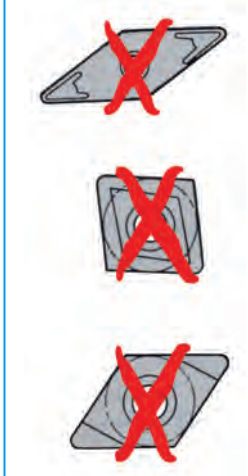


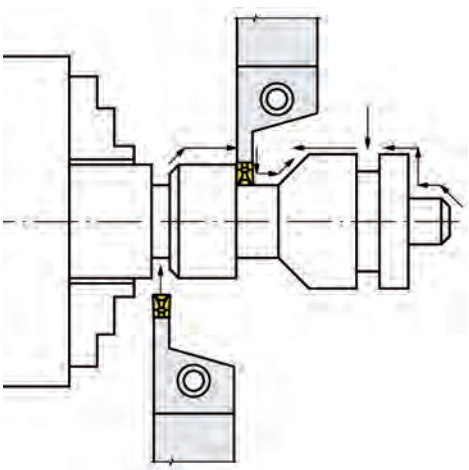
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How to write an order: **recommended**

1 St.	P92 CXCBL 1212 K30 10	or:	**1 St.**	**ID-Nr. 28189**
10 St.	MTNZ 304 PM NANOSPEED	or:	**10 St.**	**ID-Nr. 42791**

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... all operations with 1 tool holder and 1 insert ...

- Face turning
- Profiling
- Grooving
- Large groove cutting
- Roughing
- Finishing
- Chamfering
- Parting-off

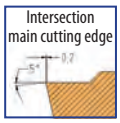
Inserts for grooving and turning

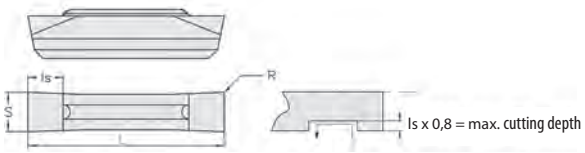


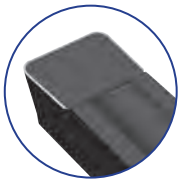
new!

OTXC

System P92







Enlarged view

WG300 Ref.	KM CASTSPEED		L	ls	R	S ±0,10
	ID-Nr.					
OTXC 304	52919	N	20 ±0,15	3,5	0,4	3,08
OTXC 402	52920	N	20 ±0,15	3,5	0,2	4,08
OTXC 404	52921	N	20 ±0,15	3,5	0,4	4,08
OTXC 504	52922	N	25 ±0,20	4,2	0,4	5,13
OTXC 508	52923	N	25 ±0,20	4,2	0,8	5,13
OTXC 604	52924	N	30 ±0,20	6,4	0,4	6,13
OTXC 608	52925	N	30 ±0,20	6,4	0,8	6,13
OTXC 808	52926	N	30 ±0,20	6,4	0,8	8,13
OTXC 812	52927	N	30 ±0,20	6,4	1,2	8,13

OTXC Cutting chip breaker...

CVD coated inserts especially recommended for cast materials

Fitting tool holders


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p. 73


p. 76


p. 78


p. 95


p. 100


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Dealer	Kemmer	
Customer	266	
Material	Cast GJS700	
Treatment	with inclusions	
Type of machine	Vertical CNC lath	
Brand / Model	DOOSAN PUMA V550M	
Power	30 KW	
Machine stability	Standard	
DETAILS	KEMMER	
Insert	OTXC 812	
Grade	CASTSPEED	
Toolhor	Standard	
Vc [m/min]	120	Constant
UPM [rpm]	69	
f [mm/rev]	0,2	
Depth of groove [mm]	12,5	
Part diameter [mm]	547,75	
Max. width of groove [mm]	12,5	
Number of grooves	4	
RESULT	**20 GROOVES**	

The No. 1

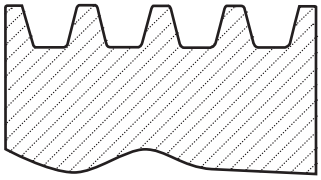
in competition testing against the new MT-CVD coating

Description on p. 214

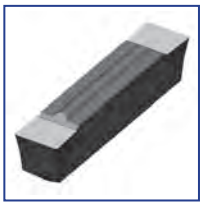
Pictures



V-belt profile



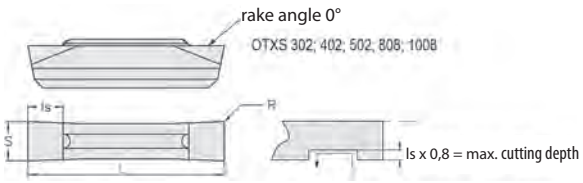
Stechdrehplatten zum Einstechen und Längsdrehen

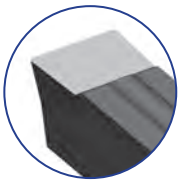


OTXS

System P92





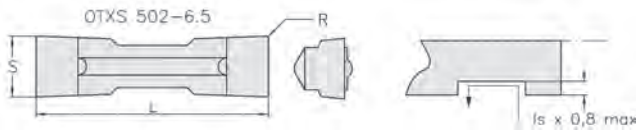


Enlarged view

WG300 Ref.	PM	KM		L	ls	R	S
	ID-Nr.	ID-Nr.					
OTXS 302	11199	11198	N	20	3,5	0,2	$3,0^{+0,15}$
OTXS 402	11201	11200	N	20	3,5	0,2	$4,0^{+0,20}$
OTXS 502	11203	11202	N	25	4,2	0,2	$5,0^{+0,25}$
OTXS 502 6,5	11205	11204	N	25	4,9	0,2	$6,5^{+0,25}$
OTXS 808	-	20544	N	30	6,4	0,8	$8,05^{+0,25}$
OTXS 1008	-	20543	N	30	8,1	0,8	$10,05^{+0,25}$

OTXS-Semi finishing

Ground top rake with 0° rake angle. Recommended for cast materials and for **customers applications**.

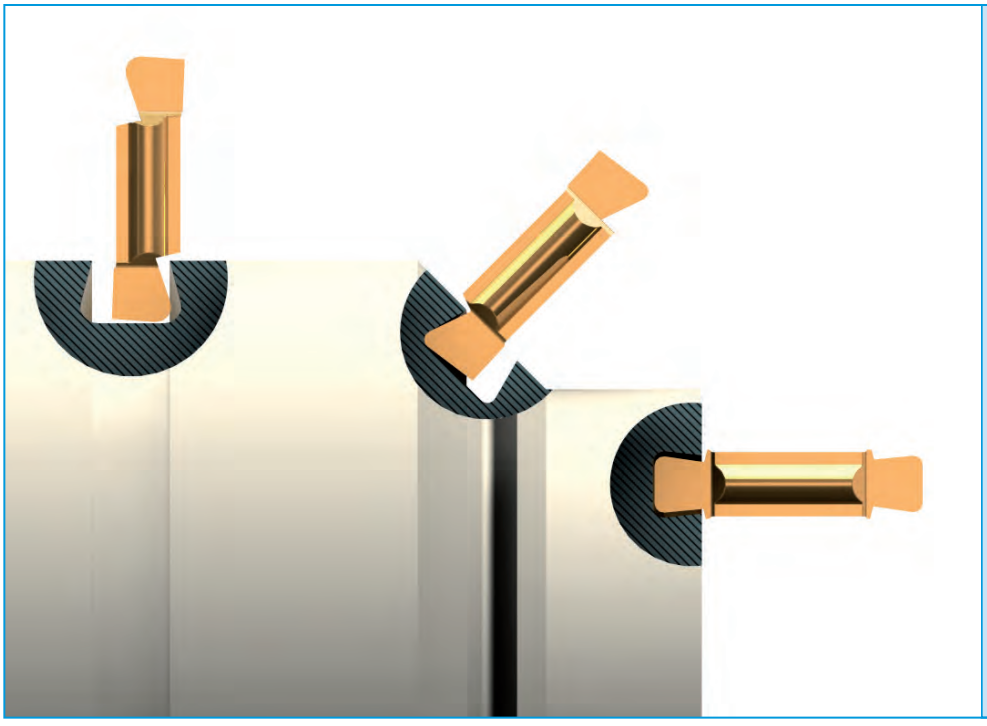


Fitting tool holders



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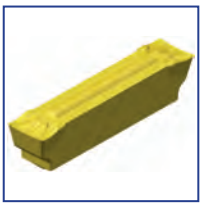
Technical section page 205 onwards



Examples for tailor made applications

Please find further applications on page 173 onwards.

Inserts for grooving and turning

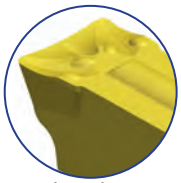


STNZ / STNG

System P92







Enlarged view

WG300 Ref.	KM	KM Aluspeed	KM HYPERSPEED	KM TILOX		L	Ls	R	S
	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.					
STNZ 504		45003	45009	45117	N	25,0	2,5	0,4	$5,25^{\pm0,075}$
STNG 502	45014	45004	45010	45118	N	25,0	2,5	0,2	$5,10^{-0,050}$
STNG 504	45015	45005	45011	45119	N	25,0	2,5	0,4	$5,10^{-0,050}$

Comment:

STNZ/STNG has been developed, to machine materials, which are difficult to cut, like:

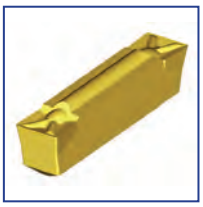
- nonferrous heavy metals
- nickel alloys
- plastic materials
- composite materials
- aluminum alloys

STNZ = polished surfaces, honed edges
STNG = polished surfaces, sharp cutting edges

Fitting tool holders



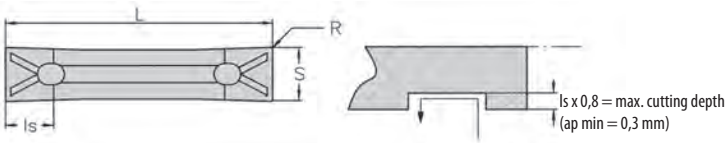
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VTNS

System P92







Enlarged view

WG300 Ref.	PM NANOSPEED	PM ALOX	PM TILOX	GF110 TILOX	KM TILOX		L	ls	R	S
	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.					
VTNS 302	11445	11442	11444	54743	30668	N	20	3,0	0,2	$3,0^{+0,15}$
VTNS 3,5	11449	11446	11448	54686	54674	N	20	3,0	0,2	$3,55^{\pm0,035}$
VTNS 402	11453	11450	11452	54689	54677	N	20	3,5	0,2	$4,0^{+0,20}$
VTNS 502	11457	11454	11456	54692	54682	N	25	4,2	0,2	$5,0^{+0,25}$

VTNS-Roughing to finishing

Horizontal cutting edge with V-shaped chip breaker. Horizontal turning edges with large chip spaces to allow deep cuts. Especially recommended for carbon steels, low alloy steels and free cutting materials.

Fitting tool holders



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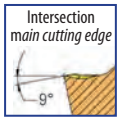
Technical section page 205 onwards

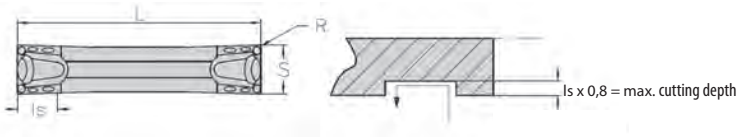
Inserts for copying and turning

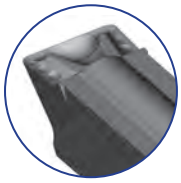


XTNS

System P92







Enlarged view

WG300 Ref.	KM TILOX	GF110 TILOX		L	ls	R	S
	ID-Nr.	ID-Nr.					
XTNS 202	14268	38917	N	20,15	2,00	0,2	$2{,}05^{+0{,}10}$
XTNS 302	14055	38918	N	20,15	3,00	0,2	$3{,}05^{+0{,}15}$
XTNS 304	14053	38919	N	20,15	3,00	0,4	$3{,}05^{+0{,}15}$
XTNS 404	38903	38920	N	20,15	3,40	0,4	$4{,}05^{+0{,}15}$
XTNS 408	38904	38921	N	20,15	3,40	0,8	$4{,}05^{+0{,}15}$
XTNS 504	38905	54696	N	25,15	4,20	0,4	$5{,}05^{+0{,}25}$
XTNS 508	38906	54699	N	25,15	4,20	0,8	$5{,}05^{+0{,}25}$
XTNS 604	38910	54701	N	30,10	4,50	0,4	$6{,}05^{+0{,}25}$
XTNS 608	38911	54702	N	30,10	4,50	0,8	$6{,}05^{+0{,}25}$
XTNS 612	38912	54703	N	30,10	4,50	1,2	$6{,}05^{+0{,}25}$
XTNS 808	38913	54704	N	30,10	6,00	0,8	$8{,}05^{+0{,}25}$
XTNS 812	38914	54705	N	30,10	6,00	1,2	$8{,}05^{+0{,}25}$
XTNS 1008	38915	54706	N	30,10	6,00	0,8	$10{,}05^{+0{,}25}$
XTNS 1012	38916	54669	N	30,10	6,10	1,2	$10{,}05^{+0{,}25}$

XTNS - Roughing to finishing

A 9° declining major cutting edge with a reinforcing chamfer and a 24° positive entry to the chip former, achieve excellent chip control especially on difficult to cut materials. The minor cutting edges with 16° positive entry angle achieve efficient profile turning creating clean surfaces.
Although the insert has been developed for universal cutting and turning, parting off tests with KM TILOX proved excellent tool life on stainless steels, e.g. 1.4404 (X2 CrNiMo1810). Therefore the insert is also recommended for stainless steel parting off.
The best tool life on parting off hexagon material 1.4571 Ø 38 has been 409 pcs so far. This could be increased to an amazing 678 pcs with the same speeds. (Vc: 60 m/min; f: 0,05 mm/Rev.)

Fitting tool holders


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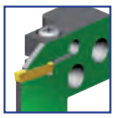

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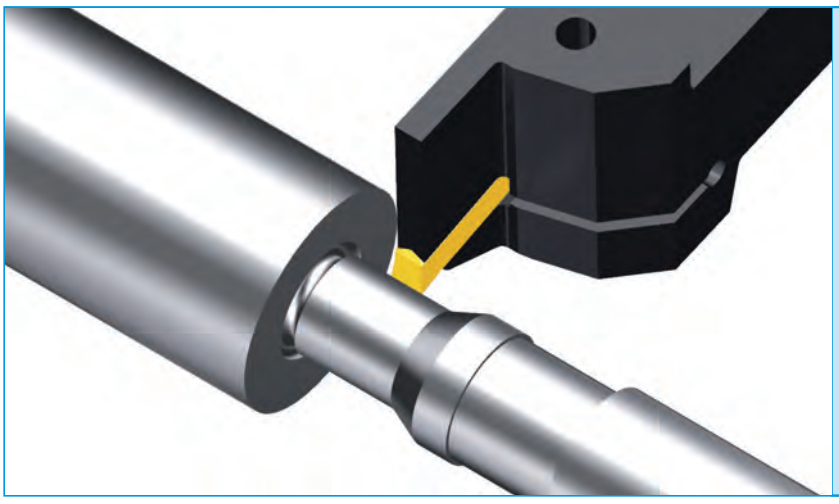

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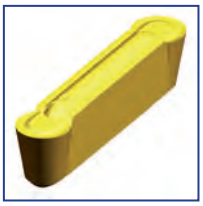


Recommendation: Overhead positioning

- Avoiding chip build-up
- Reducing danger of tool fracturing caused by chip build-up
- Fine surfaces



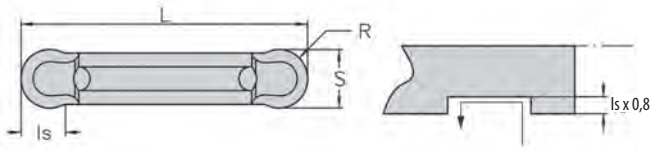
Inserts for copying and turning

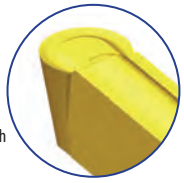


RTNG

System P92







Enlarged view

WG260 Ref.	GF 110	GF 110 NANOSPEED		L	ls	R	S$^{\pm 0,025}$
	ID-Nr.	ID-Nr.					
RTNG 210	34649	34650	N	20,00	1,71	1,0	2,00
RTNG 315	19302	20471	N	20,00	2,60	1,5	3,00
RTNG 420	13415	12681	N	20,00	3,40	2,0	4,00
RTNG 525	13416	13417	N	25,00	4,10	2,5	5,00
RTNG 630	19303	20508	N	30,00	4,90	3,0	6,00
RTNG 840	19304	20509	N	30,00	6,50	4,0	8,00
RTNG 1050	19310	20510	N	30,00	8,10	5,0	10,00

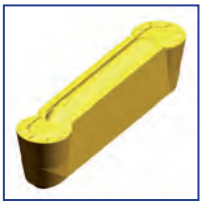
RTNG-Finishing

Precision ground full radius insert. Horizontal cutting edge with parallel chip breaker. The **micrograin** insert is especially recommended for heat resistant alloys.

Fitting tool holders



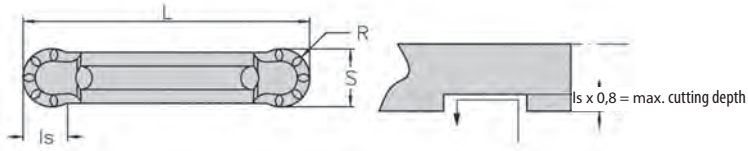
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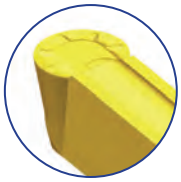


RTNX

System P92







Enlarged view

WG300 Ref.	KM TILOX		L	ls	R	S
	ID-Nr.					
RTNX 210	31706	N	20,10	1,76	1,1	2,05 $^{+0,10}$
RTNX 315	19298	N	20,00	2,60	1,5	3,05 $^{+0,15}$
RTNX 420	13067	N	20,00	3,40	2,0	4,05 $^{+0,15}$
RTNX 525	13414	N	25,00	4,10	2,5	5,05 $^{+0,25}$
RTNX 630	19299	N	30,00	4,90	3,0	6,05 $^{+0,25}$
RTNX 840	19300	N	30,00	6,50	4,0	8,05 $^{+0,25}$
RTNX 1050	19301	N	30,00	8,10	5,0	10,05 $^{+0,25}$

RTNX-Roughing

Full radius insert. The horizontal cutting edge with its chip breaker rips makes short chips on almost all materials.

Fitting tool holder



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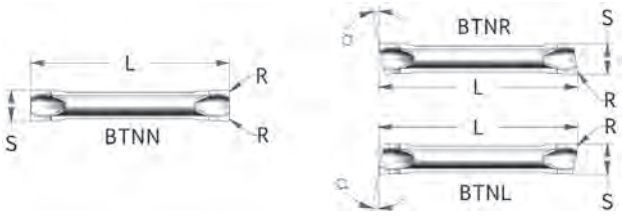
Parting off and grooving inserts with 2 edges



BTNN/R/L

System P92







Enlarged view

WG300 Ref.	KM NANO SPEED	PM NANO SPEED	KM TILOX	PM TILOX	KM CARBO SPEED	GS 530 NANO SPEED	( )	L ±0,10	R	S ±0,10	α°
	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.					
BTNN 1,5	-	45058	30595	-	43845	43561	N	15,50	0,2	1,58	0
BTNN 2	34208	45059	30944	-	43846	-	N	20,00	0,2	2,08	0
BTNN 2,5	33999	45060	30850	-	43847	-	N	20,00	0,2	2,58	0
BTNN 3	-	20532	12689	20917	43848	-	N	20,00	0,2	3,08	0
BTNN 4	-	20533	15843	30597	43849	-	N	20,00	0,2	4,08	0
BTNR 1,5 6D	-	45061	30576	-	43850	-	R	15,50	0,2	1,58	6
BTNR 1,5 10D	-	45062	30666	-	43852	-	R	15,50	0,2	1,58	10
BTNR 1,5 16D	-	45063	30667	-	43854	-	R	15,50	0,2	1,58	16
BTNR 2 6D	34210	45064	34209	-	43855	-	R	20,00	0,2	2,08	6
BTNR 2 10D	34207	45065	34206	-	43856	-	R	20,00	0,2	2,08	10
BTNR 2,5 6D	34003	45066	34002	-	43857	-	R	20,00	0,2	2,58	6
BTNR 2,5 10D	34001	45067	34000	-	43858	-	R	20,00	0,2	2,58	10
BTNR 3 6D	-	20534	12690	-	43859	-	R	20,00	0,2	3,08	6
BTNR 3 10D	-	20536	19665	-	43860	-	R	20,00	0,2	3,08	10
BTNR 4 6D	-	20538	15844	-	43861	-	R	20,00	0,2	4,08	6
BTNR 4 10D	-	20540	19667	-	43864	-	R	20,00	0,2	4,08	10
BTNL 1,5 6D	-	45068	30665	-	43866	-	L	15,50	0,2	1,58	6
BTNL 1,5 10D	-	45069	30663	-	43867	-	L	15,50	0,2	1,58	10
BTNL 1,5 16D	-	45070	30664	-	43869	-	L	15,50	0,2	1,58	16
BTNL 2 6D	33994	45071	33993	-	43870	-	L	20,00	0,2	2,08	6
BTNL 2 10D	34205	45072	34204	-	43871	-	L	20,00	0,2	2,08	10
BTNL 2,5 6D	33996	45073	33995	-	43872	-	L	20,00	0,2	2,58	6
BTNL 2,5 10D	33998	45074	33997	-	43873	-	L	20,00	0,2	2,58	10
BTNL 3 6D	-	20535	12688	-	43874	-	L	20,00	0,2	3,08	6
BTNL 3 10D	-	20537	19666	-	43875	-	L	20,00	0,2	3,08	10
BTNL 4 6D	-	20539	15845	-	43877	-	L	20,00	0,2	4,08	6
BTNL 4 10D	-	20541	19668	-	43879	-	L	20,00	0,2	4,08	10

BTN Parting off chip breaker

Grooved parting off edge with reinforced flanks. The deep and spacious **chip-trough** gives excellent chip control. Efficient on almost all materials.

Fitting tool holders


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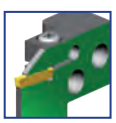

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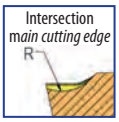
Technical section page 205 onwards

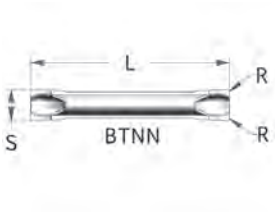
Parting off and grooving inserts with special surface preparation and cutting edge honing

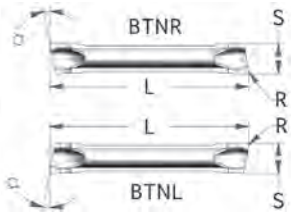


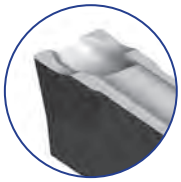
BTNN

System P92









Enlarged view

WG300 Ref.	GF110 CARBOSPEED	GF110 NANOSPEED	GF110 HYPERSPEED	GF110 HARDSPEED		L ±0,10	R	S ±0,10	α°
	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.					
BTNN 1,5	45075	45076	45077	47696	N	15,50	0,2	1,575	0
BTNN 2	45078	45079	45080	47697	N	20,00	0,2	2,075	0
BTNN 2,5	45081	45082	45083	47698	N	20,00	0,2	2,575	0
BTNN 3	42824	42825	42826	47699	N	20,00	0,2	3,075	0
BTNN 4	45085	45086	45087	47700	N	20,00	0,2	4,075	0
BTNL 1,5 7D	49098	49108	-	47711	L	15,50	0,2	1,575	7
BTNL 2 7D	49099	49109	-	47712	L	20,00	0,2	2,075	7
BTNL 2,5 7D	49100	49110	-	47713	L	20,00	0,2	2,575	7
BTNL 3 7D	49101	49111	-	47714	L	20,00	0,2	3,075	7
BTNL 4 7D	49102	49112	-	47715	L	20,00	0,2	4,075	7
BTNR 1,5 7D	49093	49103	-	47706	R	15,50	0,2	1,575	7
BTNR 2 7D	49094	49104	-	47707	R	20,00	0,2	2,075	7
BTNR 2,5 7D	49095	49105	-	47708	R	20,00	0,2	2,575	7
BTNR 3 7D	49096	49106	-	47709	R	20,00	0,2	3,075	7
BTNR 4 7D	49097	49107	-	47710	R	20,00	0,2	4,075	7

Fitting tool holders



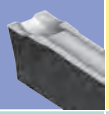
p. 63 p. 65 p. 69 p. 73 p. 76 p. 78 p. 95 p. 100 p. 103 p. 159 p. 193

The new high performance coatings

CARBOSPEED

A new generation of a heat- and wear resisting nitride coating

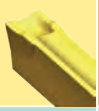
It has been developed especially to machine low and high alloy steels.



NANOSPEED

A super nitride coating

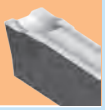
It has been developed especially to machine steels in general and stainless steels.



HYPERSPEED

A super nitride coating

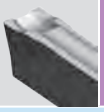
It has been developed especially to machine difficult to cut materials.



HARDSPEED

A super nitride coating

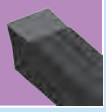
It has been developed to machine especially hard and difficult to cut materials.



CASTSPEED

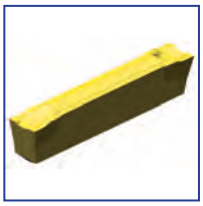
MT-CVD Gasphasendeposition

It has been developed to machine cast iron, alloyed cast iron, ductil cast iron and malleable iron.



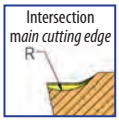
Complete information see page 214

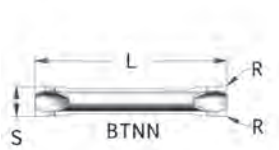
Parting off and grooving inserts

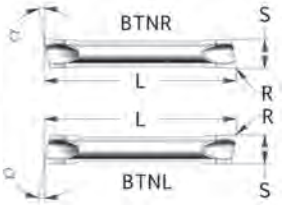


BTNNF/RF/LF

System P92









Enlarged view

WG300 Ref.		GF 110 NANOSPEED	PM NANOSPEED	GF 110 CARBOSPEED		$L^{-0,1}$	R	$S^{\pm 0,1}$	$\alpha°$
		ID-Nr.		ID-Nr.					
BTNNF1,5		48311	54586	49647	N	15,10	0,0	1,58	0
BTNNF 2		48312	54589	49648	N	19,60	0,0	2,08	0
BTNNF 2,5	new!	49633	54590	49649	N	19,60	0,0	2,58	0
BTNNF 3	new!	49634	54591	49650	N	19,60	0,0	3,08	0
BTNRF1,5 6D		48313	54592	49651	R	15,10	0,0	1,58	6
BTNRF1,5 10D	new!	49635	54593	49652	R	15,10	0,0	1,58	10
BTNRF 2 6D		48314	54594	49653	R	19,60	0,0	2,08	6
BTNRF 2 10D	new!	49636	54595	49654	R	19,60	0,0	2,08	10
BTNRF 2,5 6D	new!	49637	54596	49655	R	19,60	0,0	2,58	6
BTNRF 2,5 10D	new!	49638	54597	49656	R	19,60	0,0	2,58	10
BTNRF 3 6D	new!	49639	54598	49657	R	19,60	0,0	3,08	6
BTNRF 3 10D	new!	49640	54599	49658	R	19,60	0,0	3,08	10
BTNLF 1,5 6D		48315	54600	49659	L	15,10	0,0	1,58	6
BTNLF 1,5 10D	new!	49641	54601	49660	L	15,10	0,0	1,58	10
BTNLF 2 6D		48316	54602	49661	L	19,60	0,0	2,08	6
BTNLF 2 10D	new!	49642	54603	49662	L	19,60	0,0	2,08	10
BTNLF 2,5 6D	new!	49643	54604	49663	L	19,60	0,0	2,58	6
BTNLF 2,5 10D	new!	49644	54605	49664	L	19,60	0,0	2,58	10
BTNLF 3 6D	new!	49645	54606	49665	L	19,60	0,0	3,08	6
BTNLF 3 10D	new!	49646	54607	49666	L	19,60	0,0	3,08	10

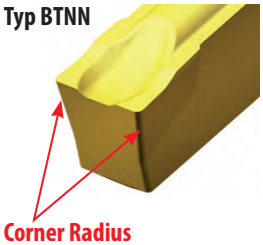
Remark:
Sharply ground cutting edge without corner radius. Recommended for automatic lathe cutting jobs.

Fitting tool holder



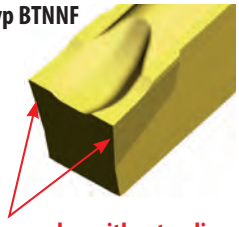
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Typ BTNN



Corner Radius

Typ BTNNF



Sharp edge without radius

The difference BTNN and BTNNF:
F marks an especially sharp edge.
This is recommended for hard and tough materials and also for machining steels.

The way towards the center isn't easy at all:
When beginning the operation all conditions are ideal:
- cutting speed (Vc)
- cooling and
- chip removal

In the end of the operation:
- cutting speed 0!
- cooling inefficient!
- chip removal: may stick!

BTN Parting off chip breaker

Grooved parting off edge with reinforced flanks. The deep and spacious **chip-trough** gives excellent chip control. Efficient on almost all materials.

Parting off and grooving inserts with 2 edges

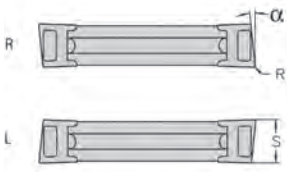


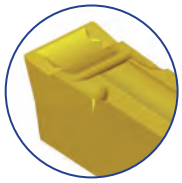
CTD/R/L-ALU

System P92









Enlarged view

WG300 Ref.		GF110	KM	PM NANOSPEED	KM ALUSPEED	GF110 ALUSPEED	( )	L	R	S ±0,10	α°
		ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.						
CTD 1,5 ALU	new!	54954	-	54957	-	54960	N	15,5 ±0,15	0,2	1,58	0
CTD 2 ALU	new!	54955	-	54958	-	54983	N	20 ±0,15	0,2	2,08	0
CTD 2,5 ALU	new!	54956	-	54959	-	54984	N	20 ±0,15	0,2	2,58	0
CTD 3 ALU		-	10400	10402	10709	-	N	20 ±0,15	0,2	3,08	0
CTD 4 ALU		-	10405	10407	30661	-	N	20 ±0,15	0,2	4,08	0
CTD 5 ALU		-	10410	10412	38483	-	N	25 ±0,20	0,2	5,13	0
CTL 3 6D ALU		-	10428	10432	30662	-	L	20 ±0,15	0,2	3,08	6
CTL 4 6D ALU		-	10440	10444	36195	-	L	20 ±0,15	0,2	4,08	6
CTL 5 6D ALU		-	10452	10456	10454	-	L	25 ±0,20	0,2	5,13	6
CTR 3 6D ALU		-	10427	10431	30598	-	R	20 ±0,15	0,2	3,08	6
CTR 4 6D ALU		-	10439	10443	38484	-	R	20 ±0,15	0,2	4,08	6
CTR 5 6D ALU		-	10451	10455	10453	-	R	25 ±0,20	0,2	5,13	6

ALU chip breaker...

Horizontal ground cutting edge. The flat chip chamber conveys chips at high speed.
Recommended for: Nonferrous heavy metals, Machining steels, Thinwalled parts, Unstable components and Pipes.

Fitting tool holders



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Parting off and grooving inserts with 2 edges

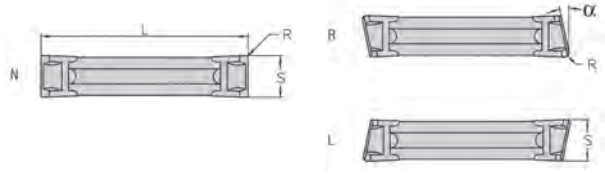


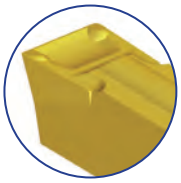
CTD R/L-IT

System P92



Intersection
main cutting edge





Enlarged view

WG300 Ref.		GF110 NANOSPEED	PM NANOSPEED	PM TILOX	KM TILOX	GF110 CARBO-SPEED	PM CARBO-SPEED	KM CARBO-SPEED	( )	L	R	S ±0,10	α°
		ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.					
CTD 1,5	new!	49973	49974	50204	-	49975	49976	-	N	15,5 ±0,15	0,15	1,58	0
CTD 2	new!	49977	49978	50207	-	49979	49980	-	N	20 ±0,15	0,2	2,08	0
CTD 2,5	new!	49981	49982	50209	-	49983	49984	-	N	20 ±0,15	0,2	2,58	0
CTD 3		54827	10404	10403	23613	54828	50210	43880	N	20 ±0,15	0,2	3,08	0
CTD 4		54829	10409	10408	18387	54830	50211	43881	N	20 ±0,15	0,2	4,08	0
CTD 5		54832	10414	10413	43883	54833	50212	43882	N	25 ±0,20	0,2	5,13	0
CTL 1,5 6D	new!	49985	49986	50213	-	49987	49988	-	L	15,5 ±0,15	0,15	1,58	6
CTL 2 6D	new!	49989	49990	50214	-	49991	49992	-	L	20 ±0,15	0,2	2,08	6
CTL 2,5 6D	new!	49993	49994	50215	-	49995	49996	-	L	20 ±0,15	0,2	2,58	6
CTL 3 6D		54834	10438	10436	21757	54835	50219	54612	L	20 ±0,15	0,2	3,08	6
CTL 4 6D		54836	10450	10448	54608	54837	50220	54613	L	20 ±0,15	0,2	4,08	6
CTL 5 6D		54838	10462	10460	54609	54839	50221	54614	L	25 ±0,20	0,2	5,13	6
CTR 1,5 6D	new!	49997	49998	50216	-	49999	50000	-	R	15,5 ±0,15	0,15	1,58	6
CTR 2 6D	new!	50001	50002	50217	-	50003	50004	-	R	20 ±0,15	0,2	2,08	6
CTR 2,5 6D	new!	50005	50006	50218	-	50007	50008	-	R	20 ±0,15	0,2	2,58	6
CTR 3 6D		54840	10437	10435	28953	54841	50222	54615	R	20 ±0,15	0,2	3,08	6
CTR 4 6D		54842	10449	10447	54610	54843	50223	54616	R	20 ±0,15	0,2	4,08	6
CTR 5 6D		54844	10461	10459	54611	54845	50224	54617	R	25 ±0,20	0,2	5,13	6

IT Classic chip breaker...

Horizontal, chamfered parting off edge with reinforced flanks and large chip breaker. To be used universally and especially on interrupted cuts. Alloy steels, stainless steels, interrupted cuts.

Fitting tool holders


p. 63


p. 65


p. 69


p. 73


p. 76


p. 78

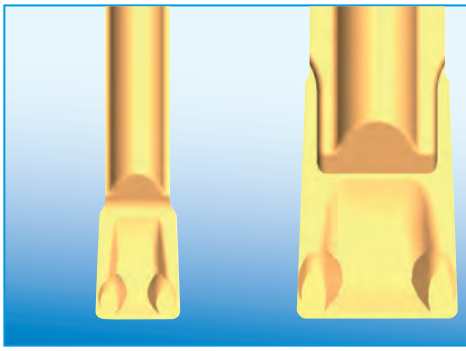

p. 95


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p. 159


p. 193



The cost cutters

Application of small width safe an enormous amount of material, costs and energy.

Parting off and grooving inserts with 2 edges



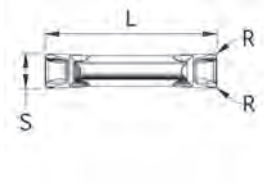
new!

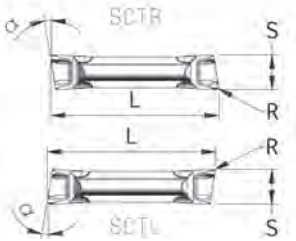
SCTD

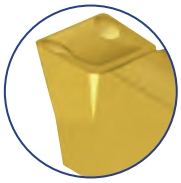
System P92



Intersection main cutting edge







Enlarged view

WG300 Ref.	GF110 NANO-SPEED	KM NANO-SPEED	PM NANO-SPEED	GF110 CARBO-SPEED	KM CARBO-SPEED	PM CARBO-SPEED	( )	L	R	S ±0,10	α°
	ID-Nr.		ID-Nr.	ID-Nr.		ID-Nr.					
SCTD 1,5	50009	-	50010	50011	-	50012	N	15,5 ±0,15	0,2	1,58	0
SCTD 2	50013	-	50014	50015	-	50016	N	20 ±0,15	0,2	2,08	0
SCTD 2,5	50017	-	50018	50019	-	50020	N	20 ±0,15	0,2	2,58	0
SCTD 3,0	-	53868	53869	-	53870	53871	N	20 ±0,15	0,2	3,08	0
SCTD 4,0	-	53875	53876	-	53877	53878	N	20 ±0,15	0,2	4,08	0
SCTD 5,0	-	53879	53880	-	53881	53882	N	25 ±0,20	0,2	5,13	0
SCTL 1,5 6D	50021	-	50022	50023	-	50024	L	15,5 ±0,15	0,2	1,58	6
SCTL 2 6D	50025	-	50026	50027	-	50028	L	20 ±0,15	0,2	2,08	6
SCTL 2,5 6D	50029	-	50030	50031	-	50032	L	20 ±0,15	0,2	2,58	6
SCTL 3,0 6D	-	53883	53884	-	53885	53886	L	20 ±0,15	0,2	3,08	6
SCTR 1,5 6D	50033	-	50034	50035	-	50036	R	15,5 ±0,15	0,2	1,58	6
SCTR 2 6D	50037	-	50038	50039	-	50040	R	20 ±0,15	0,2	2,08	6
SCTR 2,5 6D	50041	-	50042	50043	-	50044	R	20 ±0,15	0,2	2,58	6
SCTR 3,0 6D	-	53887	53888	-	53889	53890	R	20 ±0,15	0,2	3,08	6

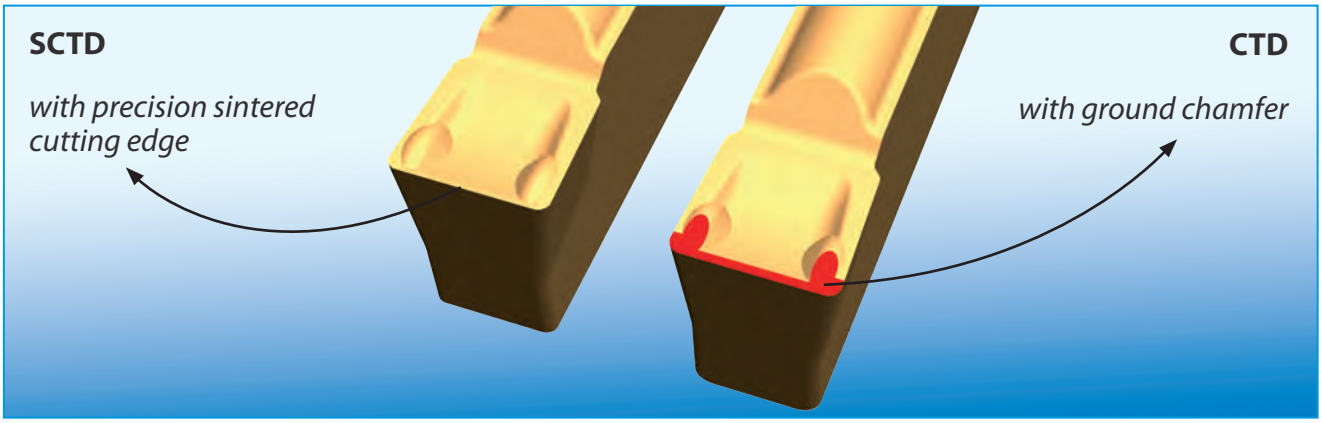
SUPERNOVA Parting off geometry...

Slightly honed cutting edge with reinforced flanks and large chip through.

Fitting tool holders



p. 63 p. 65 p. 69 p. 73 p. 76 p. 78 p. 95 p. 100 p. 103 p. 159 p. 193

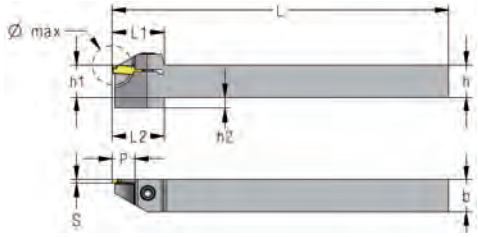


Holders for parting off, grooving and turning for cutting width 1,5 mm



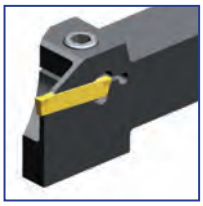
P92 CXCBL
System P92

LH holder



P92 CXCBR
System P92

RH holder



WG380 Ref.	ID-Nr.	( )	Ø max	h	h1	h2	b	P	S	L	L1	L2	
P92 CXCBL 0808 K15 08	33450	L	16	8	8	4	8	8	1,5	125	19	19	10
P92 CXCBL 1010 K15 08	30110	L	16	10	10	6	10	8	1,5	125	19	19	10
P92 CXCBL 1010 K15 14	44738	L	28	10	10	6	10	14	1,5	125	25	22	10
P92 CXCBL 1212 K15 08	30109	L	16	12	12	4	12	8	1,5	125	19	19	10
P92 CXCBL 1212 K15 14	44739	L	28	12	12	4	12	14	1,5	125	25	22	10
P92 CXCBL 1616 K15 08	30100	L	16	16	16	-	16	8	1,5	125	19	-	10
P92 CXCBL 1616 K15 14	44740	L	28	16	16	-	16	14	1,5	125	25	-	10
P92 CXCBL 2020 K15 14	44741	L	28	20	20	-	25	14	1,5	125	25	-	10
P92 CXCBL 2525 M15 14	33460	L	28	25	25	-	25	14	1,5	150	30	-	1
P92 CXCBR 0808 K15 08	33449	R	16	8	8	4	8	8	1,5	125	19	19	10
P92 CXCBR 1010 K15 08	30124	R	16	10	10	6	10	8	1,5	125	19	19	10
P92 CXCBR 1010 K15 14	44733	R	28	10	10	6	10	14	1,5	125	25	22	10
P92 CXCBR 1212 K15 08	30125	R	16	12	12	4	12	8	1,5	125	19	19	10
P92 CXCBR 1212 K15 14	44734	R	28	12	12	4	12	14	1,5	125	25	22	10
P92 CXCBR 1616 K15 08	30126	R	16	16	16	-	16	8	1,5	125	19	-	10
P92 CXCBR 1616 K15 14	44735	R	28	16	16	-	16	14	1,5	125	25	-	10
P92 CXCBR 2020 K15 14	44736	R	28	20	20	-	25	14	1,5	125	25	-	10
P92 CXCBR 2525 M15 14	33459	R	28	25	25	-	25	14	1,5	150	30	-	1

Bemerkung

Holder and inserts with the same "S" dimension fit together.

Fitting inserts see below

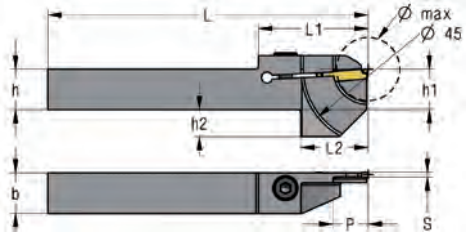
Holders for parting off, grooving and turning for Traub TR12 for cutting width 1,5 mm

new!



P92 CXCBR
System P92

RH holder



P92 CXCBR
System P92

RH holder



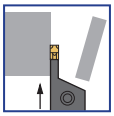
new!

WG380 Ref.	ID-Nr.	( )	Ø max	h	h1	h2	b	P	S	L	L1	L2	
P92 CXCBR 1212 K15 10 TR12	54546	R	20	12	12	8	12	10	1,5	95	32,5	20	18

Fitting inserts



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Abrasion by cutting action

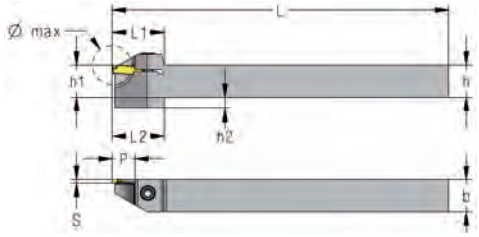
Information about plasma-nitrided boring bars on page 217

Holders for parting off, grooving and turning for cutting width 2 and 2,5 mm



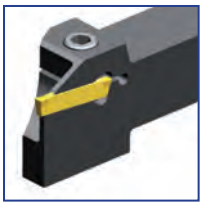
P92 CXCBL
System P92

LH holder



P92 CXCBR
System P92

RH holder

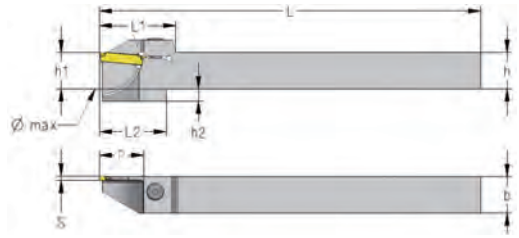


WG380 Ref.	ID-Nr.		Ø max	h	h1	h2	b	P	S	L	L1	L2	
P92 CXCBL 0808 K20+25 11	33444	L	22	8	8	4	8	11	2+2,5	125	19,5	19,5	10
P92 CXCBL 1010 K20+25 11	33445	L	22	10	10	6	10	11	2+2,5	125	19,5	19,5	10
P92 CXCBL 1212 K20+25 11	33448	L	22	12	12	4	12	11	2+2,5	125	19,5	19,5	10
P92-CXCBL 1212 K20+25 14	44742	L	28	12	12	4	12	14	2+2,5	125	25	22	10
P92 CXCBL 1616 K20+25 11	33452	L	22	16	16	-	16	11	2+2,5	125	19,5	-	10
P92 CXCBL 1616 K20+25 17	33473	L	34	16	16	5	16	17	2+2,5	125	34	26	1
P92 CXCBL 2020 K20+25 14	33454	L	28	20	20	-	20	14	2+2,5	125	30	-	1
P92 CXCBL 2020 K20+25 17	33474	L	34	20	20	-	20	17	2+2,5	125	34	-	1
P92 CXCBL 2525 M20+25 14	33455	L	28	25	25	-	25	14	2+2,5	150	30	-	1
P92 CXCBL 2525 M20+25 17	33475	L	34	25	25	-	25	17	2+2,5	150	34	-	1
P92 CXCBR 0808 K20+25 11	33336	R	22	8	8	4	8	11	2+2,5	125	19,5	19,5	10
P92 CXCBR 1010 K20+25 11	33446	R	22	10	10	6	10	11	2+2,5	125	19,5	19,5	10
P92 CXCBR 1212 K20+25 11	33447	R	22	12	12	4	12	11	2+2,5	125	19,5	19,5	10
P92-CXCBR 1212 K20+25 14	44737	R	28	12	12	4	12	14	2+2,5	125	25	22	10
P92 CXCBR 1616 K20+25 11	33451	R	22	16	16	-	16	11	2+2,5	125	19,5	-	10
P92 CXCBR 1616 K20+25 17	33470	R	34	16	16	5	16	17	2+2,5	125	34	26	1
P92 CXCBR 2020 K20+25 14	33453	R	28	20	20	-	20	14	2+2,5	125	30	-	1
P92 CXCBR 2020 K20+25 17	33471	R	34	20	20	-	20	17	2+2,5	125	34	-	1
P92 CXCBR 2525 M20+25 14	33456	R	28	25	25	-	25	14	2+2,5	150	30	-	1
P92 CXCBR 2525 M20+25 17	33472	R	34	25	25	-	25	17	2+2,5	150	34	-	1



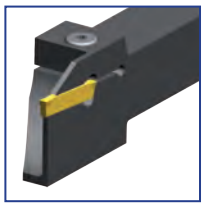
P92 CXCBL...14
System P92

LH holder



P92 CXCBR...14
System P92

RH holder



Comment

Tool holders with an extension of 17 mm offer an enlarged range for parting off. When used for turning, morate feeds should be applied.

Holder and inserts with the same "S" dimension fit together.

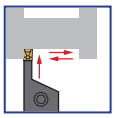
Advantage!

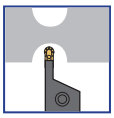
In these tool holders 2 different insert fit: width 2,0 mm or 2,5 mm.

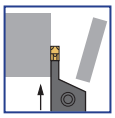
Fitting inserts



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p. 57-62

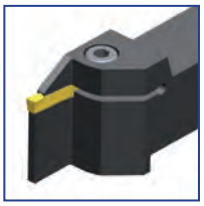


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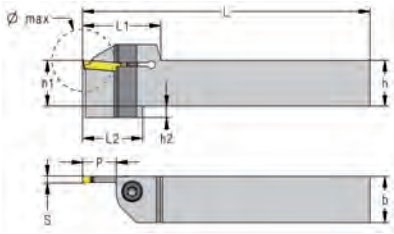
Tailor made hi pressure cooling system available.
More information at page192

Holders for parting off, grooving and turning for cutting width range 3 to 3,5 mm



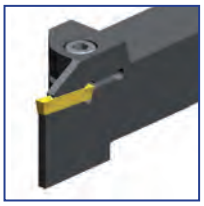
P92 CXCBL
System P92

LH holder



P92 CXCBR
System P92

RH holder



WG380 Ref.	ID-Nr.	( )	Ø max	h	h1	h2	b	P	S	L	L1	L2	
P92 CXCBL 1212 K30 10	28189	L	20	12	12	5	12	10	3,0	125	21,0	22	11
P92 CXCBL 1212 K30 14	19698	L	28	12	12	5	12	14	3,0	125	34,0	26	1
P92 CXCBL 1616 K30 10	38514	L	20	16	16	5	16	10	3,0	125	28,0	22	1
P92 CXCBL 1616 K30 14	10092	L	28	16	16	5	16	14	3,0	125	34,0	26	1
P92 CXCBL 1616 K30 17	10094	L	34	16	16	5	16	17	3,0	125	37,0	29	1
P92 CXCBL 2020 K30 10	38515	L	20	20	20	5	20	10	3,0	125	30,0	26	1
P92 CXCBL 2020 K30 14	10096	L	28	20	20	5	20	14	3,0	125	34,0	26	1
P92 CXCBL 2020 K30 17	10098	L	34	20	20	5	20	17	3,0	125	37,0	29	1
P92 CXCBL 2020 K35 17	10100	L	34	20	20	5	20	17	3,5	125	37,0	29	1
P92 CXCBL 2525 M30 10	31254	L	20	25	25	-	25	10	3,0	150	30,0	-	2
P92 CXCBL 2525 M30 14	10108	L	28	25	25	-	25	14	3,0	150	34,0	-	2
P92 CXCBL 2525 M30 17	10110	L	34	25	25	-	25	17	3,0	150	37,0	-	2
P92 CXCBL 2525 M35 17	10112	L	34	25	25	-	25	17	3,5	150	37,0	-	2
P92 CXCBR 1212 K30 10	28188	R	20	12	12	5	12	10	3,0	125	21,0	22	11
P92 CXCBR 1212 K30 14	19533	R	28	12	12	5	12	14	3,0	125	34,0	26	1
P92 CXCBR 1616 K30 10	38516	R	20	16	16	5	16	10	3,0	125	28,0	22	1
P92 CXCBR 1616 K30 14	10091	R	28	16	16	5	16	14	3,0	125	34,0	26	1
P92 CXCBR 1616 K30 17	10093	R	34	16	16	5	16	17	3,0	125	37,0	29	1
P92 CXCBR 2020 K30 10	38517	R	20	20	20	5	20	10	3,0	125	30,0	26	1
P92 CXCBR 2020 K30 14	10095	R	28	20	20	5	20	14	3,0	125	34,0	26	1
P92 CXCBR 2020 K30 17	10097	R	34	20	20	5	20	17	3,0	125	37,0	29	1
P92 CXCBR 2020 K35 17	10099	R	34	20	20	5	20	17	3,5	125	37,0	29	1
P92 CXCBR 2525 M30 10	36432	R	20	25	25	-	25	10	3,0	150	30,0	-	2
P92 CXCBR 2525 M30 14	10107	R	28	25	25	-	25	14	3,0	150	34,0	-	2
P92 CXCBR 2525 M30 17	10109	R	34	25	25	-	25	17	3,0	150	37,0	-	2
P92 CXCBR 2525 M35 17	10111	R	34	25	25	-	25	17	3,5	150	37,0	-	2

Comment

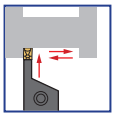
Tool holders with an extension of 17 mm offer an enlarged range for parting off. When used for turning, morate feeds should be applied.

Holder and inserts with the same "S" dimension fit together.

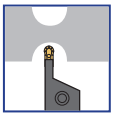
Fitting inserts



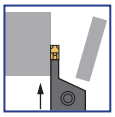
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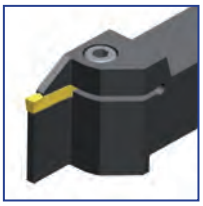


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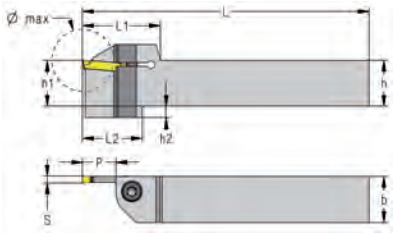
Tailor made hi pressure cooling system available.
More information at page192

Holders for parting off, grooving and turning for cutting width range 4 to 5 mm



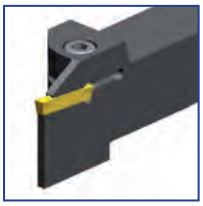
P92 CXCBL
System P92

LH holder



P92 CXCBR
System P92

RH holder



WG380 Ref.	ID-Nr.	( )	Ø max	h	h1	h2	b	P	S	L	L1	L2	
P92 CXCBL 1212 K40 10	28190	L	20	12	12	5	12	10	4	125	28,0	22	11
P92 CXCBL 1212 K40 14	19756	L	28	12	12	5	12	14	4	125	34,0	26	1
P92 CXCBL 1616 K40 10	38523	L	20	16	16	5	16	10	4	125	28,0	22	1
P92 CXCBL 1616 K40 14	19476	L	28	16	16	5	16	14	4	125	34,0	26	1
P92 CXCBL 1616 K40 17	28191	L	34	16	16	5	16	17	4	125	37,0	29	1
P92 CXCBL 2020 K40 10	38524	L	20	20	20	5	20	10	4	125	30,0	26	1
P92 CXCBL 2020 K40 14	10102	L	28	20	20	5	20	14	4	125	34,0	26	1
P92 CXCBL 2020 K40 17	10104	L	34	20	20	5	20	17	4	125	37,0	29	1
P92 CXCBL 2020 K50 10	19568	L	20	20	20	5	20	10	5	125	34,5	30	1
P92 CXCBL 2020 K50 20	44224	L	40	20	20	5	20	20	5	125	40,0	33	2
P92 CXCBL 2525 M40 10	38525	L	20	25	25	-	25	10	4	150	30,0	-	2
P92 CXCBL 2525 M40 14	10114	L	28	25	25	-	25	14	4	150	34,0	-	2
P92 CXCBL 2525 M40 17	10116	L	34	25	25	-	25	17	4	150	37,0	-	2
P92 CXCBL 2525 M50 10	38526	L	20	25	25	-	25	10	5	150	34,5	-	2
P92 CXCBL 2525 M50 20	10118	L	40	25	25	-	25	20	5	150	40,0	-	2
P92 CXCBR 1212 K40 10	25920	R	20	12	12	5	12	10	4	125	28,0	22	11
P92 CXCBR 1212 K40 14	19697	R	28	12	12	5	12	14	4	125	34,0	26	1
P92 CXCBR 1616 K40 10	20619	R	20	16	16	5	16	10	4	125	28,0	22	1
P92 CXCBR 1616 K40 14	19477	R	28	16	16	5	16	14	4	125	34,0	26	1
P92 CXCBR 1616 K40 17	23199	R	34	16	16	5	16	17	4	125	37,0	29	1
P92 CXCBR 2020 K40 10	38527	R	20	20	20	5	20	10	4	125	30,0	26	1
P92 CXCBR 2020 K40 14	10101	R	28	20	20	5	20	14	4	125	34,0	26	1
P92 CXCBR 2020 K40 17	10103	R	34	20	20	5	20	17	4	125	37,0	29	1
P92 CXCBR 2020 K50 10	16033	R	20	20	20	5	20	10	5	125	34,5	30	1
P92 CXCBR 2020 K50 20	44223	R	40	20	20	5	20	20	5	125	40,0	33	2
P92 CXCBR 2525 M40 10	38528	R	20	25	25	-	25	10	4	150	30,0	-	2
P92 CXCBR 2525 M40 14	10113	R	28	25	25	-	25	14	4	150	34,0	-	2
P92 CXCBR 2525 M40 17	10115	R	34	25	25	-	25	17	4	150	37,0	-	2
P92 CXCBR 2525 M50 10	38529	R	20	25	25	-	25	10	5	150	34,5	-	2
P92 CXCBR 2525 M50 20	10117	R	40	25	25	-	25	20	5	150	40,0	-	2

Comment

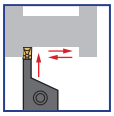
Tool holders with an extension of 17 mm offer an enlarged range for parting off. When used for turning, morate feeds should be applied.

Holder and inserts with the same "S" dimension fit together.

Fitting inserts



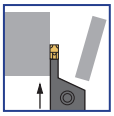
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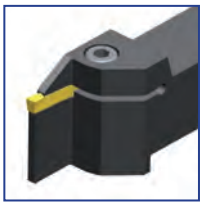


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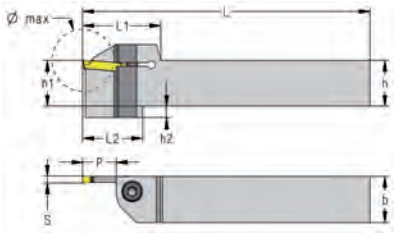
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Holders for parting off, grooving and turning for cutting width range 6 to 10 mm



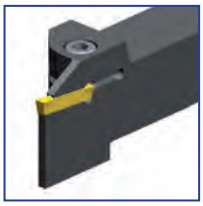
P92 CXCBL
System P92

LH holder



P92 CXCBR
System P92

RH holder



WG380 Ref.	ID-Nr.	( )	Ø max	h	h1	h2	b	P	S	L	L1	L2	
P92 CXCBL 2020 M60 10	21252	L	20	20	20	5	20	10	6	150	38	30	2
P92 CXCBL 2020 M60 20	19757	L	40	20	20	5	20	20	6	150	43	35	2
P92 CXCBL 2525 M60 10	38520	L	20	25	25	-	25	10	6	150	38	-	2
P92 CXCBL 2525 M60 20	19347	L	40	25	25	-	25	20	6	150	40	-	2
P92 CXCBL 3225 P60 26	19349	L	52	32	32	-	25	26	6	170	45	-	2
P92 CXCBL 2020 M80 10	21255	L	20	20	20	5	20	10	8	150	37	28	2
P92 CXCBL 2020 M80 14	30298	L	28	20	20	5	20	14	8	150	40	31	2
P92 CXCBL 2020 M80 20	21097	L	40	20	20	5	20	20	8	150	46	37	3
P92 CXCBL 2525 M80 10	38521	L	20	25	25	-	25	10	8	150	38	-	2
P92 CXCBL 2525 M80 20	19354	L	40	25	25	-	25	20	8	150	43	-	3
P92 CXCBL 3225 P80 26	19350	L	52	32	32	-	25	26	8	170	47	-	3
P92 CXCBL 3225 P100 26	19352	L	52	32	32	-	25	26	10	170	47	-	3
P92 CXCBR 2020 M60 10	21253	R	20	20	20	5	20	10	6	150	38	30	2
P92 CXCBR 2020 M60 20	19758	R	40	20	20	5	20	20	6	150	43	35	2
P92 CXCBR 2525 M60 10	20803	R	20	25	25	-	25	10	6	150	38	-	2
P92 CXCBR 2525 M60 20	19327	R	40	25	25	-	25	20	6	150	40	-	2
P92 CXCBR 3225 P60 26	19348	R	52	32	32	-	25	26	6	170	45	-	2
P92 CXCBR 2020 M80 10	21254	R	20	20	20	5	20	10	8	150	37	28	2
P92 CXCBR 2020 M80 14	30297	R	28	20	20	5	20	14	8	150	40	31	2
P92 CXCBR 2020 M80 20	21096	R	40	20	20	5	20	20	8	150	46	37	3
P92 CXCBR 2525 M80 10	38522	R	20	25	25	-	25	10	8	150	38	-	2
P92 CXCBR 2525 M80 20	19355	R	40	25	25	-	25	20	8	150	43	-	3
P92 CXCBR 3225 P80 26	19351	R	52	32	32	-	25	26	8	170	47	-	3
P92 CXCBR 3225 P100 26	19353	R	52	32	32	-	25	26	10	170	47	-	3

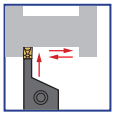
Comment

Holder and inserts with the same "S" dimension fit together.

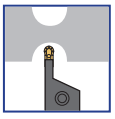
Fitting inserts



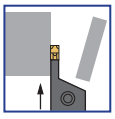
p.227-228,238



p. 48-55



p. 56

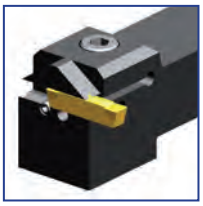


p. 57-62



p. 189

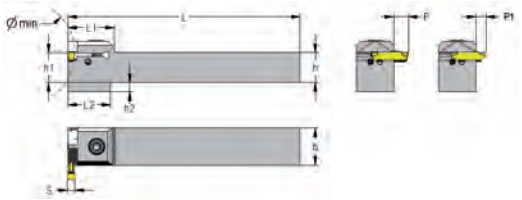
90 ° - Holders for many different turning applications



P92 90 UNI

System P92

RH and LH pocket



WG380 Ref.	ID-Nr.	( )	Ø min	h	h1	h2	b	P	S	L	L1	L2	
P92 90 CXCBRL 1616 K30 UNI	38485	R + L	>70	16	16	4	16	5	3	125	25	26	1+13
P92 90 CXCBRL 2020 K30 UNI	38486	R + L	>70	20	20	-	20	5	3	125	25	-	1+13
P92 90 CXCBRL 2525 M30 UNI	38487	R + L	>70	25	25	-	25	5	3	150	25	-	1+13
P92 90 CXCBRL 2020 K60 UNI	24260	R + L	>120	20	20	-	20	11,0	6	125	34	-	14+20
P92 90 CXCBRL 2525 M60 UNI	24261	R + L	>120	25	25	-	25	11,0	6	150	34	-	14+20
P92 90 CXCBRL 3232 P60 UNI	24262	R + L	>120	32	32	-	32	11,0	6	170	34	-	14+20
P92 90 CXCBRL 2020 K80 UNI	24263	R + L	>120	20	20	5	20	11,0	8	125	40	31	3+21
P92 90 CXCBRL 2525 M80 UNI	24264	R + L	>120	25	25	-	25	11,0	8	150	40	-	3+21
P92 90 CXCBRL 3232 P80 UNI	24265	R + L	>120	32	32	-	32	11,0	8	170	40		3+21

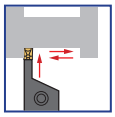
Remark

Holder and inserts with the same "S" dimension fit together.

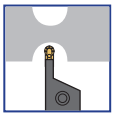
Fitting inserts



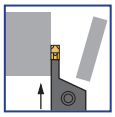
p.227-228,238



p. 48-55



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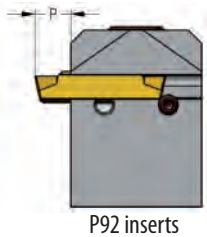
p. 57-62



p. 189

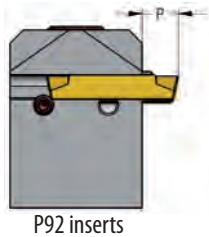
UNI-Holder for clockwise (CW) and counter clockwise (CCW) run

Insert positioned for clockwise (CW) run, face grooving
Insert positioned for counter clockwise (CCW) run, grooving



P92 inserts

Insert positioned for counter clockwise (CCW) run, face grooving
Insert positioned for clockwise (CW) run, grooving



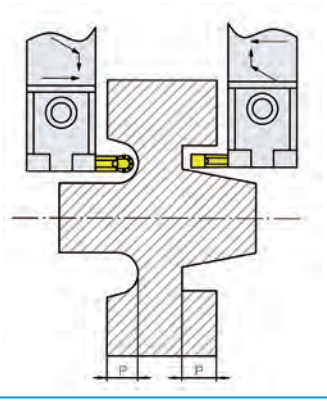
P92 inserts

2 tapped holes for a positioning pin permit the use of P92 inserts for CW and CCW run!



Face turning

with RTNX 840 TILOX



Face turning

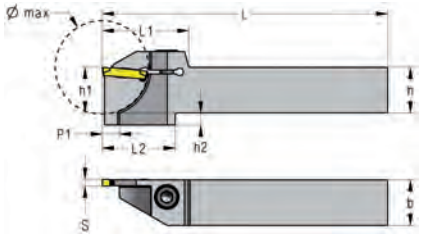
with MTNS 812 TILOX

Holder for deep cuts from Ø 42 mm up to Ø 56 mm and deep grooving



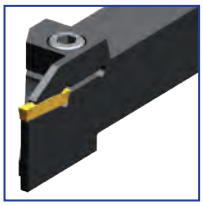
P92 A CXCBL
System P92

LH holder



P92 A CXCBR
System P92

RH holder



WG380 Ref.	ID-Nr.	( )	Ø max	h	h1	h2	b	P1	S	L	L1	L2	
P92 A CXCBL 1616 K30 42	35158	L	42	16	16	5	16	7,0	3,0	125	39	31	1
P92 A CXCBL 2020 K30 42	35160	L	42	20	20	5	20	7,0	3,0	125	39	31	1
P92 A CXCBL 2020 K30 56	24890	L	56	20	20	5	20	20,5	3,0	125	46	38	1
P92 A CXCBL 2020 K40 56	28182	L	56	20	20	5	20	20,5	4,0	125	46	38	1
P92 A CXCBL 2525 M30 42	35163	L	42	25	25	-	25	-	3,0	150	39	-	1
P92 A CXCBL 2525 M30 56	24891	L	56	25	25	-	25	13,0	3,0	150	46	-	1
P92 A CXCBL 2525 M40 56	28181	L	56	25	25	-	25	13,0	4,0	150	46	-	1
P92 A CXCBR 1616 K30 42	35159	R	42	16	16	5	16	7,0	3,0	125	39	31	1
P92 A CXCBR 2020 K30 42	35161	R	42	20	20	5	20	7,0	3,0	125	39	31	1
P92 A CXCBR 2020 K30 56	25568	R	56	20	20	5	20	20,0	3,0	125	46	38	1
P92 A CXCBR 2020 K40 56	28184	R	56	20	20	5	20	20,0	4,0	125	46	38	1
P92 A CXCBR 2525 M30 42	35162	R	42	25	25	-	25	-	3,0	150	39	-	1
P92 A CXCBR 2525 M30 56	25685	R	56	25	25	-	25	13,0	3,0	150	46	-	1
P92 A CXCBR 2525 M40 56	28180	R	56	25	25	-	25	13,0	4,0	150	46	-	1

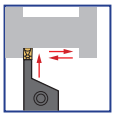
Remark

P92 A-inserts and P92 A CXCB...holder join together to form an extremely solid unit owing to long guide surfaces between insert and pocket and reinforced tool holders. A-type tools are therefore recommended for heavy duty cutting, deep cuts and to achieve clean faces.

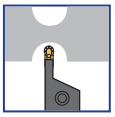
Fitting inserts



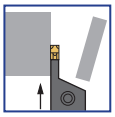
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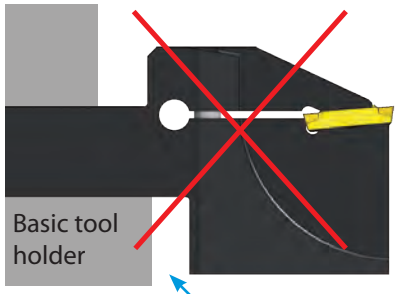


p. 189

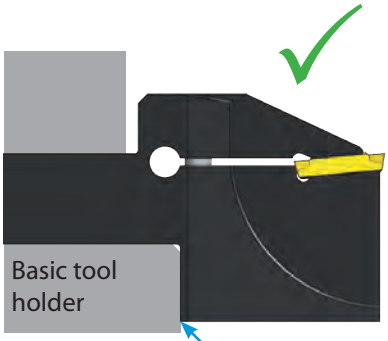
Recommendation

For deep grooving inserts with 2-edges are recommended.

Holders and inserts with the same "S" dimension fit together.



No face touch with wrong edge extension



Face touch and best possible edge extension

Please note!

On parting off operations always select the **strongest tool holders**. This is a big advantage!
Make sure the holder's rear face **touches** the front face of the slide or basic tool holder firmly. If not, vibrations and fast edge wear will be the negative result of such improper set up.



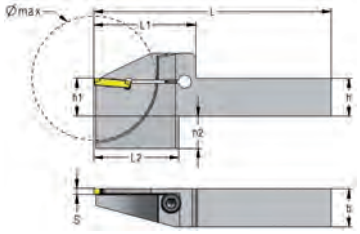
Tailor made hi pressure cooling system available.
More information at page 192

Holder for deep cuts from Ø 65 mm up to Ø 80 mm and deep grooving



P92 A CXCBL
System P92

LH holder



P92 A CXCBR
System P92

RH holder



WG380 Ref.	ID-Nr.		Ø max	h	h1	h2	b	S	L	L1	L2	
P92 A CXCBL 2020 K30	10136	L	65	20	20	17	20	3,0	125	54	45	12
P92 A CXCBL 2020 K35	10138	L	65	20	20	17	20	3,5	125	54	45	12
P92 A CXCBL 2020 K40	10140	L	65	20	20	17	20	4,0	125	54	45	12
P92 A CXCBL 2020 M50	10142	L	80	20	20	17	20	5,0	150	62	52	12
P92 A CXCBL 2525 M30	10144	L	65	25	25	12	25	3,0	150	54	45	12
P92 A CXCBL 2525 M35	10146	L	65	25	25	12	25	3,5	150	54	45	12
P92 A CXCBL 2525 M40	10148	L	65	25	25	12	25	4,0	150	54	45	12
P92 A CXCBL 2525 P50	10150	L	80	25	25	12	25	5,0	170	62	52	12
P92 A CXCBR 2020 K30	10135	R	65	20	20	17	20	3,0	125	54	45	12
P92 A CXCBR 2020 K35	10137	R	65	20	20	17	20	3,5	125	54	45	12
P92 A CXCBR 2020 K40	10139	R	65	20	20	17	20	4,0	125	54	45	12
P92 A CXCBR 2020 M50	10141	R	80	20	20	17	20	5,0	150	62	52	12
P92 A CXCBR 2525 M30	10143	R	65	25	25	12	25	3,0	150	54	45	12
P92 A CXCBR 2525 M35	10145	R	65	25	25	12	25	3,5	150	54	45	12
P92 A CXCBR 2525 M40	10147	R	65	25	25	12	25	4,0	150	54	45	12
P92 A CXCBR 2525 P50	10149	R	80	25	25	12	25	5,0	170	62	52	12

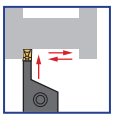
Remark

P92 A-inserts and P92 A CXCB...holder join together to form an extremely solid unit owing to long guide surfaces between insert and pocket and reinforced tool holders. A-type tools are therefore recommended for heavy duty cutting, deep cuts and to achieve clean faces.

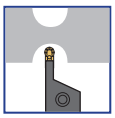
Fitting inserts



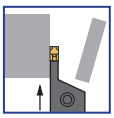
p.227-228,238



p. 48-55



p. 56



p. 57-62, 77

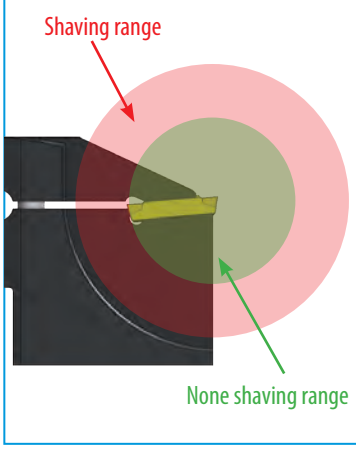


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Recommendation

For cutting deep chambers inserts with 2-edges are recommended.

Holders and inserts with the same "S" dimension fit together.



Shaving

If the cutting depth exceeds the length of the cutting insert, the second edge of the insert penetrates into the slot and may cause shaving marks on the component. To prevent from shaving the insert type A-BTNN is recommended.

How to write an order:			**recommended**
1 St.	P92 A CXCBR 2020 K30	or:	**1 St.** **ID-Nr. 10135**
10 St.	A BTNN 3 KM TILOX	or:	**10 St.** **ID-Nr. 13953**

Designation Code

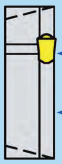
P92 CXCB R 2608 X 20 R

- P92 — Tool family
- CXCB — Cutting tool holder for inserts with 2 cutting edges. Screw clamping type
- R — Spindle rotation counterclockwise
- 2608 — Main tool dimensions
- X — With radial stiffening
- 20 — Cutting width in 1/10 mm
- R — Right hand. The side of the dovetail with the smaller height

How to select the blade to fit your machine tool

To select a fitting blade for your machine tool, you have to determine:

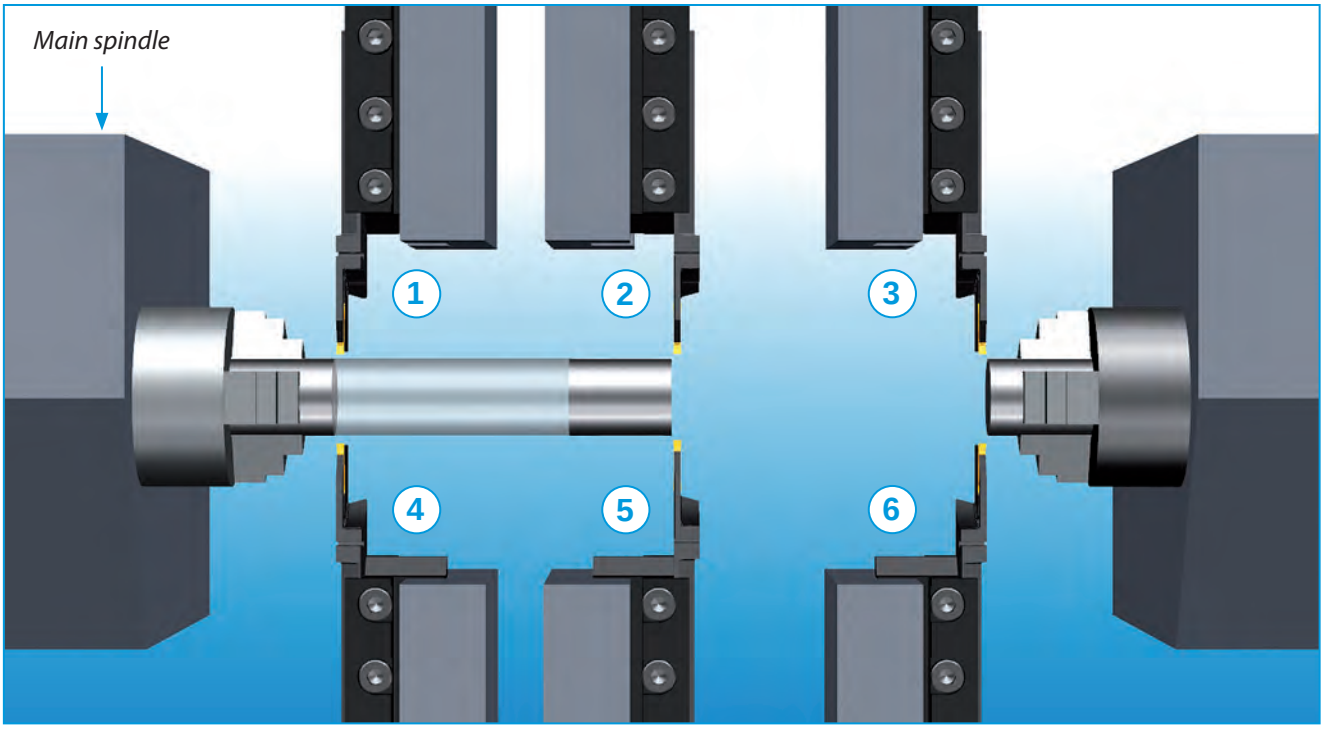
- Spindle rotation CW: LH blade is required
  CCW: RH blade is required
- The dovetail's small side when looked from the front side of the blade.

 **P92 CXCBL 2608 X30L** Cutting edge left hand for clockwise rotation. Small side of the dovetail on the left side: LH.	**Type 1**
 **P92 CXCBL 2608 X30R** Cutting edge left hand for clockwise rotation. Small side of the dovetail on the right side: RH.	**Type 2**
 **P92 CXCBR 2608 X30R** Cutting edge right hand for clockwise rotation. Small side of the dovetail on the right side: RH.	**Type 3**
 **P92 CXCBR 2608 X30L** Cutting edge right hand for clockwise rotation. Small side of the dovetail on the left side: LH.	**Type 4**

Remarks:

- These dovetail tool blades fit into many basic tool holders of automatic lathes like Traub, EMCO, Tornos, Bechler etc. **AND they also fit into the tool blocks on page 149.**

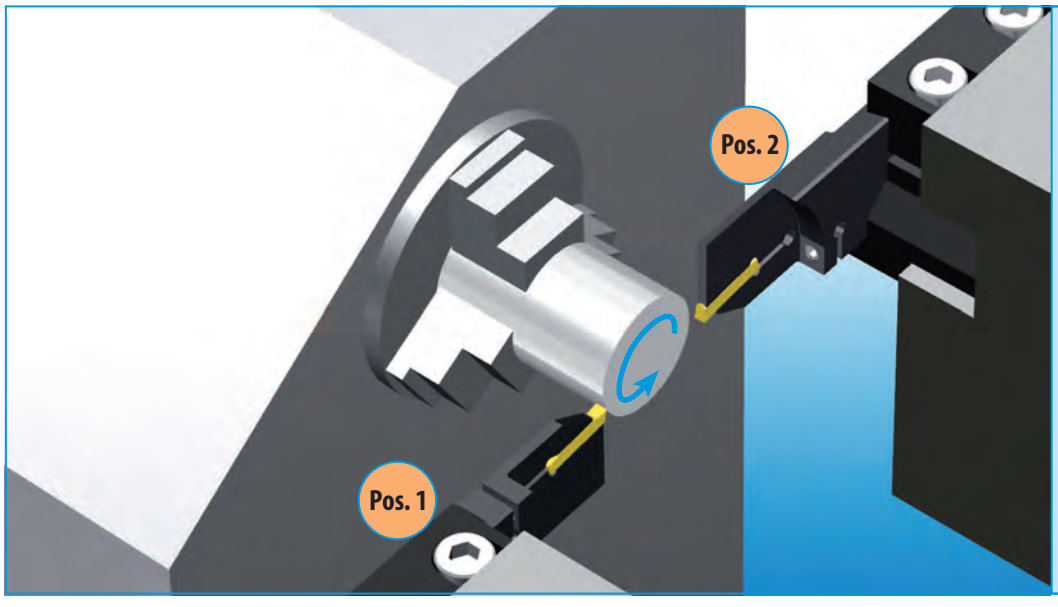
Application field of dove-tail blades



Nr.	Working position	Rotation	Type
1	Main spindle Behind center line	clockwise	LL (Type 1)
2	Main spindle Behind center line	clockwise	LR (Type 2)
3	Counter spindle Behind center line	counter clockwise (separate drive)	RR (Type 3)
4	Main spindle In front of center line	counter clockwise	RR (Type 3)
5	Main spindle In front of center line	counter clockwise	RL (Type 4)
6	Counter spindle In front of center line	clockwise (separate drive)	LL (Type 1)

A few application examples of dovetail blades on different machine tool postions.

Remark:
You'll find these blades on pages 73, 131, 139 and 140

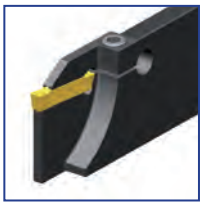


Example for application
Counter clockwise rotation regular and overhead, machining with a BTNN 3 GF110 NANOSPEED insert.

Pos. 1:
Blade R-R in front of bar

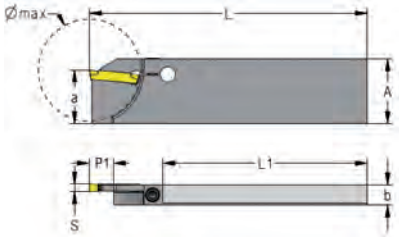
Pos. 2:
Blade R-R overhead behind the bar

Reinforced parting off blades with dovetail shank



P92..CXCBL 2608X..R/L
System P92

LH Blades



P92 CXCBR 2608X..R/L
System P92

RH Blades

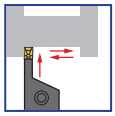


WG380 Ref.	ID-Nr.		A	a	Ø max	b	P1	S	L	L1	
P92 CXCBL 2608 X30R	19669	L	26	21,4	42	8	9,0	3,0	110	81,3	10
P92 CXCBL 2608 X30L	21614	L	26	21,4	42	8	9,0	3,0	110	81,3	10
P92 CXCBR 2608 X30R	21222	R	26	21,4	42	8	9,0	3,0	110	81,3	10
P92 CXCBR 2608 X30L	21613	R	26	21,4	42	8	9,0	3,0	110	81,3	10

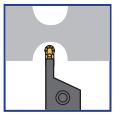
Fitting inserts and tool blocks



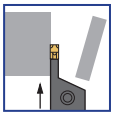
p.227-228,238



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p. 57-62



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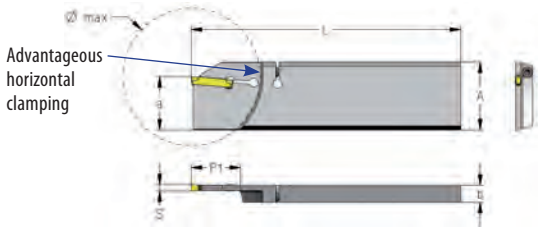


p. 149



P92..CXCBL 3208X..R/L
System P92

LH Blades



P92 CXCBR 3208X..R/L
System P92

RH Blades



WG380 Ref.	ID-Nr.		A	a	Ø max	b	P1	S	L	
P92 CXCBL 3208 X30R 65	31784	L	32	25,0	65	8	22,0	3,0	126	42
P92 CXCBL 3208 X30L 65	31788	L	32	25,0	65	8	22,0	3,0	126	42
P92 CXCBR 3208 X30R 65	31780	R	32	25,0	65	8	22,0	3,0	126	42
P92 CXCBR 3208 X30L 65	29826	R	32	25,0	65	8	22,0	3,0	126	42

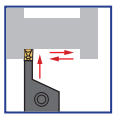
Comment

Blades and tool blocks with the same "A" dimension fit together.
Holder and inserts with the same "S" dimension fit together.

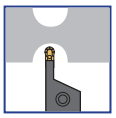
Fitting inserts and tool blocks



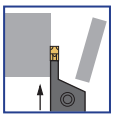
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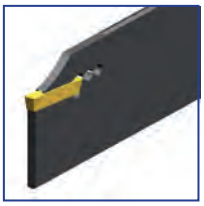
p. 189



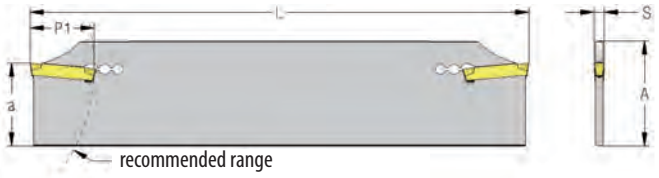
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Example for application you will find on page 72

TWIN blade parting off blade



P92 TMS
System P92



WG310 Ref.	ID-Nr.		A	a	P1	S	L	
P92 TMS 26 20+25	36644	N	26	21,4	18,5	2+2,5	110	28
P92 TMS 26 30	36645	N	26	21,4	18,5	3,0	110	28
P92 TMS 32 20+25	36643	N	32	25,0	18,5	2+2,5	150	28
P92 TMS 32 30	33429	N	32	25,0	18,5	3,0	150	28
P92 TMS 32 40	36642	N	32	25,0	18,5	4,0	150	28
P92 TMS 32 50	44524	N	32	25,0	23,5	5,0	150	28
P92 TMS 32 60	44537	N	32	25,0	28,5	6,0	150	28

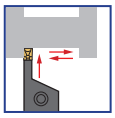
Remark

Blades and tool blocks with the same "A" dimension fit together.

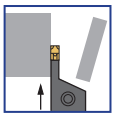
If the cutting depth exceeds the length of the cutting insert, the second edge of the insert penetrates into the slot and may cause shaving marks on the components faces. To prevent from shaving the insert type A-BTNN is recommended.

Holders and inserts with the same "S" dimension fit together.

Fitting inserts and tool blocks


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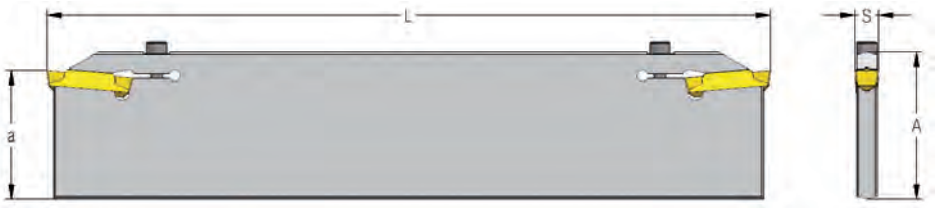


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P92 TMS 52
System P92



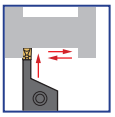
WG310 Ref.	ID-Nr.		A	a	S	L	
P92 TMS 52 80	31464	N	52,6	45,0	8,0	250	11
P92 TMS 52 100	44539	N	52,6	45,0	10,0	250	11

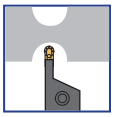
Remark

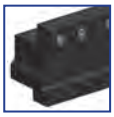
These blades fit in basic tool holders and tool blocks.

Holders and inserts with the same "S" dimension fit together.

Fitting inserts and tool blocks


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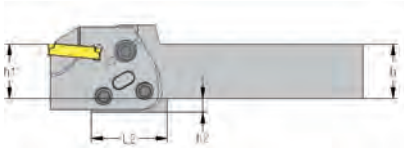
Holders with cartridges for parting off, grooving and turning

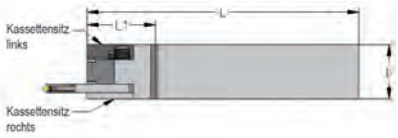


P92 C N...H

System P92

The Multi-Master-System





WG386 Ref.	ID-Nr.		h	h1	h2	b	L	L1	L2	
P92 C N 2020 H	44744	N	20	20	8	20	100	24	20	36+37
P92 C N 2525 H	44745	N	25	25	3	25	100	24	20	36+37

Comment:

On these tool holders, five different cartridges will fit. These holders can be used as left hand **and** right hand holders.

Fitting Cartridges



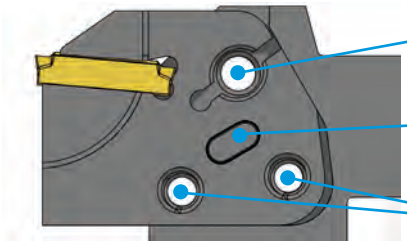
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p. 76



Top clamping fixture with **screw, spare part 37**

Additional fixing aid

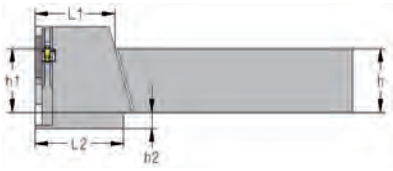
Lower clamping fixture with **screw, spare part 36**

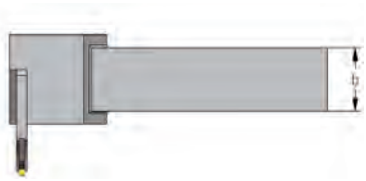


P92 C90 R/L

System P92

RH holder





WG386 Ref.	ID-Nr.		h	h1	h2	b	L	L1	L2	
P92 C90 L 2020 H	44748	L	20	20	8	20	100	20	20	36+37
P92 C90 L 2525 H	44749	L	25	25	3	25	100	20	20	36+37
P92 C90 R 2020 H	44746	R	20	20	8	20	100	20	20	36+37
P92 C90 R 2525 H	44747	R	25	25	3	25	100	20	20	36+37

Comment:

On these holders, seven different cartridges will fit.

Fitting Cartridges



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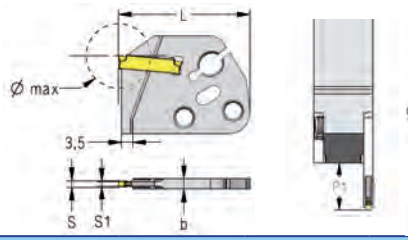


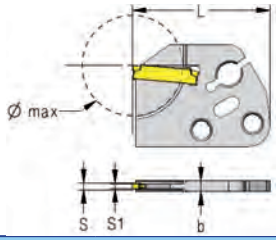
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Cartridges for holders for parting off, grooving and turning

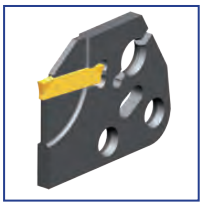


P92 C N (Type A)
System P92





P92 C N (Type B)
System P92



WG386 Ref.	ID-Nr.		Ømax	b	S1	S	L	P1	Type
P92-C N 15 16	44750	N	16	3,2	1,0	1,5	36,8	12	A
P92-C N 15 20	44822	N	20	3,2	1,0	1,5	41,0	16	A
P92-C N 20+25 20	44751	N	20	3,2	1,6	2,0+2,5	41,0	16	A
P92-C N 20+25 32	44752	N	32	3,2*	1,6	2,0+2,5	41,0	16	B

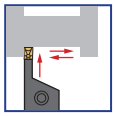
Comment:

These reinforced cartridges allow to use very small inserts. An advantage, especially, when producing short compponents on multi spindle automatics.
They fit on special basic tool holders, e.g. on:

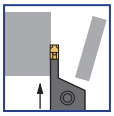
- New Britain
- Conomatic
- Wickman
- Acme Gridley
- Tornos

Fitting inserts

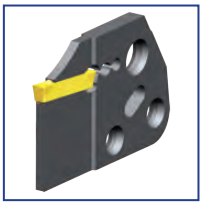




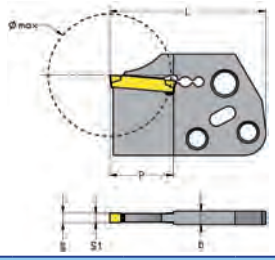




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P92 CT
System P92



WG386 Ref.	ID-Nr.		Ømax	b	S1	S	L	P	P1	ET
P92-CT N 15 28	44823	N	28	3,2	1	1,5	42,5	14	17,5	28
P92-CT N 20+25 32	44753	N	32	3,2	1,6	2,0+2,5	45,8	16	20,8	28
P92-CT N 30 32	44754	N	32	4,0	2,4	3,0	45,8	16	20,8	28

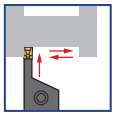
Comment:

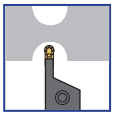
These cartridges allow to use small inserts. An advantage, especially, when producing short compponents on multi spindle automatics.
They fit on special basic tool holders, e.g. on:

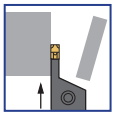
- New Britain
- Conomatic
- Wickman
- Acme Gridley
- Tornos

Fitting inserts



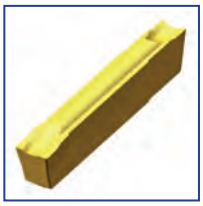






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Parting off inserts for deep cuts



A BTNN

System P92





Enlarged view

WG300 Ref.	PM NANOSPEED	KM TILOX		L	R	S +0,15
	ID-Nr.	ID-Nr.				
A BTNN 3	24050	13953	N	20,10	0,2	3,05
A BTNN 4	24051	20291	N	20,10	0,2	4,05

BTN-insert, reduced type with 1 cutting edge

Deep cutting depth and clean turning faces. **Reduces feed** while cutting depth increases.

Grooved parting off edge with reinforced flanks. The deep and spacious **chip-trough** gives excellent chip control. Efficient on almost all materials.

Remark

P92 A-inserts and P92 A CXCB...holder join together to form an extremely solid unit owing to long guide surfaces between insert and pocket and reinforced tool holders. A-type tools are therefore recommended for heavy duty cutting, deep cuts and to achieve clean faces.

Fitting Holder


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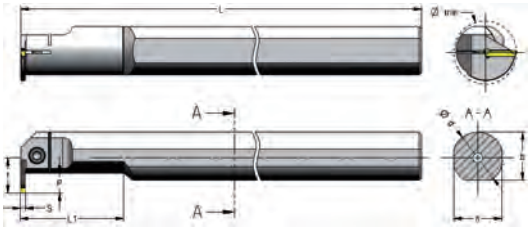

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Boring bars with internal cooling for grooving and turning



P92 CGL
System P92

LH boring bar



P92 CGR
System P92

RH boring bar



WG390 Ref.	ID-Nr.	( )	Ømin	Ø d	h	b	f	P	S	L	L1	
P92 CGL 0016 P15	33461	L	20	16	15	15,5	11	7	1,5	170	26	7
P92 CGL 0020 R15	34954	L	25	20	18	18,5	13	7	1,5	200	40	6
P92 CGL 0020 R20+25	33463	L	25	20	18	18,5	13	7	2,0+2,5	200	40	6
P92 CGL 0020 R30	10066	L	25	20	18	18,5	13	7	3,0	200	40	6
P92 CGL 0020 R35	10068	L	25	20	18	18,5	13	7	3,5	200	40	6
P92 CGL 0020 R40	10070	L	25	20	18	18,5	13	7	4,0	200	40	6
P92 CGL 0025 R20+25	33465	L	32	25	23	23,0	17	10	2,0+2,5	200	50	14
P92 CGL 0025 R30	10072	L	32	25	23	23,0	17	10	3,0	200	50	14
P92 CGL 0025 R35	10074	L	32	25	23	23,0	17	10	3,5	200	50	14
P92 CGL 0025 R40	10076	L	32	25	23	23,0	17	10	4,0	200	50	14
P92 CGL 0032 S20+25	33467	L	40	32	30	30,0	22	12	2,0+2,5	250	64	14
P92 CGL 0032 S30	10078	L	40	32	30	30,0	22	12	3,0	250	64	14
P92 CGL 0032 S35	10080	L	40	32	30	30,0	22	12	3,5	250	64	14
P92 CGL 0032 S40	10082	L	40	32	30	30,0	22	12	4,0	250	64	14
P92 CGL 0032 S50	10084	L	44	32	30	30,0	26	16	5,0	250	64	14
P92 CGL 0040 T40	10086	L	52	40	38	38,0	30	16	4,0	300	80	2
P92 CGL 0040 T50	10088	L	52	40	38	38,0	30	16	5,0	300	80	2
P92 CGL 0040 T60	19357	L	52	40	38	38,0	30	16	6,0	300	80	2
P92 CGR 0016 P15	33337	R	20	16	15	15,5	11	7	1,5	170	26	7
P92 CGR 0020 R15	34953	R	25	20	18	18,5	13	7	1,5	200	40	6
P92 CGR 0020 R20+25	33462	R	25	20	18	18,5	13	7	2,0+2,5	200	40	6
P92 CGR 0020 R30	10065	R	25	20	18	18,5	13	7	3,0	200	40	6
P92 CGR 0020 R35	10067	R	25	20	18	18,5	13	7	3,5	200	40	6
P92 CGR 0020 R40	10069	R	25	20	18	18,5	13	7	4,0	200	40	6
P92 CGR 0025 R20+25	33464	R	32	25	23	23,0	17	10	2,0+2,5	200	50	14
P92 CGR 0025 R30	10071	R	32	25	23	23,0	17	10	3,0	200	50	14
P92 CGR 0025 R35	10073	R	32	25	23	23,0	17	10	3,5	200	50	14
P92 CGR 0025 R40	10075	R	32	25	23	23,0	17	10	4,0	200	50	14
P92 CGR 0032 S20+25	33466	R	40	32	30	30,0	22	12	2,0+2,5	250	64	14
P92 CGR 0032 S30	10077	R	40	32	30	30,0	22	12	3,0	250	64	14
P92 CGR 0032 S35	10079	R	40	32	30	30,0	22	12	3,5	250	64	14
P92 CGR 0032 S40	10081	R	40	32	30	30,0	22	12	4,0	250	64	14
P92 CGR 0032 S50	10083	R	44	32	30	30,0	26	16	5,0	250	64	14
P92 CGR 0040 T40	10085	R	52	40	38	38,0	30	16	4,0	300	80	2
P92 CGR 0040 T50	10087	R	52	40	38	38,0	30	16	5,0	300	80	2
P92 CGR 0040 T60	19356	R	52	40	38	38,0	30	16	6,0	300	80	2

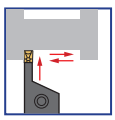
Remark

Boring bars and inserts with the same "S" dimension fit together.

Fitting inserts



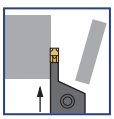
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p. 57-62

Abrasion by cutting action

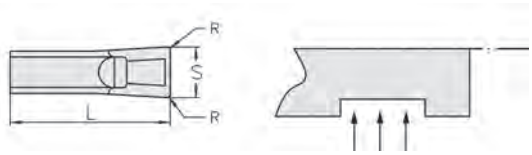
Information about plasma-nitrided boring bars on page 217

P92 System for grooving and turning with 1-edge inserts



KCTD

System P92

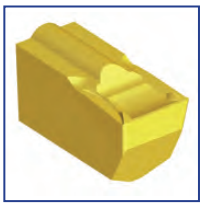


WG300 Ref.	PM	KM	PM NANOSPEED	KM TILOX	( )	P	L	R	S +0,15
	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.					
KCTD 3	10899	20748	10902	29682	N	3/4,5	9,5	0,2	3,0
KCTD 3 MAX	10903	26940	10906	31091	N	5,5/7	12	0,2	3,0

Remark

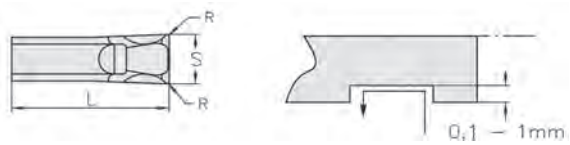
Fitting boring bars below on this page

Ground cutting edge with positive top-rake and wide chip-space.



KCTDS

System P92



WG300 Ref.	PM	KM	PM NANOSPEED	KM TILOX	( )	P	L	R	S +0,15
	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.					
KCTDS 3	10907	20746	10910	35903	N	3/4,5	9,5	0,2	3,0
KCTDS 3 MAX	10911	14603	10914	12644	N	5,5/7	12	0,2	3,0

Remark

Fitting boring bars below on this page

Chamfered cutting edge and ground turning edges for excellent chip control.

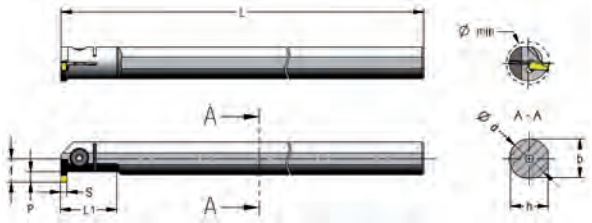
Small boring bars with internal cooling for grooving and turning



P92 CGL..30C

System P92

LH boring bar



P92 CGR..30C

System P92-K

RH boring bar



WG390 Ref.	ID-Nr.	( )	KCTD Ømin	KCTD MAX Ømin	d	h	b	f	P	S	L	L1	
P92 CGL 0012 M30C	10062	L	15,5	18	12	11	-	9	3/5,5	3,0	150	22	7
P92 CGL 0016 P30C	10064	L	20	22,5	16	15	15,5	11	4,5/7	3,0	170	26	19
P92 CGR 0012 M30C	10061	R	15,5	18	12	11	-	9	3/5,5	3,0	150	22	7
P92 CGR 0016 P30C	10063	R	20	22,5	16	15	15,5	11	4,5/7	3,0	170	26	19

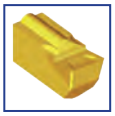
Remark

Fitting inserts: KCTD und KCTDS see above

Recommended turning speed range: Vc ~ 40 m/min → 120 m/min
Recommended turning feed range: f ~ 0,02 mm/U → 0,08 mm/U



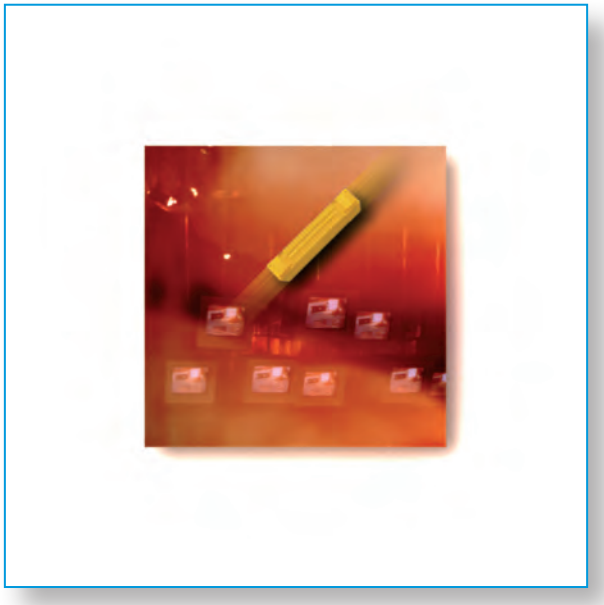
p.227-228,238

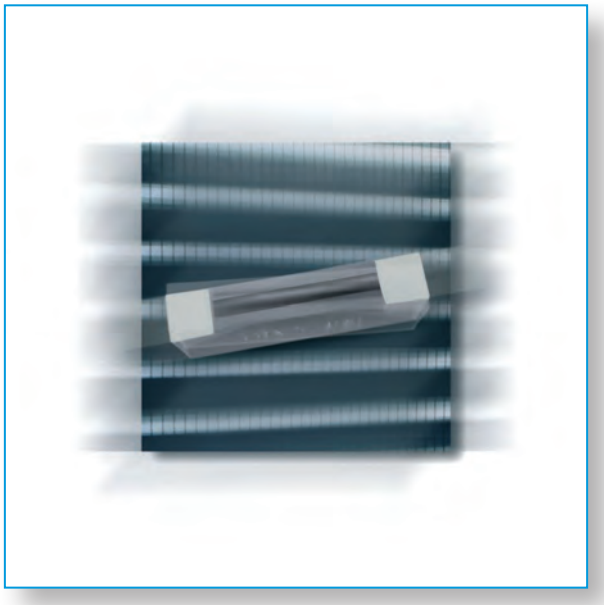


p. 79

Technical section page 205 onwards

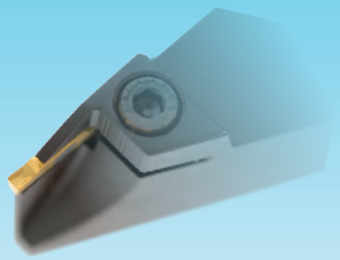






P92 S Grooving and parting off

Cutting and turning, grooving and parting off and threading with twin-cut series (edge width 2 mm)



twin-cut
CHIP BREAKERS



KEMMER HARTMETALLWERKZEUGE GmbH

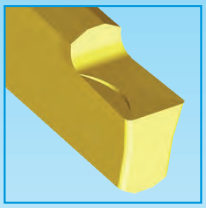
4

P92 S Grooving and Parting off

Cutting and turning, grooving and parting off and threading with twin-cut series (edge width 2 mm)

Chip breaker typs *twin cut*

Grooving / turning

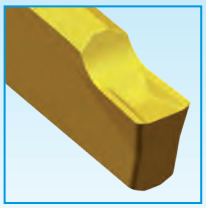


HTNST
page 85



HEUBERG-T

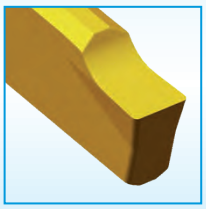
Parting off / grooving



STN…
page 84



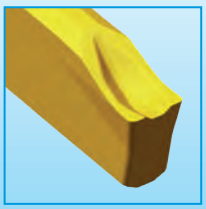
SUPERNOVA



HTN…
page 83



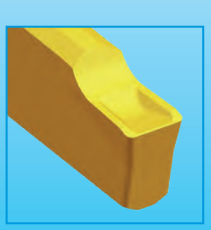
HEUBERG



BTN…
page 83



BT-CHIP BREAKER



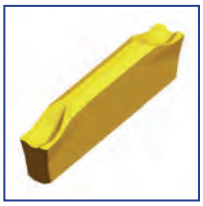
ITN…
page 84



IT-CHIP BREAKER

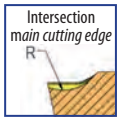
GripLock®

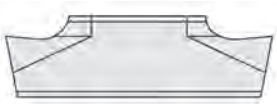
Inserts with 2 edges for parting off and grooving

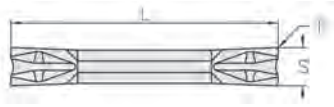


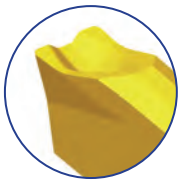
BTNS

System P92-S









Enlarged view

WG300 Ref.	KM	PM NANOSPEED	KM TILOX	( )	L	R	S ±0,10	α°
	ID-Nr.	ID-Nr.	ID-Nr.					
BTNS 2	30501	30504	30502	N	14,00	0,2	2,00	0

BTN Parting off chip breaker

Grooved parting off edge with reinforced flanks. The deep and spacious **chip-trough** gives excellent chip control. Efficient on almost all materials.

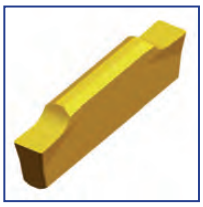
Fitting tool holders



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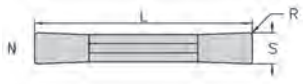
p. 90

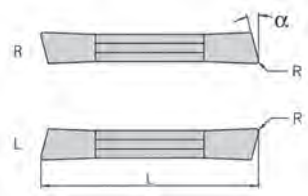


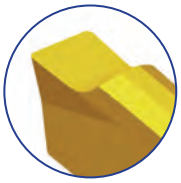
HTN S/R/L

System P92-S









Enlarged view

WG300 Ref.	KM	PM NANOSPEED	PM TILOX	KM TILOX	( )	L	R	S ±0,10	α°
	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.					
HTNS 2	10579	10581	10580	23647	N	14,00	0,2	2,00	0
HTNSF 2	23648	23693	23690	-	N	13,40	0,0	2,00	0
HTNL 2 6D	23660	23702	23698	-	L	14,00	0,2	2,00	6
HTNLF 2 6D	23659	23703	23699	-	L	13,40	0,0	2,00	6
HTNL 2 15D	10574	10578	10576	-	L	14,00	0,2	2,00	15
HTNLF 2 15D	23659	23695	23692	-	L	13,40	0,0	2,00	15
HTNR 2 6D	23654	23700	23696	-	R	14,00	0,2	2,00	6
HTNRF 2 6D	23652	23701	23697	-	R	13,40	0,0	2,00	6
HTNR 2 15D	10573	10577	10575	-	R	14,00	0,2	2,00	15
HTNRF 2 15D	23651	23694	23691	-	R	13,40	0,0	2,00	15

twin-cut | Typ: „Heuberg"

Horizontal ground cutting edge with positive top rake angle.
Recommended for automatic lathe cutting jobs on free cutting materials.

Remark

Inserts marked with **"F"** have ground cutting edges without corner radius.
e.g. HTNS**F**

Fitting tool holders



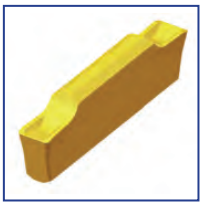
p. 88



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Technical section page 205 onwards

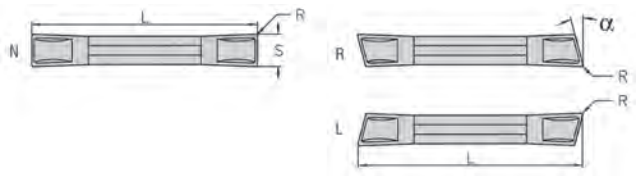
Inserts with 2 edges for parting off and grooving

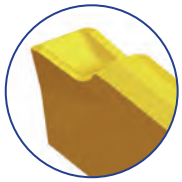


ITN S/R/L

System P92-S







Enlarged view

WG300 Ref.	KM	PM NANOSPEED	KM TILOX	( )	L	R	S ±0,10	α°
	ID-Nr.	ID-Nr.	ID-Nr.					
ITNS 2	10534	10536	15172	N	14,00	0,2	2,00	0
ITNL 2 8D	10529	10533	30508	L	14,00	0,2	2,00	8
ITNR 2 8D	10528	10532	13801	R	14,00	0,2	2,00	8

twin-cut | Typ-IT

Horizontal, chamfered cutting edge with reinforced flanks and large chip chamber.
Especially recommended for:

- high alloy steels
- stainless steels
- interrupted cuts

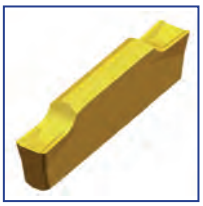
Fitting tool holder



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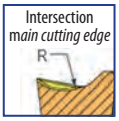


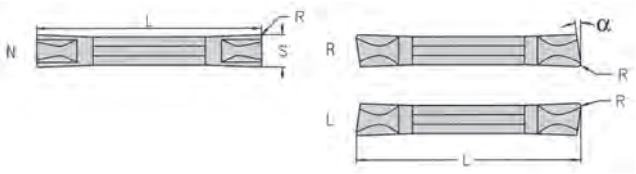
p. 90

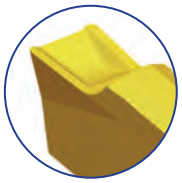


STN S/R/L

System P92-S







Enlarged view

WG300 Ref.	KM	PM NANOSPEED	PM TILOX	KM TILOX	( )	L	R	S ±0,10	α°
	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.					
STNS 2	19587	11441	11440	26742	N	14,00	0,2	2,00	0
STNL 2 10D	11434	11438	11436	-	L	14,00	0,2	2,00	10
STNR 2 10D	11433	11437	11435	-	R	14,00	0,2	2,00	10

twin-cut | Typ SUPERNOVA

The arc-shaped, slightly honed cutting edge with its large chip-chamber leads to good chip control. For universal use.

Fitting tool holder



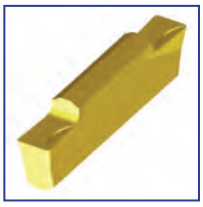
p. 88



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Technical section page 205 onwards

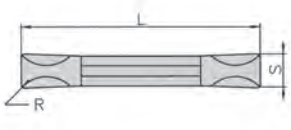
Inserts with 2 edges for grooving and turning

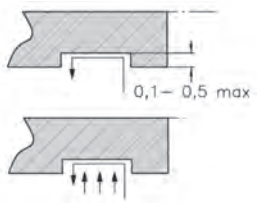


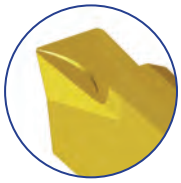
HTNST

System P92-S









Enlarged view

WG300 Ref.	KM	PM NANOSPEED	KM TILOX		L	R	S ±0,10	α°
	ID-Nr.	ID-Nr.	ID-Nr.					
HTNST 2	24058	24061	34314	N	14,00	0,2	2,00	0

Cutting and turning insert

Horizontal major cutting edge with sharply ground minor turning edges.
Excellent chip control.

Fitting tool holder

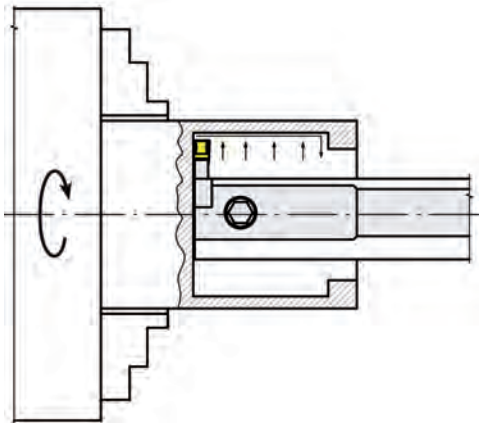


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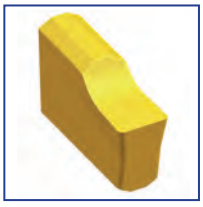


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HTNST 2 KM TILOX in action: grooving a large chamber with a final finishing cut.



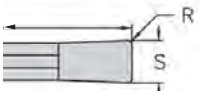
Inserts with 1 edge for grooving and turning

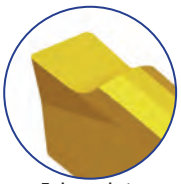


KHTNS

System P92-S







Enlarged view

WG300 Ref.	PM NANOSPEED		L ±0,1	R	S ±0,10
	ID-Nr.				
KHTNS 2	36299	N	6,35	0,2	2,0
KHTNSF 2	38497	N	6,00	0,0	2,0

Remark

Inserts marked with **"F"** have ground cutting edges without corner radius.
e.g. HTNS**F**

Fitting tool holder



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Technical section page 205 onwards

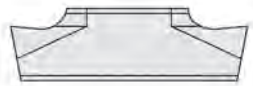
External threading inserts for Whitworth and ISO Full profile

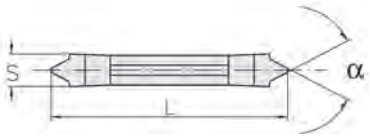


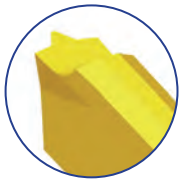
HTNG 2 ER

System P92-S









Enlarged view

WG260 Ref.	KM	PM NANOSPEED		L -0,1	S	α°
	ID-Nr.	ID-Nr.				
HTNG 2 ER ISO 035	28436	38475	0,35	13,8	2,00	60°
HTNG 2 ER ISO 050	10998	10999	0,50	13,8	2,00	60°
HTNG 2 ER ISO 070	25925	31391	0,70	13,8	2,00	60°
HTNG 2 ER ISO 075	11000	11001	0,75	13,8	2,00	60°
HTNG 2 ER ISO 080	25927	30791	0,80	13,8	2,00	60°
HTNG 2 ER ISO 100	11002	11003	1,00	13,8	2,00	60°
HTNG 2 ER ISO 125	11004	11005	1,25	13,8	2,00	60°
HTNG 2 ER ISO 150	11006	11007	1,50	13,8	2,00	60°
HTNG 2 ER 14W	38474	29937	14 G/Zoll	13,8	2,00	55°
HTNG 2 ER 19W	10994	10995	19 G/Zoll	13,8	2,00	55°
HTNG 2 ER 28W	10996	10997	28 G/Zoll	13,8	2,00	55°

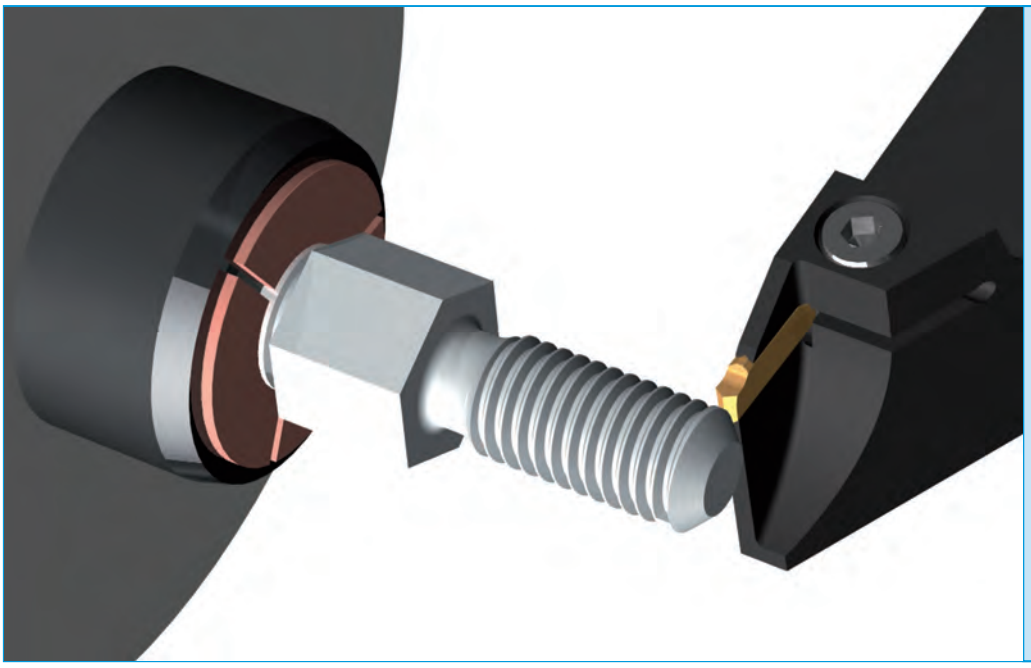
Remark

These inserts can be used for RH and LH threading.

Fitting tool holder



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Threading with HTNG 2ER...ISO

Technical section page 205 onwards

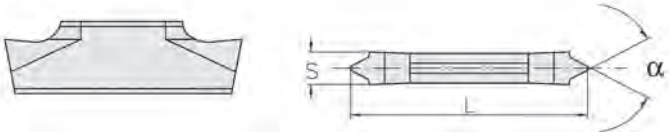
Internal threading inserts for Whitworth and ISO Full profile

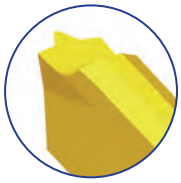


HTNG 2 IR

System P92-S







Enlarged view

WG260 Ref.	KM	PM NANOSPEED		L -0,1	S	α°
	ID-Nr.	ID-Nr.				
HTNG 2 IR ISO 100	38498	38501	1,00	13,8	2,00	60°
HTNG 2 IR ISO 150	38499	38502	1,50	13,8	2,00	60°
HTNG 2 IR 14W	38500	38503	14 G/Zoll	13,8	2,00	55°

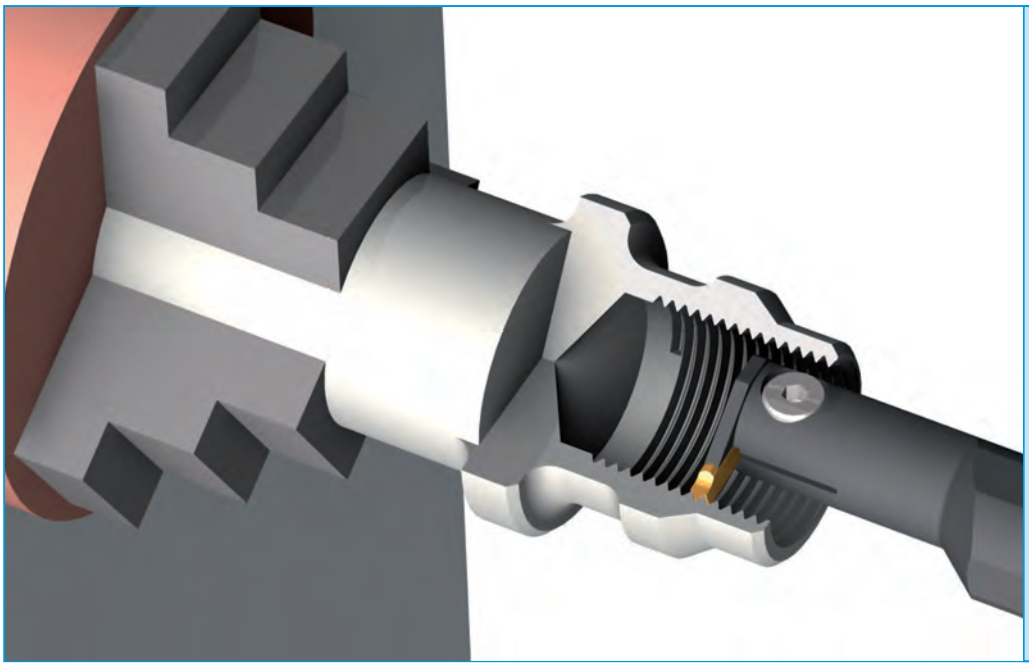
Remark

These inserts can be used for RH and LH threading.

Fitting tool holder



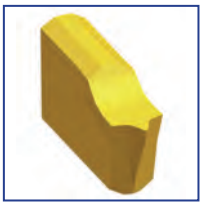
p. 90



Internal threading with mit der HTNG 2IR...ISO

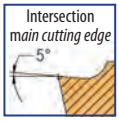
Technical section page 205 onwards

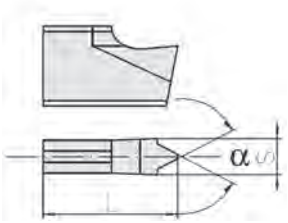
Internal threading inserts with 1 edge for Whitworth and ISO Full profile



KHTNG IR

System P92-S





WG260 Ref.	KM	PM NANOSPEED		L ±0,1	S	α°
	ID-Nr.	ID-Nr.				
KHTNG 2 IR ISO 050	38504	38509	0,50	6,35	2,00	60°
KHTNG 2 IR ISO 100	38505	38510	1,00	6,35	2,00	60°
KHTNG 2 IR ISO 150	38506	38511	1,50	6,35	2,00	60°
KHTNG 2 IR 14W	38507	38512	14Gg	6,35	2,00	55°
KHTNG 2 IR 19W	38508	38513	19Gg	6,35	2,00	55°

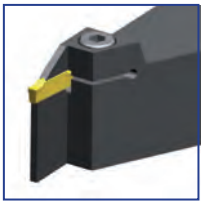
Technical section page 205 onwards

Fitting tool holder



p. 90

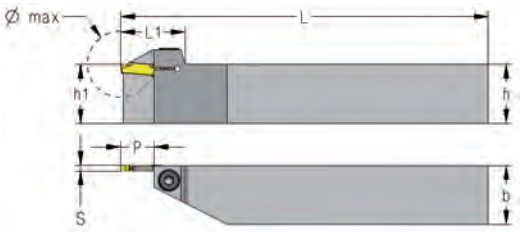
Holders for parting off and grooving



P92 S CXCBL

System P92-S

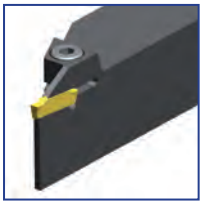
LH holder



P92 S CXCBR

System P92-S

RH holder

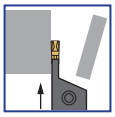


WG380 Ref.	ID-Nr.	( )	Ø max	h	h1	b	P	S	L	L1	
P92 S CXCBL 1616 K20	23579	L	22	16	16	16	11	2	125	22	11
P92 S CXCBL 2020 K20	10204	L	22	20	20	20	11	2	125	22	11
P92 S CXCBL 2525 M20	10206	L	22	25	25	25	11	2	150	22	11
P92 S CXCBR 1616 K20	23576	R	22	16	16	16	11	2	125	22	11
P92 S CXCBR 2020 K20	10203	R	22	20	20	20	11	2	125	22	11
P92 S CXCBR 2525 M20	10205	R	22	25	25	25	11	2	150	22	11

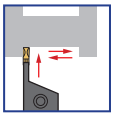
Fitting inserts



p.227-228,238



p. 83-84



p. 85



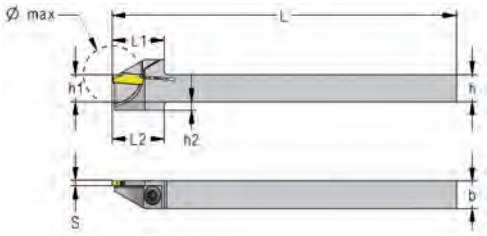
p. 86-87

Holders for parting off, grooving and threading



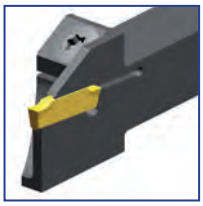
P92 S CXCBL..11
System P92-S

LH holder
Radially reinforced



P92 S CXCBR..11
System P92-S

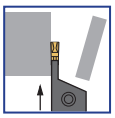
RH holder
Radially reinforced

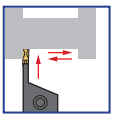


WG380 Ref.	ID-Nr.		Ø max	h	h1	h2	b	S	L	L1	
P92 S CXCBL 1010 K20 11	19260	L	22	10	10	3	10	2	125	19	9
P92 S CXCBL 1212 K20 11	18547	L	22	12	12	-	12	2	125	19	4
P92 S CXCBL 1616 K20 11	23571	L	22	16	16	-	16	2	125	19	4
P92 S CXCBL 2020 K20 11	23577	L	22	20	20	-	20	2	125	22	11
P92 S CXCBL 2525 M20 11	23578	L	22	25	25	-	25	2	150	22	11
P92 S CXCBR 1010 K20 11	19259	R	22	10	10	3	10	2	125	19	9
P92 S CXCBR 1212 K20 11	18548	R	22	12	12	-	12	2	125	19	4
P92 S CXCBR 1616 K20 11	23570	R	22	16	16	-	16	2	125	19	4
P92 S CXCBR 2020 K20 11	23574	R	22	20	20	-	20	2	125	22	11
P92 S CXCBR 2525 M20 11	23575	R	22	25	25	-	25	2	150	22	11

Fitting inserts









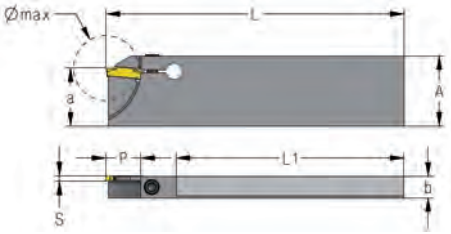
p.227-228,238 p. 83-84 p. 85 p. 86-87

Reinforced parting off blades with dovetail shank



P92 S CXCBL..X
System P92-S

LH holder



P92 S CXCBR..X
System P92-S

RH holder



WG380 Ref.	ID-Nr.		A	a	Ø max	b	P	S	L	L1	
P92 S CXCBL 2608 X20R	20123	L	26	21,4	24	8	12,0	2,0	110	84,0	10
P92 S CXCBL 2608 X20L	21612	L	26	21,4	24	8	12,0	2,0	110	84,0	10
P92 S CXCBR 2608 X20R	21610	R	26	21,4	24	8	12,0	2,0	110	84,0	10
P92 S CXCBR 2608 X20L	21611	R	26	21,4	24	8	12,0	2,0	110	84,0	10

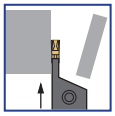
Remark

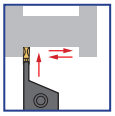
Blades and tool blocks with the same "A" dimension fit together.

Example for application you will find on page 72

Fitting inserts and tool blocks





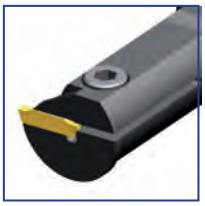






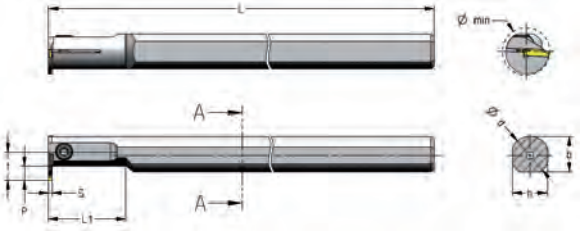
p.227-228,238 p. 83-84 p. 85 p. 86-87 p. 149

Boring bars with internal cooling for internal grooving



P92 S CGL
System P92-S

LH boring bar



P92 S CGR
System P92-S

RH boring bar

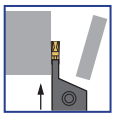


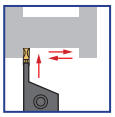
WG390 Ref.	ID-Nr.	( )	Ø min	Ø d	h	b	f	P	S	L	L1	
P92 S CGL 0012 M20	19258	L	15,5	12	11	-	9	5,5	2	150	22	27
P92 S CGL 0016 P20	10190	L	20,0	16	15	15,5	11	7,0	2	170	26	7
P92 S CGL 0020 R20	10192	L	25,0	20	18	18,5	13	7,0	2	200	40	6
P92 S CGL 0025 R20	10194	L	27,0	25	23	23,0	12	7,0	2	200	50	6
P92 S CGR 0012 M20	20308	R	15,5	12	11	-	9	5,5	2	150	22	27
P92 S CGR 0016 P20	10189	R	20,0	16	15	15,5	11	7,0	2	170	26	7
P92 S CGR 0020 R20	10191	R	25,0	20	18	18,5	13	7,0	2	200	40	6
P92 S CGR 0025 R20	10193	R	27,0	25	23	23,0	12	7,0	2	200	50	6

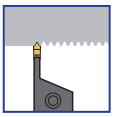
Fitting inserts



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p. 83-84

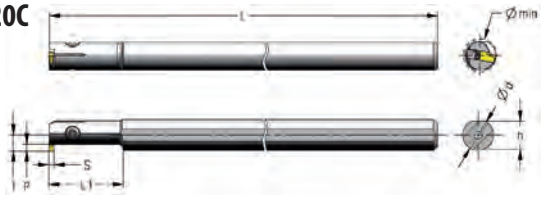

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p. 86-87



P92 S CGL...M20C
System P92-S

LH boring bar



P92 S CGR...M20C
System P92-S

RH boring bar



WG390 Ref.	ID-Nr.	( )	Ø min	Ø d	h	b	f	P	S	L	L1	
P92 S CGL 0012 M20C	35943	L	12	12	11	-	6,25	2,5	2,0	150	22	27
P92 S CGR 0012 M20C	35007	R	12	12	11	-	6,25	2,5	2,0	150	22	27

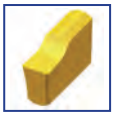
Attention

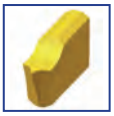
When using KHTNSF 2 inserts reduce max. depth to 2.1 mm.

Fitting inserts



p.227-228,238


p. 85

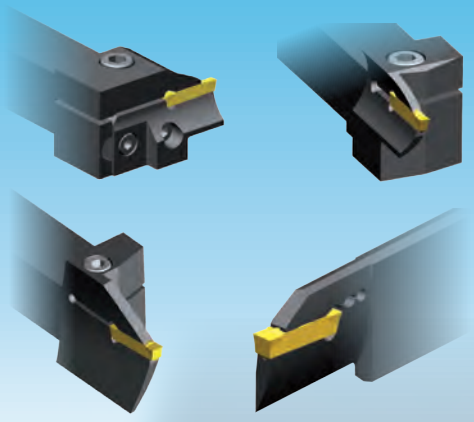

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How to write an order:			**recommended**
1 St.	P92 S CGR 0012 M20C	or:	**1 St.** **ID-Nr. 35007**
10 St.	KHTNG 2 IR ISO 050 PM NANOSPEED	or:	**10 St.** **ID-Nr. 38509**

Face grooving tools

for the range Ø 25 mm - ∞ mm

- Cartridge-system
- Monoblock-system
- P92 2 TMS Blade

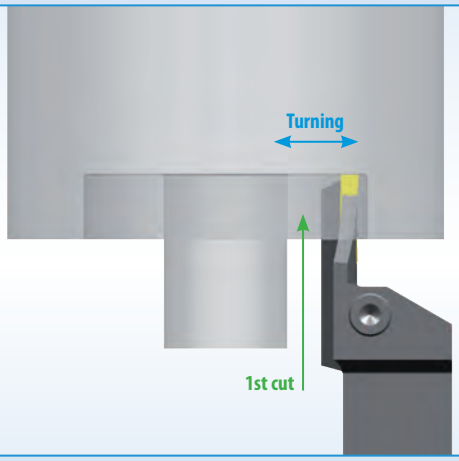


KEMMER HARTMETALLWERKZEUGE GmbH

P92-2 and P92-90 Face grooving tools

Modular Cartridge System

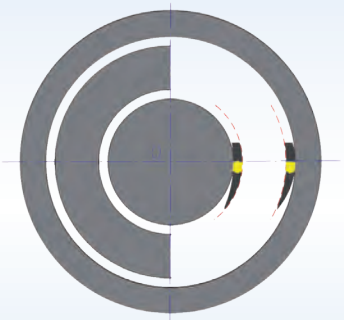
Turning to the center or to the outside diameter is possible provided the 1st cut has been positioned inside the range Ø min - Ø max.



Face grooving: Cartridge choice

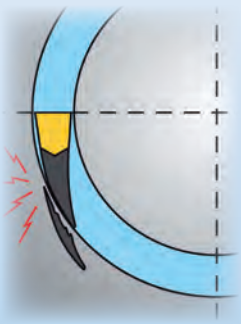
Each cartridge is designed for a certain diameter range. This range is marked as Ø min - Ø max.

The drawing marks the collision-safe range Ø min - Ø max.

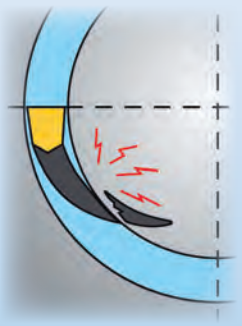


See page 219 for more details.

Damage caused when the 1st cut has been positioned incorrectly.



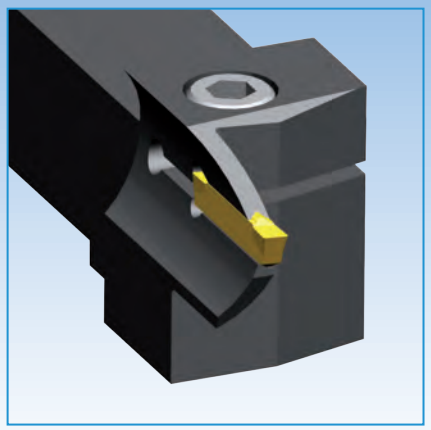
Shows the damage caused when the 1st cut is positioned within a smaller dimension than Ø min. **The outer face** of the cartridge collides with the component.

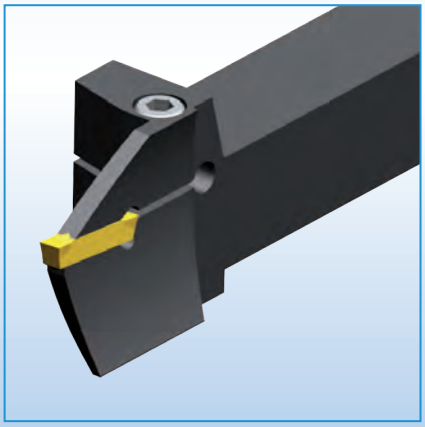


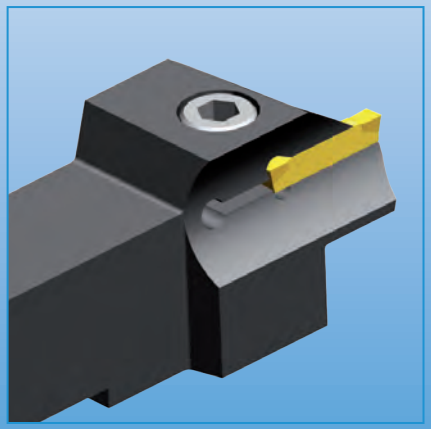
Shows the damage caused when the 1st cut is positioned outside Ø max, to the outer diameter. **The inner face** of the cartridge collides with the component.

P92-2 und P92-90 Face grooving tools

MONOBLOCK face grooving







Characteristics

- ✓ The strong and rigid tool holder construction, provides for vibration free run and grants production reliability.
- ✓ All GripLock P92 inserts fit in the MONOBLOCK face grooving tool holders.
- ✓ In case of problems you can just select the most effective chip breaker from the assortment of applicable inserts.
- ✓ 40 right hand and 40 left hand different tool holders with shank dimensions 20 mm x 20 mm and 25 mm x 25 mm.

Recommedation

The first recommendation for face grooving is the **MTNS** chip breaker.

Technical specifications

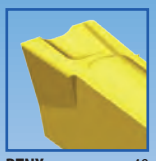
Available width of inserts:
3 mm, 4 mm and 5 mm

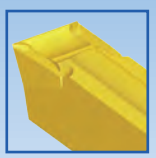
Range of diameters:
25 mm - 450 mm

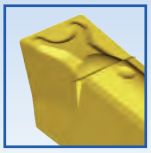
Depth of cut:
15 mm - 45 mm

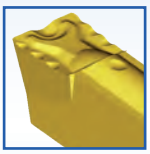
Available chip breaker:
16

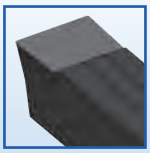

BTNG p. 48

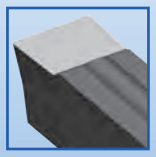

BTNX p. 48

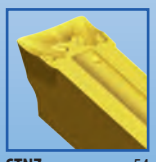

CTDS p. 49

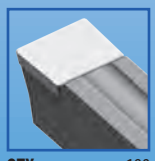

MTNS / G p. 49 / 50


MTNZ p. 51


OTXC p. 52


OTXS p. 53


STNZ p. 54


OTX p. 189


VTNS p. 54


SCTD p. 62


CTD/R/L-IT p.61


CTD/R/L-ALU p. 60


BTNNF p. 59


BTNN p. 57 + 58


RTNX p. 56


RTNG p. 56


XTNS p. 55

Designation Code for face grooving cartridges

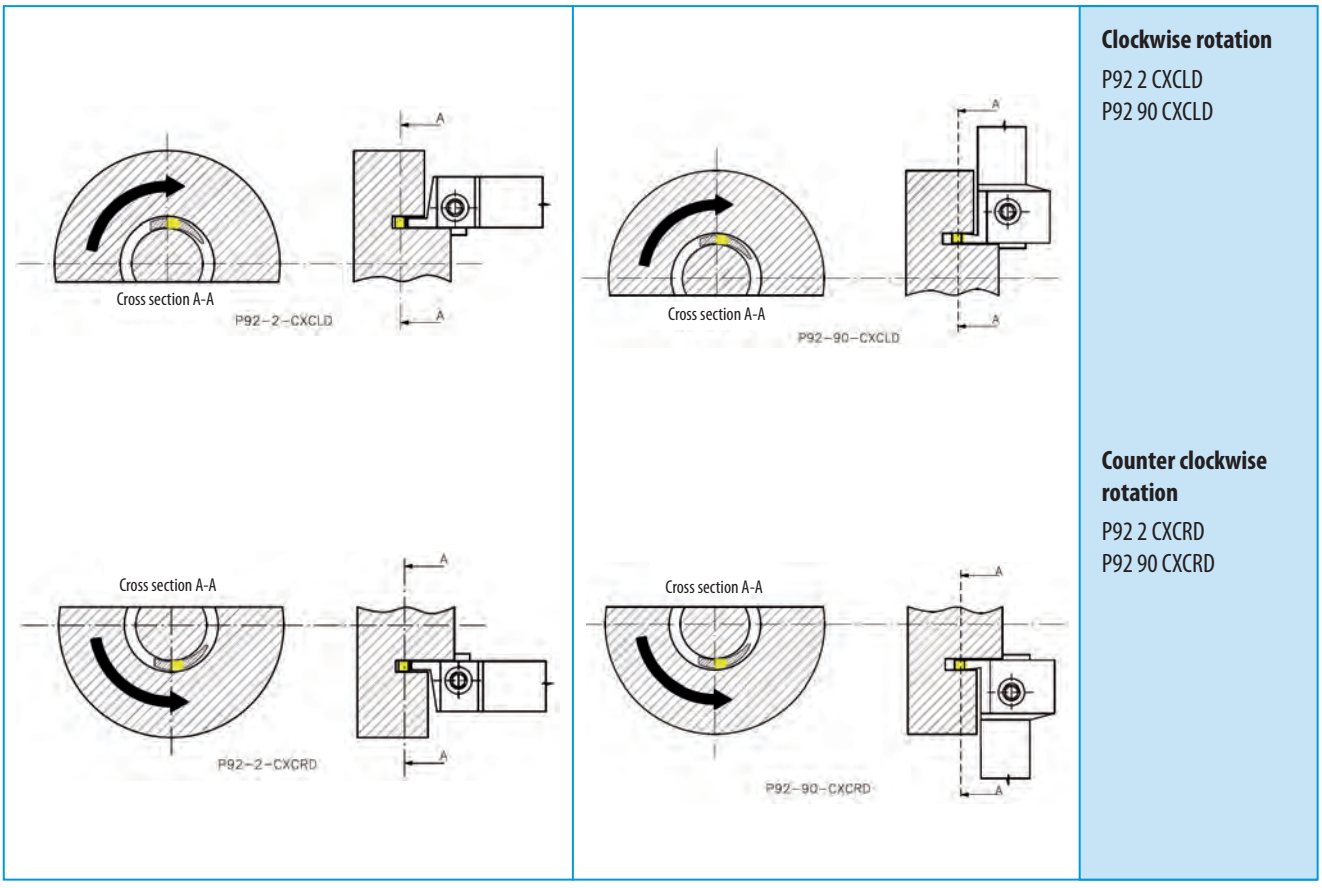
C92 LD 25 30 30

- C92 — Tool family
- LD — CW Rotation
- 25 — Ø min (25 mm) smallest safe diameter
- 30 — Ø max (30 mm) biggest safe diameter
- 30 — Cutting width S = 3 mm

Designation Code for face grooving holders

P92 2 CXCRD 2020 K 30

- P92 — Tool family
- 2 — Face grooving
- CXCRD — Face grooving tool CW / CCW for cartridges
- 2020 — Shank dimensions
- K — ISO tool length
- 30 — Cutting width S = 3 mm



Clockwise rotation

P92 2 CXCLD
P92 90 CXCLD

Counter clockwise rotation

P92 2 CXCRD
P92 90 CXCRD

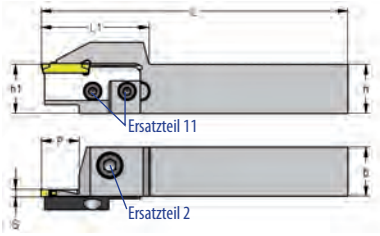
Tool holders with cartridges for face grooving

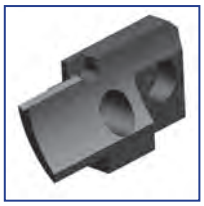


P92 2 CXCLD

System P92-2

LH holder





LH Cartridge

WG385 CARTRIDGE-HOLDER Ref.	ID-Nr.	↻	h	h1	b	P	L	L1	
P92 2 CXCLD 2020 K 30	10119	L	20	20	20	15	125	44	11+2
P92 2 CXCLD 2525 M 30	10121	L	25	25	25	15	150	44	11+2

WG385 CARTRIDGE Ref.	ID-Nr.	S	Ø min	Ø max
C92 LD 2530 30	10371	3	25	30
C92 LD 3035 30	10372	3	30	35
C92 LD 3542 30	10373	3	35	42
C92 LD 4250 30	10374	3	42	50
C92 LD 5058 30	10376	3	50	58
C92 LD 5866 30	10378	3	58	66
C92 LD 6675 30	10379	3	66	75
C92 LD 75100 30	10381	3	75	100
C92 LD 100200 30	10369	3	100	200
C92 LD 200300 30	43835	3	200	300

WG385 CARTRIDGE-HOLDER Ref.	ID-Nr.	↻	h	h1	b	P	L	L1	
P92 2 CXCLD 2020 K 40	10120	L	20	20	20	15	125	44	11+2
P92 2 CXCLD 2525 M 40	10122	L	25	25	25	15	150	44	11+2

WG385 CARTRIDGE Ref.	ID-Nr.	S	Ø min	Ø max
C92 LD 4254 40	10375	4	42	54
C92 LD 5466 40	10377	4	54	66
C92 LD 6680 40	10380	4	66	80
C92 LD 80100 40	10382	4	80	100
C92 LD 100200 40	10370	4	100	200
C92 LD 200300 40	37200	4	200	300

Remark

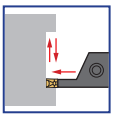
Holder and cartridges fit together provided the final two figures of the Reference-Nr. are identical.

Cartridges and inserts with the same "S" dimension fit together.

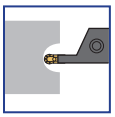
Example:

P92 2 CXCLD 2020 K **30** und C92 LD 3035 **30**
P92 2 CXCLD 2525 M **40** und C92 LD 6680 **40**

Fitting inserts



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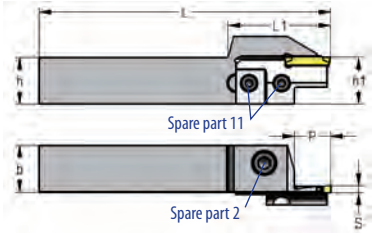
Tool holders with cartridges for face grooving



P92 2 CXCRD

System P92-2

RH holder



RH Cartridge



WG385 CARTRIDGE-HOLDER Ref.	ID-Nr.		h	h1	b	P	L	L1	
P92 2 CXCRD 2020 K 30	10123	R	20	20	20	15	125	44	11+2
P92 2 CXCRD 2525 M 30	10125	R	25	25	25	15	150	44	11+2

WG385 CARTRIDGE Ref.	ID-Nr.	S	Ø min	Ø max
C92 RD 2530 30	10385	3	25	30
C92 RD 3035 30	10386	3	30	35
C92 RD 3542 30	10387	3	35	42
C92 RD 4250 30	10388	3	42	50
C92 RD 5058 30	10390	3	50	58
C92 RD 5866 30	10392	3	58	66
C92 RD 6675 30	10393	3	66	75
C92 RD 75100 30	10395	3	75	100
C92 RD 100200 30	10383	3	100	200
C92 RD 200300 30	18356	3	200	300

WG385 CARTRIDGE-HOLDER Ref.	ID-Nr.		h	h1	b	P	L	L1	
P92 2 CXCRD 2020 K 40	10124	R	20	20	20	15	125	44	11+2
P92 2 CXCRD 2525 M 40	10126	R	25	25	25	15	150	44	11+2

WG385 CARTRIDGE Ref.	ID-Nr.	S	Ø min	Ø max
C92 RD 4254 40	10389	4	42	54
C92 RD 5466 40	10391	4	54	66
C92 RD 6680 40	10394	4	66	80
C92 RD 80100 40	10396	4	80	100
C92 RD 100200 40	10384	4	100	200
C92 RD 200300 40	21371	4	200	300

Remark

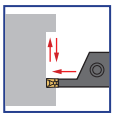
Holder and cartridges fit together provided the final two figures of the Reference-Nr. are identical.

Cartridges and inserts with the same "S" dimension fit together.

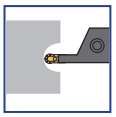
Example:

P92 2 CXCRD 2020 K **30** und C92 RD 3035 **30**
P92 2 CXCRD 2525 M **40** und C92 RD 6680 **40**

Fitting inserts



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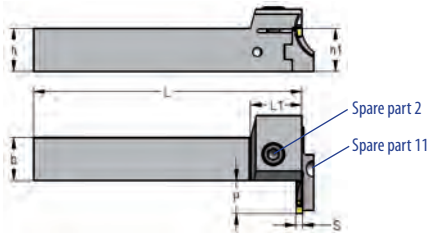
Tool holders with cartridges for face grooving

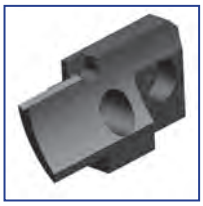


P92 90 CXCLD

System P92-90

LH holder





LH Cartridge

WG385 CARTRIDGE-HOLDER Ref.	ID-Nr.		h	h1	b	P	L	L1	
P92 90 CXCLD 2020 K 30	10127	L	20	20	20	15	125	24	11+2
P92 90 CXCLD 2525 M 30	10129	L	25	25	25	15	150	24	11+2

WG385 CARTRIDGE Ref.	ID-Nr.	S	Ø min	Ø max
C92 LD 2530 30	10371	3	25	30
C92 LD 3035 30	10372	3	30	35
C92 LD 3542 30	10373	3	35	42
C92 LD 4250 30	10374	3	42	50
C92 LD 5058 30	10376	3	50	58
C92 LD 5866 30	10378	3	58	66
C92 LD 6675 30	10379	3	66	75
C92 LD 75100 30	10381	3	75	100
C92 LD 100200 30	10369	3	100	200
C92 LD 200300 30	43835	3	200	300

WG385 CARTRIDGE-HOLDER Ref.	ID-Nr.		h	h1	b	P	L	L1	
P92 90 CXCLD 2020 K 40	10128	L	20	20	20	15	125	24	11+2
P92 90 CXCLD 2525 M 40	10130	L	25	25	25	15	150	24	11+2

WG385 CARTRIDGE Ref.	ID-Nr.	S	Ø min	Ø max
C92 LD 4254 40	10375	4	42	54
C92 LD 5466 40	10377	4	54	66
C92 LD 6680 40	10380	4	66	80
C92 LD 80100 40	10382	4	80	100
C92 LD 100200 40	10370	4	100	200
C92 LD 200300 40	37200	4	200	300

Remark

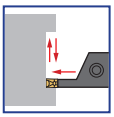
Holder and cartridges fit together provided the final two figures of the Reference-Nr. are identical.

Cartridges and inserts with the same "S" dimension fit together.

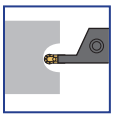
Example:

P92 90 CXCLD 2020 K **30** und C92 LD 3035 **30**
P92 90 CXCLD 2525 M **40** und C92 LD 6680 **40**

Fitting inserts



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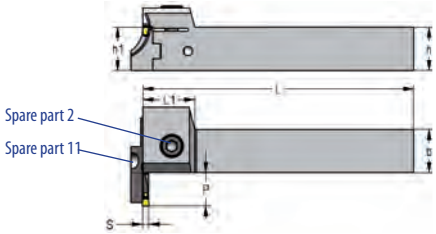
Tool holders with cartridges for face grooving



P92 90 CXCRD

System P92-90

RH holder





RH cartridge

WG385 CARTRIDGE-HOLDER Ref.	ID-Nr.		h	h1	b	P	L	L1	
P92 90 CXCRD 2020 K 30	10131	R	20	20	20	15	125	24	11+2
P92 90 CXCRD 2525 M 30	10133	R	25	25	25	15	150	24	11+2

WG385 CARTRIDGE Ref.	ID-Nr.	S	Ø min	Ø max
C92 RD 2530 30	10385	3	25	30
C92 RD 3035 30	10386	3	30	35
C92 RD 3542 30	10387	3	35	42
C92 RD 4250 30	10388	3	42	50
C92 RD 5058 30	10390	3	50	58
C92 RD 5866 30	10392	3	58	66
C92 RD 6675 30	10393	3	66	75
C92 RD 75100 30	10395	3	75	100
C92 RD 100200 30	10383	3	100	200
C92 RD 200300 30	18356	3	200	300

WG385CARTRIDGE-HOLDER Ref.	ID-Nr.		h	h1	b	P	L	L1	
P92 90 CXCRD 2020 K 40	10132	R	20	20	20	15	125	24	11+2
P92 90 CXCRD 2525 M 40	10134	R	25	25	25	15	150	24	11+2

WG385 CARTRIDGE Ref.	ID-Nr.	S	Ø min	Ø max
C92 RD 4254 40	10389	4	42	54
C92 RD 5466 40	10391	4	54	66
C92 RD 6680 40	10394	4	66	80
C92 RD 80100 40	10396	4	80	100
C92 RD 100200 40	10384	4	100	200
C92 RD 200300 40	21371	4	200	300

Remark

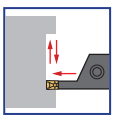
Holder and cartridges fit together provided the final two figures of the Reference-Nr. are identical.

Cartridges and inserts with the same "S" dimension fit together.

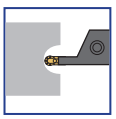
Example:

P92 90 CXCRD 2020 K **30** and C92 RD 3035 **30**
P92 90 CXCRD 2525 M **40** and C92 RD 6680 **40**

Fitting inserts



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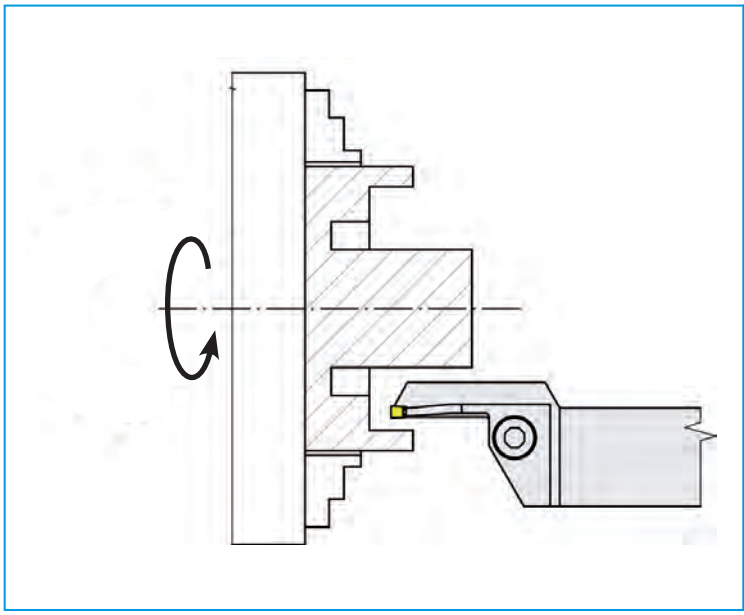


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Designation Code for MONOBLOCK face grooving tools

P92 2 CXCB R 2020 K 30 30 A

- P92 — Tool family
- 2 — Face grooving
- CXCB — Cutting tool holder for inserts with 2 edges. Screw clamping type
- R — Rotation
- 2020 — Shank dimensions
- K — ISO holder length
- 30 — Cutting width in tenth mm
- 30 — Ø min
- A — Dimension P enlarged

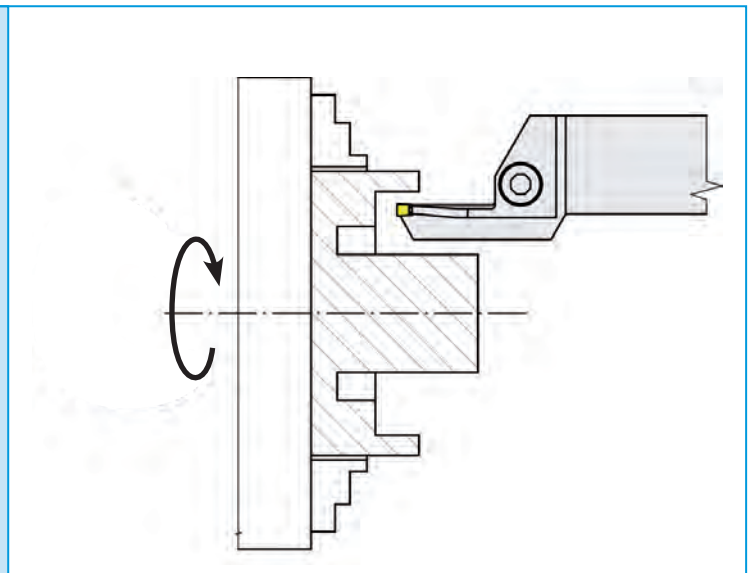


Counter clockwise rotation (CCW)

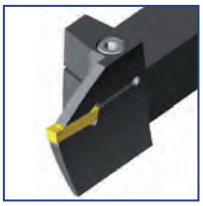


Clockwise rotation (CW)



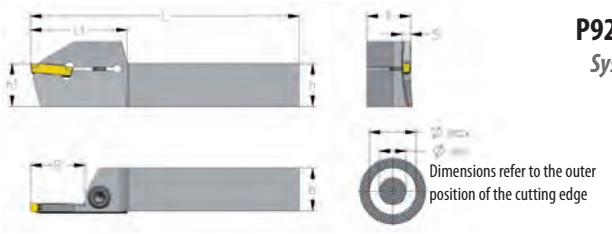


MONOBLOCK Face grooving tool holders for cutting width 3 mm



P92 2 CXCBL
System P92-2

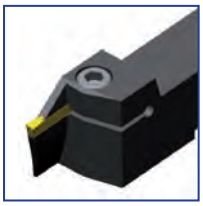
LH holder



Dimensions refer to the outer position of the cutting edge

P92 2 CXCBR
System P92-2

RH holder



WG388 Ref.	ID-Nr.	↻	Ø min	Ø max	h	h1	b	f	P	S	L	L1	
P92 2 CXCBL 2020 K 30 25	30164	L	25	30	20	20	20	20,5	15	3	125	35	2
P92 2 CXCBL 2020 K 30 30	30167	L	30	38	20	20	20	20,5	15	3	125	35	2
P92 2 CXCBL 2020 K 30 38	30169	L	38	48	20	20	20	20,5	15	3	125	35	2
P92 2 CXCBL 2020 K 30 48	30170	L	48	60	20	20	20	20,5	15	3	125	35	2
P92 2 CXCBL 2020 K 30 60	30171	L	60	75	20	20	20	20,5	22	3	125	43	2
P92 2 CXCBL 2020 K 30 75	30172	L	75	100	20	20	20	20,5	25	3	125	45	2
P92 2 CXCBL 2020 K 30 100	30173	L	100	200	20	20	20	20,5	25	3	125	45	2
P92 2 CXCBL 2525 M 30 25	30174	L	25	30	25	25	25	25,5	15	3	150	35	2
P92 2 CXCBL 2525 M 30 30	30175	L	30	38	25	25	25	25,5	15	3	150	35	2
P92 2 CXCBL 2525 M 30 38	30179	L	38	48	25	25	25	25,5	15	3	150	35	2
P92 2 CXCBL 2525 M 30 48	30181	L	48	60	25	25	25	25,5	15	3	150	35	2
P92 2 CXCBL 2525 M 30 60	30182	L	60	75	25	25	25	25,5	22	3	150	43	2
P92 2 CXCBL 2525 M 30 75	30184	L	75	100	25	25	25	25,5	25	3	150	45	2
P92 2 CXCBL 2525 M 30 100	30185	L	100	200	25	25	25	25,5	25	3	150	45	2
P92 2 CXCBR 2020 K 30 25	29786	R	25	30	20	20	20	20,5	15	3	125	35	2
P92 2 CXCBR 2020 K 30 30	29787	R	30	38	20	20	20	20,5	15	3	125	35	2
P92 2 CXCBR 2020 K 30 38	29788	R	38	48	20	20	20	20,5	15	3	125	35	2
P92 2 CXCBR 2020 K 30 48	29789	R	48	60	20	20	20	20,5	15	3	125	35	2
P92 2 CXCBR 2020 K 30 60	29790	R	60	75	20	20	20	20,5	22	3	125	43	2
P92 2 CXCBR 2020 K 30 75	29791	R	75	100	20	20	20	20,5	25	3	125	45	2
P92 2 CXCBR 2020 K 30 100	29792	R	100	200	20	20	20	20,5	25	3	125	45	2
P92 2 CXCBR 2525 M 30 25	29793	R	25	30	25	25	25	25,5	15	3	150	35	2
P92 2 CXCBR 2525 M 30 30	29794	R	30	38	25	25	25	25,5	15	3	150	35	2
P92 2 CXCBR 2525 M 30 38	29795	R	38	48	25	25	25	25,5	15	3	150	35	2
P92 2 CXCBR 2525 M 30 48	29796	R	48	60	25	25	25	25,5	15	3	150	35	2
P92 2 CXCBR 2525 M 30 60	29797	R	60	75	25	25	25	25,5	22	3	150	43	2
P92 2 CXCBR 2525 M 30 75	29798	R	75	100	25	25	25	25,5	25	3	150	45	2
P92 2 CXCBR 2525 M 30 100	29799	R	100	200	25	25	25	25,5	25	3	150	45	2

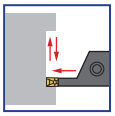
Remark

Holder and inserts with the same "S" dimension fit together.

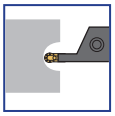
Fitting inserts



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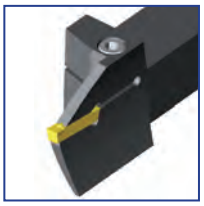


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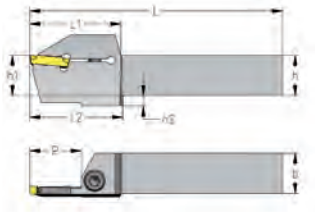
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MONOBLOCK Face grooving tool holders for cutting width 3 mm



P92 2 CXCBL
System P92-2

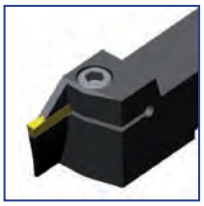
LH holder



Dimensions refer to the outer position of the cutting edge

P92 2 CXCBR
System P92-2

RH holder



WG388 Ref.	ID-Nr.	( )	Ø min	Ø max	h	h1	h2	b	f	P	S	L	L1	L2	
P92 2 CXCBL 2020 K 40 34	30186	L	34	40	20	20		20	20,5	20	4	125	41		2
P92 2 CXCBL 2020 K 40 40	30187	L	40	48	20	20		20	20,5	25	4	125	45		2
P92 2 CXCBL 2020 K 40 48	30188	L	48	60	20	20		20	20,5	25	4	125	45		2
P92 2 CXCBL 2020 K 40 60	30189	L	60	75	20	20		20	20,5	25	4	125	45		2
P92 2 CXCBL 2020 K 40 75	30190	L	75	150	20	20		20	20,5	25	4	125	45		2
P92 2 CXCBL 2020 K 40 150	29718	L	150	450	20	20	5	20	20,5	25	4	125	45	46	2
P92 2 CXCBL 2525 M 40 34	30192	L	34	40	25	25		25	25,5	20	4	150	41		2
P92 2 CXCBL 2525 M 40 40	30193	L	40	48	25	25		25	25,5	25	4	150	45		2
P92 2 CXCBL 2525 M 40 48	30194	L	48	60	25	25		25	25,5	25	4	150	45		2
P92 2 CXCBL 2525 M 40 60	30195	L	60	75	25	25		25	25,5	25	4	150	45		2
P92 2 CXCBL 2525 M 40 75	30196	L	75	150	25	25		25	25,5	25	4	150	45		2
P92 2 CXCBL 2525 M 40 150	30197	L	150	450	25	25		25	25,5	25	4	150	45		2
P92 2 CXCBL 2525 M 40 450	30198	L	450	∞	25	25	5	25	25,5	25	4	150	45	46	2
P92 2 CXCBR 2020 K 40 34	29742	R	34	40	20	20		20	20,5	20	4	125	41		2
P92 2 CXCBR 2020 K 40 40	29743	R	40	48	20	20		20	20,5	25	4	125	45		2
P92 2 CXCBR 2020 K 40 48	29744	R	48	60	20	20		20	20,5	25	4	125	45		2
P92 2 CXCBR 2020 K 40 60	29745	R	60	75	20	20		20	20,5	25	4	125	45		2
P92 2 CXCBR 2020 K 40 75	29746	R	75	150	20	20		20	20,5	25	4	125	45		2
P92 2 CXCBR 2020 K 40 150	29717	R	150	450	20	20	5	20	20,5	25	4	125	45	46	2
P92 2 CXCBR 2525 M 40 34	29747	R	34	40	25	25		25	25,5	20	4	150	41		2
P92 2 CXCBR 2525 M 40 40	29748	R	40	48	25	25		25	25,5	25	4	150	45		2
P92 2 CXCBR 2525 M 40 48	29749	R	48	60	25	25		25	25,5	25	4	150	45		2
P92 2 CXCBR 2525 M 40 60	29750	R	60	75	25	25		25	25,5	25	4	150	45		2
P92 2 CXCBR 2525 M 40 75	29751	R	75	150	25	25		25	25,5	25	4	150	45		2
P92 2 CXCBR 2525 M 40 150	29719	R	150	450	25	25		25	25,5	25	4	150	45		2
P92 2 CXCBR 2525 M 40 450	29721	R	450	∞	25	25	5	25	25,5	25	4	150	45	46	2

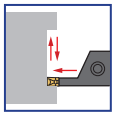
Remark

Holder and inserts with the same "S" dimension fit together.

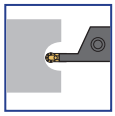
Fitting inserts



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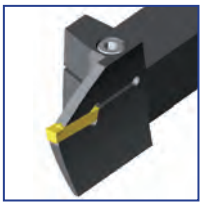


p. 56



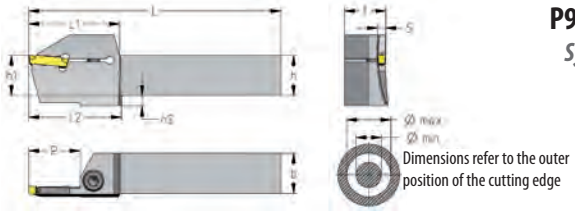
p. 189

MONOBLOCK Face grooving tool holders for cutting width 5 mm



P92 2 CXCBL
System P92-2

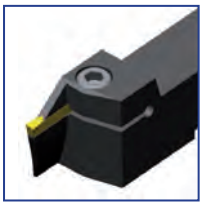
LH holder



Dimensions refer to the outer position of the cutting edge

P92 2 CXCBR
System P92-2

RH holder



WG388 Ref.	ID-Nr.	( )	Ø min	Ø max	h	h1	h2	b	f	P	S	L	L1	L2	
P92 2 CXCBL 2020 K 50 42	28296	L	42	55	20	20		20	20,5	25	5	125	45		2
P92 2 CXCBL 2020 K 50 55	30199	L	55	75	20	20		20	20,5	25	5	125	45		2
P92 2 CXCBL 2020 K 50 75	29714	L	75	130	20	20	3	20	20,5	28	5	125	48	49	2
P92 2 CXCBL 2525 M 50 42	28298	L	42	55	25	25		25	25,5	25	5	150	45		2
P92 2 CXCBL 2525 M 50 55	30201	L	55	75	25	25		25	25,5	25	5	150	45		2
P92 2 CXCBL 2525 M 50 75	30202	L	75	130	25	25		25	25,5	32	5	150	52		2
P92 2 CXCBL 2525 M 50 75A	30203	L	75	130	25	25		25	25,5	40	5	150	60		2
P92 2 CXCBL 2525 M 50 130	30204	L	130	200	25	25	5	25	25,5	32	5	150	52	53	2
P92 2 CXCBL 2525 M 50 130A	30205	L	130	200	25	25	5	25	25,5	40	5	150	60	61	2
P92 2 CXCBL 2525 M 50 200	30207	L	200	450	25	25	5	25	25,5	32	5	150	52	53	2
P92 2 CXCBL 2525 M 50 200A	30208	L	200	450	25	25	5	25	25,5	45	5	150	65	66	2
P92 2 CXCBL 2525 M 50 450	30210	L	450	∞	25	25	5	25	25,5	32	5	150	52	53	2
P92 2 CXCBL 2525 M 50 450A	30209	L	450	∞	25	25	5	25	25,5	45	5	150	65	66	2
P92 2 CXCBR 2020 K 50 42	28295	R	42	55	20	20		20	20,5	25	5	125	45		2
P92 2 CXCBR 2020 K 50 55	29774	R	55	75	20	20		20	20,5	25	5	125	45		2
P92 2 CXCBR 2020 K 50 75	29713	R	75	130	20	20	3	20	20,5	28	5	125	48	49	2
P92 2 CXCBR 2525 M 50 42	28297	R	42	55	25	25		25	25,5	25	5	150	45		2
P92 2 CXCBR 2525 M 50 55	29775	R	55	75	25	25		25	25,5	25	5	150	45		2
P92 2 CXCBR 2525 M 50 75	29776	R	75	130	25	25		25	25,5	32	5	150	52		2
P92 2 CXCBR 2525 M 50 75A	29777	R	75	130	25	25		25	25,5	40	5	150	60		2
P92 2 CXCBR 2525 M 50 130	29780	R	130	200	25	25	5	25	25,5	32	5	150	52	53	2
P92 2 CXCBR 2525 M 50 130A	29781	R	130	200	25	25	5	25	25,5	40	5	150	60	61	2
P92 2 CXCBR 2525 M 50 200	29782	R	200	450	25	25	5	25	25,5	32	5	150	52	53	2
P92 2 CXCBR 2525 M 50 200A	29784	R	200	450	25	25	5	25	25,5	45	5	150	65	66	2
P92 2 CXCBR 2525 M 50 450	29715	R	450	∞	25	25	5	25	25,5	32	5	150	52	53	2
P92 2 CXCBR 2525 M 50 450A	29785	R	450	∞	25	25	5	25	25,5	45	5	150	65	66	2

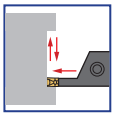
Remark

Holder and inserts with the same "S" dimension fit together.

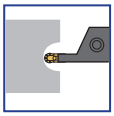
Fitting inserts



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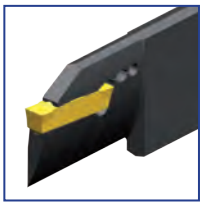
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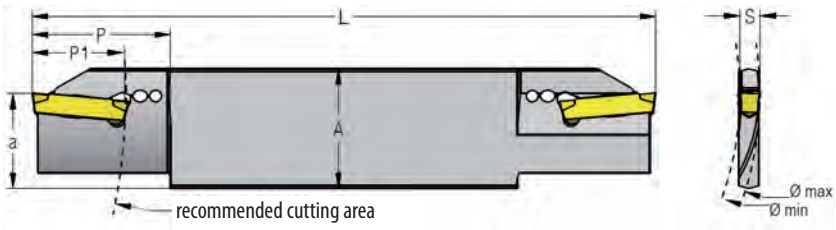
How to write an order:			recommended	
1 St.	P92 2 CXCBR 2020 K 50 42	or:	**1 St.**	**ID-Nr. 28295**
10 St.	RTNX 525 KM TILOX	or:	**10 St.**	**ID-Nr. 13414**

Blades for face grooving



P92 2 TMS

System P92-2

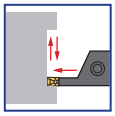


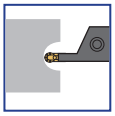
WG311 Ref.	ID-Nr.		Ømin	Ømax	A	a	P	P1	S	L	
P92 2 TMS 32 4 85 R	44531	R	85	160	32	25,0	32	18,5	4,0	160	28
P92 2 TMS 32 4 140 R	44542	R	140	260	32	25,0	32	18,5	4,0	160	28
P92 2 TMS 32 4 240 R	44543	R	240	~	32	25,0	32	18,5	4,0	160	28
P92 2 TMS 32 5 85 R	44538	R	85	160	32	25,0	35	23,5	5,0	160	28
P92 2 TMS 32 5 140 R	44540	R	140	260	32	25,0	35	23,5	5,0	160	28
P92 2 TMS 32 5 240 R	44541	R	240	~	32	25,0	35	23,5	5,0	160	28

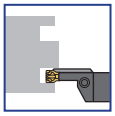
Remark

Blades and tool blocks with the same "A" dimension fit together.
Holder and inserts with the same "S" dimension fit together.

Fitting inserts and tool blocks


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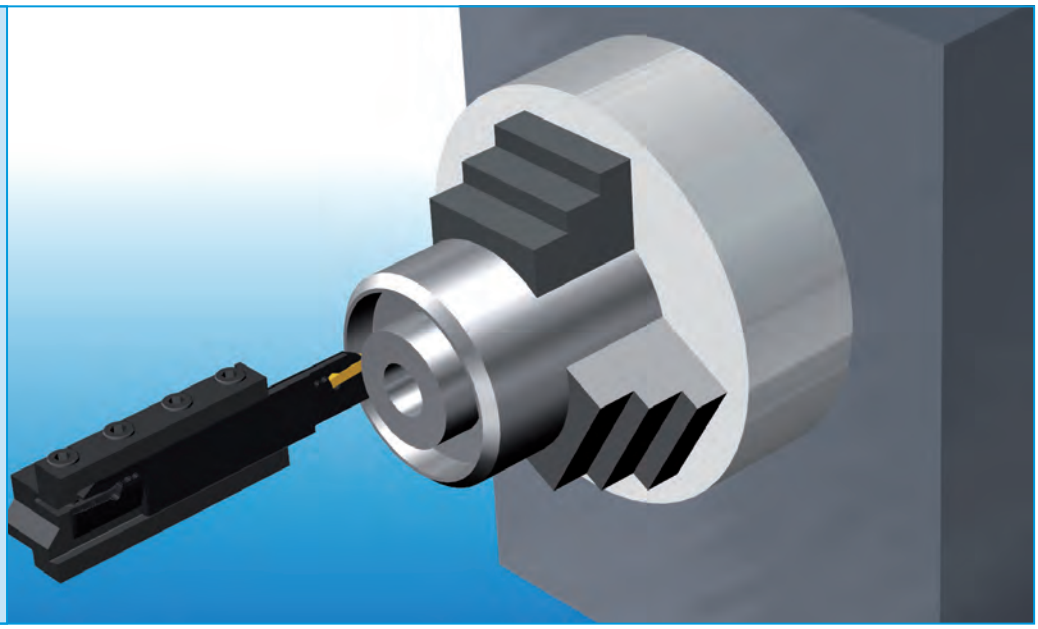


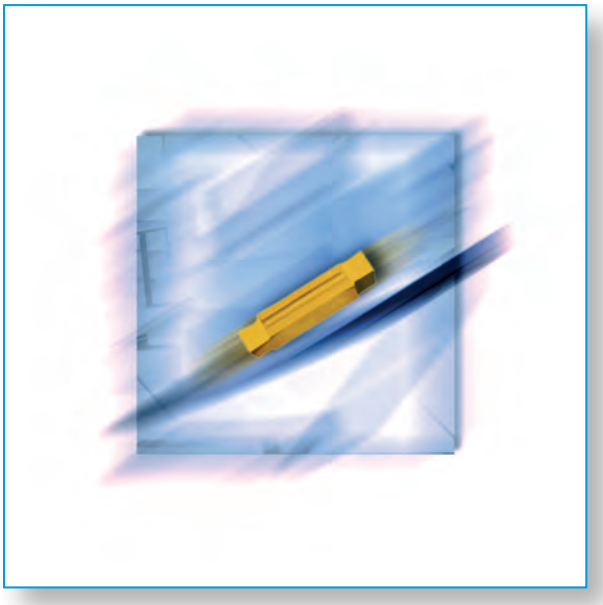
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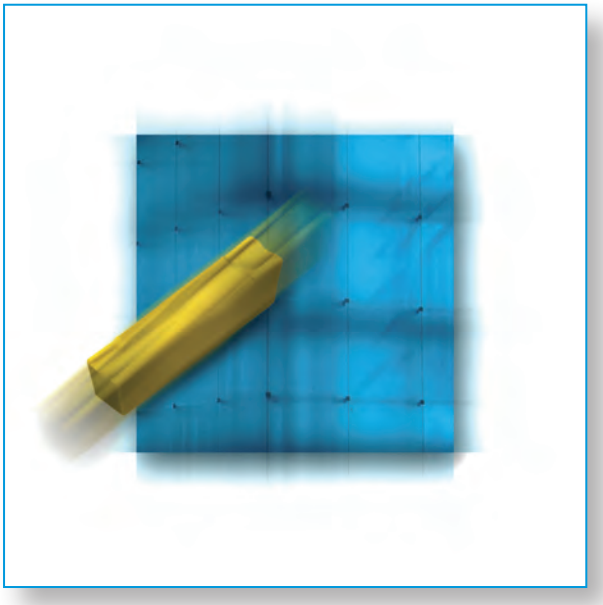

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Application

P92 2 TMS 32





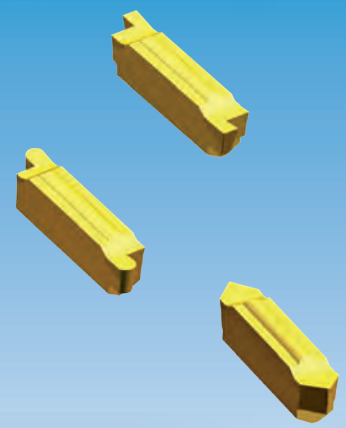




P92 P - Precision system

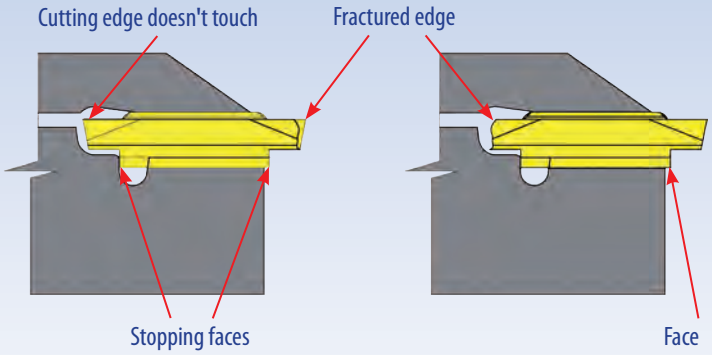
The precision system for machining

- Precision grooving
- Precision copying
- Precision threading



P92 P - Precision System

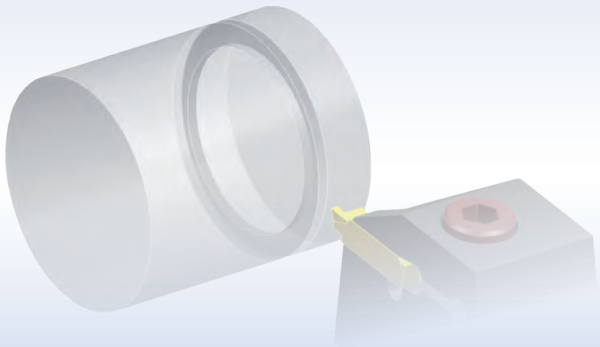
The precision system for machining

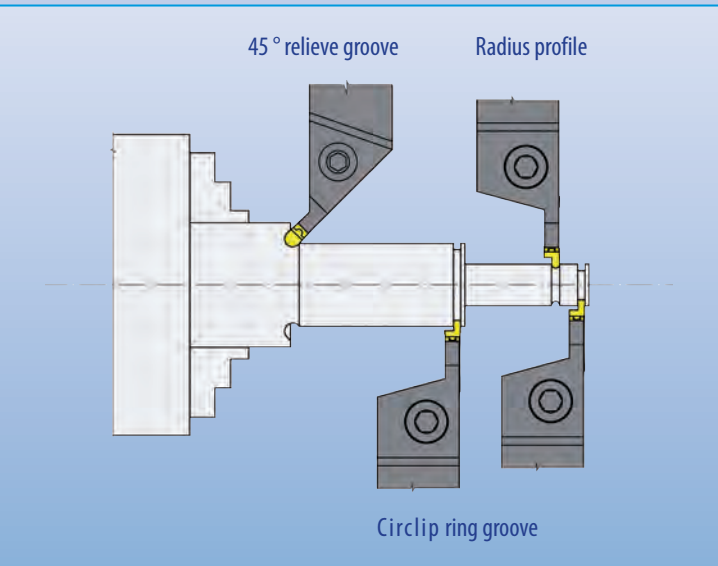


- ✓ Precise repositioning of cutting edge
- ✓ No loss! In case of fractured edge, the so far unused edge can be employed.

- ✓ Long guide surfaces between insert and pocket achieve a solid unit and therefore lead to a perfect straight run.







- ✓ Many applications

Precision grooving inserts (DIN 471)

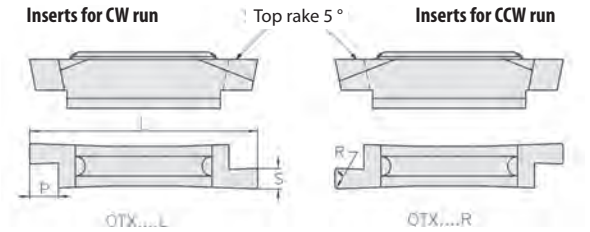
RH insert



P92 P OTX..R/L

System P92-P







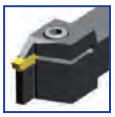
Enlarged view

WG260 Ref.	KM	PM NANOSPEED	KM NANOSPEED	( )	L -0,1	P	R		S -0,05
	ID-Nr.	ID-Nr.	ID-Nr.						
OTX 4 050L	23940	23961	23960	L	19,2	1,0	0,05	0,50	0,57
OTX 4 060L	23941	23965	23964	L	19,2	1,0	0,05	0,60	0,67
OTX 4 070L	23942	23969	23968	L	19,2	1,5	0,05	0,70	0,77
OTX 4 080L	23943	23973	23972	L	19,2	1,5	0,05	0,80	0,87
OTX 4 090L	11047	11053	11049	L	19,2	1,5	0,1	0,90	0,97
OTX 4 110L	11055	11061	11057	L	19,2	1,5	0,1	1,10	1,24
OTX 4 130L	11063	11069	11065	L	19,2	1,5	0,1	1,30	1,44
OTX 4 160L	11071	11077	11073	L	19,2	2,0	0,1	1,60	1,74
OTX 4 185L	11079	11085	11081	L	19,2	2,0	0,1	1,85	1,99
OTX 4 215L	11087	11093	11089	L	19,2	2,5	0,1	2,15	2,29
OTX 4 265L	11095	11101	11097	L	19,2	2,5	0,1	2,65	2,79
OTX 4 315L	11111	11117	11113	L	19,2	2,5	0,1	3,15	3,29
OTX 5 415L	11161	11167	11163	L	23,6	3,5	0,1	4,15	4,29
OTX 4 050R	23939	23963	23962	R	19,2	1,0	0,05	0,50	0,57
OTX 4 060R	23938	23967	23966	R	19,2	1,0	0,05	0,60	0,67
OTX 4 070R	23937	23971	23970	R	19,2	1,5	0,05	0,70	0,77
OTX 4 080R	23936	23975	23974	R	19,2	1,5	0,05	0,80	0,87
OTX 4 090R	11046	11052	11048	R	19,2	1,5	0,1	0,90	0,97
OTX 4 110R	11054	11060	11056	R	19,2	1,5	0,1	1,10	1,24
OTX 4 130R	11062	11068	11064	R	19,2	1,5	0,1	1,30	1,44
OTX 4 160R	11070	11076	11072	R	19,2	2,0	0,1	1,60	1,74
OTX 4 185R	11078	11084	11080	R	19,2	2,0	0,1	1,85	1,99
OTX 4 215R	11086	11092	11088	R	19,2	2,5	0,1	2,15	2,29
OTX 4 265R	11094	11100	11096	R	19,2	2,5	0,1	2,65	2,79
OTX 4 315R	11110	11116	11112	R	19,2	2,5	0,1	3,15	3,29
OTX 5 415R	11160	11166	11162	R	23,6	3,5	0,1	4,15	4,29

Remark

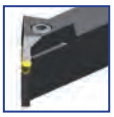
4, 5 and **6** are identification numbers for the insert size and the compatible tool holder. Inserts and holder with identical numbers fit together.
e.g. P92 P CXCBR 0808 K**4** with OTX**4** 050R

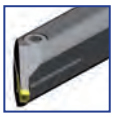
Fitting tool holder


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Full radius grooving and copying inserts

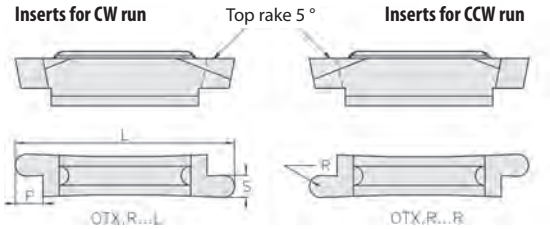
RH insert



P92 P OTX R..R/L

System P92-P







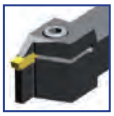
Enlarged view

WG260 Ref.	KM	PM NANOSPEED	KM NANOSPEED	( )	L -0,1	P	R	S +0,05
	ID-Nr.	ID-Nr.	ID-Nr.					
OTX 4 R 050L	23952	23957	23956	L	19,2	2,0	0,50	1,00
OTX 4 R 075L	29648	25285	29651	L	19,2	2,0	0,75	1,50
OTX 4 R 100L	11143	11149	11145	L	19,2	3,0	1,00	2,00
OTX 4 R 125L	29649	25286	29653	L	19,2	3,0	1,25	2,50
OTX 4 R 150L	11151	11157	11153	L	19,2	3,0	1,50	3,00
OTX 5 R 200L	11171	11177	11173	L	23,6	4,0	2,00	4,00
OTX 6 R 250L	11181	11187	11183	L	23,6	4,0	2,50	5,00
OTX 6 R 300L	11189	11195	11191	L	23,6	4,0	3,00	6,00
OTX 4 R 050R	23953	23959	23958	R	19,2	2,0	0,50	1,00
OTX 4 R 075R	29642	25284	29652	R	19,2	2,0	0,75	1,50
OTX 4 R 100R	11142	11148	11144	R	19,2	3,0	1,00	2,00
OTX 4 R 125R	29650	25287	29654	R	19,2	3,0	1,25	2,50
OTX 4 R 150R	11150	11156	11152	R	19,2	3,0	1,50	3,00
OTX 5 R 200R	11170	11176	11172	R	23,6	4,0	2,00	4,00
OTX 6 R 250R	11180	11186	11182	R	23,6	4,0	2,50	5,00
OTX 6 R 300R	11188	11194	11190	R	23,6	4,0	3,00	6,00

Remark

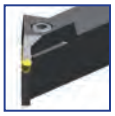
4, 5 and **6** are identification numbers for the insert size and the compatible tool holder. Inserts and holder with identical numbers fit together.
e.g. P92 P CXCBR 0808 K**4** with OTX**4** 050R

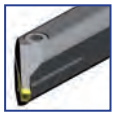
Fitting tool holder


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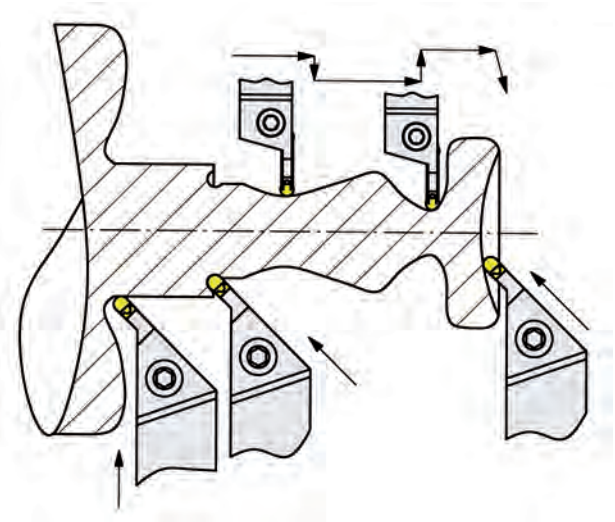

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Full radius inserts for different applications

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Radius and copying inserts

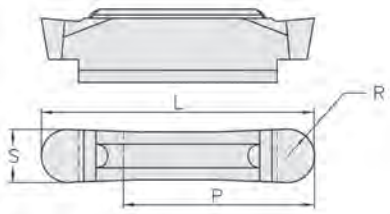
Neutral insert

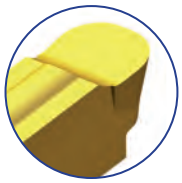


P92 P OTX R N

System P92-P







Enlarged view

WG260 Ref.	KM	PM NANOSPEED	↻	L -0,1	P	R	S -0,20
	ID-Nr.	ID-Nr.					
OTX 4 R 200N	11158	11159	R + L	19,2	11	2,00	4,00
OTX 5 R 250N	11178	11179	R + L	23,6	14	2,50	5,00
OTX 6 R 325N	11196	11197	R + L	23,6	14	3,25	6,50

Remark

4, 5 and **6** are identification numbers for the insert size and the compatible tool holder. Inserts and holder with identical numbers fit together.
e.g. P92 P CXCBR 0808 K**4** with OTX**4** 050R

Fitting tool holder



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Superfinishing

Precision ground full radius inserts with 5° positive top rake angle.

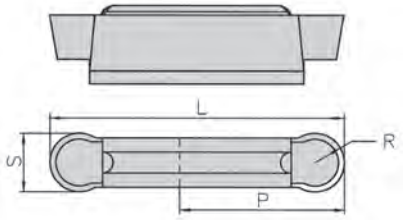
Neutral insert



P92 P OTX R N R

System P92-P







Enlarged view

WG260 Ref.	GF110	GF110 NANOSPEED	↻	L -0,1	P	R	S ±0,025
	ID-Nr.	ID-Nr.					
OTX 4 R 200N R	24266	24267	R + L	20,0	11	2,00	4,00
OTX 5 R 250N R	24268	24269	R + L	25,0	14	2,50	5,00

Remark

4, 5 and **6** are identification numbers for the insert size and the compatible tool holder. Inserts and holder with identical numbers fit together.
e.g. P92 P CXCBR 0808 K**4** with OTX**4** 050R

Fitting tool holder



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Finishing

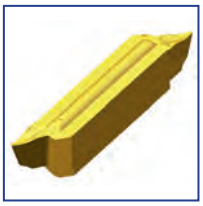
Precision ground full radius insert. Horizontal cutting edge with parallel chip breaker. Especially recommended for heat resistant alloys.

How to write an order: **recommended**

1 St.	P92 P 90 CXCBRL 1620 K5+6 UNI	or:	**1 St.**	**ID-Nr. 24885**
10 St.	OTX5 R 250N R GF110 NANOSPEED	or:	**10 St.**	**ID-Nr. 24269**

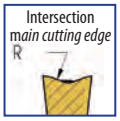
Technical section page 205 onwards

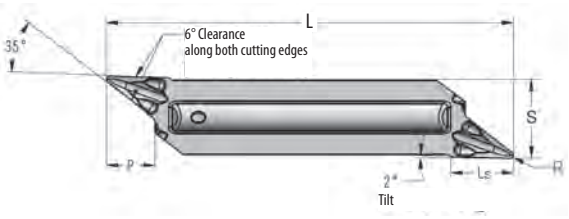
Inserts for grooving and copying

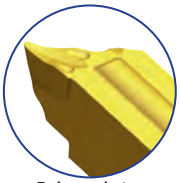


STV R/L

System P92







Enlarged view

WG301 Ref.	KM	KM Aluspeed	KM HYPERSPEED	KM TILOX	( )	L	Ls	R	P	S
	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.						
STVL 501	45034	45018	45026	45121	L	25,0	2,5	0,1	2,50	5,00
STVL 502	45035	45019	45027	45122	L	25,0	2,5	0,2	2,50	5,00
STVR 501	45038	45022	45030	45123	R	25,0	2,5	0,1	2,50	5,00
STVR 502	45039	45023	45031	45124	R	25,0	2,5	0,2	2,50	5,00

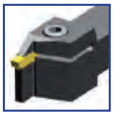
Comment:

STV R/L has been developed, to machine materials, which are difficult to cut, like:

- nonferrous heavy metals
- nickel alloys
- plastic materials
- composite materials
- aluminum alloys

STVL/R = polished surfaces, sharp cutting edges

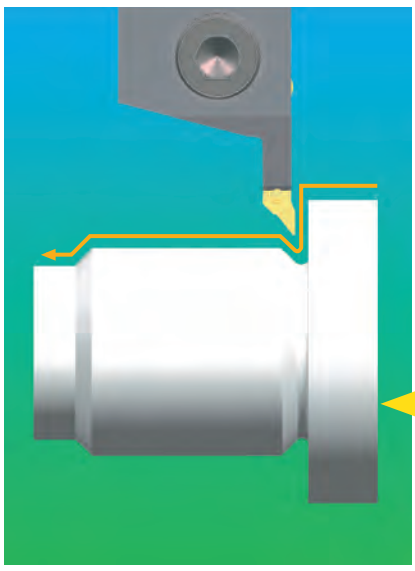
Fitting tool holder


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p. 117


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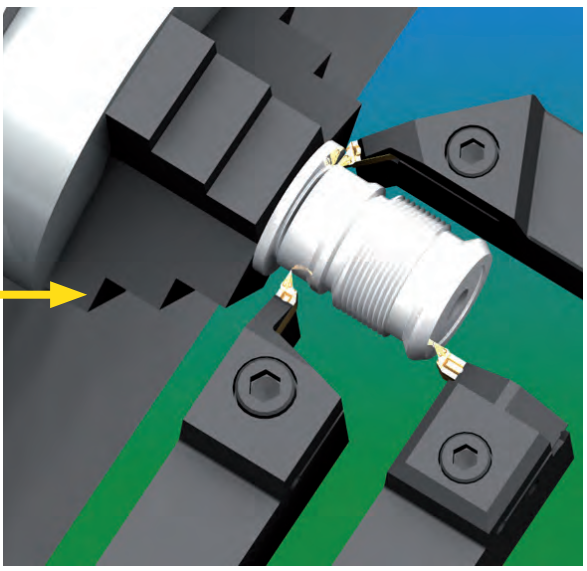


Recommended application of STV R/L, copying insert

Longitudinal turning, semi finishing and finishing

Semi finishing and finishing face cuts

Clearance cuts for threads and others



Technical section page 205 onwards

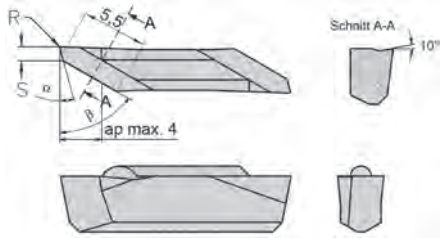
Decolletage turning insert for sliding-head machine tools

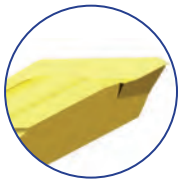

RH insert

P92 P OTX4

System P92-P






Enlarged view

WG260 Ref.	KM	PM NANOSPEED	( )	S	R	α°	β°
	ID-Nr.	ID-Nr.					
OTX 4 DECO SL0660 L01	24291	24301	L	0,6	0,1	15	60
OTX 4 DECO SL1260 L01	24292	24304	L	1,2	0,1	15	60
OTX 4 DECO SL0660 R01	24289	24295	R	0,6	0,1	15	60
OTX 4 DECO SL1260 R01	24290	24298	R	1,2	0,1	15	60
OTX 4 DECO SL0660 L02	11118	11119	L	0,6	0,2	15	60
OTX 4 DECO SL1260 L02	11122	11123	L	1,2	0,2	15	60
OTX 4 DECO SL0660 R02	11120	11121	R	0,6	0,2	15	60
OTX 4 DECO SL1260 R02	11124	11125	R	1,2	0,2	15	60

Remark

4 is the identification number for the insert size and the compatible tool holder. Inserts and holder with identical numbers fit together.
e.g. P92 P CXCBR 0808 K**4** with OTX**4** DECO

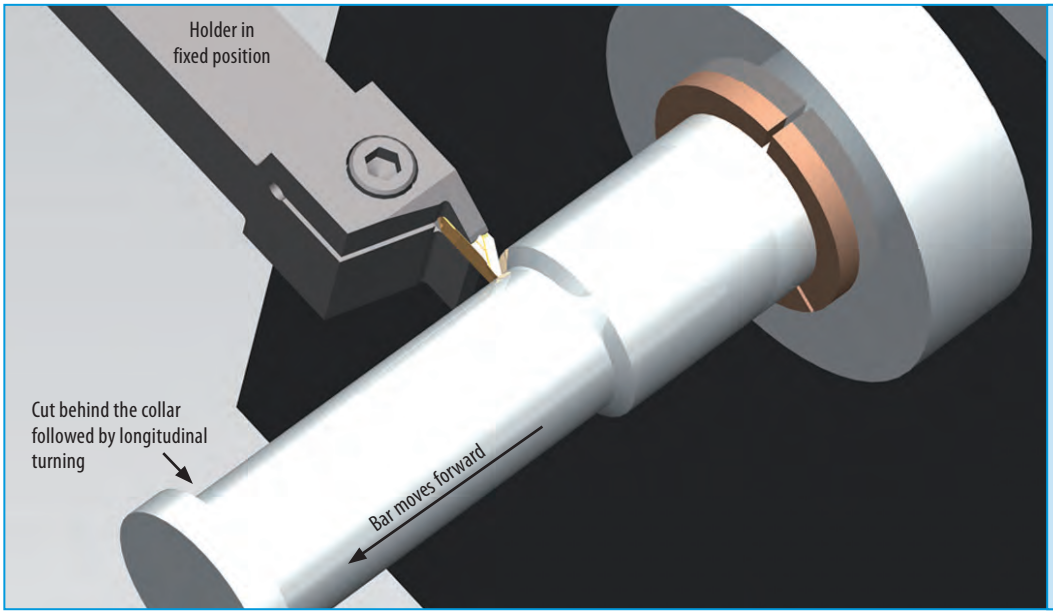
Fitting tool holder


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p. 116


p. 117


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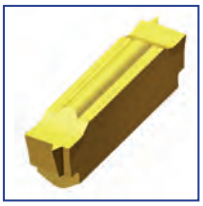


Precision ground DECO-insert:

- cuts easily
- runs quietly
- makes clean faces
- achieves long tool life

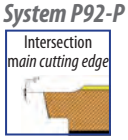
Technical section page 205 onwards

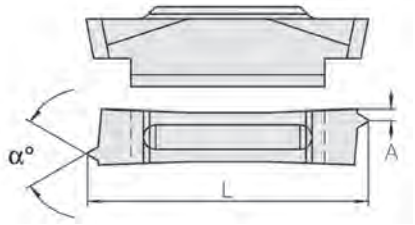
Threading inserts for ISO full profile

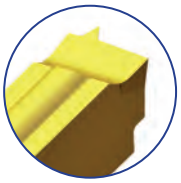


P92 P OTX ER External thread

System P92-P



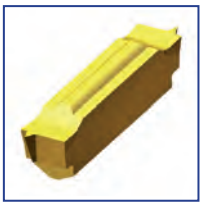




Enlarged view

WG260 Ref.	PM NANOSPEED		A	L -0,1	
	ID-Nr.				
OTX 4 ER ISO 100	11128	1,00	0,8	19,20	60
OTX 4 ER ISO 125	11129	1,25	0,8	19,20	60
OTX 4 ER ISO 150	11130	1,50	1,0	19,20	60
OTX 4 ER ISO 175	11131	1,75	1,1	19,20	60
OTX 4 ER ISO 200	11132	2,00	1,4	19,20	60
OTX 4 ER ISO 250	11133	2,50	1,5	19,20	60
OTX 4 ER ISO 300	11134	3,00	1,8	19,20	60
OTX 4 ER 14 W	18235	14 G/Zoll	1,3	19,20	55
OTX 4 ER 11 W	18242	11 G/Zoll	1,5	19,20	55

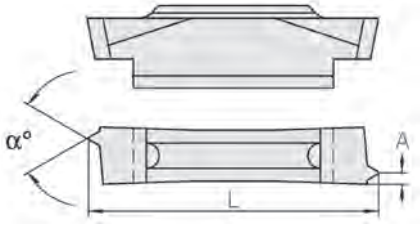
Fitting tool holders see below

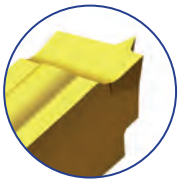


P92 P OTX IR Internal thread

System P92-P







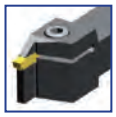
Enlarged view

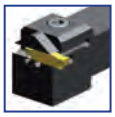
WG260 Ref.	PM NANOSPEED		A	L - 0,1	
	ID-Nr.				
OTX 4 IR ISO 100	11135	1,00	0,8	19,20	60
OTX 4 IR ISO 125	11136	1,25	0,8	19,20	60
OTX 4 IR ISO 150	11137	1,50	1,0	19,20	60
OTX 4 IR ISO 175	11138	1,75	1,1	19,20	60
OTX 4 IR ISO 200	11139	2,00	1,4	19,20	60
OTX 4 IR ISO 250	11140	2,50	1,5	19,20	60
OTX 4 IR ISO 300	11141	3,00	1,8	19,20	60
OTX 4 IR 11 W	44519	11 G/Zoll	1,5	19,20	55
OTX 4 IR 14 W	31362	14 G/Zoll	1,3	19,20	55
OTX 4 IR 19 W	31365	19 G/Zoll	0,8	19,20	55

Remark

4 is the identification number for the insert size and the compatible tool holder. Inserts and holder with identical numbers fit together.
e.g. P92 P CXCBR 0808 K4 with OTX4 IR

Fitting tool holders


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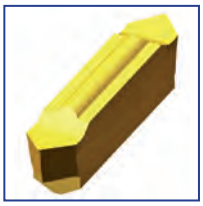

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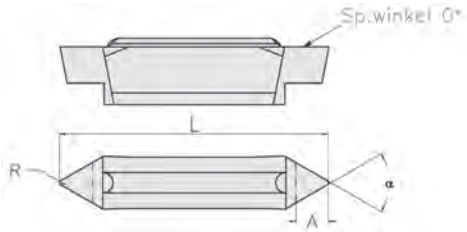
Part-profile threading inserts internal and external

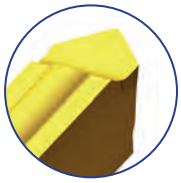


P92 P OTX EIR

System P92-P







Enlarged view

WG260 Ref.	PM NANOSPEED		A	L -0,1	R	
	ID-Nr.					
OTX 4 EIR 55 28 W	11126	28 - 20 G/Zoll	2,7	19,20	0,10	55
OTX 4 EIR 60 050	11127	0,5 - 1,00	2,7	19,20	0,10	60
OTX 4 EIR 55 19 W	24272	19 - 14 G/Zoll	2,7	19,20	0,20	55
OTX 4 EIR 60 125	24278	1,25 - 1,75	2,7	19,20	0,20	60
OTX 4 EIR 55 12 W	24275	12 - 10 G/Zoll	2,7	19,20	0,30	55
OTX 4 EIR 60 200	24281	2,00 - 3,00	2,7	19,20	0,30	60

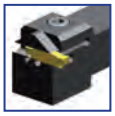
Remark

4 is the identification number for the insert size and the compatible tool holder. Inserts and holder with identical numbers fit together.
e.g. P92 P CXCBR 0808 K**4** with OTX**4** EIR

Part-profile threading inserts for internal **and** external.

Fitting tool holder

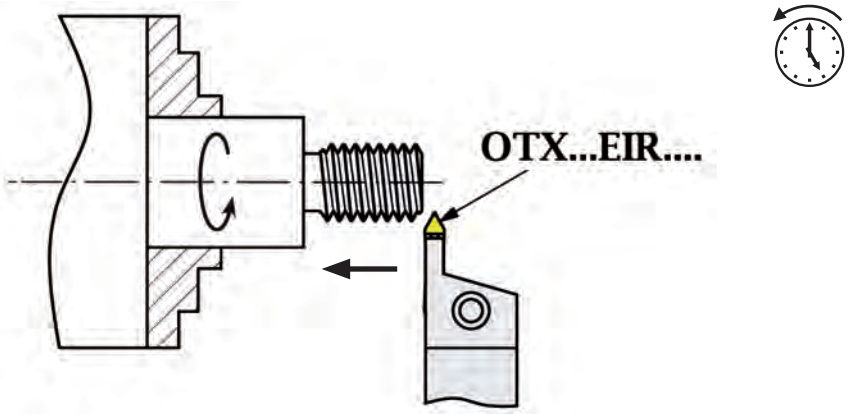

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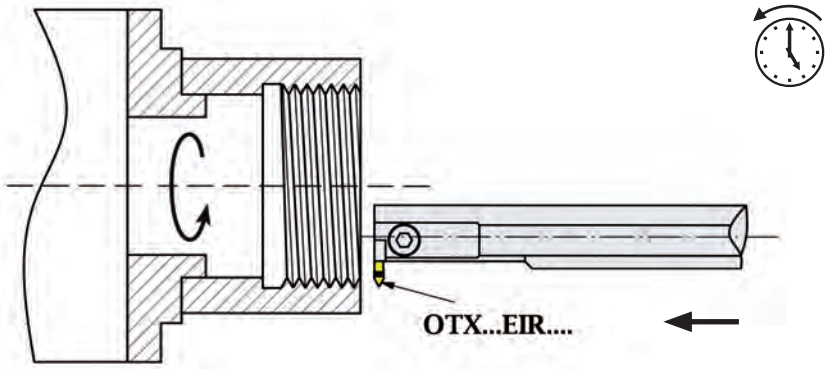

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CCW run



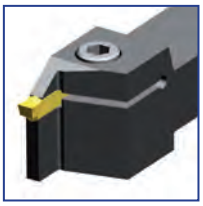
CCW run



OTX...EIR... for internal and external threading.

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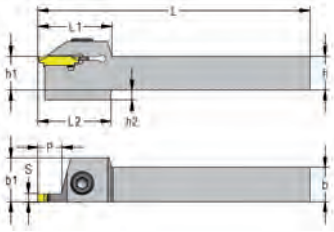
Precision holders



P92 P CXCBL

System P92-P

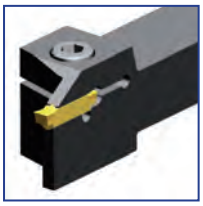
LH holder



P92 P CXCBR

System P92-P

RH holder



WG380 Ref.	ID-Nr.	( )	h	h1	h2	b	b 1	P	S	L	L1	L2	
							-						
P92 P CXCBL 0808 K4	10168	L	08	08	4	08	12	11	4	125	19,5	19,5	10
P92 P CXCBL 1616 K4	28169	L	16	16	-	16	-	11	4	125	34,0	-	1
P92 P CXCBL 1616 K5+6	24257	L	16	16	-	16	-	14	5+6,5	125	35,0	-	1
P92 P CXCBL 2020 K4	10178	L	20	20	-	20	-	11	4	125	34,0	-	14
P92 P CXCBL 2020 K5+6	10180	L	20	20	-	20	-	14	5+6,5	125	35,0	-	14
P92 P CXCBL 2525 M4	10182	L	25	25	-	25	-	11	4	150	34,0	-	2
P92 P CXCBL 2525 M5+6	10184	L	25	25	-	25	-	14	5+6,5	150	37,0	-	2
P92 P CXCBR 0808 K4	10167	R	08	08	4	08	12	11	4	125	19,5	19,5	10
P92 P CXCBR 1616 K4	28168	R	16	16	-	16	-	11	4	125	34,0	-	1
P92 P CXCBR 1616 K5+6	24256	R	16	16	-	16	-	14	5+6,5	125	35,0	-	1
P92 P CXCBR 2020 K4	10177	R	20	20	-	20	-	11	4	125	34,0	-	14
P92 P CXCBR 2020 K5+6	10179	R	20	20	-	20	-	14	5+6,5	125	35,0	-	14
P92 P CXCBR 2525 M4	10181	R	25	25	-	25	-	11	4	150	34,0	-	2
P92 P CXCBR 2525 M5+6	10183	R	25	25	-	25	-	14	5+6,5	150	37,0	-	2

Remark

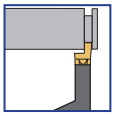
4, 5 and **6** are identification numbers for the insert size and the compatible tool holder. Inserts and holder with identical numbers fit together.
e.g. P92 P CXCBR 0808 K**4** with OTX**4** 050R

Holder marked **5 + 6**, e.g. P92 P CXCBL 1616 K**5+6**, accept OTX **5 or** OTX **6** inserts.
OTX **5** (s = 5 mm maximal)
OTX **6** (s = 6,5 mm maximal)

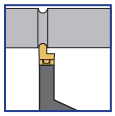
Fitting inserts



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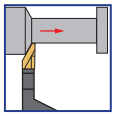
p. 107



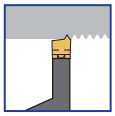
p. 108 + 118



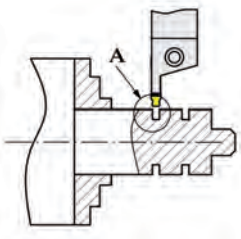
p. 109



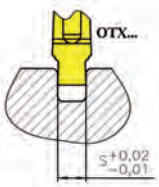
p. 111

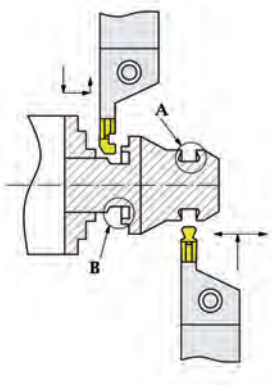


p. 112-113

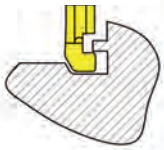


Detail A





Detail B



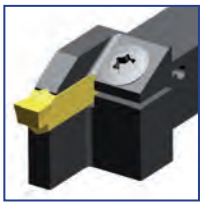
Detail A



Special profiles page 174

Precision grooving

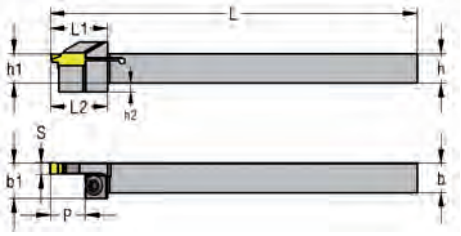
Precision tool holders for sliding head machine tools



P92 P CXCBL..K4-11

System P92-P

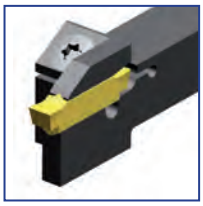
LH holder



P92 P CXCBR..K4-11

System P92-P

RH holder



WG380 Ref.	ID-Nr.	( )	h	h1	h2	b	b 1	P	S	L	L1	L2	
P92 P CXCBL 1010 K4 11	15617	L	10	10	3	10	12	11	4	125	19,5	19,5	9
P92 P CXCBL 1212 K4 11	14374	L	12	12	-	12	-	11	4	125	-	19,5	4
P92 P CXCBL 1616 K4 11	24259	L	16	16	-	16	-	11	4	125	-	19,5	4
P92 P CXCBR 1010 K4 11	15618	R	10	10	3	10	12	11	4	125	19,5	19,5	9
P92 P CXCBR 1212 K4 11	18705	R	12	12	-	12	-	11	4	125	-	19,5	4
P92 P CXCBR 1616 K4 11	24258	R	16	16	-	16	-	11	4	125	-	19,5	4

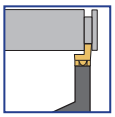
Remark

4 is the identification number for the insert size and the compatible tool holder. Inserts and holder with identical numbers fit together.
e.g. P92 P CXCBR 0808 K**4** with OTX**4** 050R

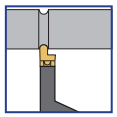
Fitting inserts



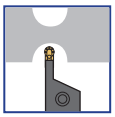
p.227-228,238



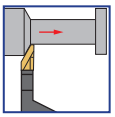
p. 107



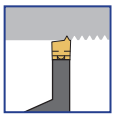
p. 108 + 118



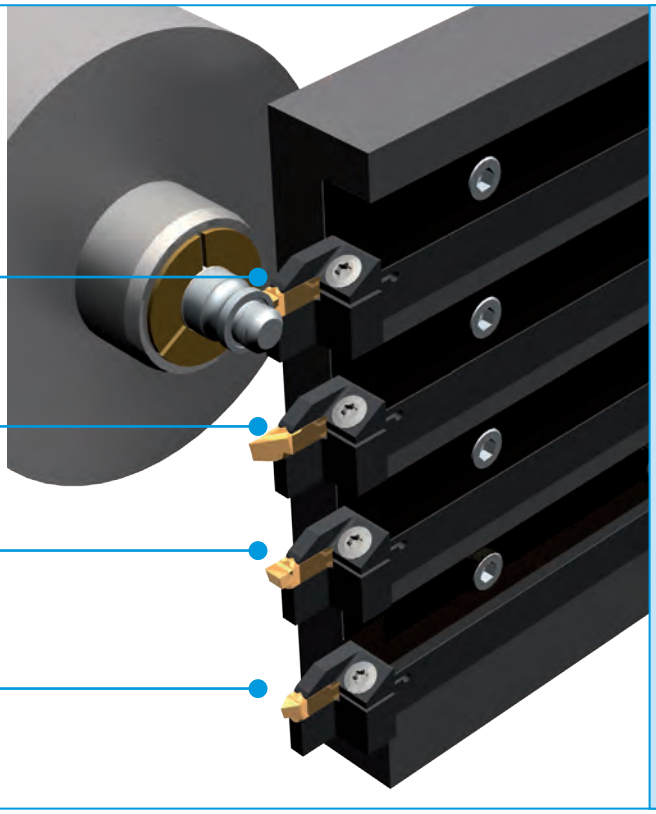
p. 109



p. 111



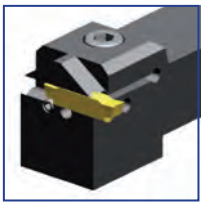
p. 112-113



GripLock precision inserts on sliding head machines

- Short extension
- Easy fixing
- Many applications
- Tailor made inserts available

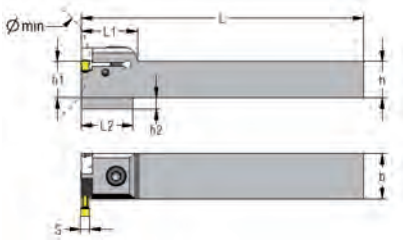
90 ° - Holders for many different turning applications

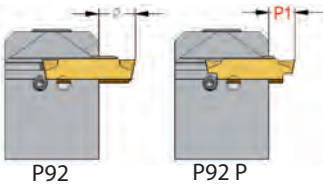


P92 P 90 UNI

System P92-P und P92

RH and LH pocket





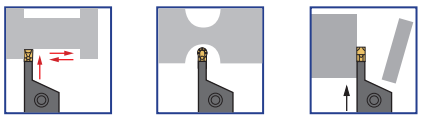
WG380 Ref.	ID-Nr.		h	h1	h2	b	P	P1	S	L	L1	L2	
P92 P 90 CXCBRL 1620 K4 UNI	24694	R + L	16	16	5	20	7,5	5,0	4	125	25	23	1+13
P92 P 90 CXCBRL 2020 K4 UNI	10185	R + L	20	20	-	20	7,5	5,0	4	125	25	-	1+13
P92 P 90 CXCBRL 2525 M4 UNI	10187	R + L	25	25	-	25	7,5	5,0	4	150	25	-	1+13
P92 P 90 CXCBRL 1620 K5+6 UNI	24885	R + L	16	16	5	20	9,5	6,0	5 + 6,5	125	25	23	1+13
P92 P 90 CXCBRL 2020 K5+6 UNI	10186	R + L	20	20	-	20	9,5	6,0	5 + 6,5	125	25	-	1+13
P92 P 90 CXCBRL 2525 M5+6 UNI	10188	R + L	25	25	-	25	9,5	6,0	5 + 6,5	150	34	-	1+13

Remark

Holder and inserts with the same "S" dimension fit together.

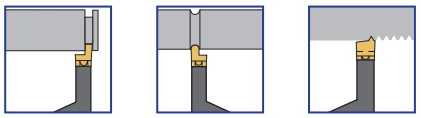
Holder marked **5 + 6**, e.g. P92 P CXCBL 1616 K**5+6**, accept OTX **5** or OTX **6** inserts.
OTX **5** (s = 5 mm maximal)
OTX **6** (s = 6,5 mm maximal)

Fitting inserts System P92 (please pay attention to dimension P)



p. 48-55 p. 56 p. 57-62

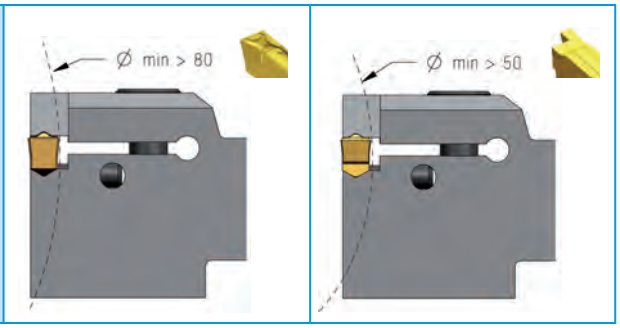
Fitting inserts System P92 P (please pay attention to dimension P1)



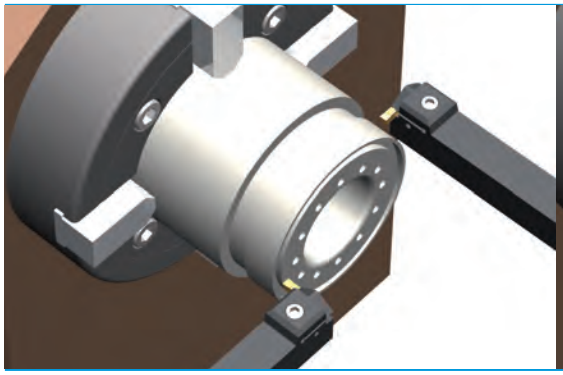
p. 107 p. 108 + 118 p. 112-113

Smallest face grooving diameter for P92 or P92 P inserts.

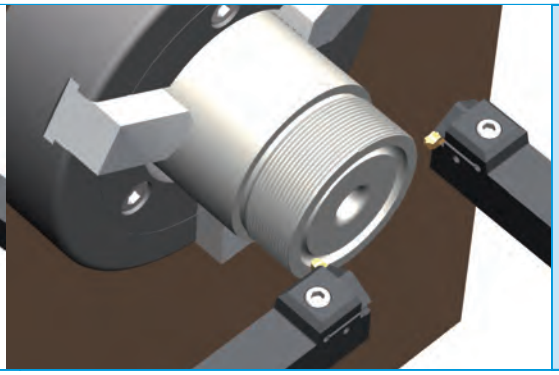
(Special inserts for smaller diameters by request)



Groove clearance cut and face grooving



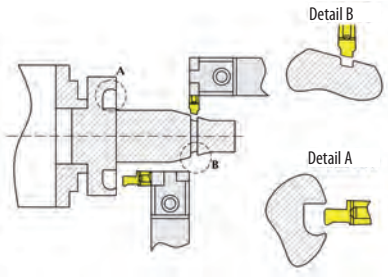
Threading and radius face grooving



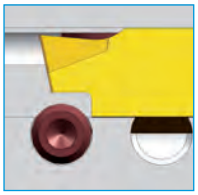
2 tapped holes for a positioning pin permit the use of P92 and P92-P inserts for CW and CCW run!



Multifunctional tool holder for many different applications.



Stopping face P92 P



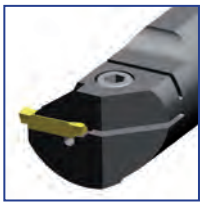
Stopping face P92



Tapped holes for one pin

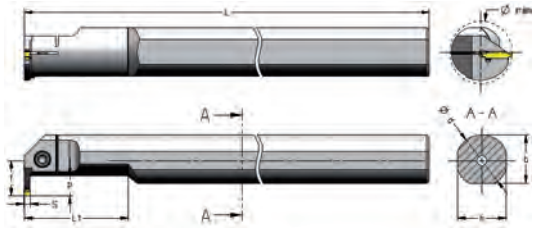


Precision boring bars with internal cooling



P92 P CGL
System P92-P

LH boring bar



P92 P CGR
System P92-P

RH boring bar



WG390 Ref.	ID-Nr.	( )	Ømin	d	h	b	f	P	S	L	L1	
P92 P CGL 0020 R4	10156	L	24	20	18	18,5	13	7	4,0	200	40	6
P92 P CGL 0020 R5+6	10158	L	27	20	18	18,5	15	9	5+6,5	200	40	6
P92 P CGL 0025 R4	10160	L	32	25	23	23,0	17	10	4,0	200	50	14
P92 P CGL 0025 R5+6	10162	L	32	25	23	23,0	17	10	5+6,5	200	50	14
P92 P CGL 0032 S4	10164	L	42	32	30	30,0	22	12	4,0	250	64	14
P92 P CGL 0032 S5+6	10166	L	44	32	30	30,0	26	16	5+6,5	250	64	14
P92 P CGL 0040 T5+6	33468	L	52	40	38	38,0	30	16	5+6,5	300	80	2
P92 P CGR 0020 R4	10155	R	24	20	18	18,5	13	7	4,0	200	40	6
P92 P CGR 0020 R5+6	10157	R	27	20	18	18,5	15	9	5+6,5	200	40	6
P92 P CGR 0025 R4	10159	R	32	25	23	23,0	17	10	4,0	200	50	14
P92 P CGR 0025 R5+6	10161	R	32	25	23	23,0	17	10	5+6,5	200	50	14
P92 P CGR 0032 S4	10163	R	42	32	30	30,0	22	12	4,0	250	64	14
P92 P CGR 0032 S5+6	10165	R	44	32	30	30,0	26	16	5+6,5	250	64	14
P92 P CGR 0040 T5+6	24445	R	52	40	38	38,0	30	16	5+6,5	300	80	2

Remark

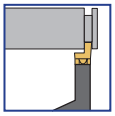
4, 5 and **6** are identification numbers for the insert size and the compatible tool holder. Inserts and holder with identical numbers fit together.
e.g. P92 P CXCBR 0808 K**4** with OTX**4** 050R

Holder marked **5 + 6**, e.g. P92 P CXCBL 1616 K**5+6**, accept OTX **5** or OTX **6**.
OTX **5** (s = 5 mm maximal)
OTX **6** (s = 6,5 mm maximal)

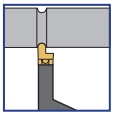
Fitting inserts



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p. 107



p. 108 + 118

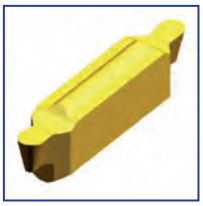


p. 112-113

Attention!
LH inserts and RH boring bars fit together.
RH inserts and LH boring bars fit together.

How to write an order:			recommended	
1 St.	P92 P CGR 0020 R4	or:	**1 St.**	ID-Nr. **10155**
10 St.	OTX4 IR ISO 100 PM NANOSPEED	or:	**10 St.**	ID-Nr. **11135**

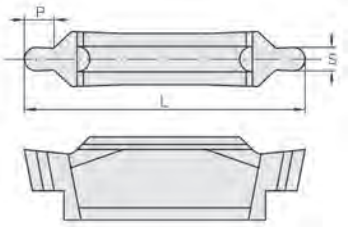
Full radius insert for standardized grooves according to DIN 509



OTX4 R...N

System P92-P







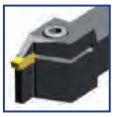
Enlarged view

WG260 Ref.	PM NANOSPEED	KM NANOSPEED		L -0,1	P	R	S -0,15	Ø min ○•	Ø min ⊙
	ID-Nr.	ID-Nr.							
OTX 4 R050N	27160	31383	N	19,2	1,5	0,50	1,00	10	25
OTX 4 R075N	27161	31384	N	19,2	2,0	0,75	1,50	10	25
OTX 4 R100N	27162	31385	N	19,2	2,0	1,00	2,00	10	25

Remark

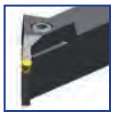
4, 5 and **6** are identification numbers for the insert size and the compatible tool holder. Inserts and holder with identical numbers fit together.
e.g. P92 P CXCBR 0808 K**4** with OTX**4** 050R

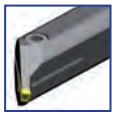
Fitting tool holder


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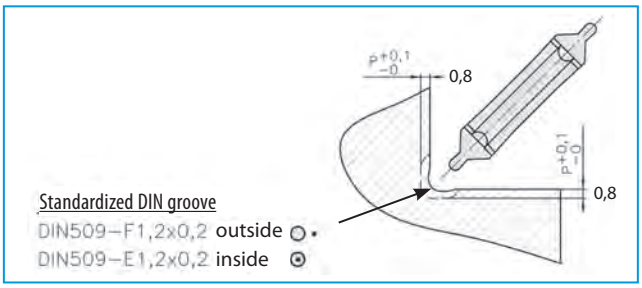

p. 116

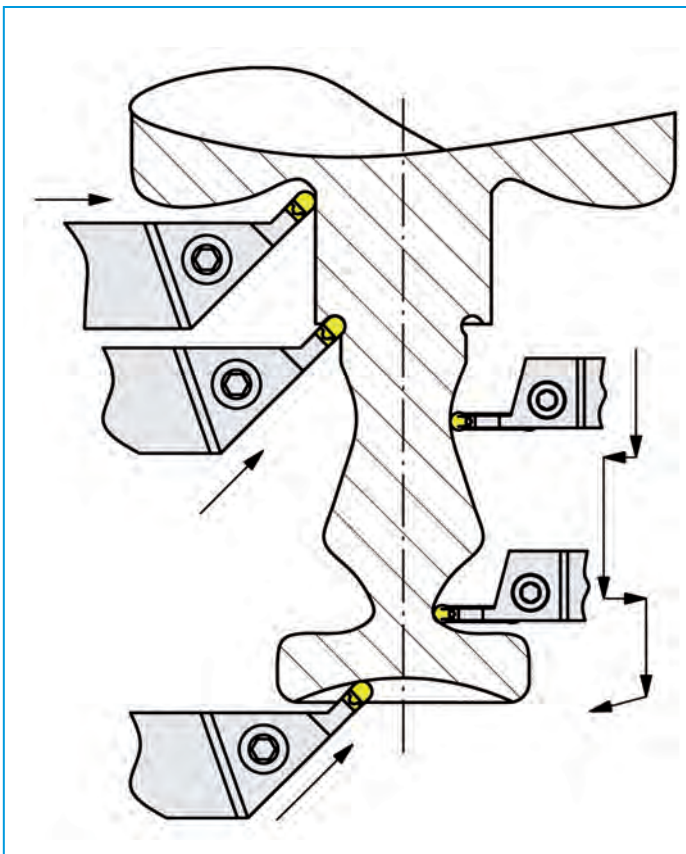

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p.119


p. 119


p. 160

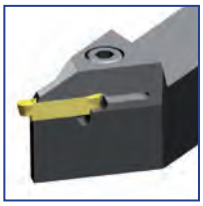




Grooving and copy turning.

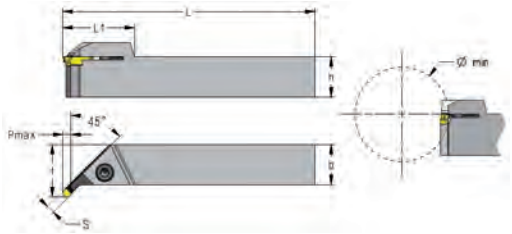
Technical section page 205 onwards

Holders for relieve grooves and copy turning



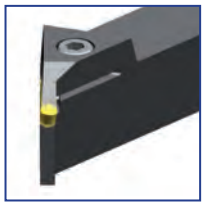
P92 P 45 CXCBL
System P92-P

LH holder



P92 P 45 CXCBR
System P92-P

RH holder



WG380 Ref.	ID-Nr.	( )	Ø min	h	b	f	Pmax	S	L	L1	
P92 P 45 CXCBL 1616 K4	19747	L	>25	16	16	22	1,5	4	125	35	1
P92 P 45 CXCBL 2020 K4	19664	L	>25	20	20	26	1,5	4	125	35	5
P92 P 45 CXCBL 2525 M4	19755	L	>25	25	25	31	1,5	4	150	39	5
P92 P 45 CXCBL 1620 K5+6	19749	L	>40	16	20	26	2,0	5+6,5	125	35	1
P92 P 45 CXCBL 2020 K5+6	19751	L	>40	20	20	26	2,0	5+6,5	125	37	5
P92 P 45 CXCBL 2525 M5+6	19752	L	>40	25	25	31	2,0	5+6,5	150	39	5
P92 P 45 CXCBR 1616 K4	19746	R	>25	16	16	22	1,5	4	125	35	1
P92 P 45 CXCBR 2020 K4	19663	R	>25	20	20	26	1,5	4	125	35	5
P92 P 45 CXCBR 2525 M4	19754	R	>25	25	25	31	1,5	4	150	39	5
P92 P 45 CXCBR 1620 K5+6	19748	R	>40	16	20	26	2,0	5+6,5	125	35	1
P92 P 45 CXCBR 2020 K5+6	19750	R	>40	20	20	26	2,0	5+6,5	125	37	5
P92 P 45 CXCBR 2525 M5+6	19753	R	>40	25	25	31	2,0	5+6,5	150	39	5

Fitting inserts siehe unten

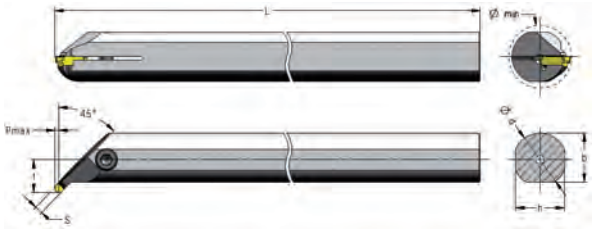
Attention!
LH inserts and RH boring bars fit together.
RH inserts and LH boring bars fit together.

Boring bars with internal cooling for relieve grooves



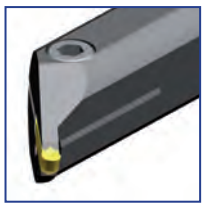
P92 P 45 CGL
System P92-P

LH boring bar



P92 P 45 CGR
System P92-P

RH boring bar



WG390 Ref.	ID-Nr.	( )	Ø min	h	b	f	Pmax.	S	L	
P92 P 45 CGL 0020 R4	19660	L	25	18	18,5	13	1,5	4	200	6
P92 P 45 CGL 0025 R4	19662	L	28	23	23	15,5	1,5	4	200	1
P92 P 45 CGR 0020 R4	19659	R	25	18	18,5	13	1,5	4	200	6
P92 P 45 CGR 0025 R4	19661	R	28	23	23	15,5	1,5	4	200	1

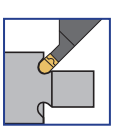
Remark

4, 5 and **6** are identification numbers for the insert size and the compatible tool holder. Inserts and holder with identical numbers fit together.
e.g. P92 P CXCBR 0808 K**4** with OTX**4** 050R

Holder marked **5 + 6**, e.g. P92 P CXCBL 1616 K**5+6**, accept OTX **5** or OTX **6**.
OTX **5** (s = 5 mm maximal)
OTX **6** (s = 6,5 mm maximal)

Fitting inserts





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Precision grooving inserts according to DIN 472

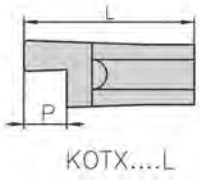


P92 P KOTX L

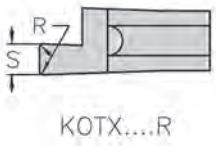
System P92-P



LH insert for CW run



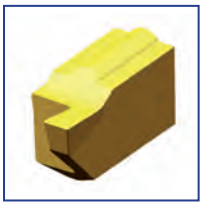
RH insert for CCW run



P92 P KOTX R

System P92-P

RH insert



WG260 Ref.	PM NANOSPEED	( )	L -0,1	P	R		S -0,05
	ID-Nr.						
KOTX4 090L	10918	L	9,2	1,5	0,1	0,90	0,97
KOTX4 110L	10922	L	9,2	1,5	0,1	1,10	1,24
KOTX4 130L	10926	L	9,2	1,5	0,1	1,30	1,44
KOTX4 160L	10930	L	9,2	2,0	0,1	1,60	1,74
KOTX4 185L	10934	L	9,2	2,0	0,1	1,85	1,99
KOTX4 215L	10938	L	9,2	2,5	0,1	2,15	2,29
KOTX4 265L	10942	L	9,2	2,5	0,1	2,65	2,79
KOTX4 315L	10950	L	9,2	2,5	0,1	3,15	3,29
KOTX4 090R	10917	R	9,2	1,5	0,1	0,90	0,97
KOTX4 110R	10921	R	9,2	1,5	0,1	1,10	1,24
KOTX4 130R	10925	R	9,2	1,5	0,1	1,30	1,44
KOTX4 160R	10929	R	9,2	2,0	0,1	1,60	1,74
KOTX4 185R	10933	R	9,2	2,0	0,1	1,85	1,99
KOTX4 215R	10937	R	9,2	2,5	0,1	2,15	2,29
KOTX4 265R	10941	R	9,2	2,5	0,1	2,65	2,79
KOTX4 315R	10949	R	9,2	2,5	0,1	3,15	3,29

Fitting tool holders see below

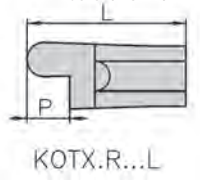


P92 P KOTX R..L

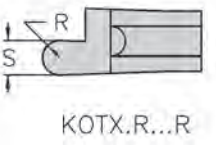
System P92-P



LH insert for CW run



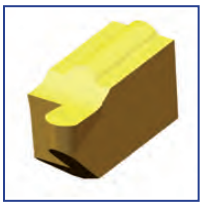
RH insert for CCW run



P92 P KOTX R..R

System P92-P

RH insert



WG260 Ref.	PM NANOSPEED	( )	L -0,1	P	R	S +0,05
	ID-Nr.					
KOTX4 R 100L	10961	L	9,2	2,5	1,00	2,00
KOTX4 R 150L	10965	L	9,2	2,5	1,50	3,00
KOTX4 R 100R	10960	R	9,2	2,5	1,00	2,00
KOTX4 R 150R	10964	R	9,2	2,5	1,50	3,00

Fitting boring bars



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Full profile inserts for internal and external threading

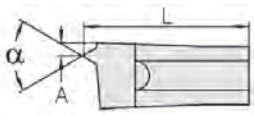


P92 P KOTX IR

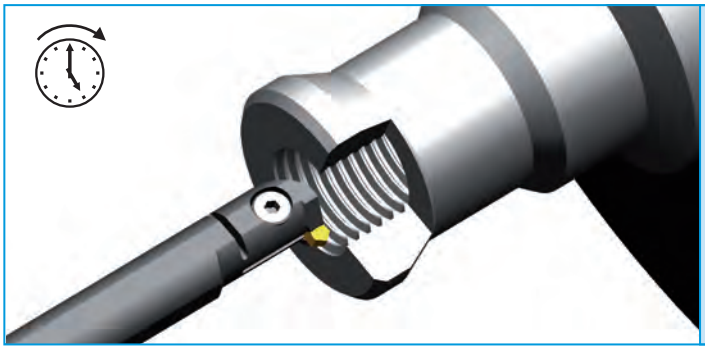
System P92-P







WG260 Ref.	PM NANOSPEED		A	L ±0,1	
	ID-Nr.				
KOTX4 IR ISO 100	10951	1,00	0,8	9,20	60
KOTX4 IR ISO 125	10952	1,25	0,8	9,20	60
KOTX4 IR ISO 150	10953	1,50	1,0	9,20	60
KOTX4 IR ISO 175	10954	1,75	1,1	9,20	60
KOTX4 IR ISO 200	10955	2,00	1,4	9,20	60
KOTX4 IR ISO 250	10956	2,50	1,5	9,20	60
KOTX4 IR ISO 300	10957	3,00	1,8	9,20	60



Internal threading with KOTX IR ISO ...

Fitting boring bars



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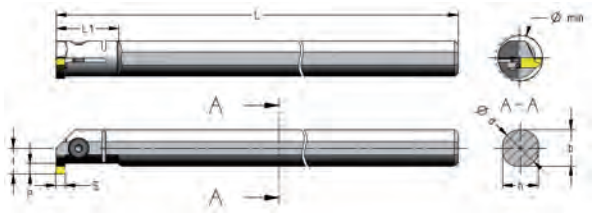
Boring bars with internal cooling for grooving and threading



P92 P CGL 4C

System P92-P

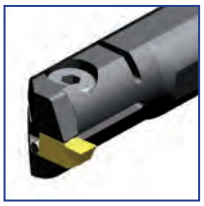
LH boring bar



P92 P CGR 4C

System P92-P

RH boring bar



WG390 Ref.	ID-Nr.		Ømin	d	h	b	f	p	S	L	L1	
P92 P CGL 0012 M4C	10152	L	15,5	12	11	-	8,7	2,5	max 1,85	150	22	22
P92 P CGL 0016 P4C	10154	L	20	16	15	15,5	11	2,5	max 3,15	170	26	19
P92 P CGR 0012 M4C	10151	R	15,5	12	11	-	8,7	2,5	max 1,85	150	22	22
P92 P CGR 0016 P4C	10153	R	20	16	15	15,5	11	2,5	max 3,15	170	26	19

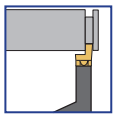
Attention!

LH inserts and RH boring bars fit together.
RH inserts and LH boring bars fit together.

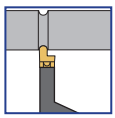
Fitting inserts



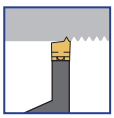
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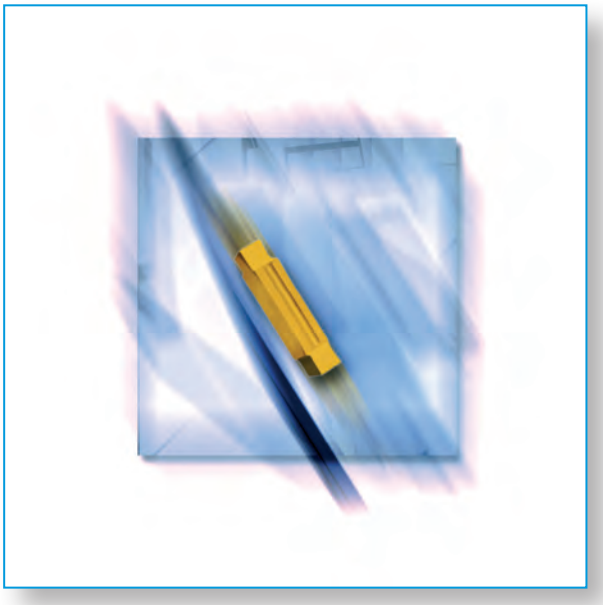
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1 edge cutting system

Parting off and grooving



KEMMER HARTMETALLWERKZEUGE GmbH

1-edge cutting system

Parting off and grooving

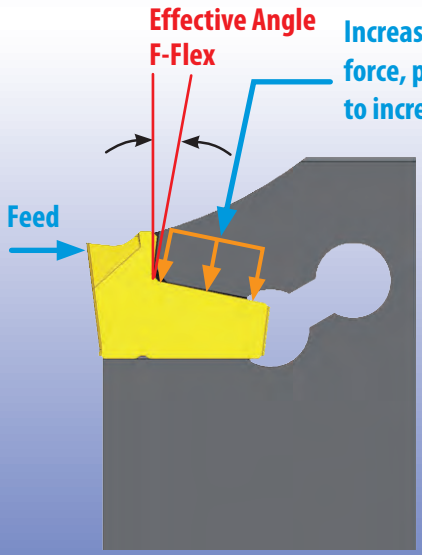


Construction and the way, these perfect grooving and parting off tools fit together

Just a few degrees in the right direction, lead to a new technique, which solves the old and well known system problems like

- Loss of center height
- Opening of insert pocket
- Fatigue of material
- Insert creeping

and increase tool life by **120 %**, stated by absolute authentic test series, compared with the system passt perfekt.



- Vibrations → 0
- Positioning in insert pocket → perfect
- Heat rejection improved
- Quick and defined insert change

Authentic tests: Parting off

Testmaterial	Quantity Flex Fix	Quantity passt perfekt	Result in %
1.0277 (hexagonal)	220	180	22 % more
1.7227 (Ø 45mm)	265	130	103 % more
1.4301 (Ø 45mm)	85	25	240 % more

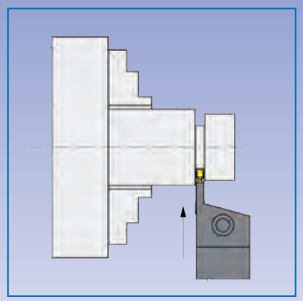
Increased tool life by **120 %**

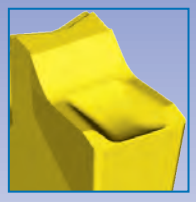
1-edge cutting system

Parting off and grooving

One-edge cutting system for grooving and parting off

Grooving

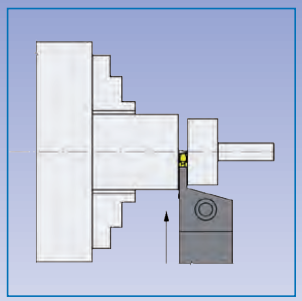




Parting off and grooving IFN

Grooving, the major edge cuts a groove

Parting off

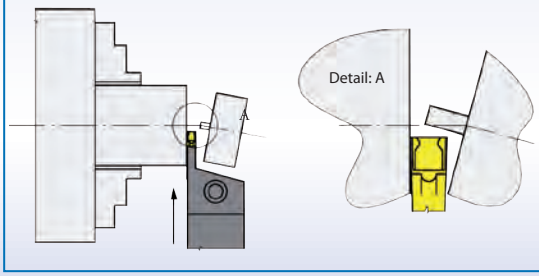




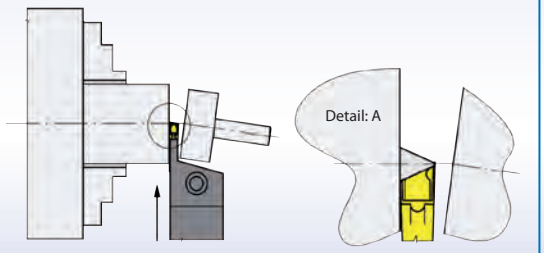
Parting off BFN

The major edge **parts off** a component.

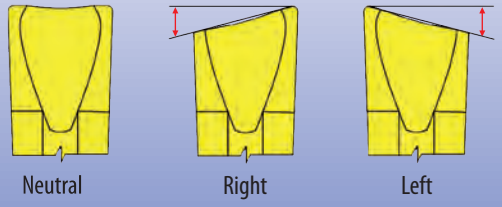
Parting off components leaving a bur



Parting off components without leaving a bur



Neutral inserts, inserts with lead angel right and lead angel left



Definition of rotation



CCW and CW rotation

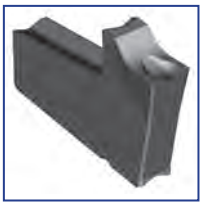
View into the spindle:

RH or CCW: Workpiece or bar rotates counter clockwise (german: „Rechtslauf"

LH or CW: Workpiece or bar rotates clockwise (german: „Linkslauf")

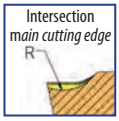
7

Parting off and grooving inserts



BF N/R/L

FLEX FIX





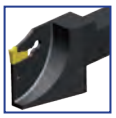
WG0022 Ref.	KM TILOX	KM NANOSPEED	KM HYPERSPEED	KM CARBOSPEED	( )	R	S ±0,05	α°
	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.				
BFN 2	43199	43201	43202	43200	N	0,2	2,0	0
BFN 3	43203	43204	41172	41173	N	0,2	3,0	0
BFN 4	43205	43207	43208	43206	N	0,2	4,0	0
BFL 2 8D	43233	43235	43236	43234	L	0,2	2,0	8
BFL 3 8D	43237	43239	43240	43238	L	0,2	3,0	8
BFL 4 8D	43241	43243	43244	43242	L	0,2	4,0	8
BFL 2 12D	43245	43247	43248	43246	L	0,2	2,0	12
BFL 3 12D	43249	43251	43253	43250	L	0,2	3,0	12
BFL 4 12D	43252	43255	43256	43254	L	0,2	4,0	12
BFR 2 8D	43209	43211	43212	43210	R	0,2	2,0	8
BFR 3 8D	43213	43215	43216	43214	R	0,2	3,0	8
BFR 4 8D	43217	43219	43220	43218	R	0,2	4,0	8
BFR 2 12D	43221	43223	43224	43222	R	0,2	2,0	12
BFR 3 12D	43225	43227	43228	43226	R	0,2	3,0	12
BFR 4 12D	43229	43231	43232	43230	R	0,2	4,0	12

BF-Parting off geometry

Grooved parting off edge with reinforced flanks. The deep and spacious **chip-trough** gives excellent chip control. To be used on almost all materials.

Fitting tool holder

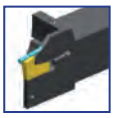

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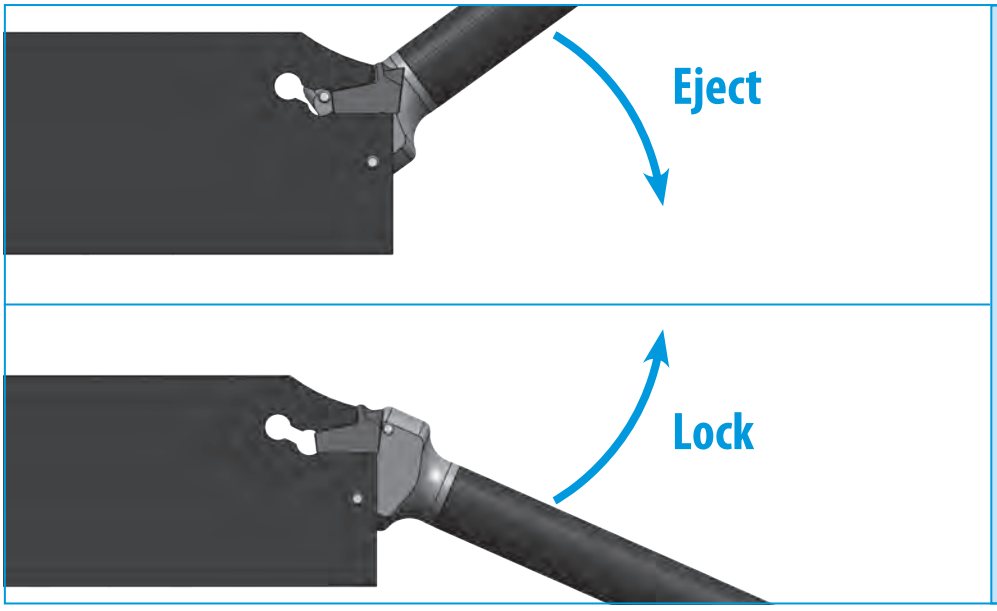

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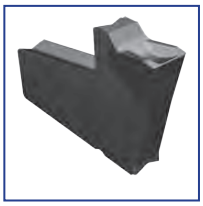


FLEX FIX insert changing

easy
safe
quick

Technical section page 205 onwards

Parting off and grooving inserts



IF N/R/L

FLEX FIX





WG0022 Ref.	KM TILOX	KM NANOSPEED	KM HYPERSPEED	KM CARBOSPEED		R	S ±0,05	α°
	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.				
IFN 2	43260	43262	43263	43261	N	0,2	2,0	0
IFN 3	39203	43259	41153	40017	N	0,2	3,0	0
IFN 4	43264	43266	43267	43265	N	0,2	4,0	0
IFL 2 4D	43290	43292	43293	43291	L	0,2	2,0	4
IFL 3 4D	39204	43295	43296	43294	L	0,2	3,0	4
IFL 4 4D	43297	43299	43300	43298	L	0,2	4,0	4
IFL 2 8D	43301	43303	43304	43302	L	0,2	2,0	8
IFL 3 8D	39205	43306	43307	43305	L	0,2	3,0	8
IFL 4 8D	43308	43310	43311	43309	L	0,2	4,0	8
IFR 2 4D	43268	43270	43271	43269	R	0,2	2,0	4
IFR 3 4D	39853	43273	43274	43272	R	0,2	3,0	4
IFR 4 4D	43275	43277	43278	43276	R	0,2	4,0	4
IFR 2 8D	43279	43281	43282	43280	R	0,2	2,0	8
IFR 3 8D	39851	43284	43285	43283	R	0,2	3,0	8
IFR 4 8D	43286	43288	43289	43287	R	0,2	4,0	8

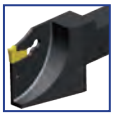
IF Geometry

IF Geometry with its cutting edge strengthening, ground chamfer is recommended for:

- Alloy steels
- Stainless steels
- Interrupted cuts

Fitting tool holder

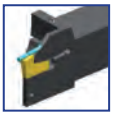

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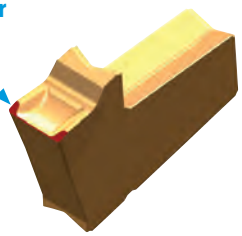

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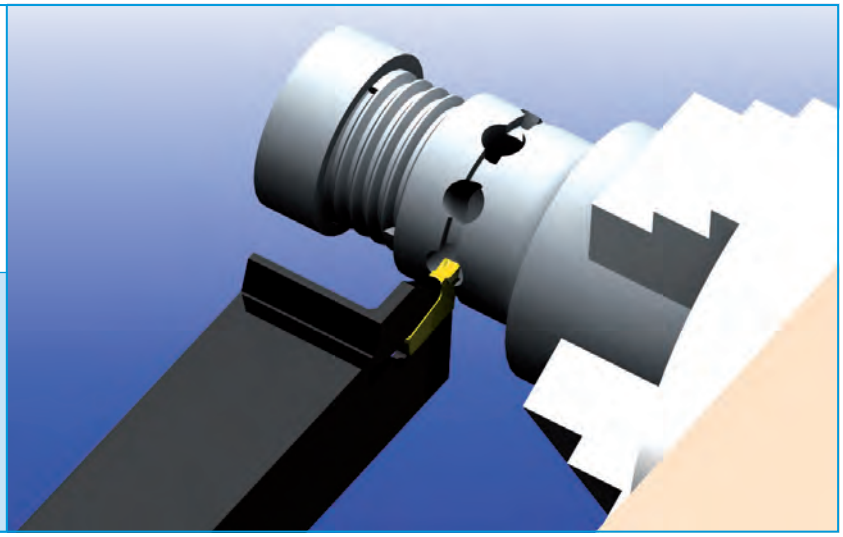

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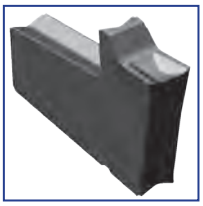
Ground chamfer



IFN in action on interrupted cutting. Negative chamfer reinforces the cutting edge.



Parting off and grooving inserts



SF N/R/L

FLEX FIX





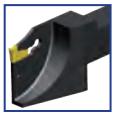
WG0022 Ref.	KM TILOX	KM NANOSPEED	KM HYPERSPEED	KM CARBOSPEED	( )	R	S ±0,05	α°
	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.				
SFN 2	43087	43169	43174	43168	N	0,2	2,0	0
SFN 3	38635	43170	41155	40018	N	0,2	3,0	0
SFN 4	43171	43173	43175	43172	N	0,2	4,0	0
SFL 2 6D	43187	43189	43190	43188	L	0,2	2,0	6
SFL 3 6D	14270	43192	43193	43191	L	0,2	3,0	6
SFL 4 6D	43194	43196	43197	43195	L	0,2	4,0	6
SFR 2 6D	43176	43178	43179	43177	R	0,2	2,0	6
SFR 3 6D	14272	43181	43182	43180	R	0,2	3,0	6
SFR 4 6D	43183	43185	43186	43184	R	0,2	4,0	6

SF-Geometry SUPERNOVA

The arc shaped cutting edge with its reinforced flanks achieves ideal chips.
Recommended for free cutting and low alloy steels and stainless steels , also to be used on unstable machine tools.

Fitting tool holder

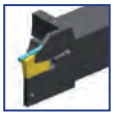

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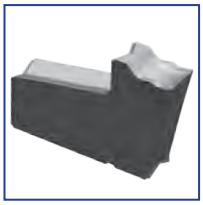

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p. 130


p. 131


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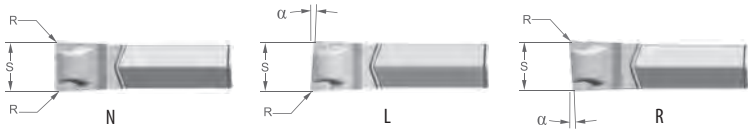

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IF N/R/L ALU

Flex Fix





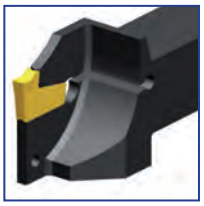
WG0022 Ref.	KM	KM ALUSPEED	( )	R	S ±0,05	α°
	ID-Nr.	ID-Nr.				
IFN 2 ALU	47727	47730	N	0,2	2,0	0
IFN 3 ALU	47728	47731	N	0,2	3,0	0
IFN 4 ALU	47729	47732	N	0,2	4,0	0
IFL 2 4D ALU	47739	47742	L	0,2	2,0	4
IFL 3 4D ALU	47740	47743	L	0,2	3,0	4
IFL 4 4D ALU	47741	47744	L	0,2	4,0	4
IFR 2 4D ALU	47733	47736	R	0,2	2,0	4
IFR 3 4D ALU	47734	47737	R	0,2	3,0	4
IFR 4 4D ALU	47735	47738	R	0,2	4,0	4

The new IF Alu geometry

The new IF Alu geometry has got a horizontally ground cutting edge with a flat chip breaker for high speed chip removal. The geometry is positive and sharply ground and is recommended for **nonferrous heavy metals, pipes, thinwalled parts, unstable components, free cutting materials and titanium**.

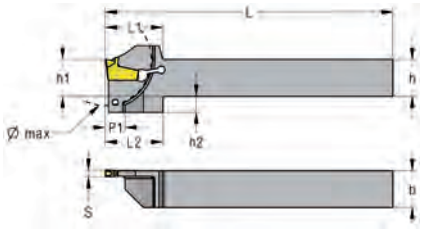
Technical section page 205 onwards

Parting off holders for FLEX FIX inserts



F16 L 42
FLEX FIX

LH holder



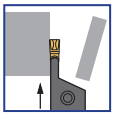
F16 R 42
FLEX FIX

RH holder



WG3201 Ref.	ID-Nr.	( )	Ø max	h	h1	h2	b	P1	S	L	L1	L2	
F16 L 1616 K20 42	43330	L	42	16	16	7	16	8	2,0	125	25	25	AWF16
F16 L 1616 K30 42	43331	L	42	16	16	7	16	8	3,0	125	25	25	AWF16
F16 L 1616 K40 42	43332	L	42	16	16	7	16	8	4,0	125	25	25	AWF16
F16 L 2020 K20 42	43333	L	42	20	20	3	20	8	2,0	125	25	25	AWF16
F16 L 2020 K30 42	43334	L	42	20	20	3	20	8	3,0	125	25	25	AWF16
F16 L 2020 K40 42	43335	L	42	20	20	3	20	8	4,0	125	25	25	AWF16
F16 L 2525 M20 42	43336	L	42	25	25	0	25	8	2,0	150	25	25	AWF16
F16 L 2525 M30 42	43337	L	42	25	25	0	25	8	3,0	150	25	25	AWF16
F16 L 2525 M40 42	49376	L	42	25	25	0	25	8	4,0	150	25	25	AWF16
F16 R 1616 K20 42	43322	R	42	16	16	7	16	8	2,0	125	25	25	AWF16
F16 R 1616 K30 42	43323	R	42	16	16	7	16	8	3,0	125	25	25	AWF16
F16 R 1616 K40 42	43324	R	42	16	16	7	16	8	4,0	125	25	25	AWF16
F16 R 2020 K20 42	43325	R	42	20	20	3	20	8	2,0	125	25	25	AWF16
F16 R 2020 K30 42	43326	R	42	20	20	3	20	8	3,0	125	25	25	AWF16
F16 R 2020 K40 42	43327	R	42	20	20	3	20	8	4,0	125	25	25	AWF16
F16 R 2525 M20 42	43328	R	42	25	25	0	25	8	2,0	150	25	25	AWF16
F16 R 2525 M30 42	43329	R	42	25	25	0	25	8	3,0	150	25	25	AWF16
F16 R 2525 M40 42	49377	R	42	25	25	0	25	8	4,0	150	25	25	AWF16

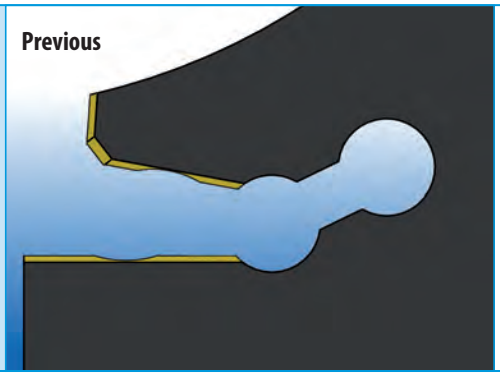
Fitting inserts



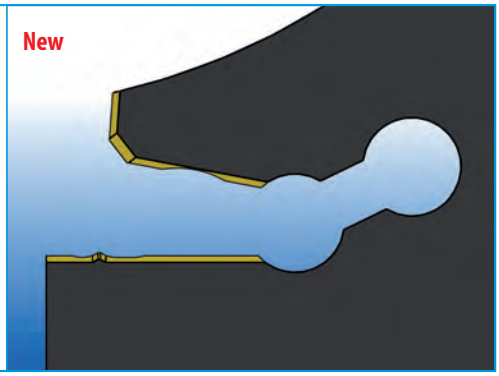
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Insert pocket UPGRADE Flex Fix

Previous



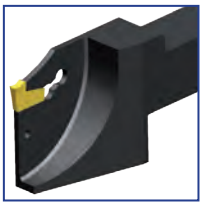
New





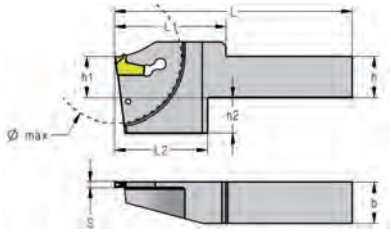
Tailor made hi pressure cooling system available.
More information at page192

Parting off holders for FLEX FIX inserts



F16 L 65
FLEX FIX

LH holder



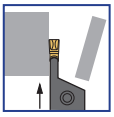
F16 R 65
FLEX FIX

RH holder



WG3201 Ref.	ID-Nr.	( )	Ø max	h	h1	h2	b	S	L	L1	L2	
F16 L 2020 X30 65	38875	L	65	20	20	17	20	3,0	115	54	45	AWF16
F16 L 2020 X40 65	43319	L	65	20	20	17	20	4,0	115	54	45	AWF16
F16 L 2525 X30 65	43320	L	65	25	25	12	25	3,0	140	54	45	AWF16
F16 L 2525 X40 65	43321	L	65	25	25	12	25	4,0	140	54	45	AWF16
F16 R 2020 X30 65	38878	R	65	20	20	17	20	3,0	115	54	45	AWF16
F16 R 2020 X40 65	43316	R	65	20	20	17	20	4,0	115	54	45	AWF16
F16 R 2525 X30 65	43317	R	65	25	25	12	25	3,0	140	54	45	AWF16
F16 R 2525 X40 65	43318	R	65	25	25	12	25	4,0	140	54	45	AWF16

Fitting inserts



p. 126-128

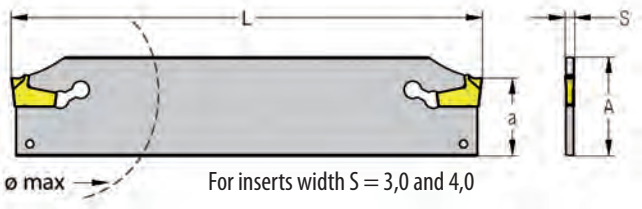


Tailor made hi pressure cooling system available.
More information at page192

Parting off blades for FLEX FIX inserts



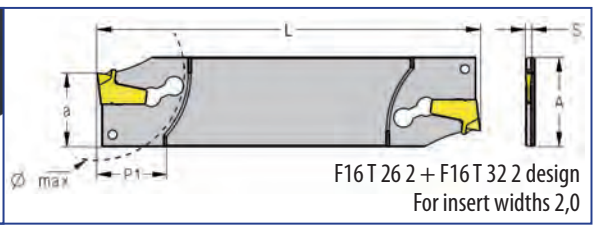
F16 T
FLEX FIX



For inserts width S = 3,0 and 4,0

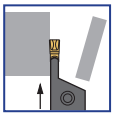
WG3101 Ref.	ID-Nr.	a	Ø max.	A	P1	S	L	
F16 T 26 2	41093	21,4	42	26	15	2	110	AWF 16
F16 T 26 3	38743	21,4	75	26	-	3	110	AWF 16
F16 T 26 4	41096	21,4	80	26	-	4	110	AWF 16
F16 T 32 2	41094	25	42	32	15	2	150	AWF 16
F16 T 32 3	35217	25	100	32	-	3	150	AWF 16
F16 T 32 4	41095	25	100	32	-	4	150	AWF 16





F16 T 26 2 + F16 T 32 2 design
For insert widths 2,0

Fitting inserts



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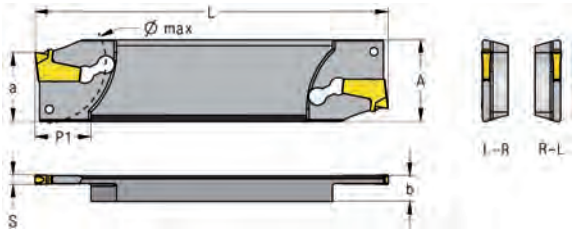


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Reinforced parting off blades for FLEX FIX inserts



F16 L 2608
FLEX FIX
LH Blades



F16 R 2608
FLEX FIX
RH Blades

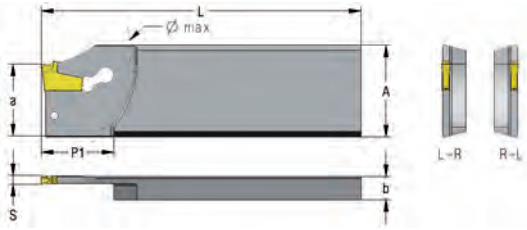


WG3101 Ref.	ID-Nr.		A	a	Ø max	b	P1	S	L	
F16 L 2608 J30 R 50	43313	L	26	21,4	50	8	17	3,0	110	AWF16
F16 R 2608 J30 L 50	43312	R	26	21,4	50	8	17	3,0	110	AWF16

Fitting inserts see below



F16 L 3208
FLEX FIX
LH Blades

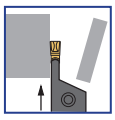


F16 R 3208
FLEX FIX
RH Blades



WG3101 Ref.	ID-Nr.		A	a	Ø max	b	P1	S	L	
F16 L 3208 J30 R 65	43315	L	32	25	65	8	24,5	3,0	110	AWF16
F16 R 3208 J30 L 65	43314	R	32	25	65	8	24,5	3,0	110	AWF16

Fitting inserts


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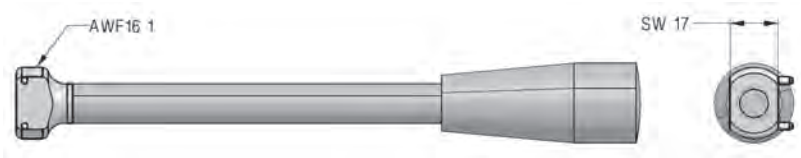

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Example for application you will find on pag 72

Key for FLEX FIX tools



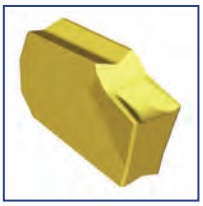
AW F16
FLEX FIX
LH holder



WG355 Ref.	ID-Nr.	
AW F16	39880	AW F16 1
AW F16 1	39881	

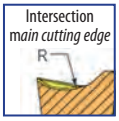
Remark:
The key is added to each FLEX FIX tool delivery.

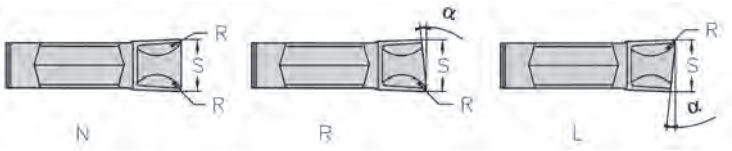
Parting off and grooving inserts



SNP N/R/L

passt perfekt





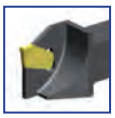
WG3251 Ref.	GF110 TILOX	PM NANOSPEED		R	S ±0,1	α°
	ID-Nr.					
SNPN 20	47978	20418	N	0,2	2,0	0
SNPN 3	22695	11244	N	0,2	3,1	0
SNPN 4	40623	11252	N	0,2	4,1	0
SNPN 5	11257	47979	N	0,2	5,1	0
SNPL 20 6D	47975	20420	L	0,2	2,0	6
SNPL 20 12D	47973	20422	L	0,2	2,0	12
SNPL 20 16D	47974	20424	L	0,2	2,0	16
SNPL 3 6D	47976	11282	L	0,2	3,1	6
SNPL 4 6D	47977	11294	L	0,2	4,1	6
SNPL 5 6D	11304	-	L	0,2	5,1	6
SNPR 20 6D	47984	20419	R	0,2	2,0	6
SNPR 20 12D	47982	20421	R	0,2	2,0	12
SNPR 20 16D	47983	20423	R	0,2	2,0	16
SNPR 3 6D	31746	11281	R	0,2	3,1	6
SNPR 4 6D	31747	11293	R	0,2	4,1	6
SNPR 5 6D	11303	-	R	0,2	5,1	6

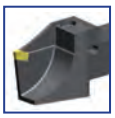
SUPERNOVA

The arc shaped cutting edge with its reinforced flanks achieves ideal chips. Recommended for free cutting and low alloy steels and stainless steels, also to be used on unstable machine tools.

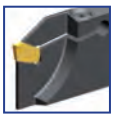
Technical section page 205 onwards

Fitting tool holder

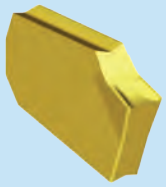

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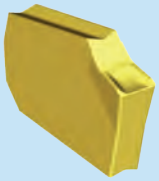

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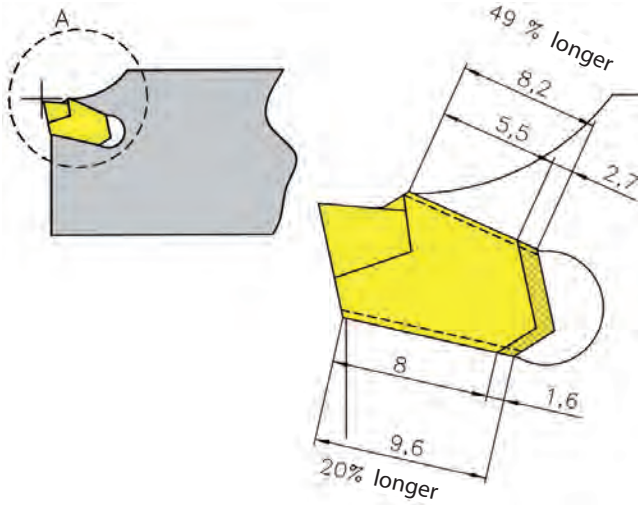

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SNP N/R/L-20



ITP N/R/L-20



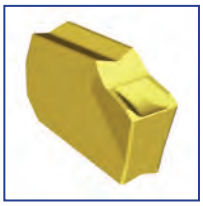


The new pocket

Comparision between the old SNTN-2 types and the new SNPN-20 types.

- Long guide surfaces transfer high gripping power
- Reduced cutting edge width to 2,0 mm
- Vibration free, straight run

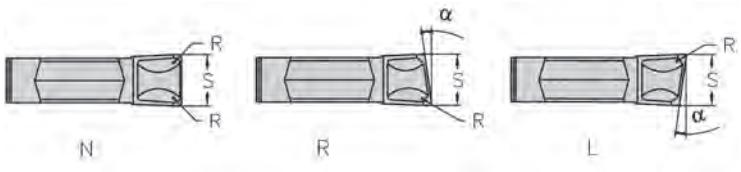
Parting off and grooving inserts



ITP N/R/L

passt perfekt





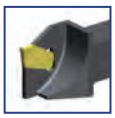
WG0021 Ref.	PM NANOSPEED	GF110 TILOX		R	S ±0,1	α°
	ID-Nr.	ID-Nr.				
ITPN 20	20400	47936	N	0,2	2,0	0
ITPN 3	10562	19854	N	0,2	3,1	0
ITPN 4	10594	19810	N	0,2	4,1	0
ITPN 5	47938	10599	N	0,2	5,1	0
ITPL 20 4D	20402	47931	L	0,2	2,0	4
ITPL 20 8D	20404	47932	L	0,2	2,0	8
ITPL 20 12D	20406	47929	L	0,2	2,0	12
ITPL 20 16D	20408	47930	L	0,2	2,0	16
ITPL 3 4D	10654	19859	L	0,2	3,1	4
ITPL 3 8D	10666	19858	L	0,2	3,1	8
ITPL 4 4D	10684	47933	L	0,2	4,1	4
ITPL 4 8D	10696	47934	L	0,2	4,1	8
ITPL 5 4D	-	10706	L	0,2	5,1	4
ITPL 5 8D	-	10718	L	0,2	5,1	8
ITPR 20 4D	20401	47941	R	0,2	2,0	4
ITPR 20 8D	20403	47942	R	0,2	2,0	8
ITPR 20 12D	20405	47939	R	0,2	2,0	12
ITPR 20 16D	20407	47940	R	0,2	2,0	16
ITPR 3 4D	10653	19856	R	0,2	3,1	4
ITPR 3 8D	10665	19857	R	0,2	3,1	8
ITPR 4 4D	10683	47943	R	0,2	4,1	4
ITPR 4 8D	10695	47944	R	0,2	4,1	8
ITPR 5 4D	-	10705	R	0,2	5,1	4
ITPR 5 8D	-	10717	R	0,2	5,1	8

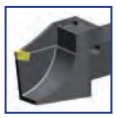
IT Geometry

IT Geometry with its cutting edge strengthening, ground chamfer is recommended for:

- Alloy steels
- Stainless steels
- Interrupted cuts

Fitting tool holder


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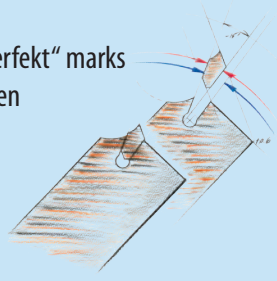

p. 138


p. 139 - 140

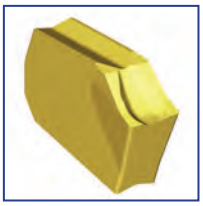
"passt perfekt" - autolock System

- ✓ No creeping of insert
- ✓ No vibrations
- ✓ Rigid tool unit
- ✓ Clean faces
- ✓ Constant tool life
- ✓ Reliable machining

The TRADE MARK „passt perfekt" marks a technique: the fit between insert and insert pocket is simply perfect.

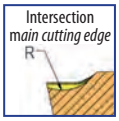


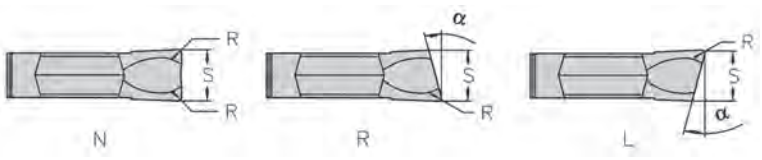
Parting off inserts



BGP N/R/L F

passt perfekt





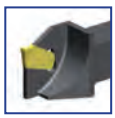
WG0021 Ref.	PM NANOSPEED	GF110 TILOX	PM RED SPEED	( )	R	S ±0,1	α°
	ID-Nr.	ID-Nr.	ID-Nr.				
BGPN 3	20439	48201	26004	N	0,2	3,1	0
BGPNF 3	23663	48203	-	N	0,0	3,1	0
BGPN 4	26289	48202	27961	N	0,2	4,1	0
BGPNF 4	26232	48204	-	N	0,0	4,1	0
BGPL 3 8D	20441	48194	27957	L	0,2	3,1	8
BGPLF 3 8D	23669	48198	-	L	0,0	3,1	8
BGPL 3 12D	20443	48193	-	L	0,2	3,1	12
BGPLF 3 12D	23671	48197	-	L	0,0	3,1	12
BGPL 4 8D	26319	48196	27960	L	0,2	4,1	8
BGPLF 4 8D	26320	48200	-	L	0,0	4,1	8
BGPL 4 12D	26321	48195	-	L	0,2	4,1	12
BGPLF 4 12D	26322	48199	-	L	0,0	4,1	12
BGPR 3 8D	20440	48206	27958	R	0,2	3,1	8
BGPRF 3 8D	23665	48210	-	R	0,0	3,1	8
BGPR 3 12D	20442	48205	-	R	0,2	3,1	12
BGPRF 3 12D	23667	48209	-	R	0,0	3,1	12
BGPR 4 8D	26313	48208	27959	R	0,2	4,1	8
BGPRF 4 8D	26316	48212	-	R	0,0	4,1	8
BGPR 4 12D	26317	48207	-	R	0,2	4,1	12
BGPRF 4 12D	26318	48211	-	R	0,0	4,1	12

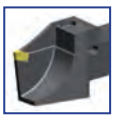
BGP-Parting off Geometry

Grooved parting off edge with reinforced flanks. The deep and spacious **chip-trough** gives excellent chip control. To be used on almost all materials.

Inserts marked with "F" like BGPNF-3 are ground with R = 0 mm..

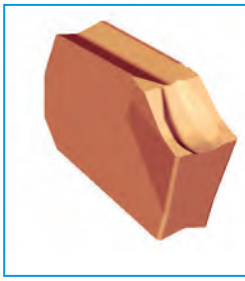
Fitting tool holder


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p. 138


p. 138


p. 139

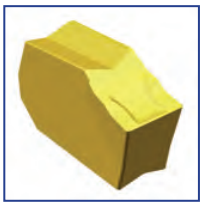


Coating RED SPEED:

Special coating for machining stainless steels.

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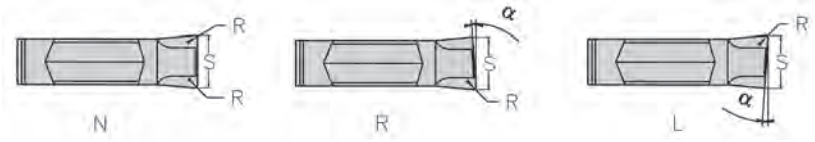
Parting off inserts



ITP ALU

passt perfekt





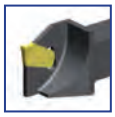
WG0021 Ref.	GF 110	PM NANOSPEED	( )	R	S ±0,1	α°
	ID-Nr.	ID-Nr.				
ITPN 20 ALU	26229	23675	N	0,2	2,0	0
ITPN 3 ALU	10550	10554	N	0,2	3,1	0
ITPN 4 ALU	10563	10567	N	0,2	4,1	0
ITPL 20 4D ALU	26231	23679	L	0,2	2,0	4
ITPL 3 4D ALU	10636	10640	L	0,2	3,1	4
ITPL 4 4D ALU	10668	10672	L	0,2	4,1	4
ITPR 20 4D ALU	26230	23677	R	0,2	2,0	4
ITPR 3 4D ALU	10635	10639	R	0,2	3,1	4
ITPR 4 4D ALU	10667	10671	R	0,2	4,1	4

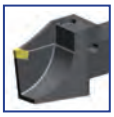
ALU Geometry

ALU Geometry with sharply ground, positive cutting edge is recommended for:

- Nonferrous heavy metals
- Machining steels
- **Thinwalled parts**
- Unstable components
- Pipes

Fitting tool holder


p. 136 - 137

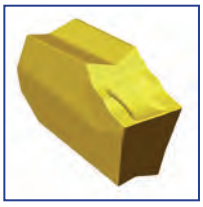

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Techn. Informationen ab page 205

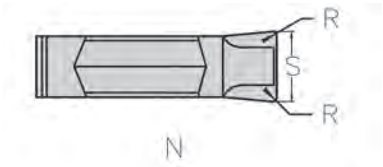
Inserts for face grooving



PPTNL

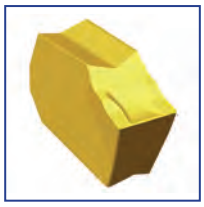
passt perfekt





PPTNR

passt perfekt



WG0031 Ref.	PM NANOSPEED	GF110 CARBOSPEED	( )	R	S ±0,1
	ID-Nr.	ID-Nr.			
PPTNL 4	28858	47968	L	0,2	4,1
PPTNL 5	47969	47970	L	0,2	5,1
PPTNR 4	11209	47971	R	0,2	4,1
PPTNR 5	11212	47972	R	0,2	5,1

LH



PPTN R/L - Face grooving inserts

Special chip breaker and ground side clearances.
Both features achieve efficient chip flow.

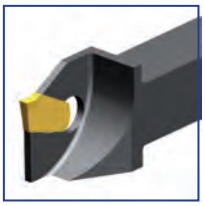


RH

Fitting blades

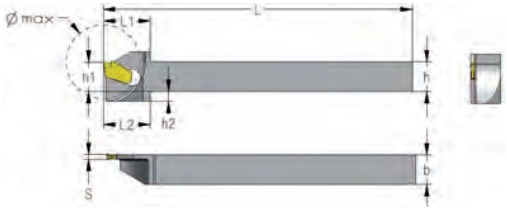

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Parting off holders with autolock pocket



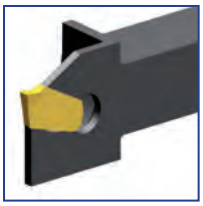
HPPL
passt perfekt

LH holder



HPPR
passt perfekt

RH holder

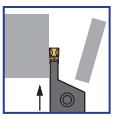


WG3201 Ref.	ID-Nr.	( )	Ø max	h	h1	h2	b	S	L	L1	L2	
HPPL 1010 20X	19736	L	30	10	10	6	10	2,0	125	18,5	18,5	16
HPPL 1010 3	10230	L	30	10	10	6	10	3,0	125	18,5	18,5	16
HPPL 1212 20X	24252	L	30	12	12	4	12	2,0	125	18,5	18,5	16
HPPL 1212 3	10234	L	36	12	12	5	12	3,0	125	22,0	22,0	16
HPPL 1612 20X	24253	L	30	16	16	0	12	2,0	125	18,5	-	16
HPPL 1612 3	10238	L	36	16	16	5	12	3,0	125	22,0	22,0	16
HPPL 1612 4	10240	L	42	16	16	5	12	4,0	125	25,0	25,0	16
HPPL 1616 3	10242	L	42	16	16	5	16	3,0	125	25,0	25,0	16
HPPL 2020 20X	24254	L	42	20	20	0	20	2,0	125	25,0	-	16
HPPL 2020 3	10246	L	42	20	20	0	20	3,0	125	25,0	-	16
HPPL 2020 4	10248	L	42	20	20	0	20	4,0	125	25,0	-	16
HPPL 2525 20X	24255	L	42	25	25	0	25	2,0	150	25,0	-	16
HPPL 2525 3	10252	L	42	25	25	0	25	3,0	150	25,0	-	16
HPPL 2525 4	10254	L	50	25	25	0	25	4,0	150	30,0	-	16
HPPL 2525 5	10256	L	80	25	25	0	25	5,0	150	45,0	-	16
HPPR 1010 20X	19735	R	30	10	10	6	10	2,0	125	18,5	18,5	16
HPPR 1010 3	10229	R	30	10	10	6	10	3,0	125	18,5	18,5	16
HPPR 1212 20X	19737	R	30	12	12	4	12	2,0	125	18,5	18,5	16
HPPR 1212 3	10233	R	36	12	12	5	12	3,0	125	22,0	22,0	16
HPPR 1612 20X	19738	R	30	16	16	0	12	2,0	125	18,5	-	16
HPPR 1612 3	10237	R	36	16	16	5	12	3,0	125	22,0	22,0	16
HPPR 1612 4	10239	R	42	16	16	5	12	4,0	125	25,0	25,0	16
HPPR 1616 3	10241	R	42	16	16	5	16	3,0	125	25,0	25,0	16
HPPR 2020 20X	24250	R	42	20	20	0	20	2,0	125	25,0	-	16
HPPR 2020 3	10245	R	42	20	20	0	20	3,0	125	25,0	-	16
HPPR 2020 4	10247	R	42	20	20	0	20	4,0	125	25,0	-	16
HPPR 2525 20X	24251	R	42	25	25	0	25	2,0	150	25,0	-	16
HPPR 2525 3	10251	R	42	25	25	0	25	3,0	150	25,0	-	16
HPPR 2525 4	10253	R	50	25	25	0	25	4,0	150	30,0	-	16
HPPR 2525 5	10255	R	80	25	25	0	25	5,0	150	45,0	-	16

Remark

Holder and inserts with the same "S" dimension fit together.

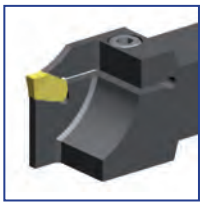
Fitting inserts



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Key 1856 (Spare part 16) is added to the delivery

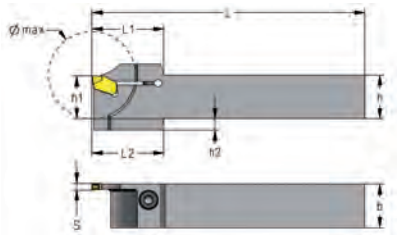
Parting off tool holders



CLPPL

passt perfekt

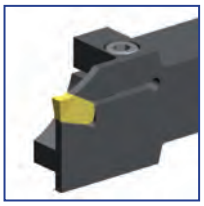
LH holder



CLPPR

passt perfekt

RH holder



WG3801 Ref.	ID-Nr.	( )	Ø max	h	h1	h2	b	S	L	L1	L2	
CLPPL 1010 K20X	24248	L	28	10	10	10	10	2,0	125	26	36	11
CLPPL 1212 K20X	19741	L	28	12	12	8	12	2,0	125	26	33	11
CLPPL 1212 K30	10336	L	34	12	12	8	12	3,0	125	29	33	11
CLPPL 1612 K20X	19743	L	28	16	16	4	12	2,0	125	26	31	11
CLPPL 1612 K30	10340	L	34	16	16	4	12	3,0	125	29	34	11
CLPPL 1612 K40	10342	L	40	16	16	8	12	4,0	125	33	34	11
CLPPL 2020 K20X	19745	L	40	20	20	5	20	2,0	125	33	33	5
CLPPL 2020 K30	10346	L	40	20	20	5	20	3,0	125	33	33	5
CLPPL 2020 K40	10348	L	53	20	20	5	20	4,0	125	40	40	5
CLPPL 2525 M20X	24249	L	40	25	25	0	25	2,0	150	36	-	2
CLPPL 2525 M30	10356	L	40	25	25	0	25	3,0	150	36	-	2
CLPPL 2525 M40	10358	L	53	25	25	0	25	4,0	150	40	-	2
CLPPL 2525 P50	10360	L	80	25	25	15	25	5,0	170	56	62	2
CLPPR 1010 K20X	19739	R	28	10	10	10	10	2,0	125	26	36	11
CLPPR 1212 K20X	19740	R	28	12	12	8	12	2,0	125	26	33	11
CLPPR 1212 K30	10335	R	34	12	12	8	12	3,0	125	29	33	11
CLPPR 1612 K20X	19742	R	28	16	16	4	12	2,0	125	26	31	11
CLPPR 1612 K30	10339	R	34	16	16	4	12	3,0	125	29	34	11
CLPPR 1612 K40	10341	R	40	16	16	8	12	4,0	125	33	34	11
CLPPR 2020 K20X	19744	R	40	20	20	5	20	2,0	125	33	33	5
CLPPR 2020 K30	10345	R	40	20	20	5	20	3,0	125	33	33	5
CLPPR 2020 K40	10347	R	53	20	20	5	20	4,0	125	40	40	5
CLPPR 2525 M20X	24247	R	40	25	25	0	25	2,0	150	36	-	2
CLPPR 2525 M30	10355	R	40	25	25	0	25	3,0	150	36	-	2
CLPPR 2525 M40	10357	R	53	25	25	0	25	4,0	150	40	-	2
CLPPR 2525 P50	10359	R	80	25	25	15	25	5,0	170	56	62	2

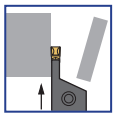
Remark

Holder and inserts with the same "S" dimension fit together.

Fitting inserts

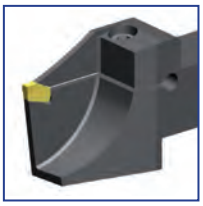


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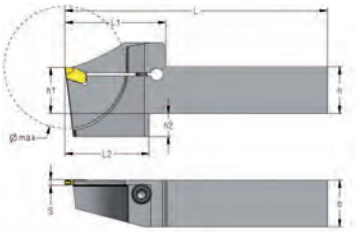
p. 132-135

Reinforced parting off holders



CLPPL..X
passt perfekt

LH holder



CLPPR..X
passt perfekt

RH holder



WG3801 Ref.	ID-Nr.	( )	Ø max	h	h1	h2	b	S	L	L1	L2	
CLPPL 2020 X30 65	10350	L	65	20	20	17	20	3,0	115	54	45	12
CLPPL 2020 X40 65	10352	L	65	20	20	17	20	4,0	115	54	45	12
CLPPL 2525 X30 65	10362	L	65	25	25	12	25	3,0	140	54	45	12
CLPPL 2525 X40 65	10364	L	65	25	25	12	25	4,0	140	54	45	12
CLPPR 2020 X30 65	10349	R	65	20	20	17	20	3,0	115	54	45	12
CLPPR 2020 X40 65	10351	R	65	20	20	17	20	4,0	115	54	45	12
CLPPR 2525 X30 65	10361	R	65	25	25	12	25	3,0	140	54	45	12
CLPPR 2525 X40 65	10363	R	65	25	25	12	25	4,0	140	54	45	12

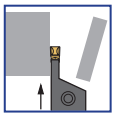
Remark

Holder and inserts with the same "S" dimension fit together.

Fitting inserts

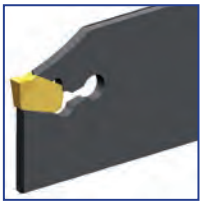


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Parting off blades with autolock pocket



TMSPP
with insert stopping face
passt perfekt



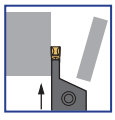
WG3101 Ref.	ID-Nr.	( )	A	a	S	L	
TMSPP 26 20X	19732	N	26	21,4	2,0	110	16
TMSPP 26 3	10024	N	26	21,4	3,0	110	16
TMSPP 26 4	10025	N	26	21,4	4,0	110	16
TMSPP 32 20X	24245	N	32	25,0	2,0	150	16
TMSPP 32 3	10026	N	32	25,0	3,0	150	16
TMSPP 32 4	10027	N	32	25,0	4,0	150	16
TMSPP 32 5	10028	N	32	25,0	5,0	150	16

Remark

Blades and tool blocks with the same "A" dimension fit together.
Holder and inserts with the same "S" dimension fit together.

Key 1856 (Spare part 16) is added to the delivery

Fitting inserts and tool blocks

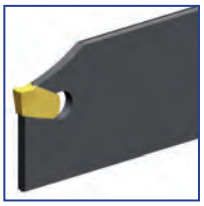


p. 132-135



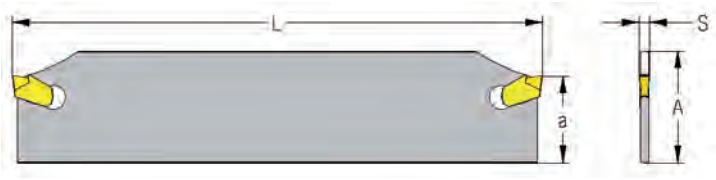
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Parting off blades with autolock pocket



TPP

passt perfekt

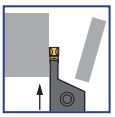


WG3101 Ref.	ID-Nr.		A	a	S	L	
TPP 19 20X	19733	N	19	15,5	2,0	86	16
TPP 26 20X	19734	N	26	21,4	2,0	110	16
TPP 26 3	10042	N	26	21,4	3,0	110	16
TPP 26 4	10043	N	26	21,4	4,0	110	16
TPP 26 5	10044	N	26	21,4	5,0	110	16
TPP 32 20X	24246	N	32	25,0	2,0	150	16
TPP 32 3	10046	N	32	25,0	3,0	150	16
TPP 32 4	10047	N	32	25,0	4,0	150	16
TPP 32 5	10048	N	32	25,0	5,0	150	16

Remark

Blades and tool blocks with the same "A" dimension fit together.
Holder and inserts with the same "S" dimension fit together.

Fitting inserts and tool blocks



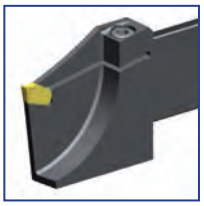
p. 132-135



p. 149

Key 1856 (Spare part 16) is added to the delivery

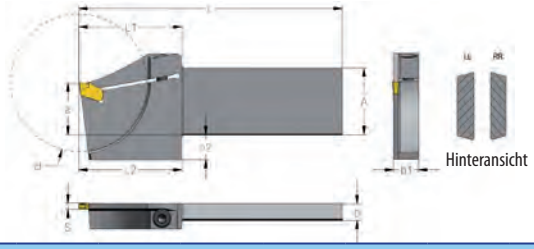
Reinforced parting off blades



CLPPL..L

passt perfekt

LH Blades



CLPPR..R

passt perfekt

RH Blades



WG3801 Ref.	ID-Nr.		a	Ø max	A	h2	b	b1	S	L	L1	L2	
CLPPL 3208 X30 65L	10366	L	25	65	32,0	11,7	8	12	3	125	49	49	5
CLPPL 3208 X40 65L	10368	L	25	65	32,0	11,7	8	12	4	125	49	49	5
CLPPR 3208 X30 65R	10365	R	25	65	32,0	11,7	8	12	3	125	49	49	5
CLPPR 3208 X40 65R	10367	R	25	65	32,0	11,7	8	12	4	125	49	49	5

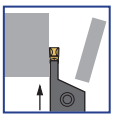
Remark

Blades and tool blocks with the same "A" dimension fit together.
Holder and inserts with the same "S" dimension fit together.

Fitting inserts and tool blocks



p.227-228,238



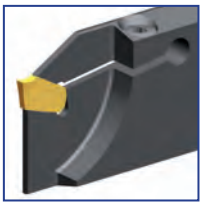
p. 132-135



p. 149

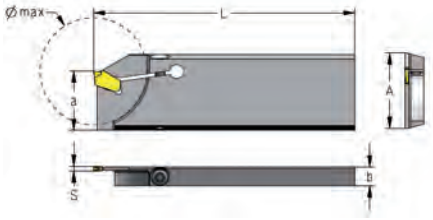
Example for application you will find on page 72

Reinforced parting off blades



TMSPL
passt perfekt

LH Blades



TMSPR
passt perfekt

RH Blades



WG3801 Ref.	ID-Nr.		A	a	Ø max	b	S	L	
TMSPL 2608 J20X R	29534	L	26	21,4	46	8	2,0	110	10
TMSPL 2608 J30 R	10032	L	26	21,4	46	8	3,0	110	10
TMSPL 2608 J40 R	10034	L	26	21,4	46	8	4,0	110	10
TMSPL 3208 J20X R	29535	L	32	25,0	46	8	2,0	110	10
TMSPL 3208 J30 R	10038	L	32	25,0	46	8	3,0	110	10
TMSPL 3208 J40 R	10040	L	32	25,0	46	8	4,0	110	10
TMSPR 2608 J30 L	10031	R	26	21,4	46	8	3,0	110	10
TMSPR 2608 J40 L	10033	R	26	21,4	46	8	4,0	110	10
TMSPR 3208 J30 L	32383	R	32	25,0	46	8	3,0	110	10
TMSPR 3208 J40 L	10039	R	32	25,0	46	8	4,0	110	10
TMSPR 2608 J20X R	29532	R	26	21,4	46	8	2,0	110	10
TMSPR 3208 J20X R	29533	R	32	25,0	46	8	2,0	110	10
TMSPR 3208 J30 R	10037	R	32	25,0	46	8	3,0	110	10

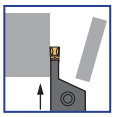
Remark

Blades and tool blocks with the same "A" dimension fit together.
Holder and inserts with the same "S" dimension fit together.

Fitting inserts and tool blocks



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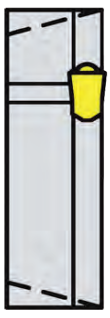


p. 132-135

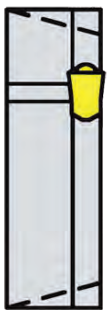


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Example for application you will find on page 72



TMSPR...L



TMSPR...R



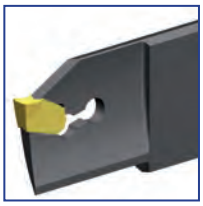
TMSPL...R

Different models TMSPR/L...R/L

How to write an order: **recommended**

1 St.	TMSPL 3208 J40 R	or:	**1 St.**	**ID-Nr. 10040**
10 St.	ITPL 4 4D ALU NANOSPEED	or:	**10 St.**	**ID-Nr. 10672**
1 St.	TS 32 32	or:	**1 St.**	**ID-Nr. 10053**

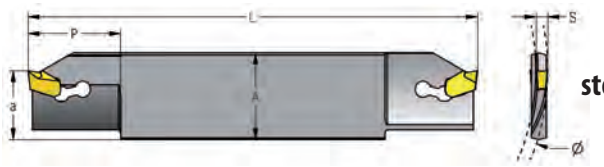
Face grooving blades with autolock pocket



PPSMS L with insert stopping face

passt perfekt

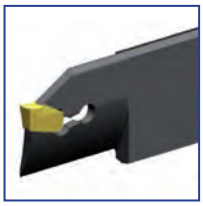
LH blade



PPSMS R with insert stopping face

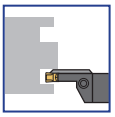
passt perfekt

RH blade



WG3151 Ref.	ID-Nr.		A	a	Ø min-max	P	S	L	
PPSMS 85 4 L	28859	L	32	25	85-160	32	4,0	160	16
PPSMS 140 4 L	38491	L	32	25	140-260	32	4,0	160	16
PPSMS 240 4 L	38493	L	32	25	240-∞	32	4,0	160	16
PPSMS 85 5 L	26194	L	32	25	85-160	32	5,0	160	16
PPSMS 140 5 L	38492	L	32	25	140-260	32	5,0	160	16
PPSMS 240 5 L	38494	L	32	25	240-∞	32	5,0	160	16
PPSMS 85 4 R	10209	R	32	25	85-160	32	4,0	160	16
PPSMS 140 4 R	10207	R	32	25	140-260	32	4,0	160	16
PPSMS 240 4 R	38495	R	32	25	240-∞	32	4,0	160	16
PPSMS 85 5 R	10210	R	32	25	85-160	32	5,0	160	16
PPSMS 140 5 R	10208	R	32	25	140-260	32	5,0	160	16
PPSMS 240 5 R	38496	R	32	25	240-∞	32	5,0	160	16

Fitting inserts and tool blocks



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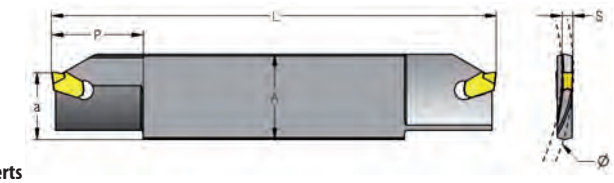
Key 1856 (Spare part 16) is added to the delivery



PPST R

passt perfekt

RH blade for RH inserts

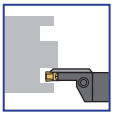


WG3151 Ref.	ID-Nr.		A	a	Ø min-max	P	S	L	
PPST 85 4 R	10215	R	32	25	85-160	32	4,0	160	16
PPST 140 4 R	10211	R	32	25	140-260	32	4,0	160	16
PPST 240 4 R	10213	R	32	25	240-∞	32	4,0	160	16
PPST 85 5 R	10216	R	32	25	85-160	32	5,0	160	16
PPST 140 5 R	10212	R	32	25	140-260	32	5,0	160	16
PPST 240 5 R	10214	R	32	25	240-∞	32	5,0	160	16

Remark

Blades and tool blocks with the same "A" dimension fit together.
Holder and inserts with the same "S" dimension fit together.

Fitting inserts and tool blocks



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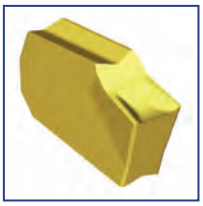


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Key 1856 (Spare part 16) is added to the delivery



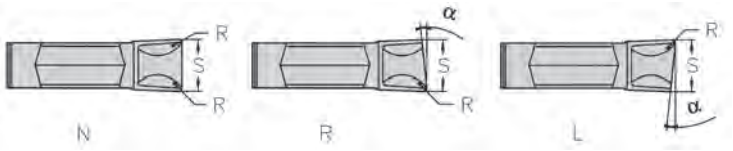
Parting off and grooving inserts



SNT N/R/L

Standard Design



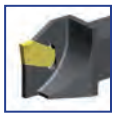


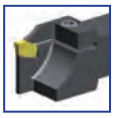
WG325 Ref.	PM NANOSPEED	GF110 CARBOSPEED	( )	R	S ±0,1	α°
	ID-Nr.	ID-Nr.				
SNTN 2	47916	47917	N	0,2	2,2	0
SNTN 3	11330	47918	N	0,2	3,1	0
SNTN 4	11342	47919	N	0,2	4,1	0
SNTN 5	47920	47921	N	0,2	5,1	0
SNTR 2 6D	47922	47923	R	0,2	2,2	6
SNTR 3 6D	11391	47924	R	0,2	3,1	6
SNTR 4 6D	11411	47925	R	0,2	4,1	6
SNTR 5 6D	47926	47927	R	0,2	5,1	6
SNTL 2 6D	47910	47911	L	0,2	2,2	6
SNTL 3 6D	11392	47912	L	0,2	3,1	6
SNTL 4 6D	11412	47913	L	0,2	4,1	6
SNTL 5 6D	47914	47915	L	0,2	5,1	6

SUPERNOVA

The arc-shaped cutting edge with its reinforced flanks forms ideal chips. Recommended for free cutting and low alloy steels and stainless steels, also to be used on unstable machine tools.

Fitting tool holder

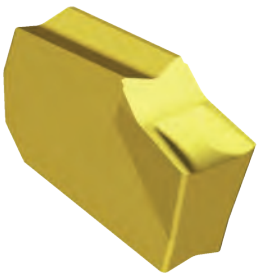

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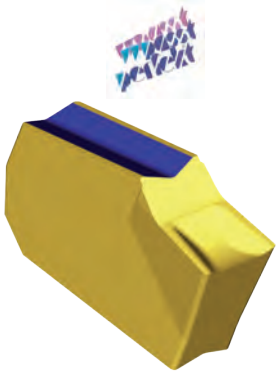
The difference!

Standard Design...



***„Standard Design"* Inserts**

precision sintered top guide



***„passt perfekt"* Inserts**

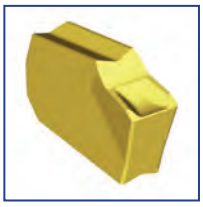
ground top guide

Attention!

The two systems are **not interchangeable**!

Technical section page 205 onwards

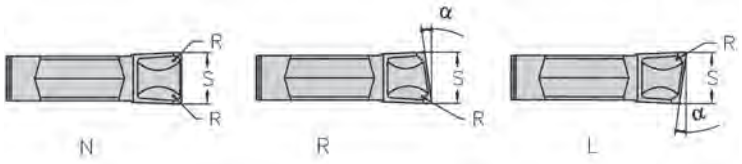
Parting off and grooving inserts



IT N/R/L

Standard Design





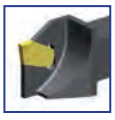
WG002 Ref.	PM NANOSPEED	GF110 CARBOSPEED		R	S ±0,1	α°
	ID-Nr.	ID-Nr.				
ITN 2	47890	47892	N	0,2	2,2	0
ITN 3	10497	47893	N	0,2	3,1	0
ITN 4	10515	47894	N	0,2	4,1	0
ITN 5	47896	47895	N	0,2	5,1	0
ITN 6	10527	-	N	0,2	6,35	0
ITR 2 4D	47898	47899	R	0,2	2,2	4
ITR 2 8D	47900	47901	R	0,2	2,2	8
ITR 3 4D	10791	47902	R	0,2	3,1	4
ITR 3 8D	10811	47903	R	0,2	3,1	8
ITR 4 4D	10837	47904	R	0,2	4,1	4
ITR 4 8D	10857	47905	R	0,2	4,1	8
ITR 5 4D	47906	47907	R	0,2	5,1	4
ITR 5 8D	47908	47909	R	0,2	5,1	8
ITL 2 4D	47877	47878	L	0,2	2,2	4
ITL 2 8D	47879	47880	L	0,2	2,2	8
ITL 3 4D	10792	47881	L	0,2	3,1	4
ITL 3 8D	10812	47882	L	0,2	3,1	8
ITL 4 4D	10838	47883	L	0,2	4,1	4
ITL 4 8D	10858	47884	L	0,2	4,1	8
ITL 5 4D	47885	47886	L	0,2	5,1	4
ITL 5 8D	47887	47888	L	0,2	5,1	8

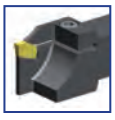
IT Geometry

IT Geometry with its cutting edge strengthening, ground chamfer is recommended for:

- Alloy steels
- Stainless steels
- Interrupted cuts

Fitting tool holder

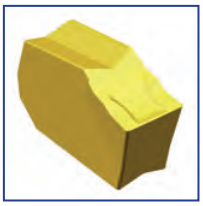

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Technical section page 205 onwards

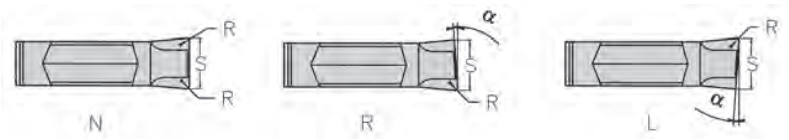
Parting off and grooving inserts



IT ALU N/R/L

Standard Design





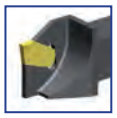
WG002 Ref.	GF 110	PM NANOSPEED		R	S ±0,1	α°
	ID-Nr.	ID-Nr.				
ITN 2 ALU	29338	47891	N	0,2	2,2	0
ITN 3 ALU	10480	10485	N	0,2	3,1	0
ITN 4 ALU	10498	10503	N	0,2	4,1	0
ITR 2 4D ALU	29602	47897	R	0,2	2,2	4
ITR 3 4D ALU	20692	10771	R	0,2	3,1	4
ITR 4 4D ALU	29215	10817	R	0,2	4,1	4
ITL 2 4D ALU	32370	47876	L	0,2	2,2	4
ITL 3 4D ALU	21489	10772	L	0,2	3,1	4
ITL 4 4D ALU	29212	10818	L	0,2	4,1	4

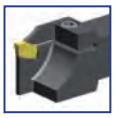
ALU Geometry

ALU Geometry with sharply ground, positive cutting edge is recommended for:

- Nonferrous heavy metals
- Machining steels
- **Thinwalled parts**
- Unstable components
- Pipes

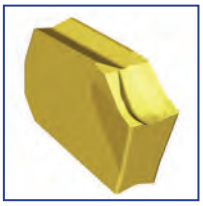
Fitting tool holder


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p. 146-147

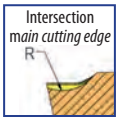

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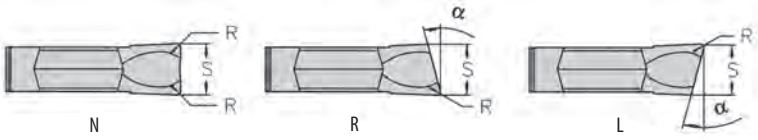
Technical section page 205 onwards



BGN /R/L

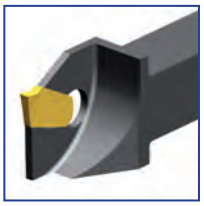
Standard Design





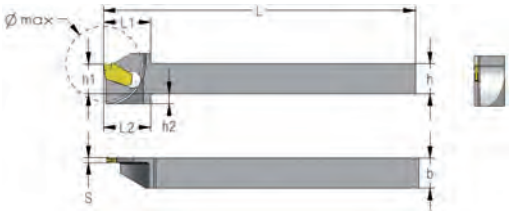
WG002 Ref.	PM NANOSPEED	GF110 CARBOSPEED		R	S ±0,1	α°
	ID-Nr.	ID-Nr.				
BGN 3	30874	48181	N	0,2	3,1	0
BGN 4	48183	48182	N	0,2	4,1	0
BGR 3 4D	48185	48184	R	0,2	3,1	4
BGR 3 8D	48187	48186	R	0,2	3,1	8
BGR 4 4D	48189	48188	R	0,2	4,1	4
BGR 4 8D	48191	48190	R	0,2	4,1	8
BGL 3 4D	48174	48173	L	0,2	3,1	4
BGL 3 8D	48176	48175	L	0,2	3,1	8
BGL 4 4D	48178	48177	L	0,2	4,1	4
BGL 4 8D	48180	48179	L	0,2	4,1	8

Parting off holders with autolock pocket



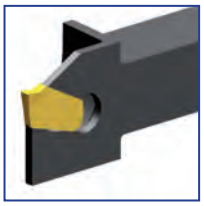
HL
Standard Design

LH holder



HR
Standard Design

RH holder

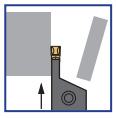


WG320 Ref.	ID-Nr.	( )	Ø max	h	h1	h2	b	S	L	L1	L2	
HL 1010 2	10258	L	30	10	10	6	10	2,2	125	18,5	18,5	16
HL 1010 3	10260	L	30	10	10	6	10	3,0	125	18,5	18,5	16
HL 1212 2	10262	L	30	12	12	4	12	2,2	125	18,5	18,5	16
HL 1212 3	10264	L	36	12	12	5	12	3,0	125	22,0	22,0	16
HL 1612 2	10266	L	30	16	16	0	12	2,2	125	18,5	-	16
HL 1612 3	10268	L	36	16	16	5	12	3,0	125	22,0	22,0	16
HL 1612 4	10270	L	42	16	16	5	12	4,0	125	25,0	25,0	16
HL 1616 3	10272	L	42	16	16	5	16	3,0	125	25,0	25,0	16
HL 1616 4	10274	L	42	16	16	5	16	4,0	125	25,0	25,0	16
HL 2020 2	10276	L	42	20	20	0	20	2,2	125	25,0	-	16
HL 2020 3	10278	L	42	20	20	0	20	3,0	125	25,0	-	16
HL 2020 4	10280	L	42	20	20	0	20	4,0	125	25,0	-	16
HL 2525 2	10282	L	42	25	25	0	25	2,2	150	25,0	-	16
HL 2525 3	10284	L	42	25	25	0	25	3,0	150	25,0	-	16
HR 1010 2	10257	R	30	10	10	6	10	2,2	125	18,5	18,5	16
HR 1010 3	10259	R	30	10	10	6	10	3,0	125	18,5	18,5	16
HR 1212 2	10261	R	30	12	12	4	12	2,2	125	18,5	18,5	16
HR 1212 3	10263	R	36	12	12	5	12	3,0	125	22,0	22,0	16
HR 1612 2	10265	R	30	16	16	0	12	2,2	125	18,5	-	16
HR 1612 3	10267	R	36	16	16	5	12	3,0	125	22,0	22,0	16
HR 1616 3	10271	R	42	16	16	5	16	3,0	125	25,0	25,0	16
HR 1616 4	10273	R	42	16	16	5	16	4,0	125	25,0	25,0	16
HR 2020 2	10275	R	42	20	20	0	20	2,2	125	25,0	-	16
HR 2020 3	10277	R	42	20	20	0	20	3,0	125	25,0	-	16
HR 2020 4	10279	R	42	20	20	0	20	4,0	125	25,0	-	16
HR 2525 2	10281	R	42	25	25	0	25	2,2	150	25,0	-	16
HR 2525 3	10283	R	42	25	25	0	25	3,0	150	25,0	-	16
HR 2525 4	10285	R	50	25	25	0	25	4,0	150	30,0	-	16
HR 2525 5	10287	R	80	25	25	0	25	5,0	150	45,0	-	16

Remark

Holder and inserts with the same "S" dimension fit together.

Fitting inserts

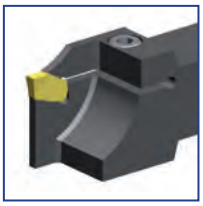


p. 142-144



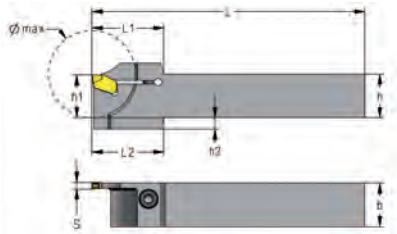
Key 1856 (Spare part 16) is added to the delivery

Parting off holders



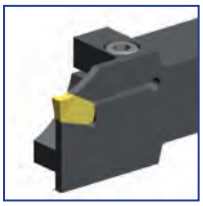
CLCBL
Standard Design

LH holder



CLCBR
Standard Design

RH holder



WG380 Ref.	ID-Nr.	( )	Ø max	h	h1	h2	b	S	L	L1	L2	
CLCBL 1010 K20	10290	L	28	10	10	10	10	2,2	125	26	36	11
CLCBL 1212 K20	10292	L	28	12	12	8	12	2,2	125	26	33	11
CLCBL 1212 K30	10294	L	34	12	12	8	12	3,0	125	29	33	11
CLCBL 1612 K20	10298	L	28	16	16	4	12	2,2	125	26	31	11
CLCBL 1612 K30	10300	L	34	16	16	4	12	3,0	125	29	34	11
CLCBL 1612 K40	10302	L	40	16	16	8	12	4,0	125	33	34	11
CLCBL 2020 K20	10304	L	40	20	20	5	20	2,2	125	33	33	5
CLCBL 2020 K30	10306	L	40	20	20	5	20	3,0	125	33	33	5
CLCBL 2020 K40	10308	L	53	20	20	5	20	4,0	125	40	40	5
CLCBL 2525 M20	10316	L	40	25	25	0	25	2,2	150	36	-	2
CLCBL 2525 M30	10318	L	40	25	25	0	25	3,0	150	36	-	2
CLCBL 2525 M40	10320	L	53	25	25	0	25	4,0	150	40	-	2
CLCBL 2525 P50	10322	L	80	25	25	15	25	5,0	170	56	62	2
CLCBR 1010 K20	10289	R	28	10	10	10	10	2,2	125	26	36	11
CLCBR 1212 K20	10291	R	28	12	12	8	12	2,2	125	26	33	11
CLCBR 1212 K30	10293	R	34	12	12	8	12	3,0	125	29	33	11
CLCBR 1612 K20	10297	R	28	16	16	4	12	2,2	125	26	31	11
CLCBR 1612 K30	10299	R	34	16	16	4	12	3,0	125	29	34	11
CLCBR 1612 K40	10301	R	40	16	16	8	12	4,0	125	33	34	11
CLCBR 2020 K20	10303	R	40	20	20	5	20	2,2	125	33	33	5
CLCBR 2020 K30	10305	R	40	20	20	5	20	3,0	125	33	33	5
CLCBR 2020 K40	10307	R	53	20	20	5	20	4,0	125	40	40	5
CLCBR 2525 M20	10315	R	40	25	25	0	25	2,2	150	36	-	2
CLCBR 2525 M30	10317	R	40	25	25	0	25	3,0	150	36	-	2
CLCBR 2525 M40	10319	R	53	25	25	0	25	4,0	150	40	-	2
CLCBR 2525 P50	10321	R	80	25	25	15	25	5,0	170	56	62	2

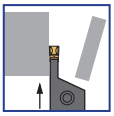
Remark

Holder and inserts with the same "S" dimension fit together.

Fitting inserts

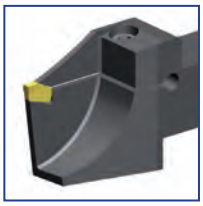


p.227-228,238



p. 142-144

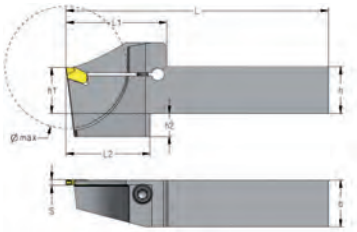
Reinforced parting off holders



CLCBL..X

Standard Design

LH holder



CLCBR..X

Standard Design

RH holder



WG380 Ref.	ID-Nr.	( )	Ø max	h	h1	h2	b	S	L	L1	L2	
CLCBL 2020 X20 65	10310	L	65	20	20	17	20	2,2	115	54	45	12
CLCBL 2020 X30 65	10312	L	65	20	20	17	20	3,0	115	54	45	12
CLCBL 2020 X40 65	10314	L	65	20	20	17	20	4,0	115	54	45	12
CLCBL 2525 X30 65	10324	L	65	25	25	12	25	3,0	140	54	45	12
CLCBL 2525 X40 65	10326	L	65	25	25	12	25	4,0	140	54	45	12
CLCBR 2020 X20 65	10309	R	65	20	20	17	20	2,2	115	54	45	12
CLCBR 2020 X30 65	10311	R	65	20	20	17	20	3,0	115	54	45	12
CLCBR 2020 X40 65	10313	R	65	20	20	17	20	4,0	115	54	45	12
CLCBR 2525 X30 65	10323	R	65	25	25	12	25	3,0	140	54	45	12
CLCBR 2525 X40 65	10325	R	65	25	25	12	25	4,0	140	54	45	12

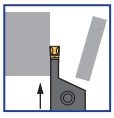
Remark

Holder and inserts with the same "S" dimension fit together.

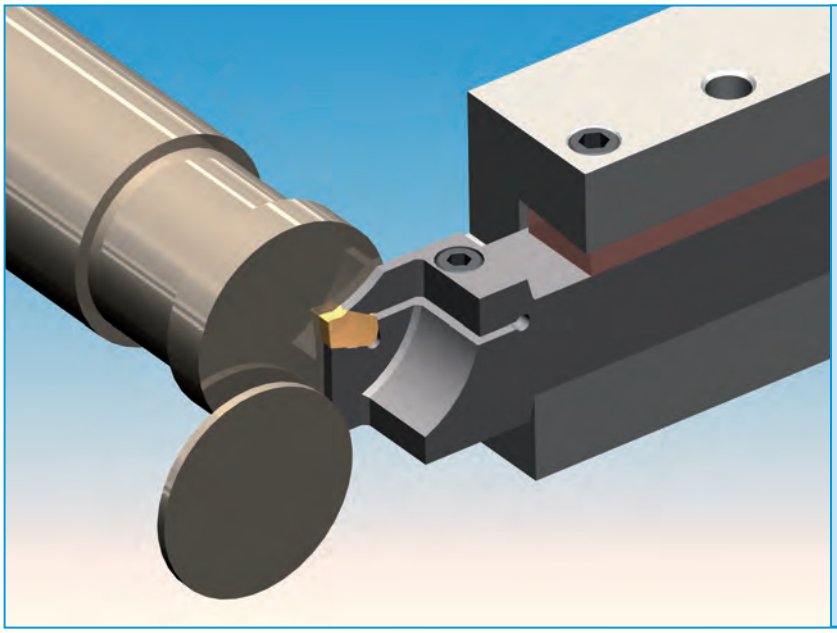
Fitting inserts



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p. 142-144

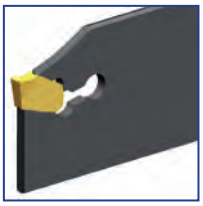


Parting off basics

Always select the strongest tool holder with the most powerful clamping system and the appropriate inserts:

- True and straight run
- Clean faces
- Plane-parallel faces
- Good tool life
- Don't compromise!

Parting off blades with autolock pocket

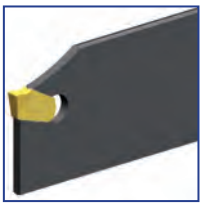


TMS
with insert stopping face
Standard Design

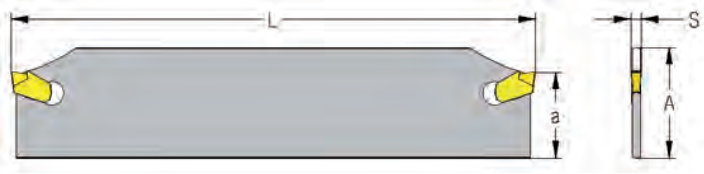


WG310 Ref.	ID-Nr.		A	a	S	L	
TMS 26 2	10016	N	26	21,4	2,2	110	16
TMS 26 3	10017	N	26	21,4	3,0	110	16
TMS 26 4	10018	N	26	21,4	4,0	110	16
TMS 32 3	10019	N	32	25,0	3,0	150	16
TMS 32 4	10020	N	32	25,0	4,0	150	16
TMS 32 5	10021	N	32	25,0	5,0	150	16
TMS 32 6	10022	N	32	25,0	6,0	150	16

Fitting inserts and tool blocks see below



T
Standard Design



WG310 Ref.	ID-Nr.		A	a	S	L	
T 19 2	10001	N	19	15,5	2,2	86	16
T 26 2	10002	N	26	21,4	2,2	110	16
T 26 3	10003	N	26	21,4	3,0	110	16
T 26 3 90	10004	N	26	21,4	3,0	90	16
T 26 4	10005	N	26	21,4	4,0	110	16
T 26 5	10007	N	26	21,4	5,0	110	16
T 26 6	10008	N	26	21,4	6,35	110	16
T 32 2	10009	N	32	25,0	2,2	150	16
T 32 3	10010	N	32	25,0	3,0	150	16
T 32 3 100	10011	N	32	25,0	3,0	100	16
T 32 4	10012	N	32	25,0	4,0	150	16
T 32 5	10014	N	32	25,0	5,0	150	16
T 32 6	10015	N	32	25,0	6,35	150	16

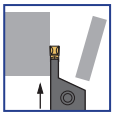
Remark

Blades and tool blocks with the same "A" dimension fit together.
Holder and inserts with the same "S" dimension fit together.



Key 1856 (Spare part 16) is added to the delivery

Fitting inserts and tool blocks



p. 142-144



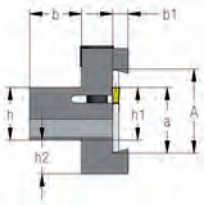
p. 149

Tool blocks for parting off blades



TS





WG330 Ref.	ID-Nr.		A	a	h	h1	h2	B	b	b1	L	
TS 26 16	10049	N	26	21,4	16	16	3	34	16	5	90	3
TS 26 20	10050	N	26	21,4	20	20	9	38	20	5	90	3
TS 32 20	10051	N	32	25,0	20	20	13	38	20	6	120	3
TS 32 25	10052	N	32	25,0	25	25	8	38	20	6	120	3
TS 32 32	10053	N	32	25,0	32	32	1	44	25	6	120	3

Remark

Tool blocks KL and TS are recommended for the dovetail shaft tools on page 73, 89, 131, 139 und 140

Blades and tool blocks with the same "A" dimension fit together.

Fitting blades



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p. 73 + 89



p. 74



p. 103



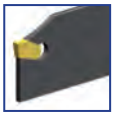
p. 130



p. 139



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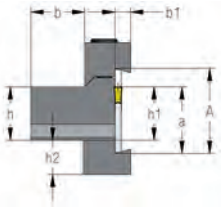


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KL





WG330 Ref.	ID-Nr.		A	a	h	h1	h2	B	b	b1	L	
KL 26 16	10054	N	26	21,4	16	16	13	34	16	5	90	2+17
KL 26 20	10055	N	26	21,4	20	20	9	38	20	5	90	2+17
KL 32 20	10056	N	32	25,0	20	20	13	38	20	6	120	2+31
KL 32 25	10057	N	32	25,0	25	25	8	38	20	6	120	2+31

Remark

Dismountable wedge lock (26L) for KL 26...
Dismountable wedge lock (32L) for KL 32...

Tool blocks KL and TS are recommended for the dovetail shaft tools on page 73, 89, 131, 139 und 140

Blades and tool blocks with the same "A" dimension fit together.

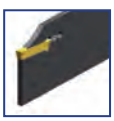
Fitting blades



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p. 73 + 89



p. 74



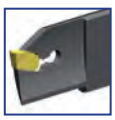
p. 103



p. 130



p. 139



p. 141



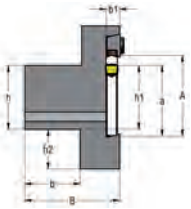
p. 138 + 148

Tool block for parting off blades



KL 52



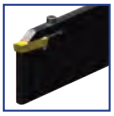


WG330 Ref.	ID-Nr.		A	a	h	h1	h2	B	b	b1	L	
KL 52 40	45128	N	52,6	45	40	90	25	60	35	8,5	135	2+38
KL 52 50	45129	N	52,6	45	50	90	15	63	38	8,5	135	2+38

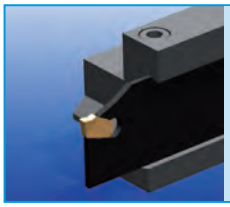
Attention!
Short blade extention will create best results. The shorter the better!

Fitting Blades



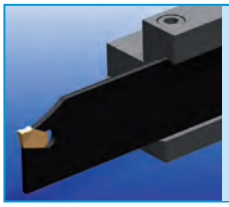


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Short extention:

- Clean faces
- No vibrations
- No squeaking
- Best tool life

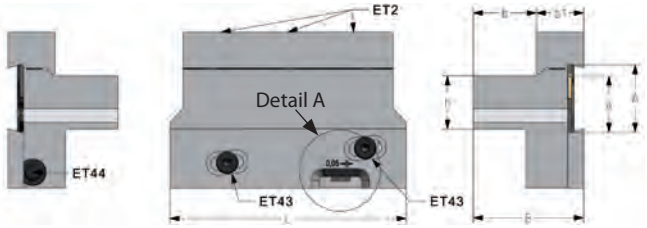


Long extention:

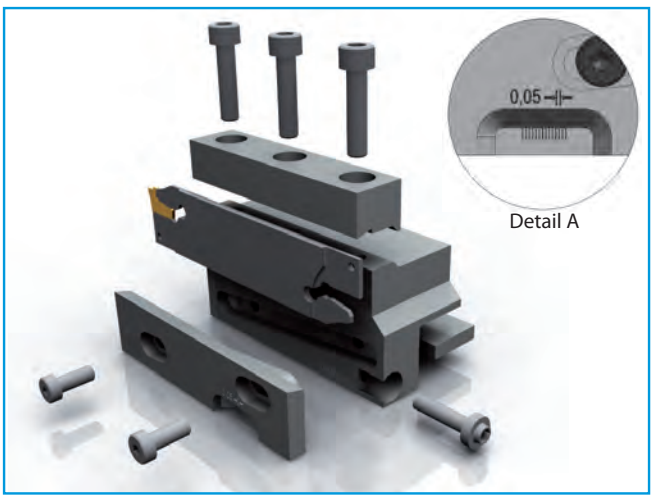
- Rough faces
- Vibrations
- Squeaking
- Low performance



KLV
Height adjustable tool block for parting off blades



WG330 Ref.	ID-Nr.		A	a	h	B	b	b1	L	shim plate	
KLV 26 20	10058	N	26	21,4	20	42	24	6	90	-	2+43+44
KLV 32 20	10059	N	32	25,0	20	42	24	6	120	-	2+43+44
KLV 32 25	10060	N	32	25,0	20	42	24	6	120	X	2+43+44
Shim plate 20x5x120	54556		-	-	5	-	20	-	120	-	-



Fitting blades







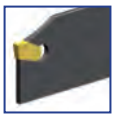


p.227-228,238 p. 73 + 89 p. 74 p. 103









p. 130 p. 139 p. 141 p. 138 + 148

Delivering state of KLV 32-25 correspondes to KLV 32-20.
KLV 32-20 + shim plate 20x5x120.

GLM - GripLock Modular

Quick change tool system

- *Now available for ISO-inserts*

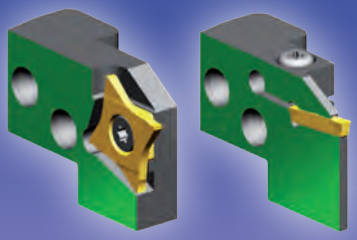


KEMMER HARTMETALLWERKZEUGE GmbH

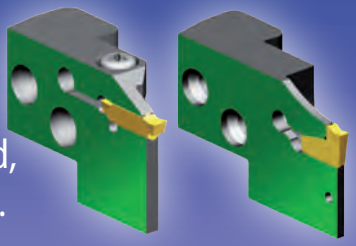
GLM - GripLock Modular

Quick change tool system

With an **ingenious** interlock on the way to a new, green, horizon.

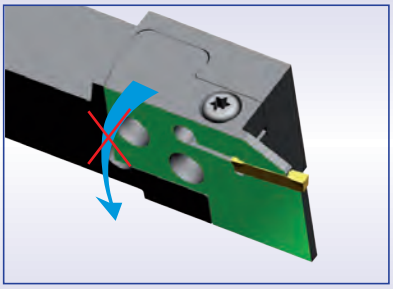


Due to this **ingenious** interlock the complete GripLock world can be applied to the most advanced, state-of-the-art, clamping systems.

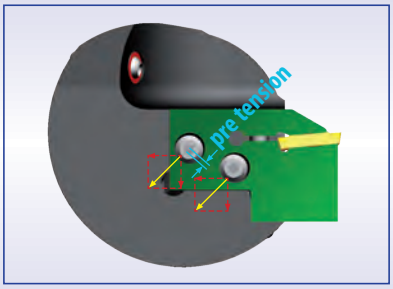


This brilliant engineering achievement saves resources and takes care of our environment.

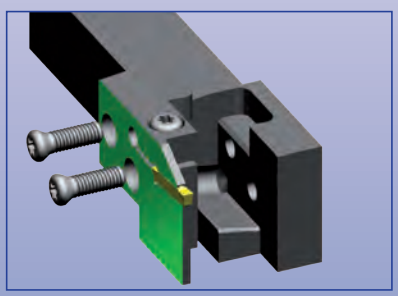
- A cleverly constructed interlock-face makes single handed assembly possible.



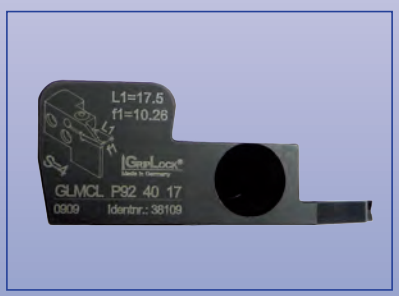
- The perfect interlock creates monoblock stability.



- Change of cartridges: simple, safe and fast! One key fits all three screws!



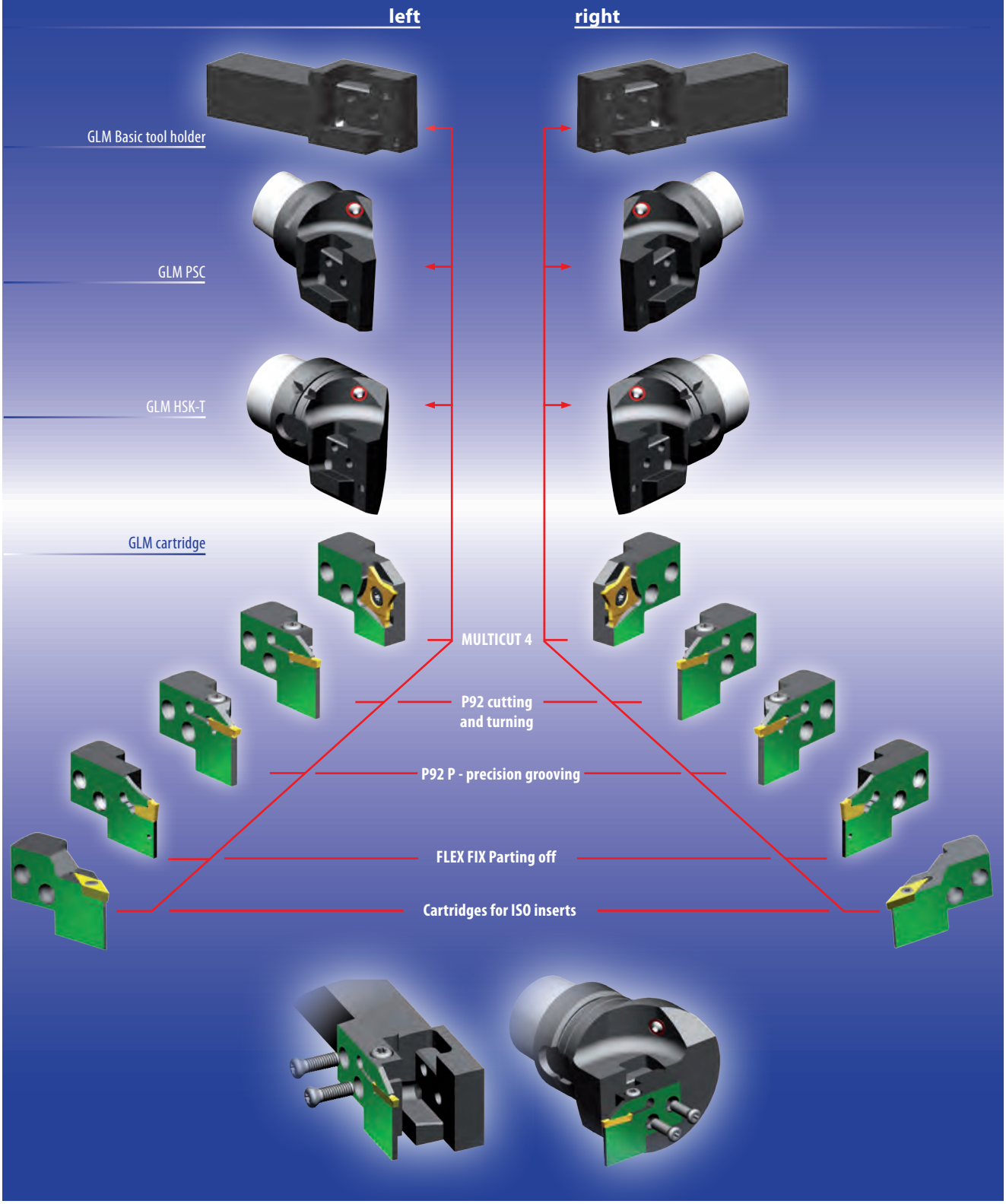
- All important information at a glance: The type of cartridge, cutting width, NC-Parameter, ID-No. and ISO- drawing.



The green colour on all GripLock Modular cartridges symbolizes an environmental friendly production.

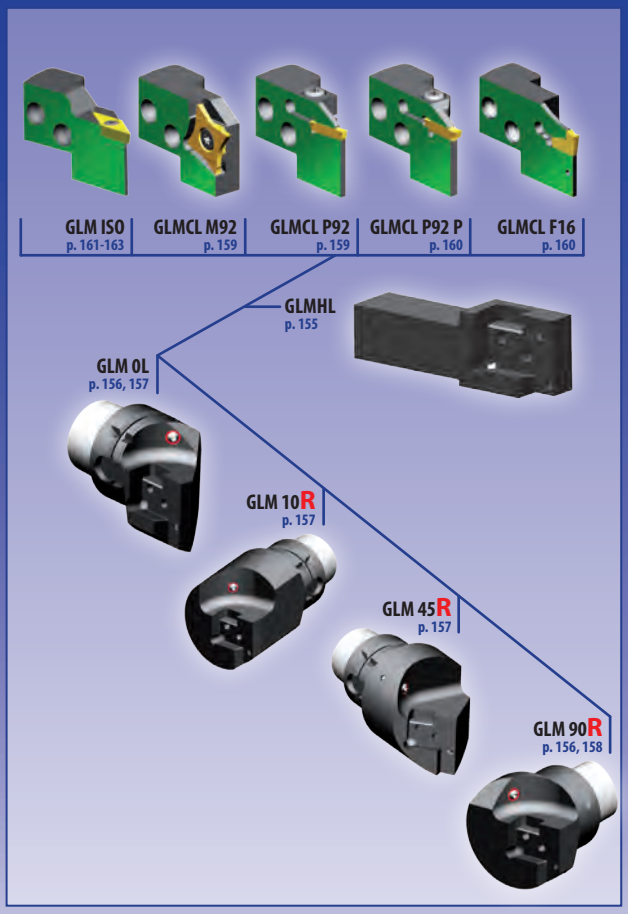
GLM - GripLock Modular

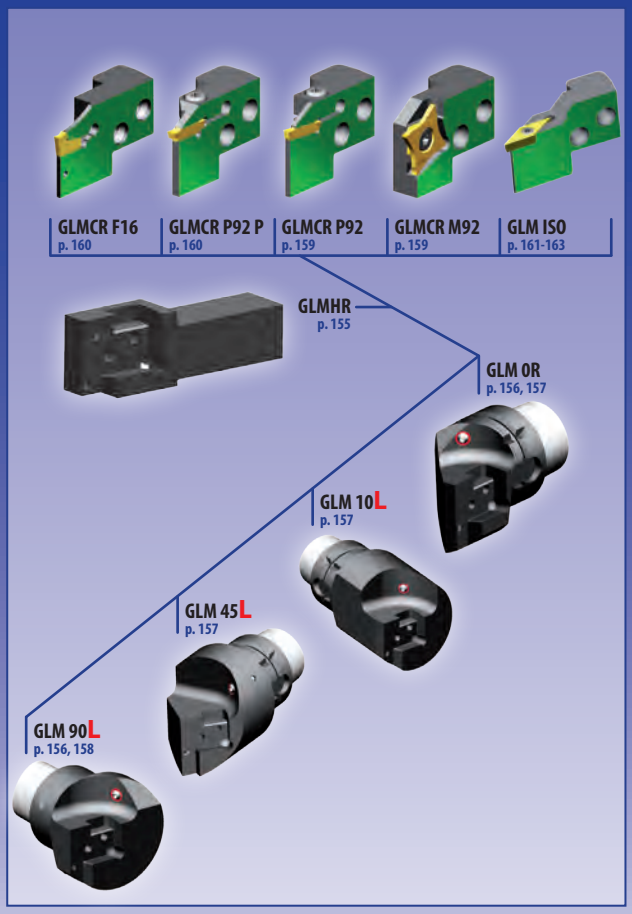
Quick change tool system



KEMMER HARTMETALLWERKZEUGE GmbH

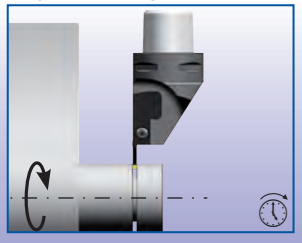
Basic tool holders with interchangeable cartridges





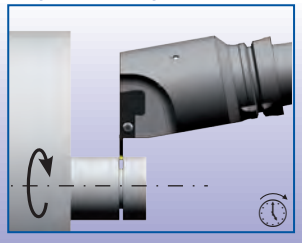
Examples for application and how to fit tools together correctly

LH (CW rotation)



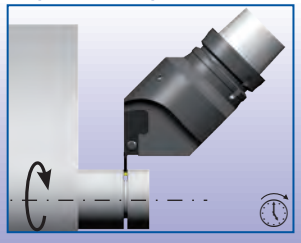
GLM 0° left hand basic tool holder + left hand cartridge

LH (CW rotation)



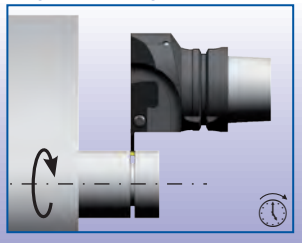
GLM 10° right hand basic tool holder + left hand cartridge

LH (CW rotation)



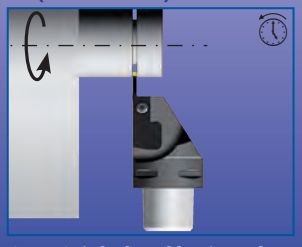
GLM 45° right hand basic tool holder + left hand cartridge

LH (CW rotation)



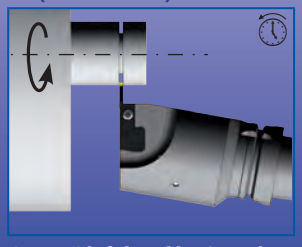
GLM 90° right hand basic tool holder + left hand cartridge

RH (CCW rotation)



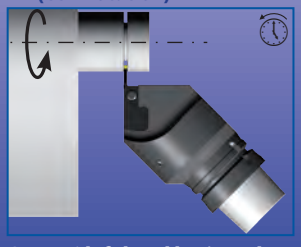
GLM 0° right hand basic tool holder + right hand cartridge

RH (CCW rotation)



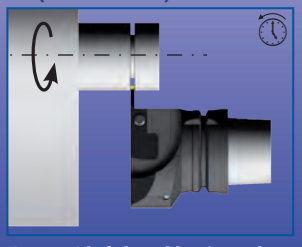
GLM 10° left hand basic tool holder + right hand cartridge

RH (CCW rotation)



GLM 45° left hand basic tool holder + right hand cartridge

RH (CCW rotation)



GLM 90° left hand basic tool holder + right hand cartridge

The GripLock modular cartridge system now available for ISO inserts

A unique interface

The GripLock modular system fits:



HSK-T flange | PSC flange | Square shanks

Tailor made ISO cartridges can be ordered

Required information for Specials

- Type of insert
- Right hand or left hand
- Setting angle
- Clamping with spare parts
- Holder/flange type/setting angle of cartridge
- Setting angle of cartridge
- Maximal extension

Designation Code for ISO - cartridges

GLM C R CN 12 04

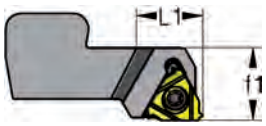
- GLM — Tool family GripLock Modular
- C — Cartridge
- R — RH/LH
- CN — Form and clearance of insert
- 12 — Length of cutting edge
- 04 — Insert thickness

GLM-ISO-Cartridges for ISO threading inserts



GLMCL 16EL ISO

LH cartridge



GLMC R 16ER ISO

RH cartridge



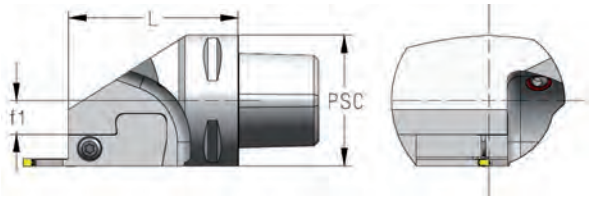
WG550 Ref.	ID-Nr.	( )	L1	f1	Insert	
GLMCL 16EL ISO	47680	L	8,8	17	16 EL	p. 239
GLMCR 16ER ISO	46962	R	8,8	17	16 ER	p. 239

GLM - PSC



GLM PSC 0 L

LH holder



GLM PSC 0 R

RH holder

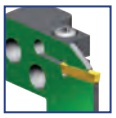


WG501 Ref.	ID-Nr.	( )	D	PSC	f1	L		Kg
GLM PSC40 L 0 12 65	38078	L	40	40	12,0	65	29	0,59
GLM PSC50 L 0 13 65	38079	L	50	50	13,0	65	29	0,82
GLM PSC63 L 0 195 70	38080	L	63	63	19,5	70	29	1,37
GLM PSC40 R 0 12 65	38075	R	40	40	12,0	65	29	0,59
GLM PSC50 R 0 13 65	38076	R	50	50	13,0	65	29	0,82
GLM PSC63 R 0 195 70	38077	R	63	63	19,5	70	29	1,37

Fitting Cartridges











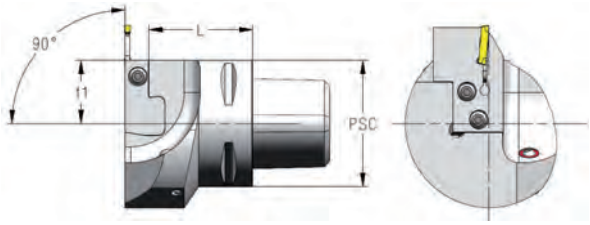


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GLM PSC 90 L

LH holder



GLM PSC 90 R

RH holder



WG501 Ref.	ID-Nr.	( )	D	PSC	f1	L		Kg
GLM PSC40 L 90 29 50	38090	L	40	40	29,0	50	29	1,04
GLM PSC50 L 90 29 50	38091	L	50	50	29,0	50	29	1,23
GLM PSC63 L 90 315 52	38092	L	63	63	31,5	52	29	1,73
GLM PSC40 R 90 29 50	38087	R	40	40	29,0	50	29	1,04
GLM PSC50 R 90 29 50	38088	R	50	50	29,0	50	29	1,23
GLM PSC63 R 90 315 52	38089	R	63	63	31,5	52	29	1,73

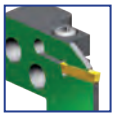
Remark

RH cartridges will fit only on LH basic tool holders with setting angles 10°, 45° and 90°. (Assembly for CCW run)
LH cartridges will fit only on RH basic tool holders with setting angles 10°, 45° and 90°. (Assembly for CW run)

Fitting Cartridges













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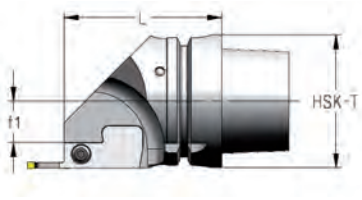
How to write an order correctly: — **recommended**

1 St.	GLM PSC63 **L 90** 315 52	or:	**1 St.**	**ID-Nr. 38092**
1 St.	GLMC**R** P92 30 17	or:	**1 St.**	**ID-Nr. 38098**

GLM - HSKT



GLM HSKT 0 L



LH holder

GLM HSKT 0 R



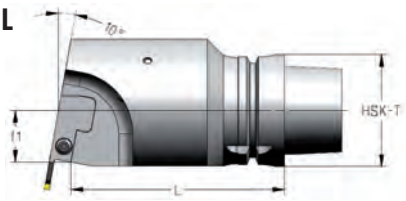
RH holder

WG501 Ref.	ID-Nr.	( )	D	HSK-T	f1	L		Kg
GLM HSK63T L 0 195 75	38082	L	63	63	19,5	75	29	1,30
GLM HSK63T R 0 195 75	38081	R	63	63	19,5	75	29	1,30

Fitting Cartridges see below



GLM HSKT 10 L



LH holder

GLM HSKT 10 R



RH holder

WG501 Ref.	ID-Nr.	( )	D	HSK-T	f1	L		Kg
GLM HSK63T L 10 29 120	38084	L	63	63	29	120	29	3,56
GLM HSK63T R 10 29 120	38083	R	63	63	29	120	29	3,56

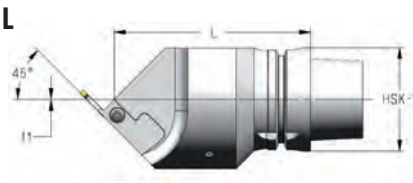
Fitting Cartridges see below

Remark

RH cartridges will fit only on LH basic tool holders with setting angles 10°, 45° and 90°. (Assembly for CCW run)
LH cartridges will fit only on RH basic tool holders with setting angles 10°, 45° and 90°. (Assembly for CW run)



GLM HSKT 45 L



LH holder

GLM HSKT 45 R



RH holder

WG501 Ref.	ID-Nr.	( )	D	HSK-T	f1	L		Kg
GLM HSK63T L 45 00 120	38086	L	63	63	00	120	29	3,19
GLM HSK63T R 45 00 120	38085	R	63	63	00	120	29	3,19

Remark

RH cartridges will fit only on LH basic tool holders with setting angles 10°, 45° and 90°. (Assembly for CCW run)
LH cartridges will fit only on RH basic tool holders with setting angles 10°, 45° and 90°. (Assembly for CW run)

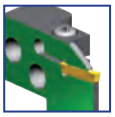
Fitting Cartridges



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p. 160



p. 160



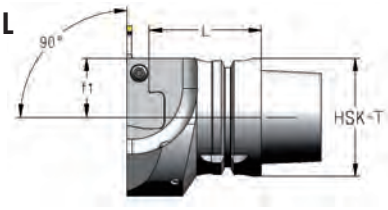
p. 161

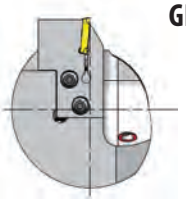
GLM - HSKT



GLM HSKT 90 L

LH holder





GLM HSKT 90 R

RH holder



WG501 Ref.	ID-Nr.		D	HSK-T	f1	L		Kg
GLM HSK63T L 90 315 60	38094	L	63	63	31,5	60	29	1,71
GLM HSK63T R 90 315 60	38093	R	63	63	31,5	60	29	1,71

Remark

RH cartridges will fit only on **LH** basic tool holders with setting angles 10°, 45° and 90°. (Assembly for CCW run)
LH cartridges will fit only on **RH** basic tool holders with setting angles 10°, 45° and 90°. (Assembly for CW run)

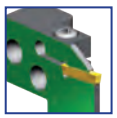
Fitting Cartridges



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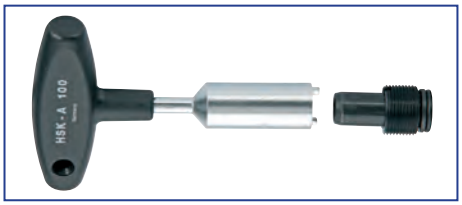


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Cooling flow unit and key



WG355 Holder	Cooling flow unit ID-Nr	Key ID-Nr.
HSK63T	38834	38833

Remark

This sealing unit stops coolant flowing through the spindle and prevents bearings from being damaged.

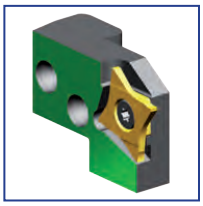
Designation Code for GLM - cartridges

GLM C R P92 30 17

GLM	Tool family GripLock Modular
C	cartridge
R	RH / LH
P92	Tool system (Applied inserts)
30	Cutting width
17	Cutting depth

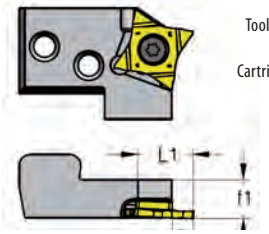
P92 → Cutting
P92 P → Precision grooving
M92 Q → MULTICUT
F16 → Flex Fix

GLM - Cartridges



GLMC L M92 Q

LH cartridge



GLMC R M92 Q

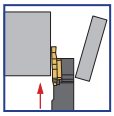
RH cartridge

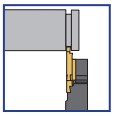


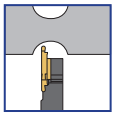
WG510 Ref.	ID-Nr.	( )	P	L1	f1	
GLMCL M92 Q 16 65	38182	L	6,5	17,5	12,3	24
GLMCR M92 Q 16 65	38179	R	6,5	17,5	12,3	24

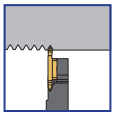
Fitting inserts

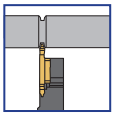




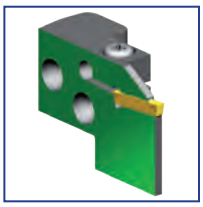






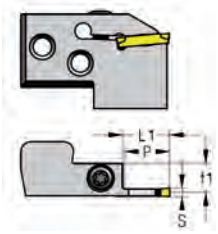


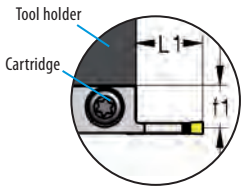
p.227-228,238 p. 27 - 29 p. 31 p. 32 p. 33-34 p. 42



GLMC L P92

LH cartridge





GLMC R P92

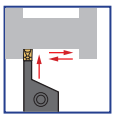
RH cartridge

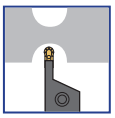


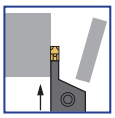
WG510 Ref.	ID-Nr.	( )	P	L1	S	f1	
GLMCL P92 20+25 17	38107	L	17	17,5	2+2,5	11,20	29
GLMCL P92 30 17	38108	L	17	17,5	3	10,76	29
GLMCL P92 40 17	38109	L	17	17,5	4	10,26	29
GLMCL P92 50 22	38110	L	22	22,5	5	9,86	29
GLMCR P92 20+25 17	38097	R	17	17,5	2+2,5	11,20	29
GLMCR P92 30 17	38098	R	17	17,5	3	10,76	29
GLMCR P92 40 17	38099	R	17	17,5	4	10,26	29
GLMCR P92 50 22	38100	R	22	22,5	5	9,86	29

Fitting inserts









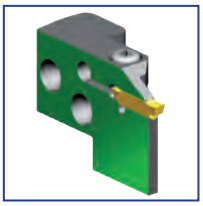


p.227-228,238 p. 48-55 p. 56 p. 57-62 p. 189

How to write an order: **recommended**

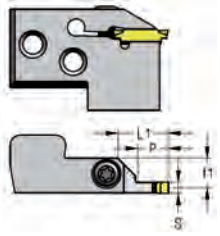
1 St.	GLM HSK63T **R** 0 195 75	or:	**1 St. ID-Nr. 38081**
1 St.	GLMC**R** P92 30 17	or:	**1 St. ID-Nr. 38098**

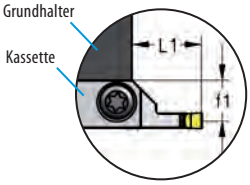
GLM - Cartridges



GLMC L P92 P

LH cartridge





GLMC R P92 P

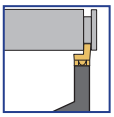
RH cartridge

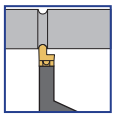


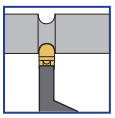
WG510 Ref.	ID-Nr.	( )	P	L1	S	f1	
GLMCL P92 P 4 11	38175	L	11	17,5	4	10,26	29
GLMCL P92 P 5+6 14	38176	L	14	20,5	5+6,5	9,86	29
GLMCR P92 P 4 11	38171	R	11	17,5	4	10,26	29
GLMCR P92 P 5+6 14	38172	R	14	20,5	5+6,5	9,86	29

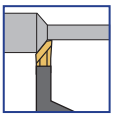
Fitting inserts





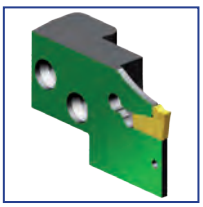






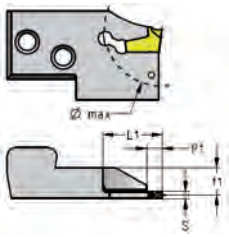


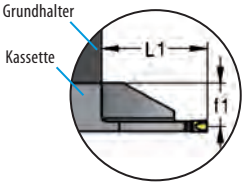
p.227-228,238 | p. 107 | p. 108 + 118 | p. 109 | p. 111 | p. 112



GLMC L F16

LH cartridge





GLMC R F16

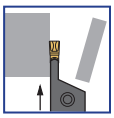
RH cartridge



WG510 Ref.	ID-Nr.	( )	P1	L1	Ø max	S	f1	
GLMCL F16 20 50	43338	L	6,0	25,5	50	2	11,2	AWF16
GLMCL F16 30 50	38880	L	6,0	25,5	50	3	10,8	AWF16
GLMCL F16 40 50	43339	L	6,0	25,5	50	4	10,3	AWF16
GLMCR F16 20 50	43340	R	6,0	25,5	50	2	11,2	AWF16
GLMCR F16 30 50	39726	R	6,0	25,5	50	3	10,8	AWF16
GLMCR F16 40 50	43341	R	6,0	25,5	50	4	10,3	AWF16

Fitting inserts





p.227-228,238 | p. 126-128

The GripLock modular cartridge system now available for ISO inserts

A unique interface

The GripLock modular system fits:



HSK-T flange | PSC flange | Square shanks

Tailor made ISO cartridges can be ordered

Required information for Specials

- Type of insert
- Right hand or left hand
- Setting angle
- Clamping with spare parts
- Holder/flange type/setting angle of cartridge
- Setting angle of cartridge
- Maximal extension

Designation Code for ISO - cartridges

GLM C R CN 12 04

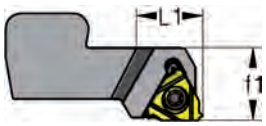
- GLM — Tool family GripLock Modular
- C — Cartridge
- R — RH/LH
- CN — Form and clearance of insert
- 12 — Length of cutting edge
- 04 — Insert thickness

GLM-ISO-Cartridges for ISO threading inserts



GLMCL 16EL ISO

LH cartridge



GLMC R 16ER ISO

RH cartridge



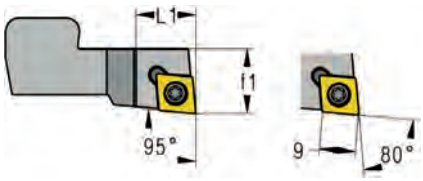
WG550 Ref.	ID-Nr.	( )	L1	f1	Insert	
GLMCL 16EL ISO	47680	L	8,8	17	16 EL	p. 239
GLMCR 16ER ISO	46962	R	8,8	17	16 ER	p. 239

GLM-ISO-cartridges with positive insert pocket



GLMCL CC09T3

LH cartridge



GLMCR CC09T3

RH cartridge

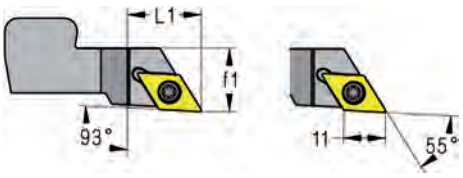


WG550 Ref.	ID-Nr.		L1	f1	Insert	
GLMCL CC09T3	46966	L	12,5	17	CCGT09T3	p. 239
GLMCR CC09T3	46961	R	12,5	17	CCGT09T3	p. 239



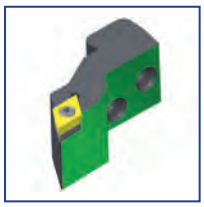
GLMCL DC11T3

LH cartridge

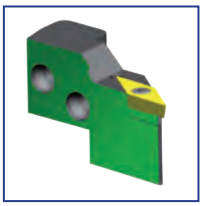


GLMCR DC11T3

RH cartridge

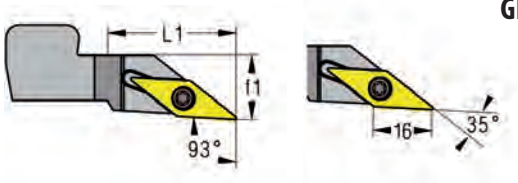


WG550 Ref.	ID-Nr.		L1	f1	Insert	
GLMCL DC11T3	46959	L	15,5	17	DCGT11T3	p. 239
GLMCR DC11T3	46965	R	15,5	17	DCGT11T3	p. 239



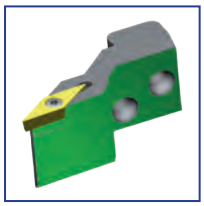
GLMCL VC1604

LH cartridge

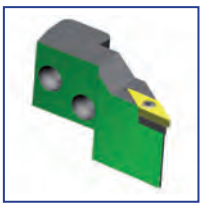


GLMCR VC1604

RH cartridge

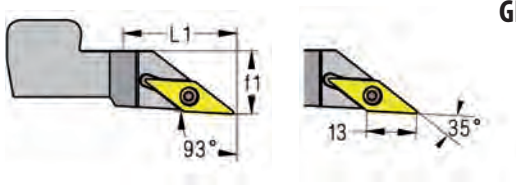


WG550 Ref.	ID-Nr.		L1	f1	Insert	
GLMCL VC1604	46968	L	24,5	17	VCGT1604	p. 239
GLMCR VC1604	46967	R	24,5	17	VCGT1604	p. 239



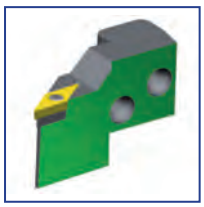
GLMCL VC1303

LH cartridge



GLMCR VC1303

RH cartridge



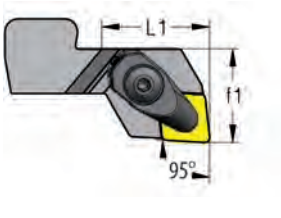
WG550 Ref.	ID-Nr.		L1	f1	Insert	
GLMCL VC1303	47553	L	22,5	16,5	VCGT1303	p. 239
GLMCR VC1303	47554	R	22,5	16,5	VCGT1303	p. 239

GLM-ISO-cartridges with negative insert pocket



GLMCL CN1204

LH cartridge



GLMCR CN1204

RH cartridge

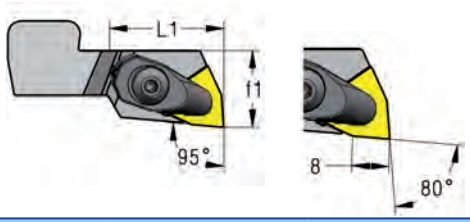


WG550 Ref.	ID-Nr.		L1	f1	Insert	
GLMCL CN1204	47607	L	17,5	25	CNMG1204	p. 239
GLMCR CN1204	47341	R	17,5	25	CNMG1204	p. 239



GLMCL WN0804

LH cartridge



GLMCR WN0804

RH cartridge

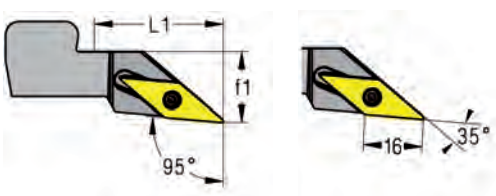


WG550 Ref.	ID-Nr.		L1	f1	Insert	
GLMCL WN0804	46964	L	20,5	20,5	WNMG0804	p. 239
GLMCR WN0804	46969	R	20,5	20,5	WNMG0804	p. 239



GLMCL VN1604

LH cartridge



GLMCR VN1604

RH cartridge

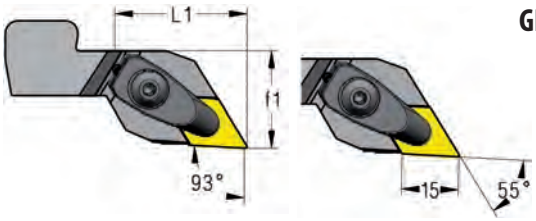


WG550 Ref.	ID-Nr.		L1	f1	Insert	
GLMCL VN1604	46960	L	21,5	19	VNMG1604	p. 239
GLMCR VN1604	46963	R	21,5	19	VNMG1604	p. 239



GLMCL DN1506

LH cartridge



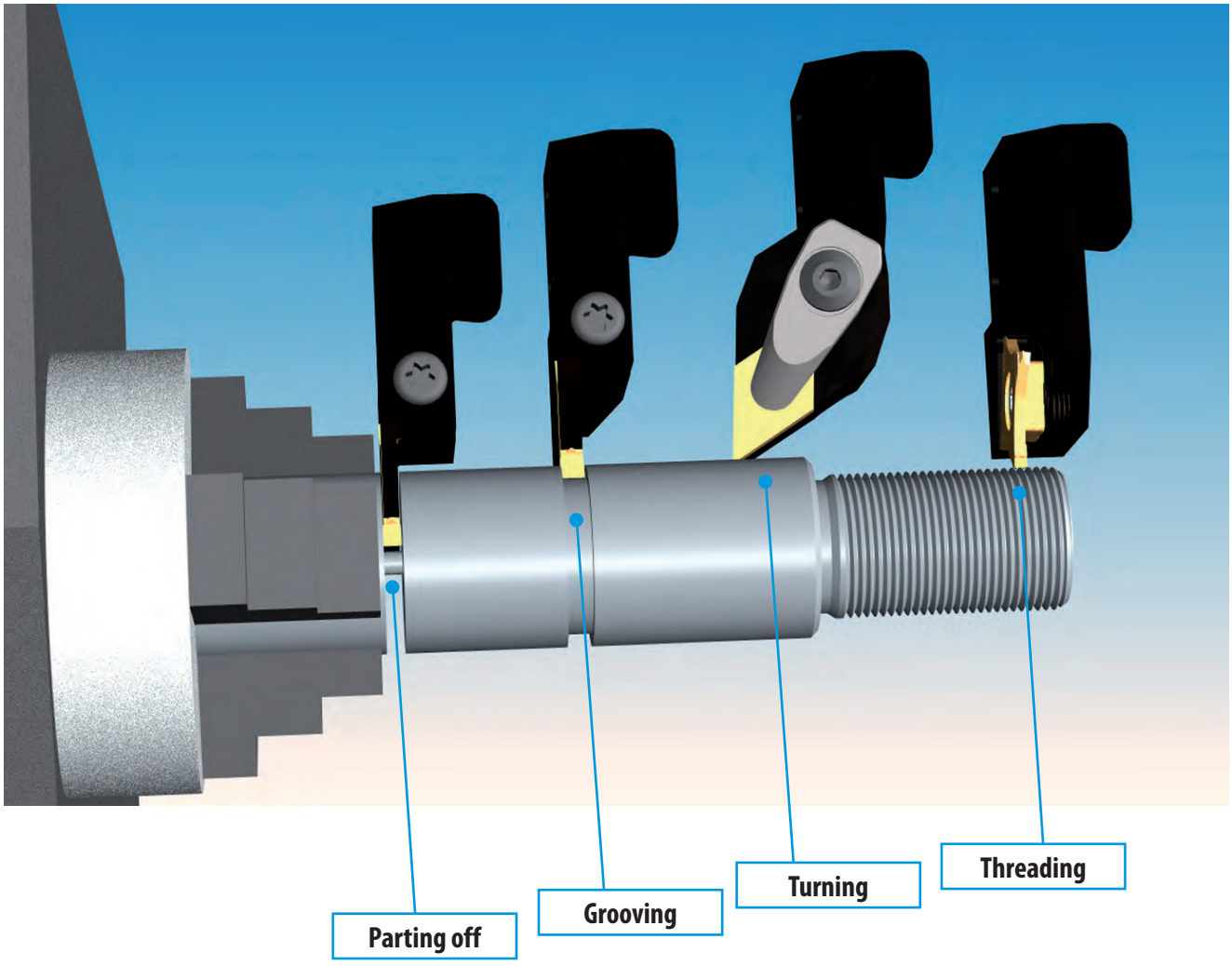
GLMCR DN1506

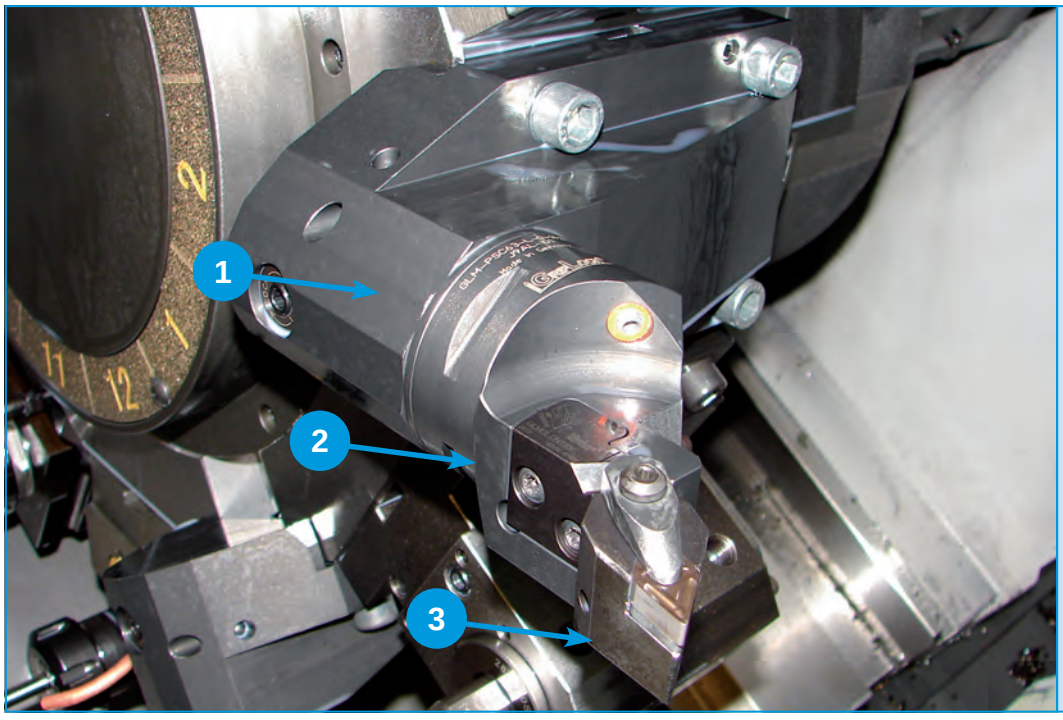
RH cartridge



WG550 Ref.	ID-Nr.		L1	f1	Insert	
GLMCL DN1506	47606	L	27,5	26	DNMG1506	p. 239
GLMCR DN1506	47340	R	27,5	26	DNMG1506	p. 239

GLM - Modular cartridges machining a large component





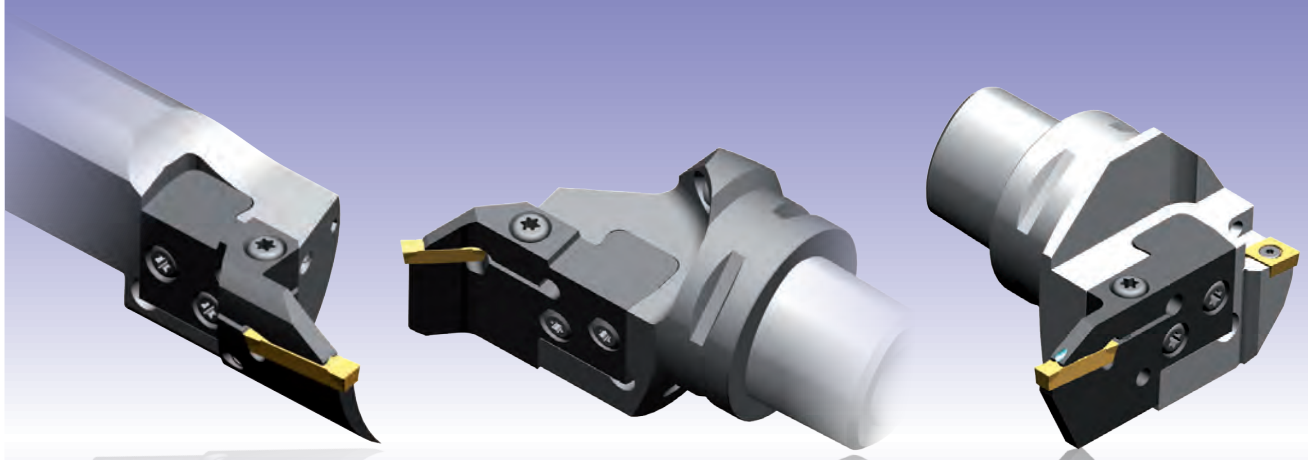
Application on a turret

1. PSC Basic holder
2. GLMCL PSC63019570
3. GLMCL DN1506

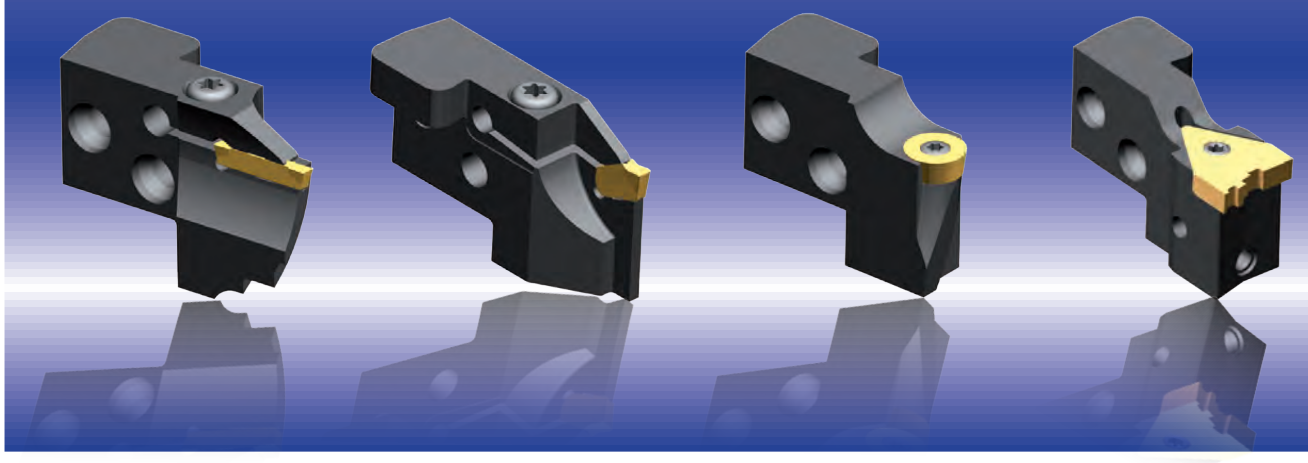
GLM - GripLock Modular

perfect tailor made solutions unlimited

Tooling units



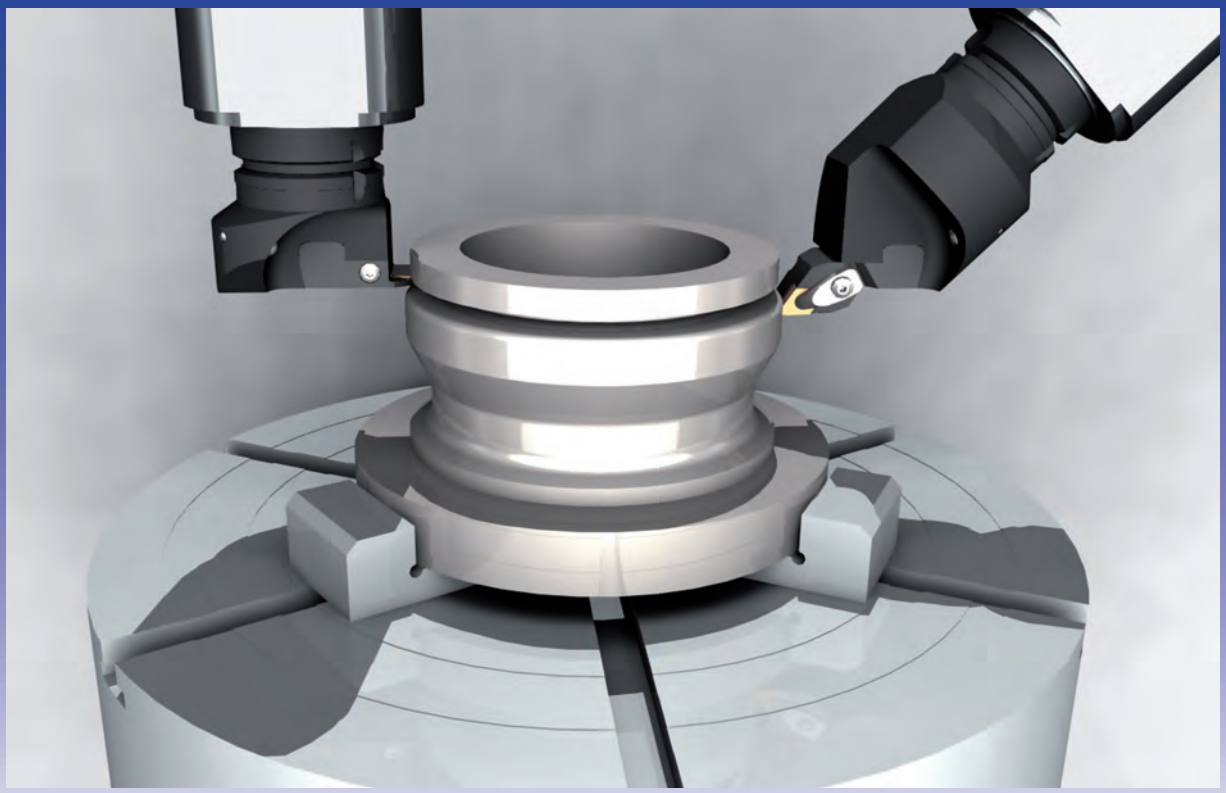
Special cartridges for standerd basic tool holders



KEMMER HARTMETALLWERKZEUGE GmbH

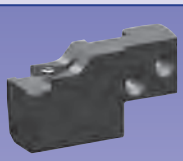
GLM - GripLock Modular

perfect **tailor made solutions** unlimited



GLM applications for tailor made solutions

SPECIAL ***Cartridges***



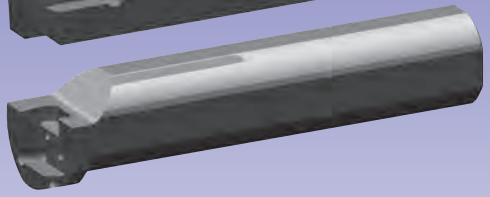
Cutting GripLock or ISO Turning

SPECIAL ***Holders***



e.g. 40 x 50

SPECIAL ***Boring bars***



e.g. D 40

SPECIAL ***Tool holders***



PSC 32 - 80
(can be delivered as well as Monoblock tools.)

F92 - Profiling system

Special profiles to customer specifications

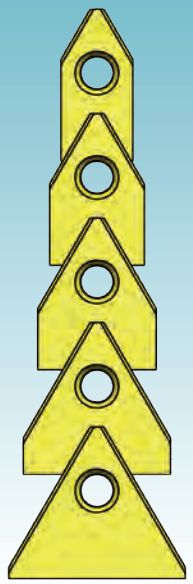
- Fast production of special profiles
- 5 different pre ground blanks
- Perfect interlock between holder and insert
- Excellent price-performance ratio



F92 - Profiling system

Special profils to customers specifications

Semi-finished insert width: 12 mm - 30 mm

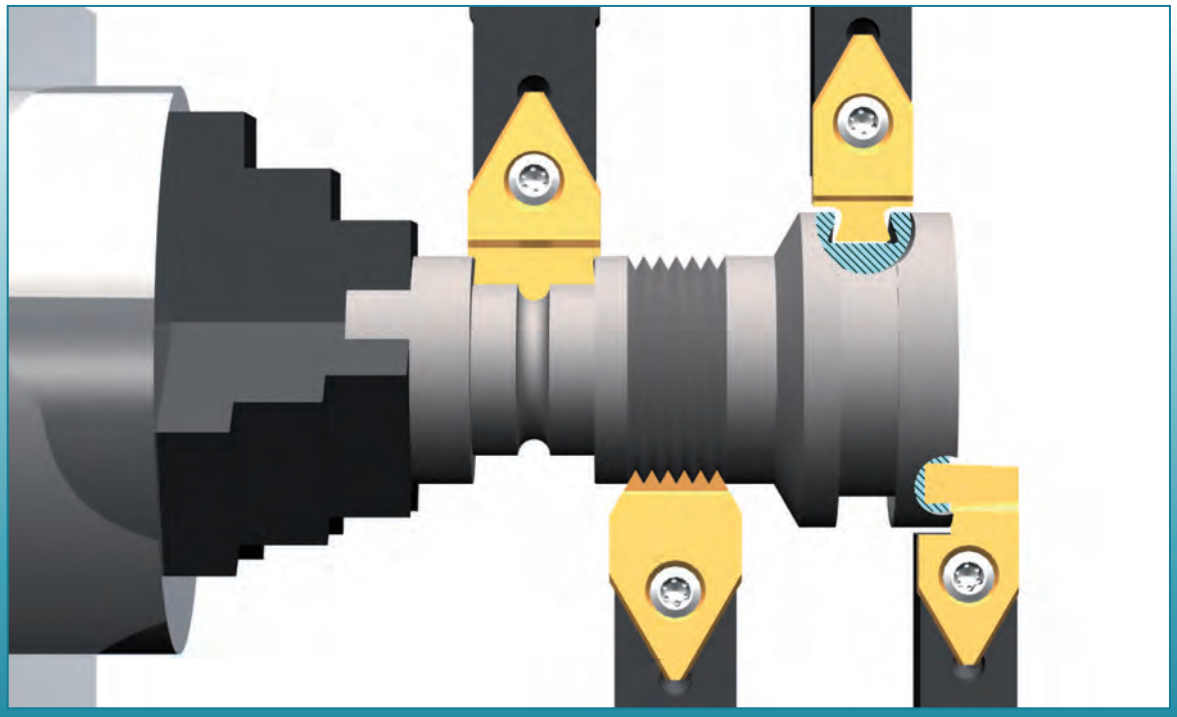


How to place an order:

Example 1: If you intend to grind profiles yourself, you can order tool holders and pre ground inserts.

Example 2: If you give us the order to produce profile inserts, we definitely need

- Complete drawing of the component or the profile with dimensions and tolerances
- Lathe rotation: clockwise or counter clockwise
- Material to be machined
- Required coating (see listing p. 214)
- Planned order quantities of tool holders and inserts
- Required delivery times



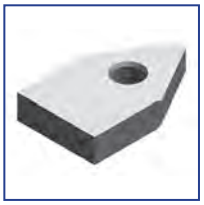
You can see further interesting examples in the section "Special solutions" page 175 onwards

Designation code for profile inserts

F 00000 16 15 14

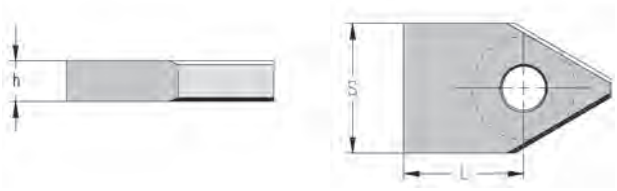
- F — Insert typ
- 00000 — Profile number
- 16 — Width of insert W = 16,3
- 15 — Length of profile insert L1 = 15,0
- 14 — Production year (14 = 2014)

Pre-ground inserts



F 00000...00

System F92



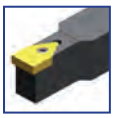
WG998 Ref.	GF 25	h ±0,10	S +0,2	L ±0,1
	ID-Nr.			
F 00000 12 15 00	29269	5,1	12,3	15,0
F 00000 16 15 00	29272	5,1	16,3	15,0
F 00000 20 15 00	29273	5,1	20,3	15,0
F 00000 25 15 00	29275	5,1	25,3	15,0
F 00000 30 15 00	47291	5,1	30,3	15,0

Remark

Ground faces:
- Both flat-faces
- Both pocket faces
- Chamfer between these faces

The hole has got countersinks on both sides to turn the insert around.

Fitting Holder



p. 170



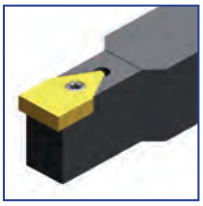
Finished ground profile insert coated with NANOSPEED.

Designation code of tool holders for profile inserts

F92 S F C C N 2020 M 1615

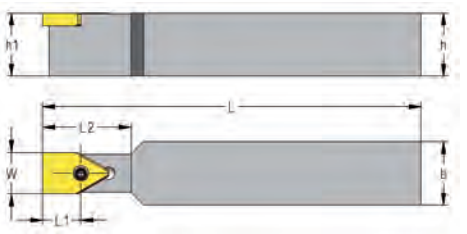
- F92 — Tool family
- S — Clamping system
- F — Type of insert
- C — Angle of attack
- C — Front clearance
- N — Tool holder type
- 2020 — Shank dimension
- M — Tool holder length
- 1615 — Insert size

F92 Tool holders for profile inserts



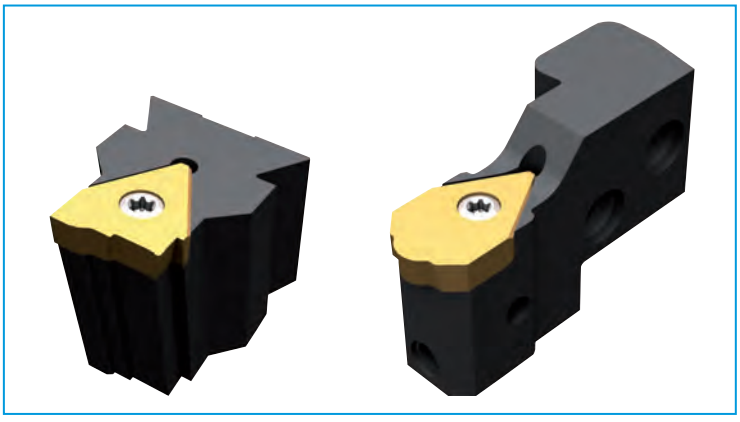
F92 SFCCN

System F92



WG360 Ref.	ID-Nr.		h	h1	b	W	L	L1	L2	
F92 SFCCN 1212 K12 15	29265	N	12	12	12	12,0	125	15	35	25
F92 SFCCN 1212 K16 15	29342	N	12	12	12	16,0	125	15	35	25
F92 SFCCN 1616 K12 15	29343	N	16	16	16	12,0	125	15	35	25
F92 SFCCN 1616 K16 15	29266	N	16	16	16	16,0	125	15	35	25
F92 SFCCN 1616 K20 15	29344	N	16	16	16	20,0	125	15	35	25
F92 SFCCN 2020 M12 15	29345	N	20	20	20	12,0	150	15	35	25
F92 SFCCN 2020 M16 15	29346	N	20	20	20	16,0	150	15	35	25
F92 SFCCN 2020 M20 15	29267	N	20	20	20	20,0	150	15	35	25
F92 SFCCN 2525 M16 15	29347	N	25	25	25	16,0	150	15	35	25
F92 SFCCN 2525 M20 15	29348	N	25	25	25	20,0	150	15	35	25
F92 SFCCN 2525 M25+30 15*	29268	N	25	25	25	25,0+30,0	150	15	35	25

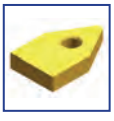
*** Both inserts fit: F00000251500 and F00000301500**



Fitting inserts



p.227-228,238



p. 169



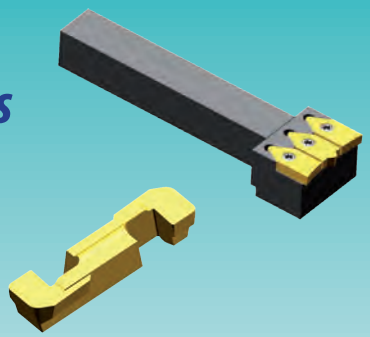
Remark

AWN-28 System and GLM Cartridge System on request.

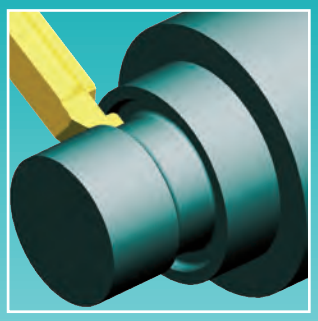
Tailor made solutions

...a real challenge

- Special tool holders
- Special inserts

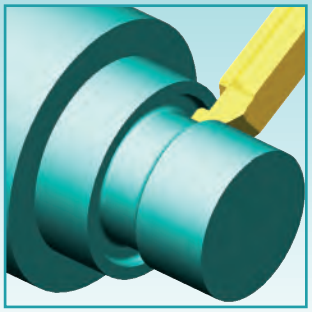


When and why should tailor made solutions be applied?



- when standard tools are not efficient,
- general cost saving measures,
- to reduce production time,
- to save on tool costs.

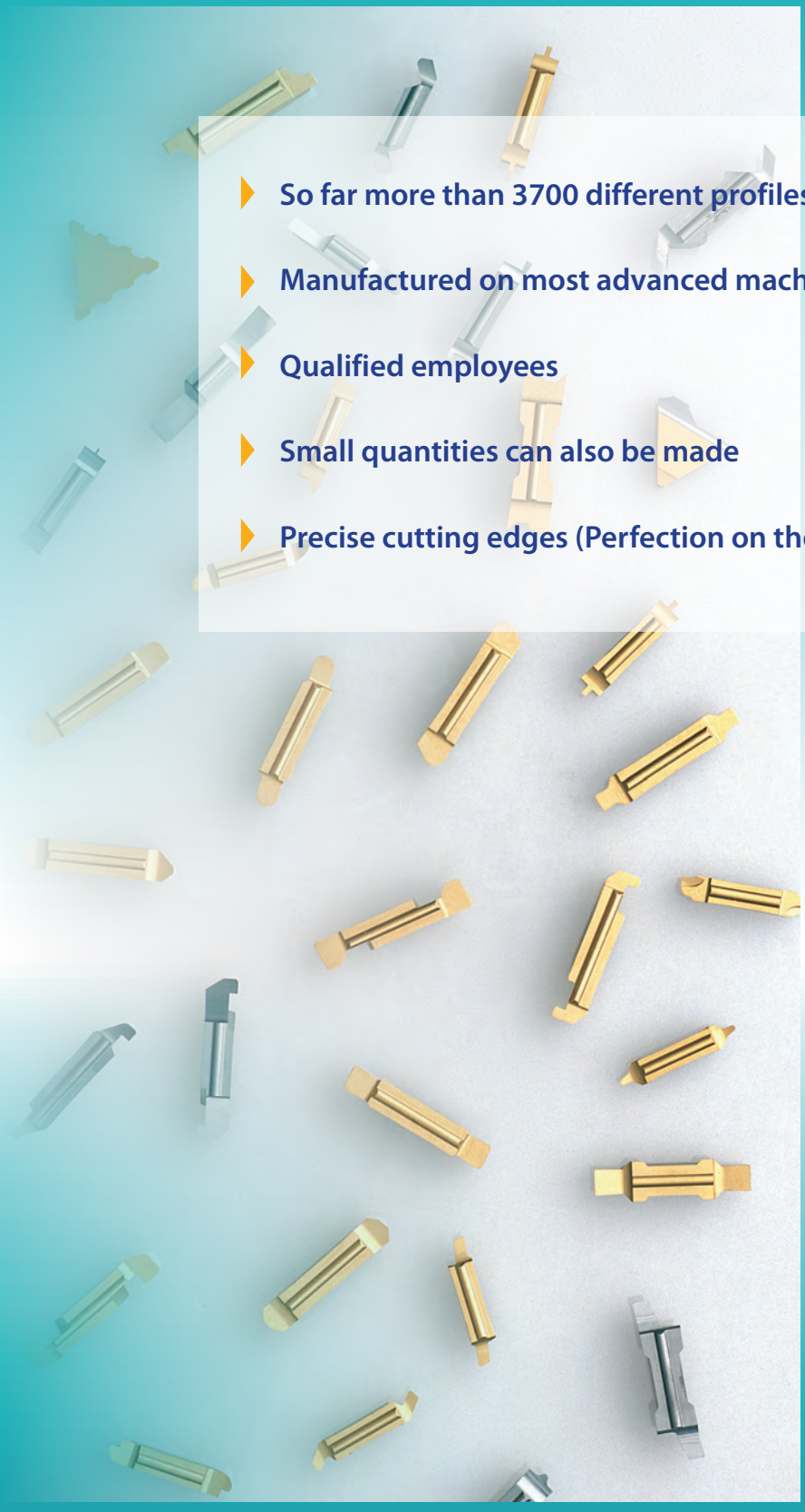
Our Strengths



- Qualified service
- Specified quotations
- Fair prices
- Production on most advanced machine tools
- Short delivery times



Tailor made inserts



- So far more than 3700 different profiles have been ground
- Manufactured on most advanced machine tools
- Qualified employees
- Small quantities can also be made
- Precise cutting edges (Perfection on the edge)



Tailor made inserts with 2 edges based on P92 and P92-P System



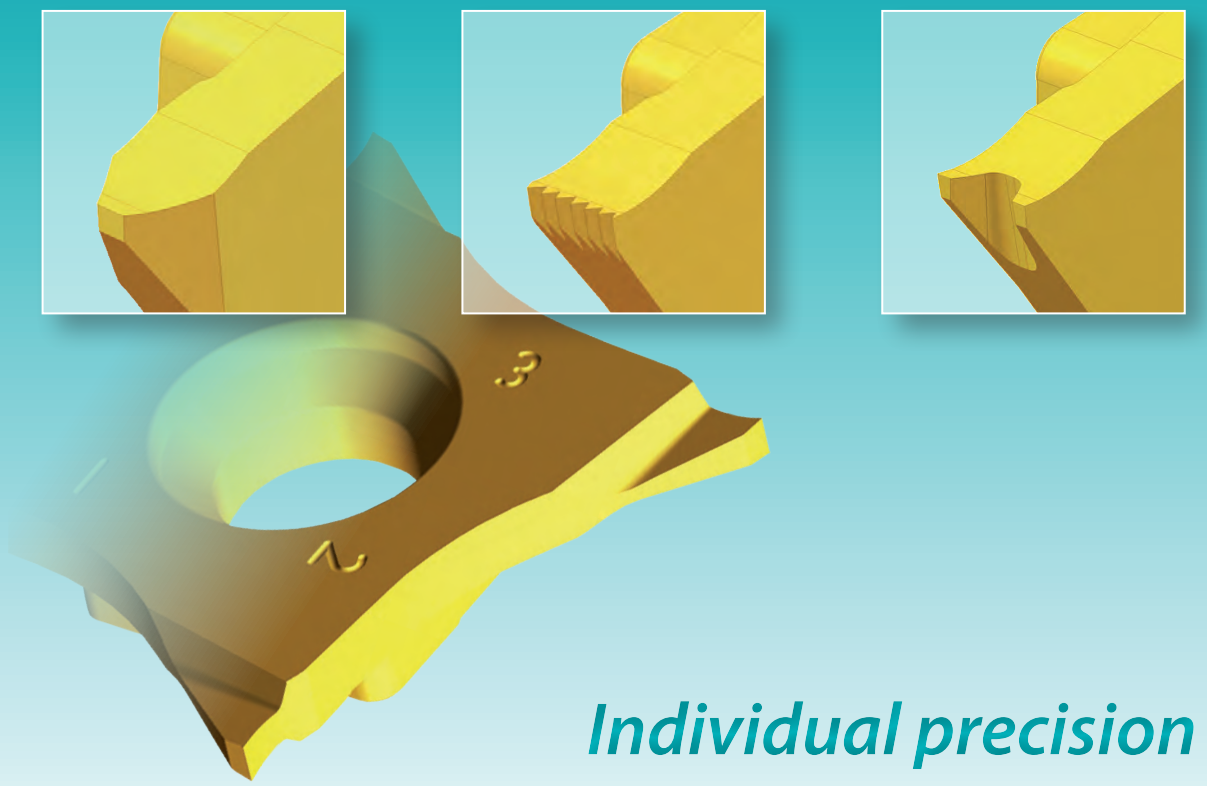


Special requirements?

We will fulfill them!



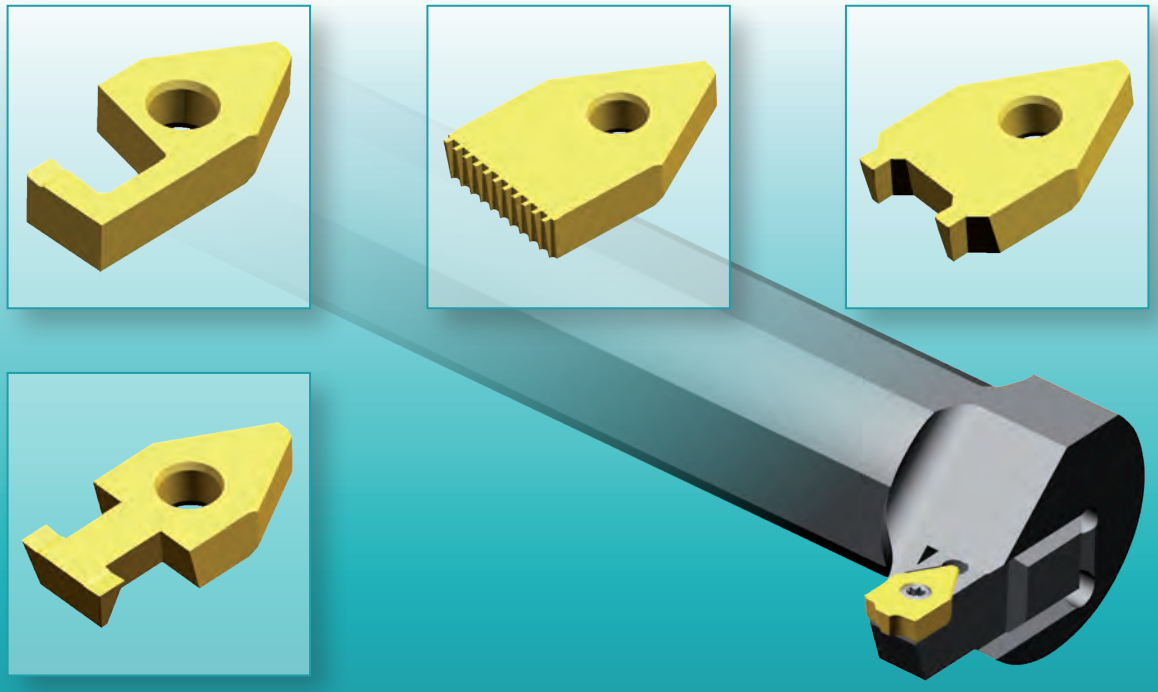
Tailor made insert with 4 edges based on MC4 system



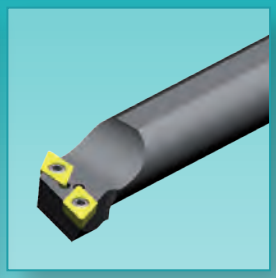
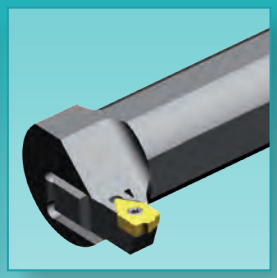
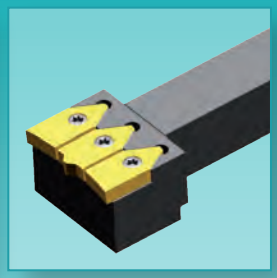
Individual precision

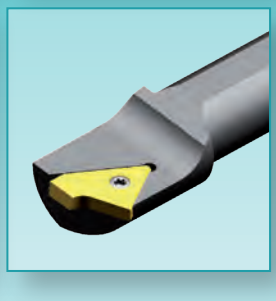
on each corner

Profile inserts based on F92 system



Special tool holders with inserts

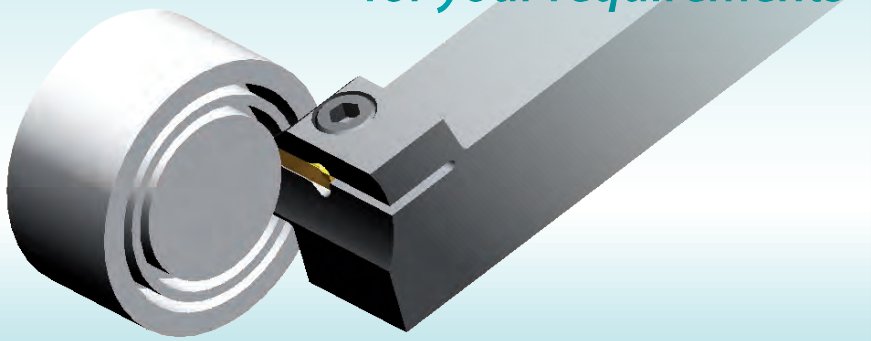
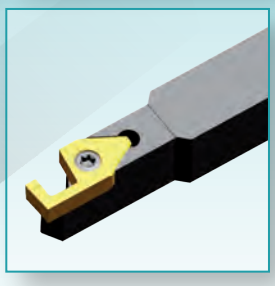





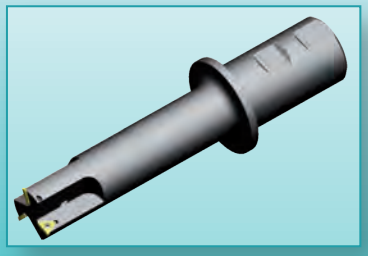
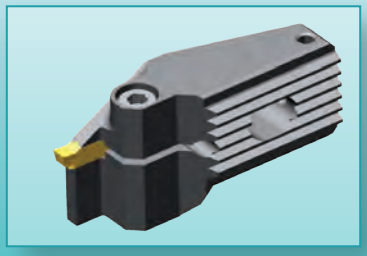
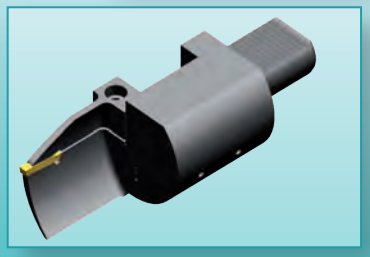


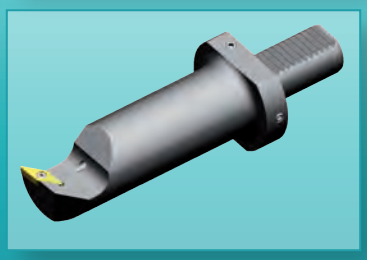
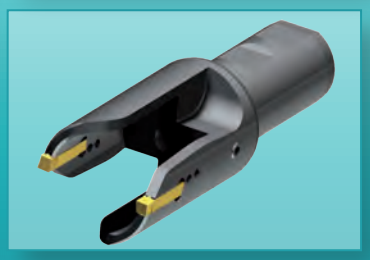


Sophisticated solutions

for your requirements

Two examples for cost saving solutions

The cutting and grooving insert MTNZ 4 NANOSPEED completely finishes the shaft; front and rear side of the pinion.



unmachined blank

machined component

Actual situation:

Expensive production sequence caused by awkward turning operations using left and right tool holders. The customer delegates the problem to the designer.

Process:

At first he considers the problem.

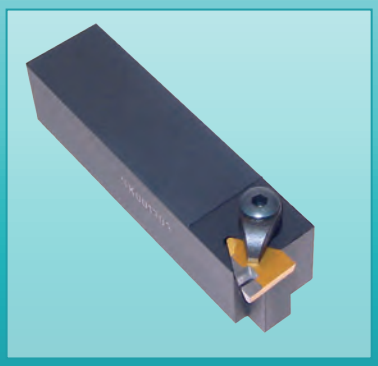
Some days later, he has found the solution.

Clearance cut using a modified TPGN insert.

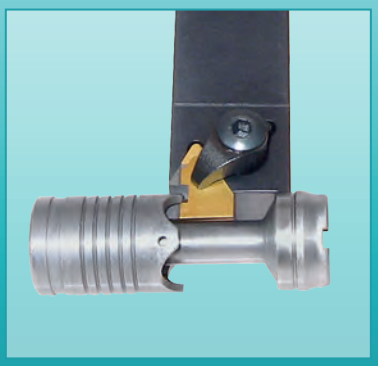
Goal: The production time for this piston had to be reduced.

Mission: The task to create a special tool to save time. A tough nut to crack, for the designer. However he solved it.

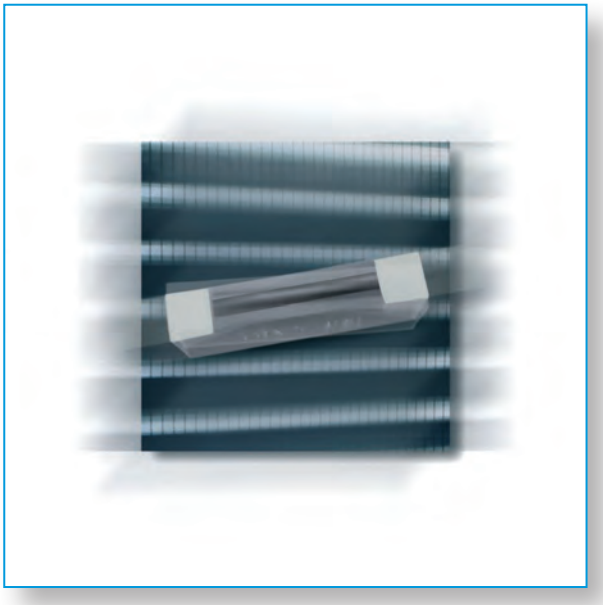
In a letter of gratitude the customer stated that the special tool reduces component production time by 10 minutes.

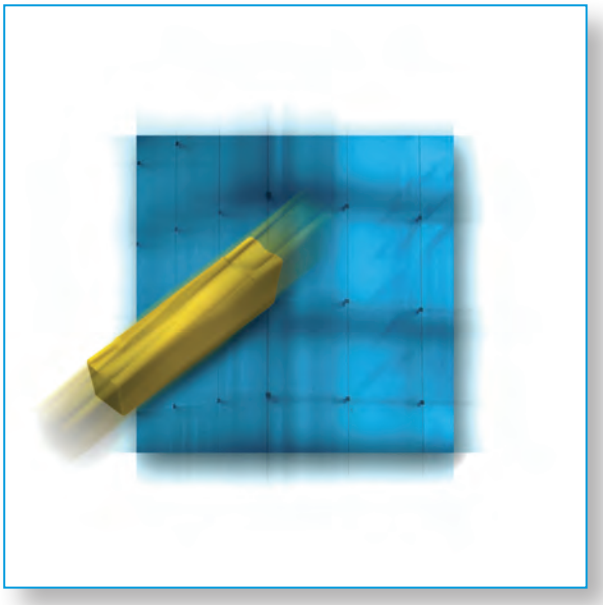


Production time reduced by 10 min!







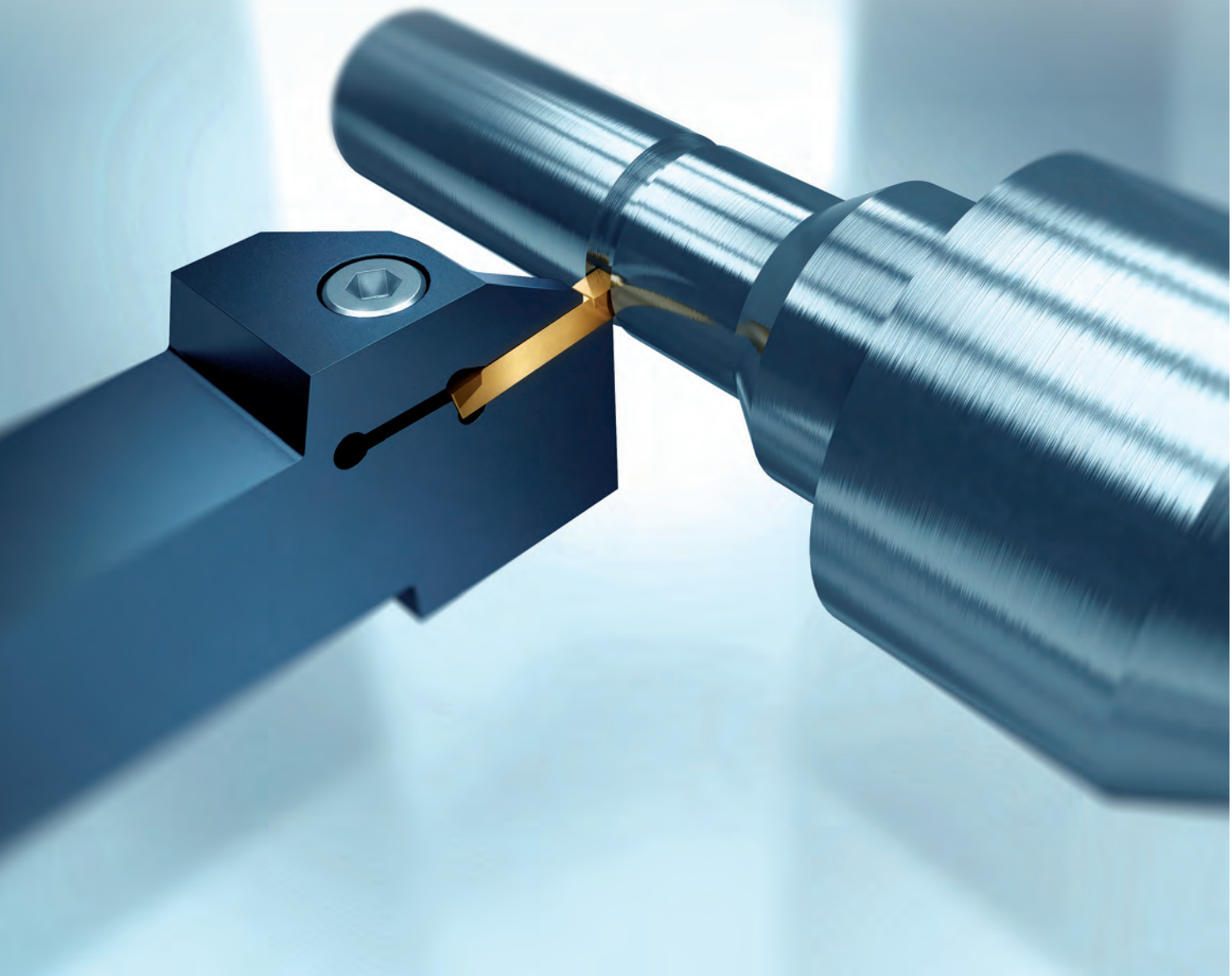


Hard material machining

Inserts, coating and tool holders for parting off, grooving and turning

Inserts with efficient chip breakers and special coating for:

- machining hardened materials
- hard materials
- exotic and tempered materials



Hard material machining

Inserts, coating and tool holders parting off, grooving and turning

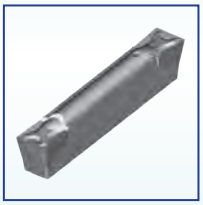
Definition:

Machining materials with a Rockwell hardness of 54 and more. Inserts and holders are stressed heavily on such operations. Therefore starting-up speeds, feeds and depths should be low graded.

To be able to machine hard materials inserts are coated with Hardlox 2 coating. (Description p. 214) or have a CBN tipping (**new**) . For the right solution you can choose from an extenisve product porfolio depending to your requirements or production volume.

HARDLOX 2® or CBN?

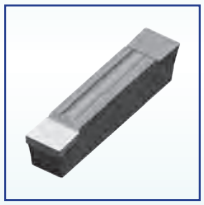
HARDLOX 2®



p. 181 - 187

- Polished edges and surfaces
- Low price alternative compared with CBN tipped inserts
- Constant performance when cutting from hard fringe are into soft area
- Big variety of different geometries and GripLock systems
- To be used on unhardened steels as well
- Multi edge inserts available
- Tailor made on request

CBN (Kubisch kristallines Bornitrid)



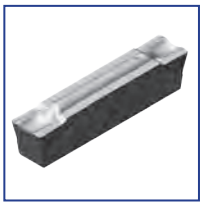
p. 189

- For machining hard materials, sintered materials and cast materials
- Extremly wear restisting
- To be used with holders of GripLock P92 system
- CBN tips on one edge

Remark:

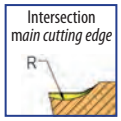
Other inserts with HARDLOX 2® coating on request

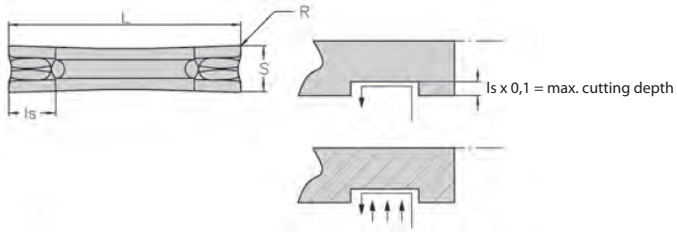
Cutting and turning inserts

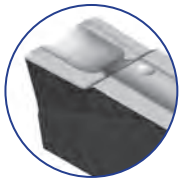


BTNG

System P92







Enlarged view

WG262 Ref.		GF110 Hardlox 2		L	ls	R	S ±0,025
		ID-Nr.					
BTNG 202		38751	N	20,00	2,00	0,2	2,00
BTNG 302		38752	N	20,00	3,50	0,2	3,00
BTNG 304		38753	N	20,00	3,50	0,4	3,00
BTNG 402	new!	54891	N	20,00	3,50	0,2	4,00
BTNG 404	new!	54892	N	20,00	3,50	0,4	4,00
BTNG 408	new!	54893	N	20,00	3,50	0,8	4,00
BTNG 504		38754	N	25,00	4,20	0,4	5,00
BTNG 508		54894	N	25,00	4,20	0,8	5,00
BTNG 604	new!	54895	N	30,00	4,90	0,4	6,00
BTNG 808	new!	38755	N	30,00	6,40	0,8	8,00

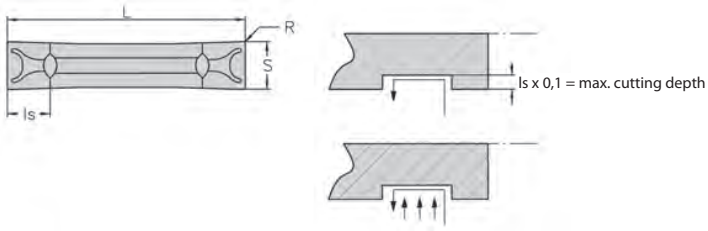
Fitting tool holders see below



MTNS

System P92







Enlarged view

WG302 Bezeichnung		KM Hardlox 2	GF110 Hardlox 2		L	ls	R	S
		ID-Nr.	ID-Nr.					
MTNS 202		38745	54940	N	20,10	2,0	0,2	2,05 +0,10
MTNS 302		48392	38746	N	20	3,5	0,2	3,00 +0,15
MTNS 304		54934	38747	N	20	3,5	0,4	3,00 +0,15
MTNS 402		54935	38748	N	20	3,5	0,2	4,00 +0,20
MTNS 404	new!	54936	54941	N	20,00	3,5	0,4	4,0 +0,20
MTNS 408	new!	54937	54942	N	20,00	3,5	0,8	4,0 +0,15
MTNS 504	new!	54938	54943	N	25,00	4,2	0,4	5,0 +0,25
MTNS 508	new!	40999	54944	N	25,00	4,2	0,8	5,05 +0,25
MTNS 604		54939	38749	N	30	4,9	0,4	6,05 +0,25
MTNS 808		38750	54945	N	30	6,4	0,8	8,05 +0,25

Fitting tool holders



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Technical section page 205 onwards

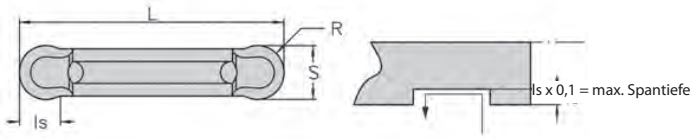
Cutting and turning inserts



RTNG

System P92







Enlarged view

WG262 Ref.		GF110 Hardlox 2		L	ls	R	S ±0,025
		ID-Nr.					
RTNG 210		38756	N	20,00	1,71	1,0	2,00
RTNG 315		38757	N	20,00	2,60	1,5	3,00
RTNG 420	new!	39805	N	20,00	3,40	2,0	4,00
RTNG 525	new!	40366	N	25,00	4,10	2,5	5,00
RTNG 630	new!	39031	N	30,00	4,90	3,0	6,00
RTNG 840	new!	44679	N	30,00	6,50	4,0	8,00
RTNG 1050	new!	54990	N	30,00	8,10	5,0	10,00

Fitting tool holder



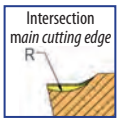
p. 64 p. 69 p. 73 p. 76 p. 78 p. 95 p. 100 p. 159 p. 193

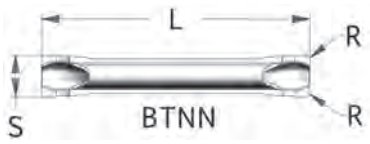
Inserts for grooving and parting off

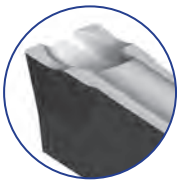


BTNN

System P92







Enlarged view

WG302 Bezeichnung	KM Hardlox 2		L ±0,10	R	S ±0,10
	ID-Nr.				
BTNN1,5	38760	N	15,50	0,2	1,58
BTNN 2	38761	N	20,00	0,2	2,08
BTNN 2,5	38762	N	20,00	0,2	2,58
BTNN 3	38763	N	20,00	0,2	3,08
BTNN 4	38764	N	20,00	0,2	4,08

Fitting tool holder



p. 63 p. 69 p. 73 p. 76 p. 78 p. 95 p. 100 p. 159 p. 193

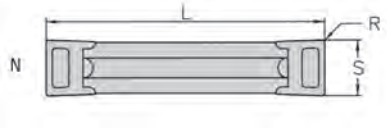
Inserts for grooving and parting off

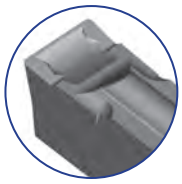


CTD ALU

System P92







Enlarged view

WG302 Ref.	KM Hardlox 2	GF110 Hardlox 2	( )	L	R	S ±0,10
	ID-Nr.	ID-Nr.				
CTD 1.5 ALU new!	-	54900	N	15,5 ±0,15	0,15	1,58
CTD 2 ALU new!	-	54902	N	20 ±0,15	0,2	2,08
CTD 2.5 ALU new!	-	54904	N	20 ±0,15	0,2	2,58
CTD 3 ALU	38758	-	N	20 ±0,15	0,2	3,08
CTD 4 ALU	38759	-	N	20 ±0,15	0,2	4,08
CTD 5 ALU	54896	-	N	25 ±0,20	0,2	5,13

Remark

Inserts with ground top-face.

Fitting tool holder



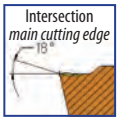
p. 64 p. 69 p. 73 p. 76 p. 78 p. 95 p. 100 p. 159 p. 193

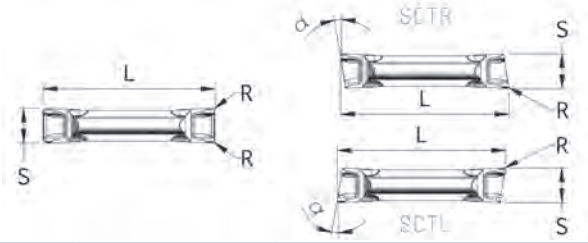


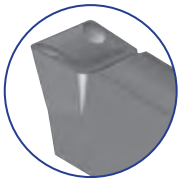
new!

SCTD

System P92







Enlarged view

WG302 Ref.	GF110 Hardlox 2	( )	L	R	S ±0,10	α°
	ID-Nr.					
SCTD 1,5	54911	N	15,5 ±0,15	0,2	1,58	0
SCTD 2	54991	N	20 ±0,15	0,2	2,08	0
SCTD 2,5	54992	N	20 ±0,15	0,2	2,58	0
SCTD 3,0	54993	N	20 ±0,15	0,2	3,08	0
SCTD 4,0	54994	N	20 ±0,15	0,2	4,08	0
SCTD 5,0	54995	N	25 ±0,20	0,2	5,13	0

SUPERNOVA Parting off geometry...

Slightly honed cutting edge with reinforced flanks and large chip through.

Fitting tool holders



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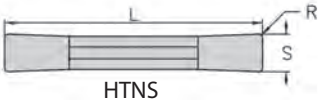
Inserts for grooving

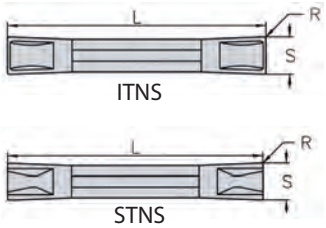


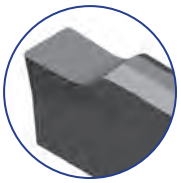
HTNS / ITNS / STNS

System P92 S









Enlarged view

WG302 Ref.		KM Hardlox2		L	R	S ±0,10
		ID-Nr.				
HTNS 2		38767	N	14,00	0,2	2,00
ITNS 2	new!	54909	N	14,00	0,2	2,00
STNS 2	new!	54910	N	14,00	0,2	2,00

Remark

Inserts for internal and external machining

Fitting tool holder



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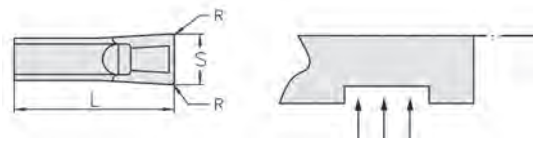
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KCTD

System P92





WG302 Ref.	KM Hardlox 2		P	L	R	S +0,15
	ID-Nr.					
KCTD 3	38768	N	3/4,5	9,5	0,2	3,0
KCTD 3 MAX	38769	N	5,5/7	12	0,2	3,0

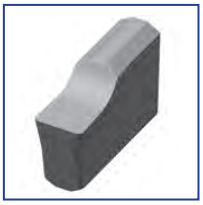
Remark

Inserts for small diameters.

Fitting tool holder



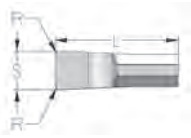
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KHTNS

System P92 S







WG302 Ref.	KM Hardlox2		L ±0,1	R	S ±0,10
	ID-Nr.				
KHTNS 2	38770	N	6,35	0,2	2,0

Remark

Inserts for small diameters.

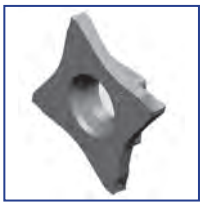
Fitting tool holder



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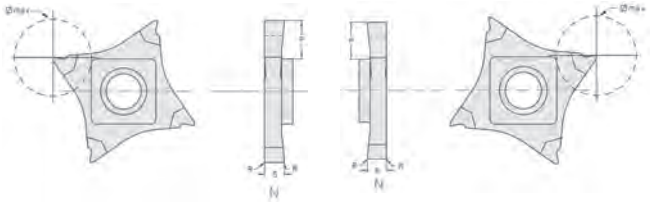
MULTICUT 4 Inserts for grooving and parting off

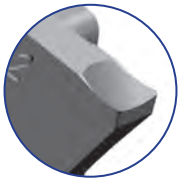


OFQ16 R/L...N00

System M92 Q







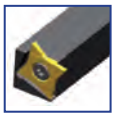
Enlarged view

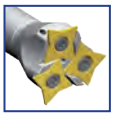
WG404 Ref.		FM Hardlox2		P	R	S ±0,05	α	Ømax.
		ID-Nr.						
OFQ16L 100 000 N 00		38782	N	3,5	0,00	1,00	0	7,0
OFQ16L 120 000 N 00		38771	N	6,5	0,00	1,20	0	13,0
OFQ16L 150 010 N 00		38772	N	6,5	0,10	1,50	0	13,0
OFQ16L 200 010 N 00		38773	N	6,5	0,10	2,00	0	13,0
OFQ16L 200 020 N 00		43689	N	6,5	0,20	2,00	0	13,0
OFQ16L 250 010 N 00	new!	55005	N	6,5	0,10	2,50	0	13,0
OFQ16L 250 020 N 00	new!	55006	N	6,5	0,20	2,50	0	13,0
OFQ16L 300 010 N 00	new!	55008	N	6,5	0,10	3,00	0	13,0
OFQ16L 300 020 N 00	new!	55010	N	6,5	0,20	3,00	0	13,0
OFQ16R 100 000 N 00		38778	N	3,5	0,00	1,00	0	7,0
OFQ16R 120 000 N 00		38774	N	6,5	0,00	1,20	0	13,0
OFQ16R 150 010 N 00		38775	N	6,5	0,10	1,50	0	13,0
OFQ16R 200 010 N 00		38776	N	6,5	0,10	2,00	0	13,0
OFQ16R 200 020 N 00		43690	N	6,5	0,20	2,00	0	13,0
OFQ16R 250 010 N 00	new!	55012	N	6,5	0,10	2,50	0	13,0
OFQ16R 250 020 N 00	new!	55013	N	6,5	0,20	2,50	0	13,0
OFQ16R 300 010 N 00	new!	55014	N	6,5	0,10	3,00	0	13,0
OFQ16R 300 020 N 00	new!	55015	N	6,5	0,20	3,00	0	13,0

Fitting tool holder


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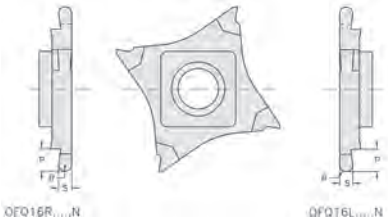
MULTICUT 4 - Full radius insert for grooving and copying

new!



OFQ16L..R..N
System M92-Q





OFQ16R..R..N
System M92-Q



new!

WG404 Ref.	FM Hardlox 2		P	R	S +0,05
	ID-Nr.				
OFQ16L 100 R050 N	55031	L	1,0	0,50	1,00
OFQ16L 150 R075 N	43481	L	1,5	0,75	1,50
OFQ16L 200 R100 N	55032	L	2,0	1,00	2,00
OFQ16L 250 R125 N	55033	L	2,5	1,25	2,50
OFQ16L 300 R150 N	55034	L	3,0	1,50	3,00
OFQ16R 100 R050 N	55035	R	1,0	0,50	1,00
OFQ16R 150 R075 N	55039	R	1,5	0,75	1,50
OFQ16R 200 R100 N	55036	R	2,0	1,00	2,00
OFQ16R 250 R125 N	55037	R	2,5	1,25	2,50
OFQ16R 300 R150 N	55038	R	3,0	1,50	3,00

Comment:

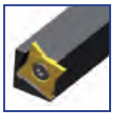
Segmented and ground micrograin insert.
Horizontal cutting edge and positive top rake.

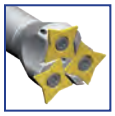
Technical section page 205 onwards

Fitting tool holder

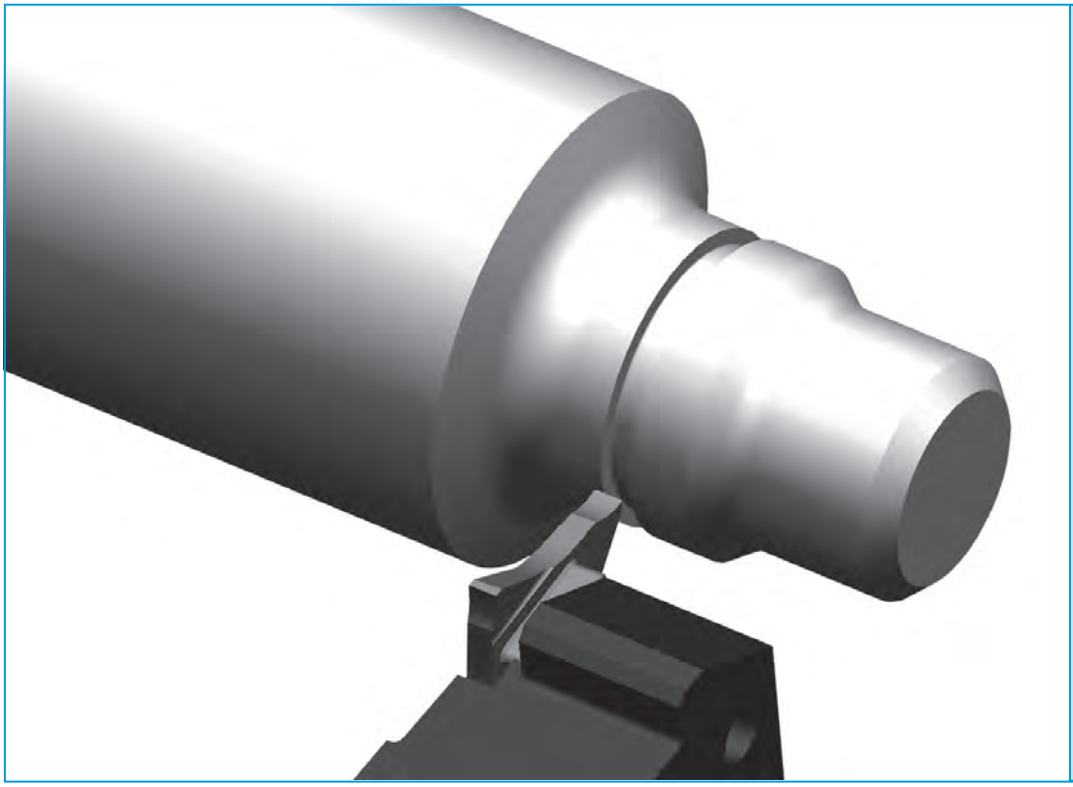

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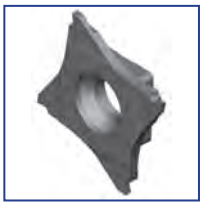

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Hard material machining

PRECISION GROOVE with MULTICUT 4 precision insert

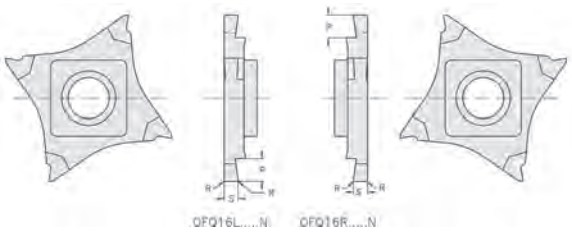
MULTICUT 4 Precision grooving inserts according to DIN 471

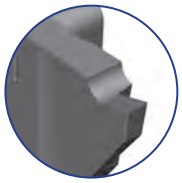


OFQ16 R/L...N

System M92 Q



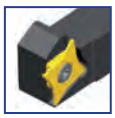




Enlarged view

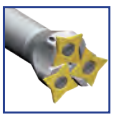
WG404 Ref.		FM Hardlox 2	( )	P	R	Breite	S -0,05
		ID-Nr.					
OFQ16L 050 000 N		38781	L	1,0	0,00	0,50	0,57
OFQ16L 060 000 N	new!	55004	L	1,0	0,00	0,60	0,67
OFQ16L 070 000 N	new!	55007	L	1,5	0,00	0,70	0,77
OFQ16L 080 000 N	new!	55009	L	1,5	0,00	0,80	0,87
OFQ16L 090 000 N	new!	55011	L	1,5	0,00	0,90	0,97
OFQ16L 100 000 N		38782	L	1,5	0,00	1,00	1,07
OFQ16L 110 010 N	new!	55016	L	1,5	0,10	1,10	1,24
OFQ16L 130 010 N	new!	55017	L	1,5	0,10	1,30	1,44
OFQ16L 160 010 N		38783	L	2,0	0,10	1,60	1,74
OFQ16L 185 010 N	new!	55019	L	2,0	0,10	1,85	1,99
OFQ16L 215 010 N		38784	L	2,5	0,10	2,15	2,29
OFQ16L 265 010 N	new!	55020	L	2,5	0,10	2,65	2,79
OFQ16L 315 010 N	new!	55021	L	2,5	0,10	3,15	3,29
OFQ16R 050 000 N		38777	R	1,0	0,00	0,50	0,57
OFQ16R 060 000 N	new!	55022	R	1,0	0,00	0,60	0,67
OFQ16R 070 000 N	new!	55023	R	1,5	0,00	0,70	0,77
OFQ16R 080 000 N	new!	55024	R	1,5	0,00	0,80	0,87
OFQ16R 090 000 N	new!	55025	R	1,5	0,00	0,90	0,97
OFQ16R 100 000 N		38778	R	1,5	0,00	1,00	1,07
OFQ16R 110 010 N	new!	55026	R	1,5	0,10	1,10	1,24
OFQ16R 130 010 N	new!	55027	R	1,5	0,10	1,30	1,44
OFQ16R 160 010 N		38779	R	2,0	0,10	1,60	1,74
OFQ16R 185 010 N	new!	55028	R	2,0	0,10	1,85	1,99
OFQ16R 215 010 N		38780	R	2,5	0,10	2,15	2,29
OFQ16R 265 010 N	new!	47854	R	2,5	0,10	2,65	2,79
OFQ16R 315 010 N	new!	55029	R	2,5	0,10	3,15	3,29

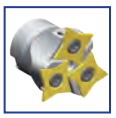
Fitting tool holder


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MULTICUT 4 - Precision threading inserts external for ISO- and Whitworth full profile

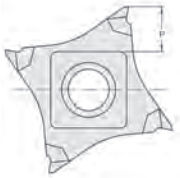
new!

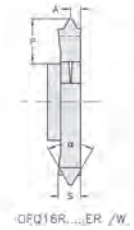


OFQ16R...ER

System M92-Q





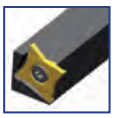


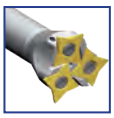
WG404 Ref.	FM Hardlox 2			A	P	S	α°
	ID-Nr.						
OFQ16R 200 050 ER ISO	54985	R	0,50	0,5	6,5	2,0	60
OFQ16R 200 070 ER ISO	54961	R	0,70	0,5	6,5	2,0	60
OFQ16R 200 075 ER ISO	54962	R	0,75	0,5	6,5	2,0	60
OFQ16R 200 080 ER ISO	54987	R	0,80	0,7	6,5	2,0	60
OFQ16R 200 100 ER ISO	54988	R	1,00	0,7	6,5	2,0	60
OFQ16R 200 125 ER ISO	45201	R	1,25	0,7	6,5	2,0	60
OFQ16R 200 28W ER	54966	R	28 G/inch	1,0	6,5	2,0	55
OFQ16R 200 19W ER	54997	R	19 G/inch	1,0	6,5	2,0	55
OFQ16R 350 14W ER	54998	R	14 G/inch	1,3	6,5	3,5	55
OFQ16R 350 11W ER	54999	R	11 G/inch	1,5	6,5	3,5	55
OFQ16R 350 150 ER ISO	50333	R	1,50	0,8	6,5	3,5	60
OFQ16R 350 175 ER ISO	55000	R	1,75	0,9	6,5	3,5	60
OFQ16R 350 200 ER ISO	55001	R	2,00	1,0	6,5	3,5	60
OFQ16R 350 250 ER ISO	55002	R	2,50	1,3	6,5	3,5	60
OFQ16R 350 300 ER ISO	55003	R	3,00	1,8	6,5	3,5	60

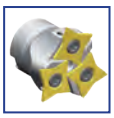
Fitting tool holder


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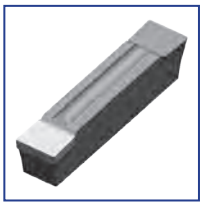

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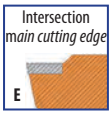

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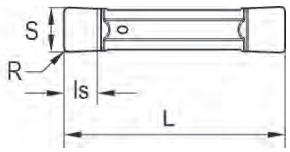

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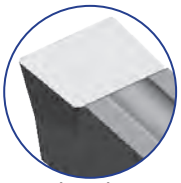
CBN tipped cutting inserts for grooving and turning



OTX EST

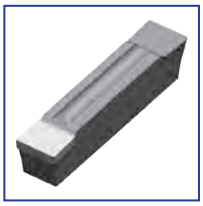




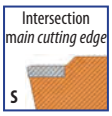


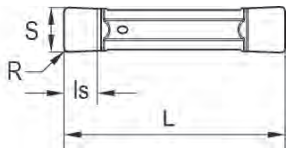
Enlarged view

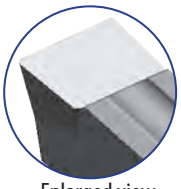
WG700 Ref.	CBN1630GL uncoated		L	Ls	R	S ±0,025
	ID-Nr.					
OTX 304 EST	49061	N	20,00	3,00	0,4	3,00
OTX 404 EST	49062	N	20,00	3,30	0,4	4,00
OTX 508 EST	49063	N	25,00	3,50	0,8	5,00
OTX 608 EST	49064	N	30,00	4,00	0,8	6,00



OTX S02025ST







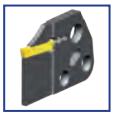
Enlarged view

WG700 Ref.	CBN1630GL uncoated	CBN5625GL		L	Ls	R	S ±0,025
	ID-Nr.	ID-Nr.					
OTX 304 S02025ST	49065	49069	N	20,00	3,00	0,4	3,00
OTX 404 S02025ST	49066	49070	N	20,00	3,30	0,4	4,00
OTX 508 S02025ST	49067	49071	N	25,00	3,50	0,8	5,00
OTX 608 S02025ST	49068	49072	N	30,00	4,00	0,8	6,00

Fitting tool holder

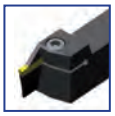

p. 65

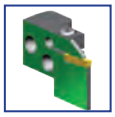

p. 73


p. 76


p. 78


p. 95


p. 100


p. 159

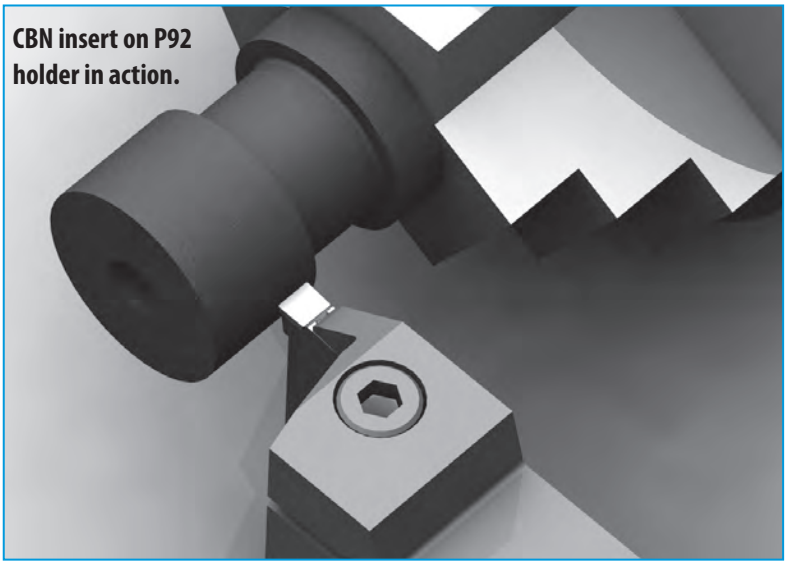

p. 193

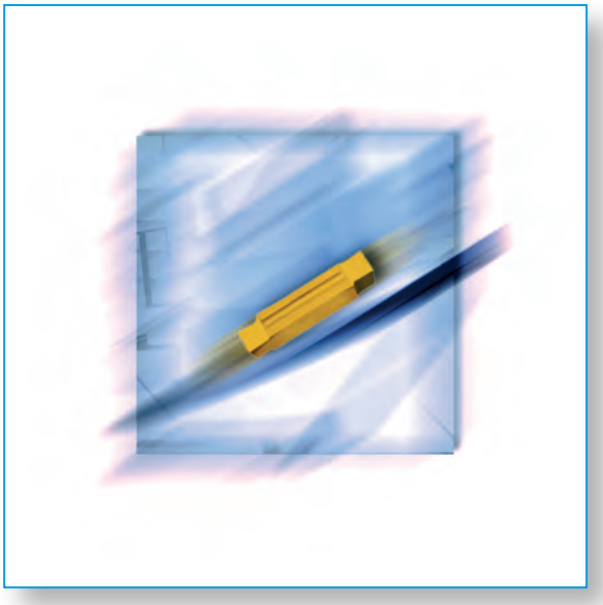
CBN1630GL (90% CBN contents)
Uncoated, tough CBN grade. To be used on hardened components, sinter materials and cast irons. (Continuous and interrupted cutting)

CBN5625GL (65% CBN contents)

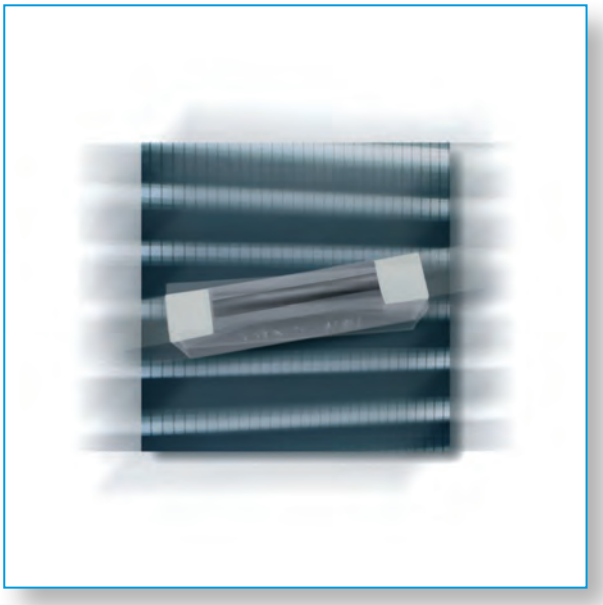
PVD coated CBN grade to be used on hardened compontents, sinter materials (Continuous and interrupted cutting)

E = Flat geometry slightly honed
ST = Insert with one CBN tip
S = Edge negative chamfer and honing





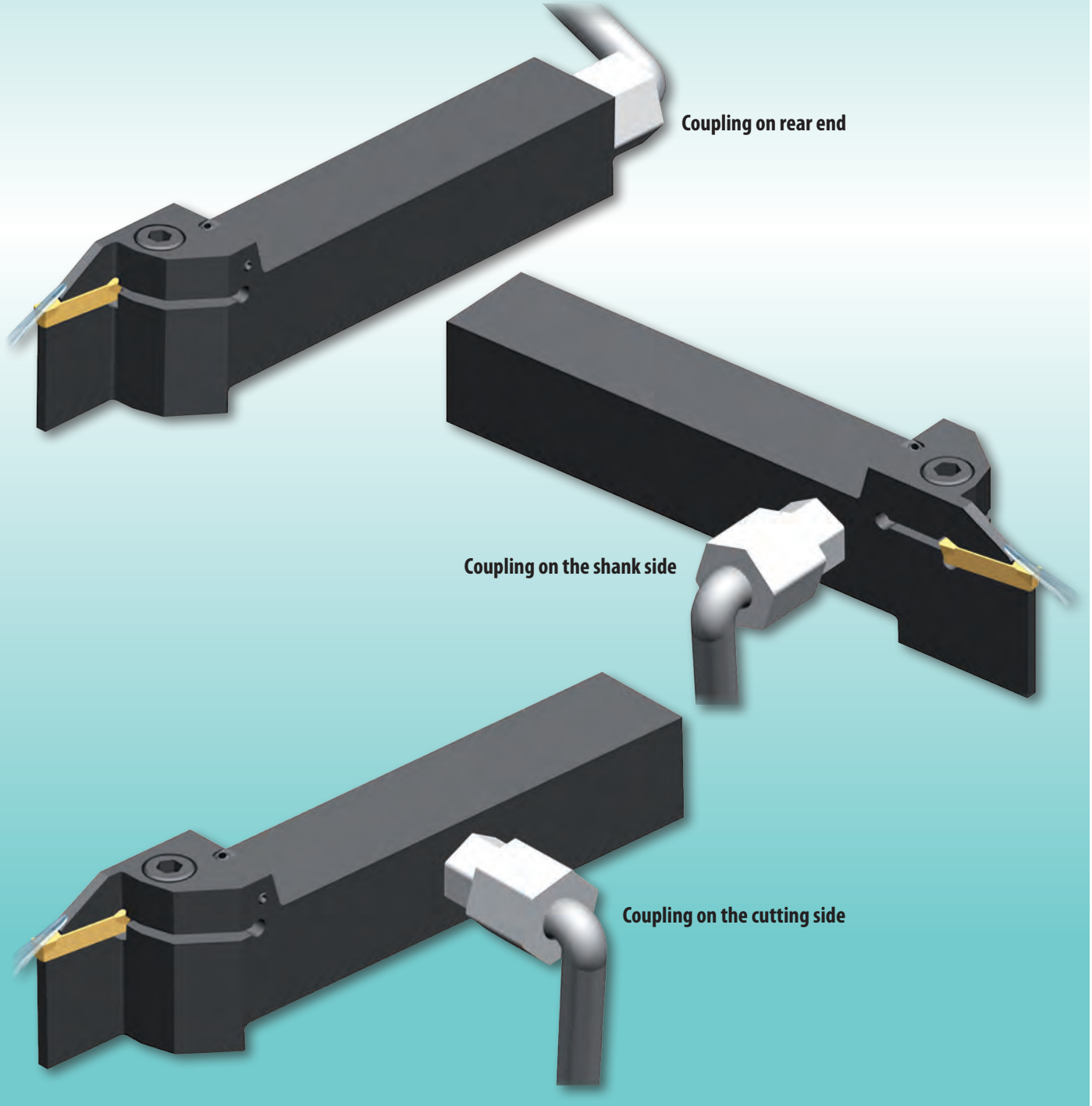




Hi pressure cooling system

- *Prevents heat development*
- *Easy chip flow*
- *Increases tool life*

Hi Pressure Cooling System
Tailor made



Coupling on rear end

Coupling on the shank side

Coupling on the cutting side

KEMMER HARTMETALLWERKZEUGE GmbH

Dimension sheet to define coolant coupling positions

Thread options

L ±1
L3 ±1
L4 ±1
G1
G3
G4

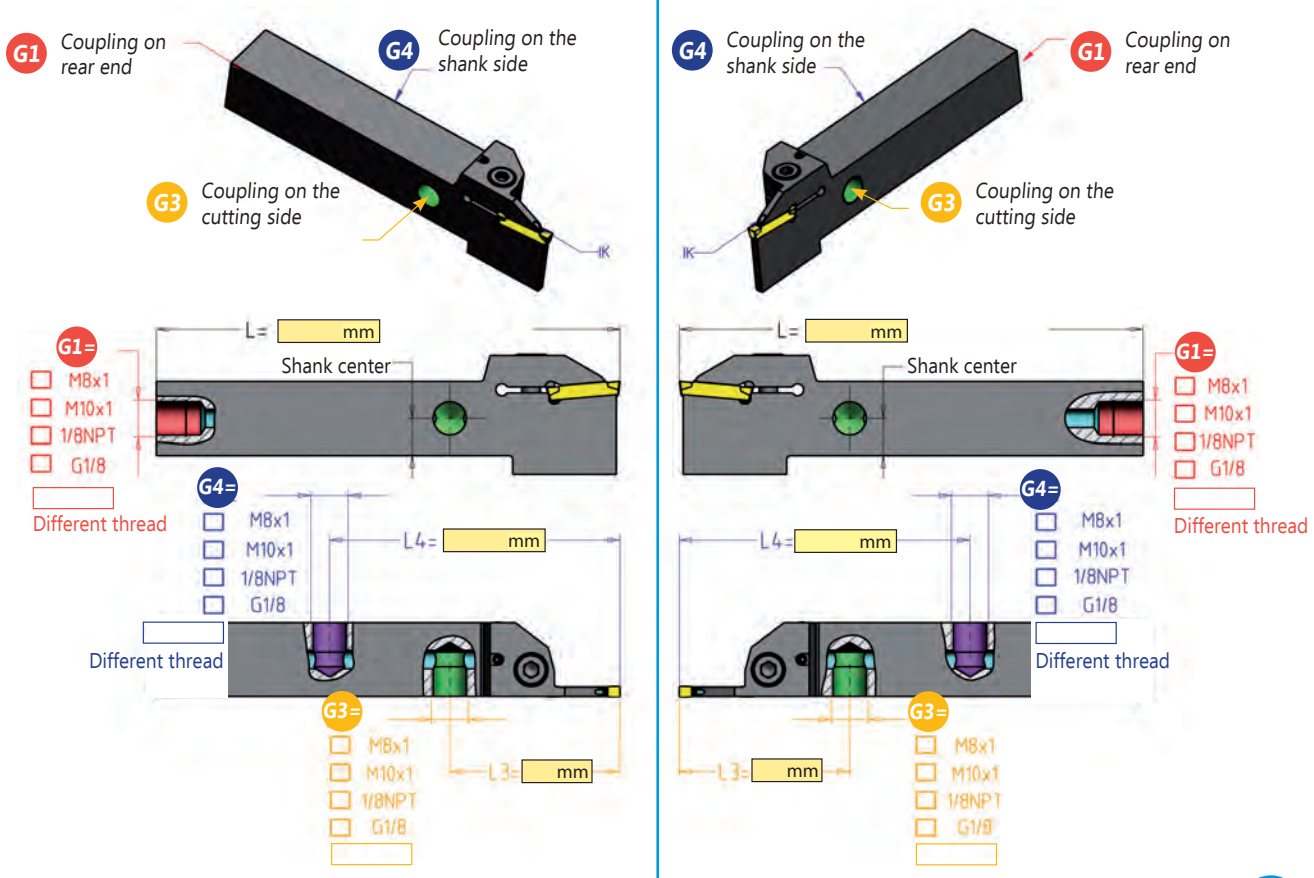
Variable dimensions defined by customer

Left hand holder

Description tool holder from page 193 and 194

Description tool holder from page 193 and 194

Right hand holder



Filling in recommendation

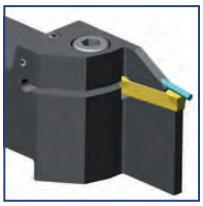
- Enter the required holder from pages 193 and 194 please
- Enter the required dimensions in the square fields. For instance: L4 = 96 mm
- Cross the required thread, please. For instance: ☒ M8x1

The IK-special solution includes 1 coupling on the side and 1 coupling on rear end with the same thread incl. 1 plug.

IK = Internal coolant chanel
HF = Semi-finished tool

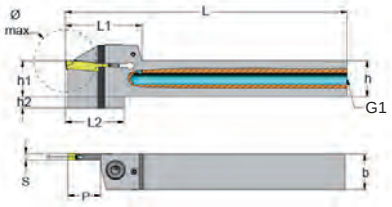
You will find more data sheets on page 221or download it at www.kemmerhmw.de

Parting off holders with IK | Thread coupling on rear end | System P92



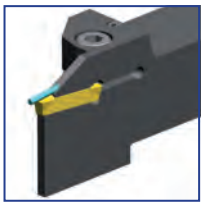
P92 CXCBL HP

LH



P92 CXCBR HP

RH



WG3800 Ref.	HF-Part	G1	( )	Ø max	h	h1	h2	b	P	S	L	L1	L2	
	ID-Nr.													
P92 CXCBL 1212 K30 14HP	48798	4,0	L	28	12	12	5	12	14	3,0	125	30	26	11
P92 CXCBL 1616 K30 14HP	48800	5,0	L	28	16	16	5	16	14	3,0	125	34	26	1
P92 CXCBL 1616 K30 17HP	48805	5,0	L	34	16	16	5	16	17	3,0	125	37	29	1
P92 CXCBL 2020 K30 17HP	48810	5,0	L	34	20	20	5	20	17	3,0	125	37	29	1
P92 CXCBL 2525 M30 17HP	48815	5,0	L	34	25	25	-	25	17	3,0	150	37	-	2
P92 CXCBR 1212 K30 14HP	48820	4,0	R	28	12	12	5	12	14	3,0	125	34	26	11
P92 CXCBR 1616 K30 14HP	48822	5,0	R	28	16	16	5	16	14	3,0	125	34	26	1
P92 CXCBR 1616 K30 17HP	48827	5,0	R	34	16	16	5	16	17	3,0	125	37	29	1
P92 CXCBR 2020 K30 17HP	48832	5,0	R	34	20	20	5	20	17	3,0	125	37	29	1
P92 CXCBR 2525 M30 17HP	48837	5,0	R	34	25	25	-	25	17	3,0	150	37	-	2

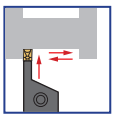
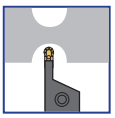
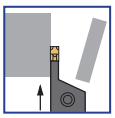
WG3800 Ref.	HF-Part	G1	( )	Ø max	h	h1	h2	b	P	S	L	L1	L2	
	ID-Nr.													
P92 CXCBL 1212 K20+25HP	48794	4,0	L	22	12	12	4	12	11	2+2,5	125	23	23	10
P92 CXCBL 1616 K20+25 11HP	48796	5,0	L	22	16	16	-	16	11	2+2,5	125	23	-	10
P92 CXCBL 1616 K20+25 17HP	48723	5,0	L	34	16	16	5	16	17	2+2,5	125	34	26	1
P92 CXCBL 2020 K20+25 17HP	48728	5,0	L	34	20	20	-	20	17	2+2,5	125	34	-	1
P92 CXCBR 1212 K20+25HP	48733	4,0	R	22	12	12	4	12	11	2+2,5	125	19,5	19,5	10
P92 CXCBR 1616 K20+25 11HP	48735	5,0	R	22	16	16	-	16	11	2+2,5	125	19,5	-	10
P92 CXCBR 1616 K20+25 17HP	48740	5,0	R	34	16	16	5	16	17	2+2,5	125	34	26	1
P92 CXCBR 2020 K20+25 17HP	48745	5,0	R	34	20	20	-	20	17	2+2,5	125	34	-	1

WG3800 Ref.	HF-Part	G1	( )	Ø max	h	h1	h2	b		S	L	L1	L2	
	ID-Nr.													
P92 A CXCBL 2020 K30HP	48754	5,0	L	65	20	20	17	20		3,0	125	54	45	12
P92 A CXCBL 2020 K40HP	48759	5,0	L	65	20	20	17	20		4,0	125	54	45	12
P92 A CXCBL 2525 M30HP	48764	5,0	L	65	25	25	12	25		3,0	150	54	45	12
P92 A CXCBL 2525 M40HP	48769	5,0	L	65	25	25	12	25		4,0	150	54	45	12
P92 A CXCBR 2020 K30HP	48774	5,0	R	65	20	20	17	20		3,0	125	54	45	12
P92 A CXCBR 2020 K40HP	48779	5,0	R	65	20	20	17	20		4,0	125	54	45	12
P92 A CXCBR 2525 M30HP	48784	5,0	R	65	25	25	12	25		3,0	150	54	45	12
P92 A CXCBR 2525 M40HP	48789	5,0	R	65	25	25	12	25		4,0	150	54	45	12

IK = Internal coolant channel
HF = Semi-finished part
HP = Hi Pressure

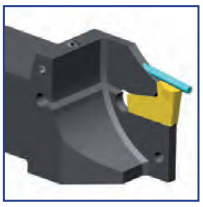
Fitting inserts



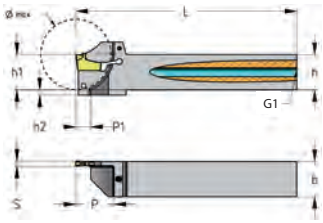
p.227-228,238 p. 48-55 p. 56 p. 57-62

Parting off holders with IK | Thread coupling on rear end | System Flex Fix



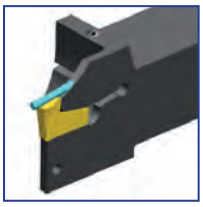
F16L HP

LH



F16R HP

RH

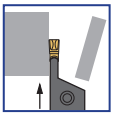


WG3205 Ref.	HF-Part	G1		Ø max	h	h1	h2	b		S	L	L1	L2	
	ID-Nr.													
F16 L 2020 X30 65HP	48690	5,0	L	65	20	20	17	20		3,0	115	54	45	AWF16
F16 L 2525 X30 65HP	48695	5,0	L	65	25	25	12	25		3,0	140	54	45	AWF16
F16 R 2020 X30 65HP	48680	5,0	R	65	20	20	17	20		3,0	115	54	45	AWF16
F16 R 2525 X30 65HP	48685	5,0	R	65	25	25	12	25		3,0	140	54	45	AWF16

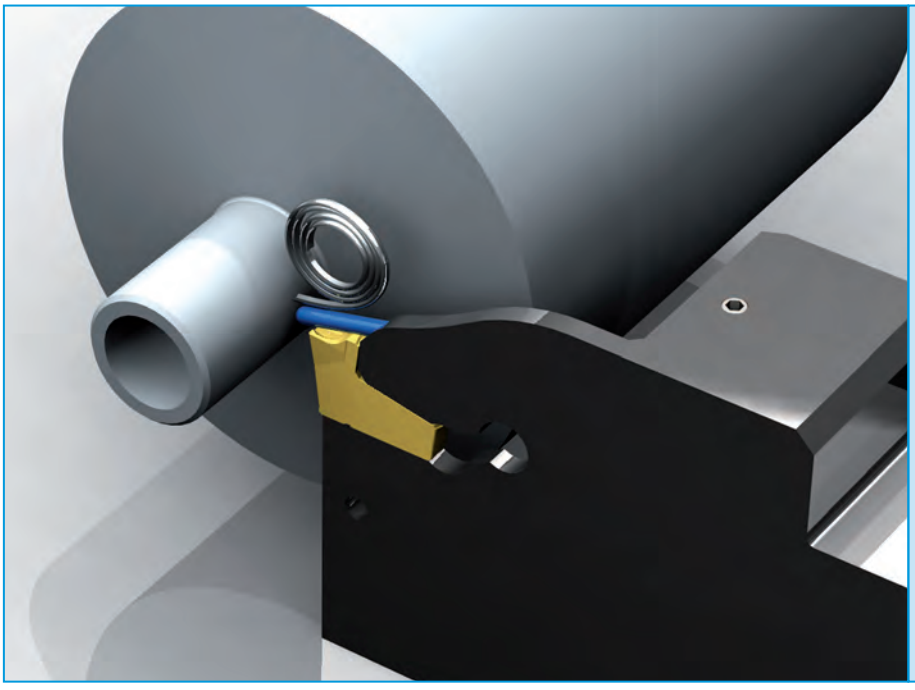
WG3205 Ref.	HF-Part	G1		Ø max	h	h1	h2	b	P1	S	L	L1	L2	
	ID-Nr.													
F16 L 2020 K30 42HP	48710	5,0	L	42	20	20	3	20	8	3,0	125	28,5	25	AWF16
F16 L 2525 M30 42HP	48715	5,0	L	42	25	25	0	25	8	3,0	150	28,5	25	AWF16
F16 R 2020 K30 42HP	48700	5,0	R	42	20	20	3	20	8	3,0	125	28,5	25	AWF16
F16 R 2525 M30 42HP	48705	5,0	R	42	25	25	0	25	8	3,0	150	28,5	25	AWF16

IK = Internal coolant channel
HF = Semi-finished part
HP = Hi Pressure

Fitting inserts



p. 126-128

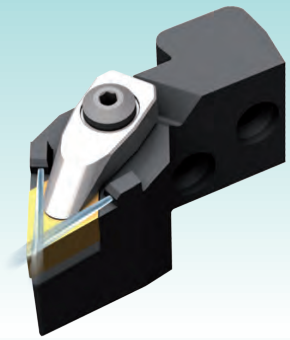


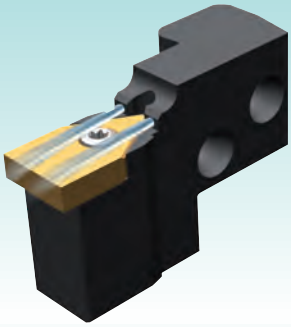
KEEP COOL!

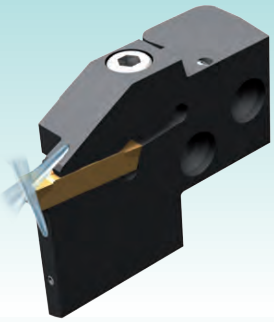
Coolant jet hits the hot spot.

- Preventing heat
- Reducing wear
- Easy chip flow
- Increasing tool life

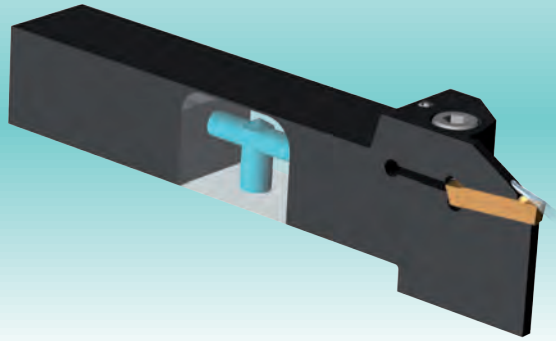
Tailor made solutions with Hi Pressure cooling

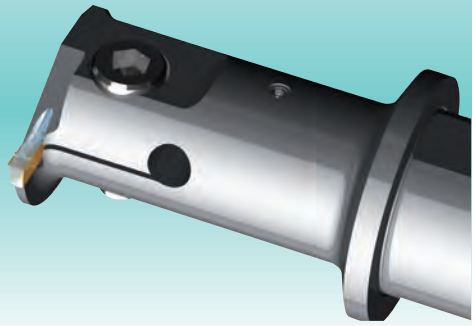




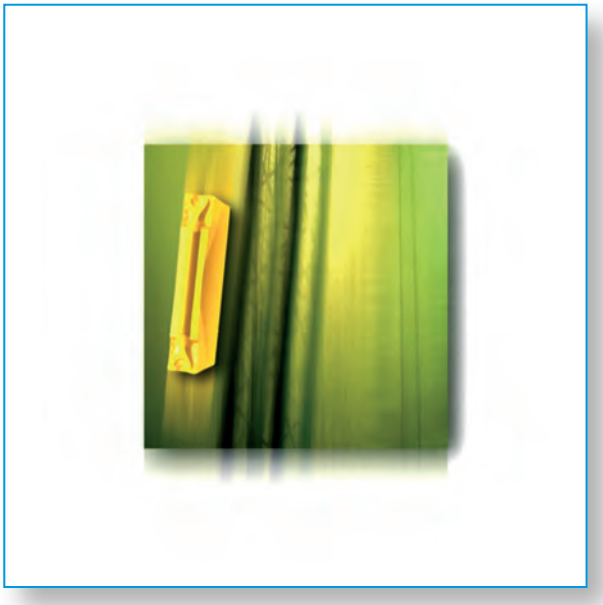










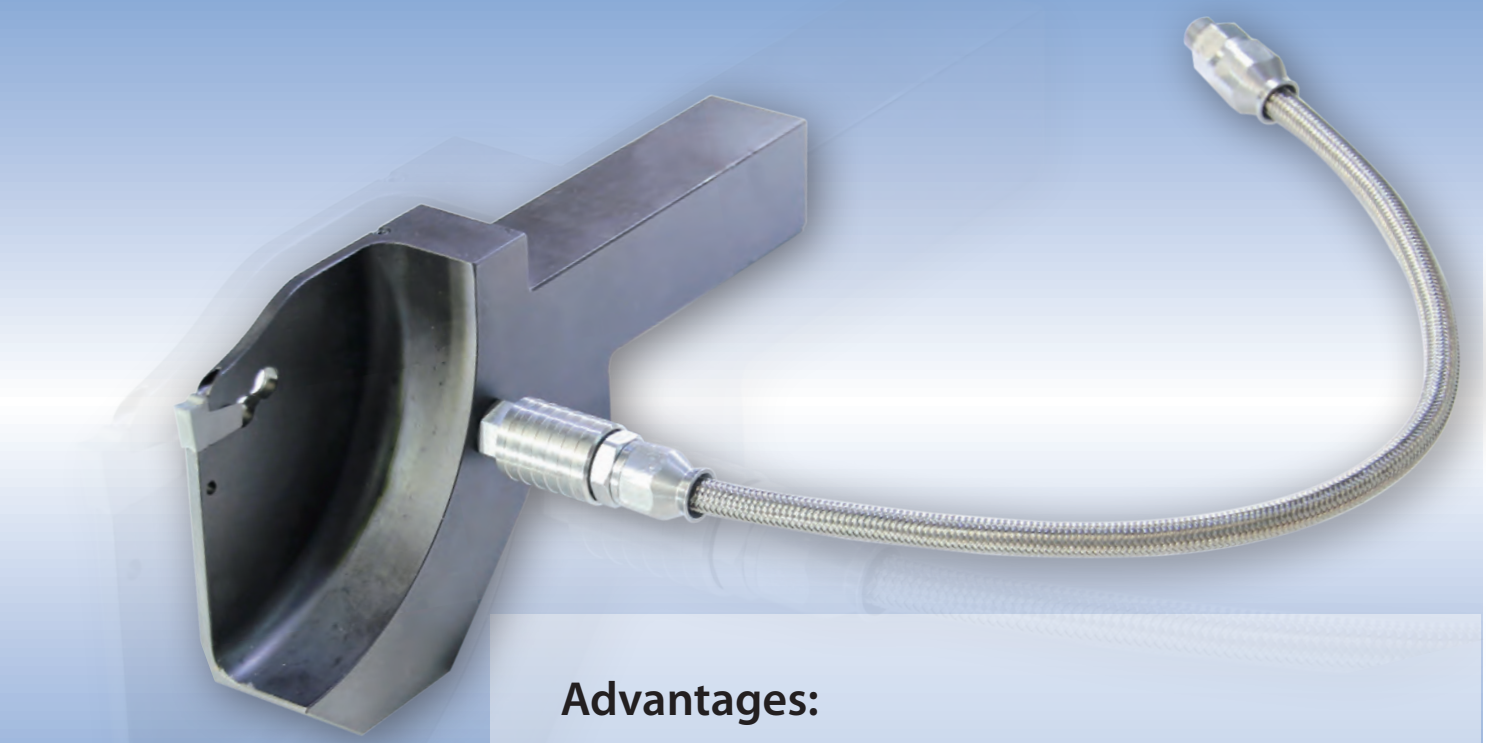




StexxFix

Coolant - Quick coupling system

This high pressure coupling system can be applied on CNC machine tools and sliding head automatics. It reduces downtimes to a minimum.

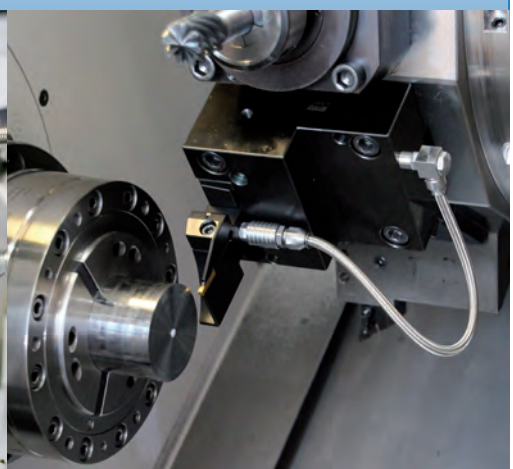


Advantages:

- Stainless steel conponents
- High quality flexible steet tubes
- Various connecting threads
- Short set-up time
- Pressure proof tubes and fittings





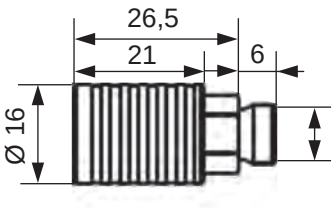




Plug



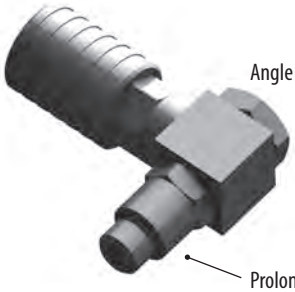
Coupling



WGRMC860 Ref.	ID-Nr.	Ref.	Execution
KUE101994	52863	Coupling – G 1/8 "	NW 3, stainless steel, fitting external thread
KUE101995	52864	Coupling – M10 x 1; Incl. Plug	NW 3, stainless steel, fitting external thread
KUE101919	52865	Plug only	

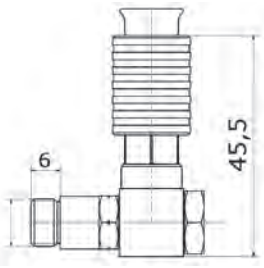


Plug



Angle coupling

Prolonged adapter



WGRMC860 Ref.	ID-Nr.	Ref.	Execution
KUE102498	52866	Angle coupling - M8 x 1, incl. prolonged adapter M8 x 1 and plug	Stainless steel, M8 x 1 External thread, 90° with hollow screw
KUE102654	52867	Angle coupling - G1/8", incl. prolonged adapter G1/8" and plug	Stainless steel, G1/8" External thread, 90° with hollow screw



Plug for quick coupling



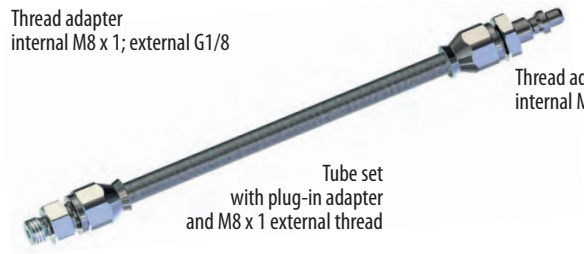
Coupling M8x1



Plug-in adapter with M8x1 internal thread for quick change coupling

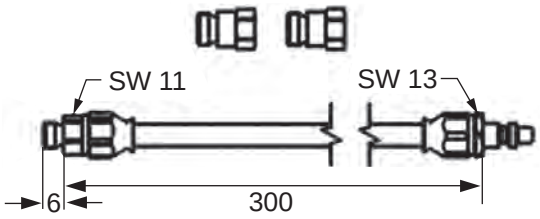
WGRMC860 Ref.	ID-Nr.	Ref.	Execution
KUE102038	52868	Coupling M 8x1 for tool holder, incl. MiniPlug 3 plug-in adapter and plug	NW 3, stainless steel adapter M8x1 IG

Thread adapter
internal M8 x 1; external G1/8

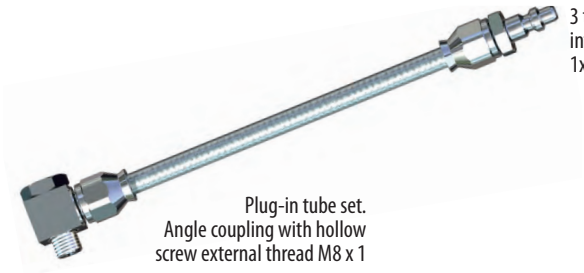


Thread adapter
internal M8 x 1; external M10 x 1

Tube set
with plug-in adapter
and M8 x 1 external thread

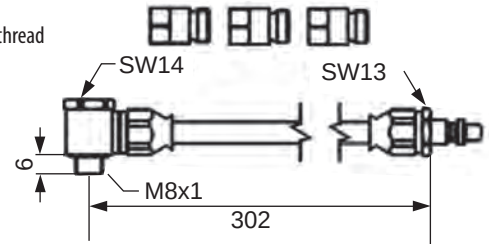


WGRMC860 Ref.	ID-Nr.	Ref.	Execution
KUE101991	52869	Plug-in tube set Tube 300 mm, incl. tow thread adapter on M10 x 1 and G1/8 "	NW 3, stainless steel M8 x 1, external thread, straight
KUE102223	52870	Equals KUE101991, special legth range 100-280 mm	Name required length
KUE102039	52871	Equals KUE101991, special legth range 300-1000 mm	Name required length



Plug-in tube set.
Angle coupling with hollow
screw external thread M8 x 1

3 thread adapter:
internal thread M8 x 1 and external thread
1x M8x1 · 1x M10x1 · 1x G1/8

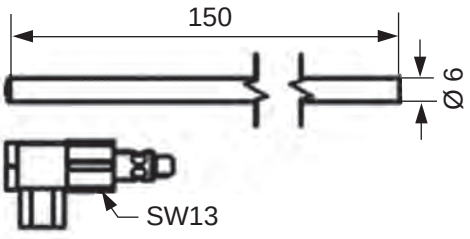


WGRMC860 Ref.	ID-Nr.	Ref.	Execution
KUE101992	52872	Plug-in tube set Tube 300 mm, incl. two thread adapter on M10 x 1 and G1/8 "	NW 3, stainless steel M8 x 1, external thread, 90° angle with hollow screw
KUE102247	52873	Equals KUE101992, special legth range 100-280 mm	Name required length
KUE102043	52874	Equals KUE101992, special legth range 300-1000 mm	Name required length



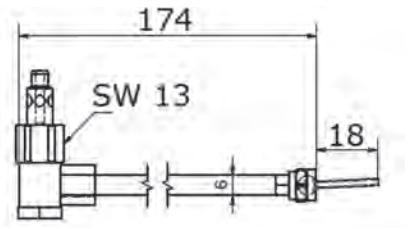
WGRMC860 Ref.	ID-Nr.	Ref.	Execution
KUE101961	52875	Distribution-block line-in 300mm long with cutting ring screw fitting Ø 8 mm	NW 5, stainless steel both ends G1/4" AG with adapter (fitting star machines)





WGRMC860 Ref.	ID-Nr.	Ref.	Execution
KUE101993	52876	Angle plug with flexible pipe 150 mm	NW 3, stainless steel, galvanized pipe 6 x 1 90° m with fixed hollow screw



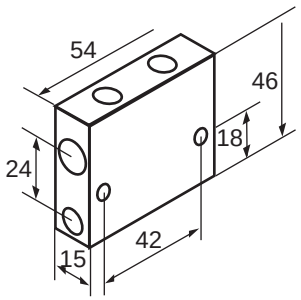


WGRMC860 Ref.	ID-Nr.	Benennung	Execution
KUE102529	52877	Angle plug with flexible pipe 150 mm and adjustable nozzle	NW 3, stainless steel, stainless steel pipe 4 x 0,5 mm 90° m with fixed hollow screw



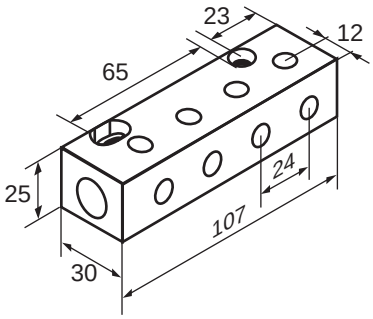
WGRMC860 Ref.	ID-Nr.	Ref.	Execution
KUE102003	52878	connection set G 1/8" 4 + 1	Consisting of: 4 pc couplings; 4 pc. plugs; 4 pc tube sets straight 1 pc. angle plug with copper pipe and nozzle
KUE102004	52879	connection set M10x1 4 + 1	Consisting of: 4 pc couplings; 4 pc. plugs; 4 pc tube sets straight 1 pc. angle plug with copper pipe and nozzle





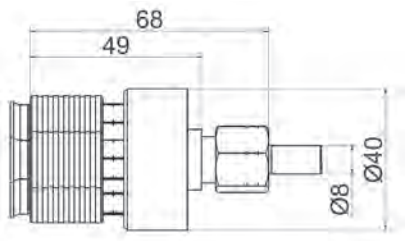
WGRMC860 Ref.	ID-Nr.	Ref.	Execution
KUE101990	52880	5-fold distribution block A, inclusive 2 pc. thread plugs G 1/8"	Line-in G 1/4" internal thread 5 pc. Line-out G 1/8" internal thread



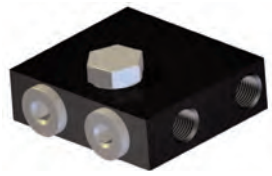


WGRMC860 Ref.	ID-Nr.	Ref.	Execution
KUE101997	52881	8-fold distribution block B including 4 pc thread plugs G 1/8"	Line-in G 3/8" internal thread 8 pc. Line-out G 1/8" internal thread





WGRMC860 Ref.	ID-Nr.	Ref.	Execution
KUE102440	52882	3-fold distribution block C including 3 pc. quick change couplings	Line-in G 1/4" external thread on cutting ring thread Ø 8 mm 3 pc. Line-out G 1/8" internal thread



WGRMC860 Ref.	ID-Nr.	Ref.	Execution
KUE102533	52883	Coated steel inclusive 2 pc. thread plugs G 1/8" and hollow screw G 1/8"	Line-in G1/8 internal thread 4 x Line-out G1/8" internal thread. Only for STAR SR 20 R IV

Thread adapter



WGRMC860 Ref.	ID-Nr.	Ref.	Execution
KUE102435	52884	Thread adapter M5	M8x1 internal thread
KUE102434	52885	Thread adapter M6	M8x1 internal thread
KUE102188	52886	Thread adapter 1/8 NPT	M8x1 internal thread
KUE102006	52887	Thread adapter M8 x 1 contained in 101992	M8x1 internal thread
KUE101998	52888	Thread adapter G 1/8" contained in 101991 and 101992	M8x1 internal thread
KUE101979	52889	Thread adapter M10 x 1 contained in 101991 and 101992	M8x1 internal thread

Plu-in adapter for quick change coupling

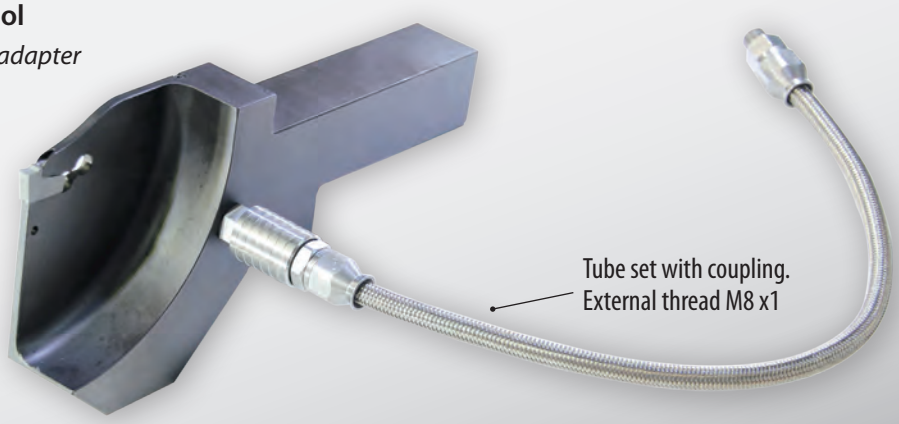


WGRMC860 Ref.	ID-Nr.	Ref.	Execution
KUE102042	52890	MiniPlug 3-plug-in adapter contained in 102038	M8x1 internal thread

Different ways to connect GripLock tooling

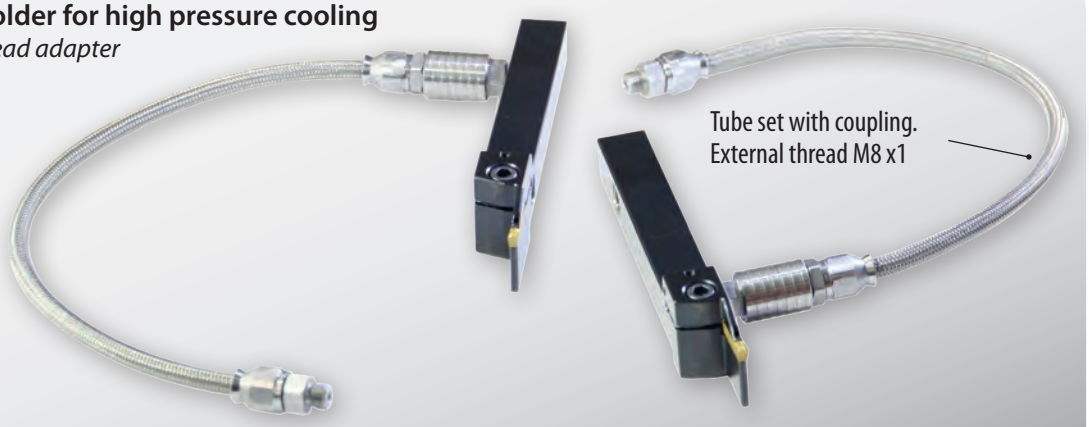
GripLock Special tool

Connection for thread adapter



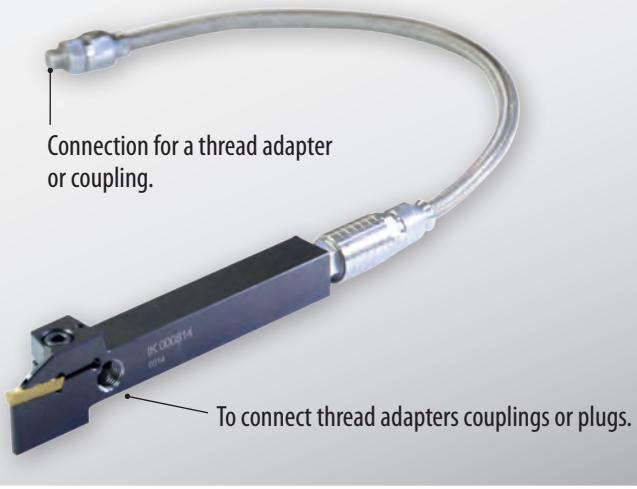
GripLock tool holder for high pressure cooling

Connection for thread adapter

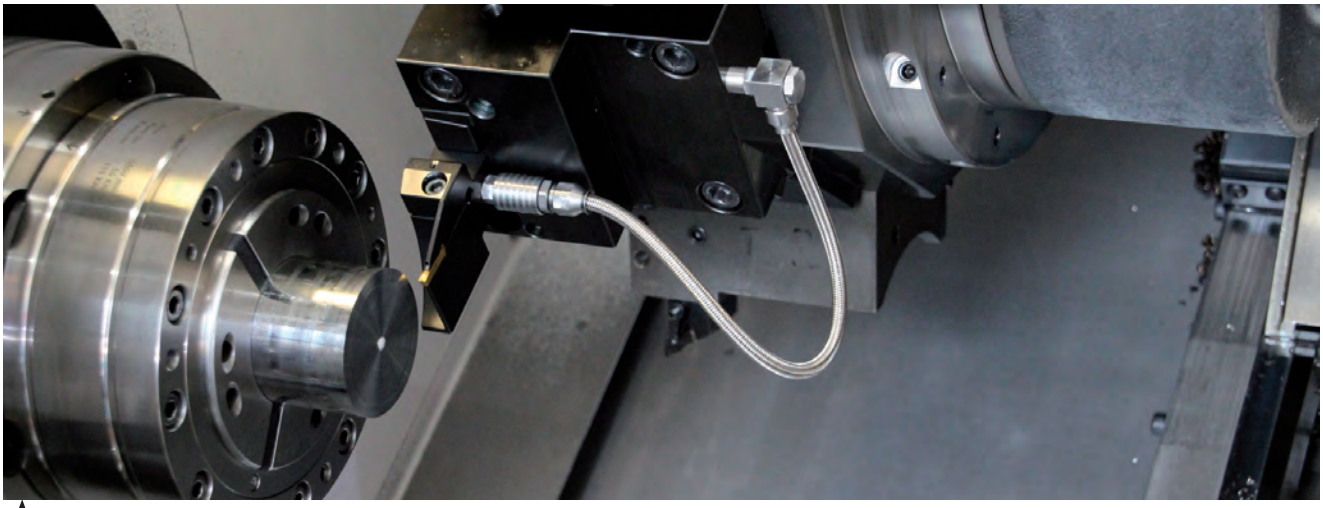


GripLock tool holder

GripLock tool holder
tailor made manufactured to dimension sheeet.



Different ways to connect GripLock tooling



High pressure coolant connection to GripLock reinforced tool holder



BMT 60 coolant connection



VDI basic tool block with coolant connection to GripLock tool holder



VDI basic tool block with coolant connection to GripLock tool holder

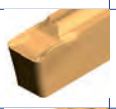
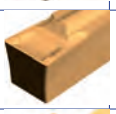
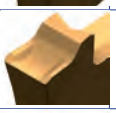
Technical Section

Basics, speeds, feeds, coatings and explanations

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List of available geometries for grooving, turning and parting off

	Typ	Ref.	Geometry (chip breaker)	Main cutting edge	Shape and details of minor edges	Kind of machining	Groo-ving	Turning	Parting-off	For tailor made	A PERFECT MATCH	Additional recommendations	Catalogue ref. for detailed information
1st choice: grooving and turning	Maikäfer	MTNS MTNSG		positive 7°	Horizontal edges with s-shaped chip breakers for easy chip flow	Roughing	☺	☺	○		KM CARBOSPEED achieving excellent tool life on steels . Not on stainless	Suitable for parting-off small diameters	 p. 49, 181
	Maikäfer Z	MTNZ		positive R	wave shaped chip breaker teeth	Roughing	○	☺	○		PM NANOSPEED controlling chip flow on stainless steel	Turning with increasing feed until chips become short	 p. 51
	BG/BX Geometry	BTNG BTNX		positive R	Horizontal edges with parallel	Finishing		●			GF110 NANOSPEED controlling chip flow on stainless steels	BTNG a good choice on nickel alloys	 p. 48, p. 181
	Snake	STNZ STNG		positive R	Arc shaped edges	Finishing and copy turning	○	●			KM AluSpeed finishing nonferrous heavy metals	Also look at the following up inserts STVL/STVR	 p. 54, p. 110
	Victory	VTNS		positive 12°	Horizontal edges with large, v-shaped chip breakers for efficient chip flow	Finishing to roughing	●	●	○		PM ALOX machining cast iron	The main chip breaker suitable for parting-off alloys	 p. 54
	CS Geometry	CTDS		negative 10°	Sharply ground edges	Super finishing	○	●			PM TILOX super finishing	A unique insert for perfect surfaces	 p. 49
	X-Geometry	XTNS		negative 9°	16° positive chip entry with integrated chip breaker dents	Roughing semifinishing	●	●	○		KM TILOX excellent machining stainless steels	A very good choice grooving and parting-off components starting with interrupted cutting	 p. 55
	OC Geometry	OTXC		neutral 10°	Straight cutting edge with negative chamfer	Roughing and finishing	☺	☺	☺		CVD-coated insert for cast materials	Parting off, grooving and grooving and turning of cast materials	 p. 52
	OS Geometry	OTXS		neutral 0°	Horizontal edge with flat top	Finishing	○	○		☺	Tailor made inserts with different coatings on system P92P	Grind a negative chamfer to machine cast irons	 p. 53
	RG Geometry	RTNG		positive 13°	Horizontal parallel chip breakter and ground cutting edge	Finishing and copying		●			GF110 NANOSPEED machining heat resisting alloys	Copying with system P92 P and MULTICUT 4	 p. 56, p. 182
	RX Geometry	RTNX		positive 10°	Horizontal parallel chip breaker with integrated teeth	Roughing and copying		●			KM TILOX roughing stainless steels	Copying with system P92 P and MULTICUT 4	 p. 56
	Heuberg	HTN		positive 5°	Sharp edges	Finishing	●	○	●		PM NANOSPEED machining free cutting materials	For automatic lathes and sliding head machines	 p. 83, p. 184
	Heuberg-T	HTNST		neutral 0°	Sharply ground edges with arc chaped chip breaker	Super finishing	○	●			KM TILOX for chip control	For automatic lathes and sliding head machines	 p. 85
1st choice: partingg-off and grooving	B-Geometry	BTNN BTNS BFN BGP BGN		positive R	No minor edges chip breaker	Grooving and parting-off			☺		BTNN KM TILOX for all kinds of parting-off	Groove slightly below center	 p. 57 - p. 58  p. 83  p. 126  p. 134, p.144
	I - Geometry S - Geometry	CTD		negative 10°	No minor edges chip breaker	Grooving and parting-off	●		●		PM NANOSPEED for parting-off stainless steels	When machining starts with interrupted cutting	 p. 61
	Supernova	SCTD STNS SFN SNP SNT		positive R	No minor edges chip breaker	Grooving and parting-off	○		☺		PM NANOSPEED for instable conditions	For lathes and machine tools with low power	 p. 84  p. 128  p. 132, p. 142
	I - Geometry	ITN IF ITP		negative 10°	No minor edges chip breaker	Grooving and parting-off	●		●		Chamfer reinforces cutting edge	Good choice for interrupted cuts	 p. 84  p. 127 p. 133
	ALU Geometry	CTD ALU IF ALU ITP ALU IT ALU		positive 7°	No minor edges chip breaker	Grooving and parting-off	●		●		Instable conditions and thinwalled parts	Good choice for nonferrous materials, thinwalled parts and pipes	p. 60 p. 183 p. 128 p. 135 p. 144

● = First choice | ○ = 2nd choice | ☺ = Recommended | R=Shape of geometry in longitudional intersection

Selection of chip breakers and feeds

Select the most efficient chip breaker for the different materials

	Steel	Stainless steel	Cast iron	Nonferrous materials	Difficult to cut materials	Hard materials
Cutting and turning	MTNS MTNZ CTDS VTNS RTNX	MTNS VTNS CTDS MTNZ RTNG XTNS BTNX	OTXS MTNS CTDS CBN1630 GL OTXC	BTNG HTNST HTNS OTXS RTNG BTNX STNZ	BTNG CTDS RTNG XTNS BTNX STNZ MTNSG	MTNS Hardlox 2 BTNG Hardlox 2 RTNG Hardlox 2 CBN1630 GL CBN5625GL
Grooving and parting off	CTD SCTD BTNN ITNS BTNS IFN BFN ITPN BGPN BGN OFQ16	STNS BTNS CTD SCTD BTNN XTNS SFN BFN SNPN SNTN BGPN BGN OFQ16	CTD ALU ITNS HTNS ITPN ALU IFN ITN OFQ16	CTD ALU ITPN ALU SFN BFN OFQ16	XTNS SFN BFN IFN ALU ITN ALU OFQ16	CTD ALU Hardlox 2 BTNN Hardlox 2 OTXS Hardlox 2 HTNS Hardlox 2 CBN1630 GL CBN5625GL OFQ16 Hardlox 2

Selection of grades and speeds

Recommended grades

Cutting conditions	Steel	Stainless steel	Cast iron	Nonferrous materials	Difficult to cut materials	Hard materials
interrupted cutting	PM ALOX/TILOX PM TILOX/CARBOSPEED KM TILOX/CARBOSPEED	PM TILOX/NANOSPEED KM TILOX/NANOSPEED	KM CASTSPEED KM TILOX GF110 NANOSPEED	GF110 NANOSPEED GF110	PM TILOX/NANOSPEED KM TILOX/NANOSPEED GF110 HYPERSPEED	HARDLOX 2/ CBN1630GL/CBN5625GL
variable cutting depth, crusts, deposits	PM ALOX/TILOX	PM ALOX/TILOX	KM CASTSPEED PM ALOX/TILOX GF110 ALOX	KM	PM ALOX/TILOX	HARDLOX 2/ CBN1630GL/CBN5625GL
even cutting	KM TILOX/CARBOSPEED GF110 TILOX	KM TILOX/NANOSPEED GF110 TILOX	KM CASTSPEED KM TILOX GF110 TILOX	KM NANOSPEED/ ALUSPEED	KM TILOX/NANOSPEED GF110 TILOX KM HYPERSPEED	HARDLOX 2/ CBN1630GL/CBN5625GL

Recommended speeds

Steel

Material code	Grade	Cutting speed - m/min: 60	120	180	240	300	Initial cutting speed in m/min
P	PM ALOX/TILOX/CARBOSPEED						100
	KM TILOX/CARBOSPEED						160
	FM TILOX/CARBOSPEED						220
	GF110 TILOX/CARBOSPEED						220
	GS530 CARBOSPEED						260

Stainless steel

Material code	Grade	Cutting speed - m/min: 60	120	180	240	Initial cutting speed in m/min
M	PM TILOX/NANOSPEED					80
	KM TILOX/NANOSPEED					120
	FM TILOX/NANOSPEED					150
	GF110 TILOX/NANOSPEED					150

Cast iron

Material code	Grade	Cutting speed - m/min: 150	200	250	300	600	800	1100	Initial cutting speed in m/min
K	KM/GF110 TILOX/ALOX								150
	PM ALOX								150
	CBN1630GL								800

Nonferrous materials

Material code	Grade	Cutting speed - m/min: 150	300	450	600	750	Initial cutting speed in m/min
N	GF110 NANOSPEED/Aluspeed						360
	KM NANOSPEED/Aluspeed						450

Difficult to cut materials

Material code	Grade	Cutting speed - m/min: 15	35	55	75	95	115	135	155	Initial cutting speed in m/min
S	PM ALOX/TILOX/NANOSPEED									30
	KM TILOX/NANOSPEED/ HYPERSPEED									45
	GF110 TILOX/NANOSPEED/ HYPERSPEED									60

Hard materials

Material code	Grade	Cutting speed - m/min: 15	35	55	80	100	130	160	200	220	Initial cutting speed in m/min
H	HARDLOX 2										30
	CBN1630GL										100
	CBN5625GL										130

Selection of chip breaker and feeds

Recommended cutting depth and feeds for cutting inserts:

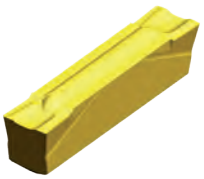
e.g. MTNS chip breaker



- precision sintered inserts
- solid and rounded cutting edges

e.g. BTNG chip breaker

- precision ground inserts with sharp edges
- positive top rake



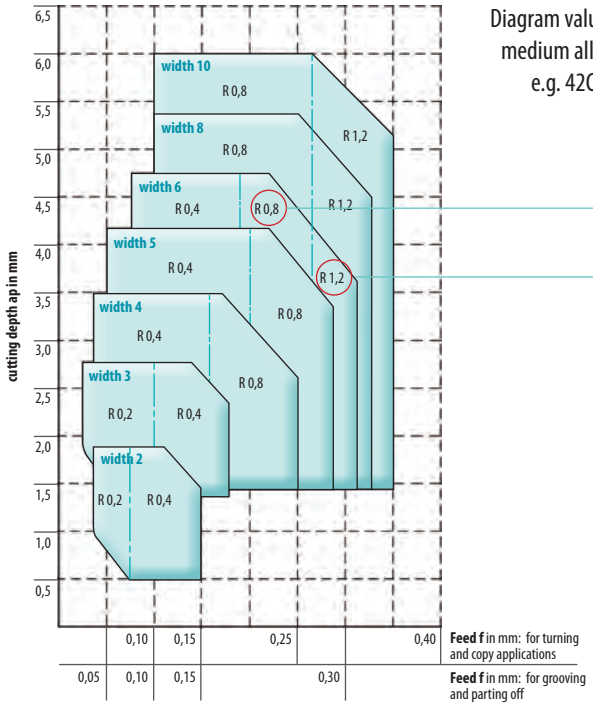
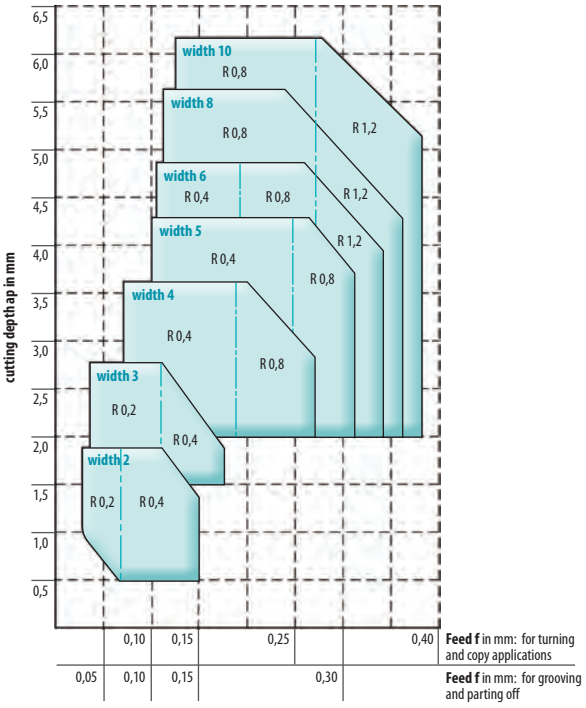


Diagram values refer to medium alloy steels, e.g. 42CrMo4



Remark: Select feeds according to the radius of inserts.
Diagram explanation: e.g. R 0,4 means corner radius of the insert is 0,4 mm.

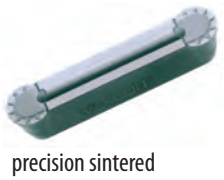
Bigger radius require reducing cutting depths and allow increasing feed.

Example MTNS: width 6 mm

R 0,8: ap max. 4,7 mm, → f max. 0,27 mm/U.
R 1,2: ap max. 3,5 mm, → f max. 0,35 mm/U.

Recommended cutting depth an feeds for full radius inserts:

RTNX chip breaker



precision sintered

On turning and copy turning the maximum cutting depth should not exceed half of the insert width e.g. cutting width 6 mm → cutting depth 3 mm

On turning and copy turning the maximum possible feed depends on the material to be machined and the cutting depth. On free cutting materials the feed may be increased multiplied by 1.8
e. g. MTNS 304, cutting width 3 mm, radius 0.4 mm, cutting depth 1.5, feed (Diagram) 0.15 x 1.8 = 0.27

RTNG chip breaker

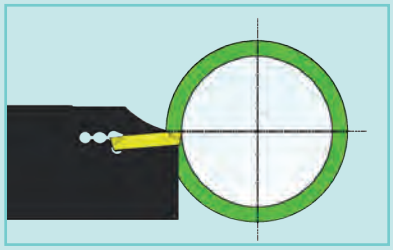


precision ground

Recommendations for parting off

▶ Parting off operating values and way of proceeding

Starting area

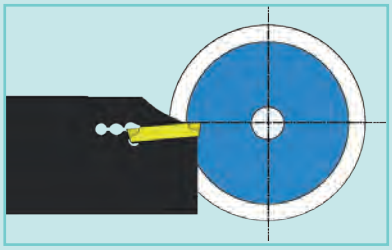


Start with a small value and gradually increase until you reach the ideal technical value:

Feed: f = 0.02 - 0.05

Start carefully! Otherwise the cutting edge may be damaged on the first cut.

Stable cutting conditions

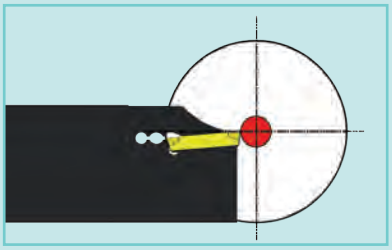


Ideal chips can be machined with numerous geometries if correctly selected.

Feed: f = 0.08 - 0.2

Excellent chips, good tool life!

Runout area



Reduce feed before you reach the center (~ Ø 5 mm) to 0.02.

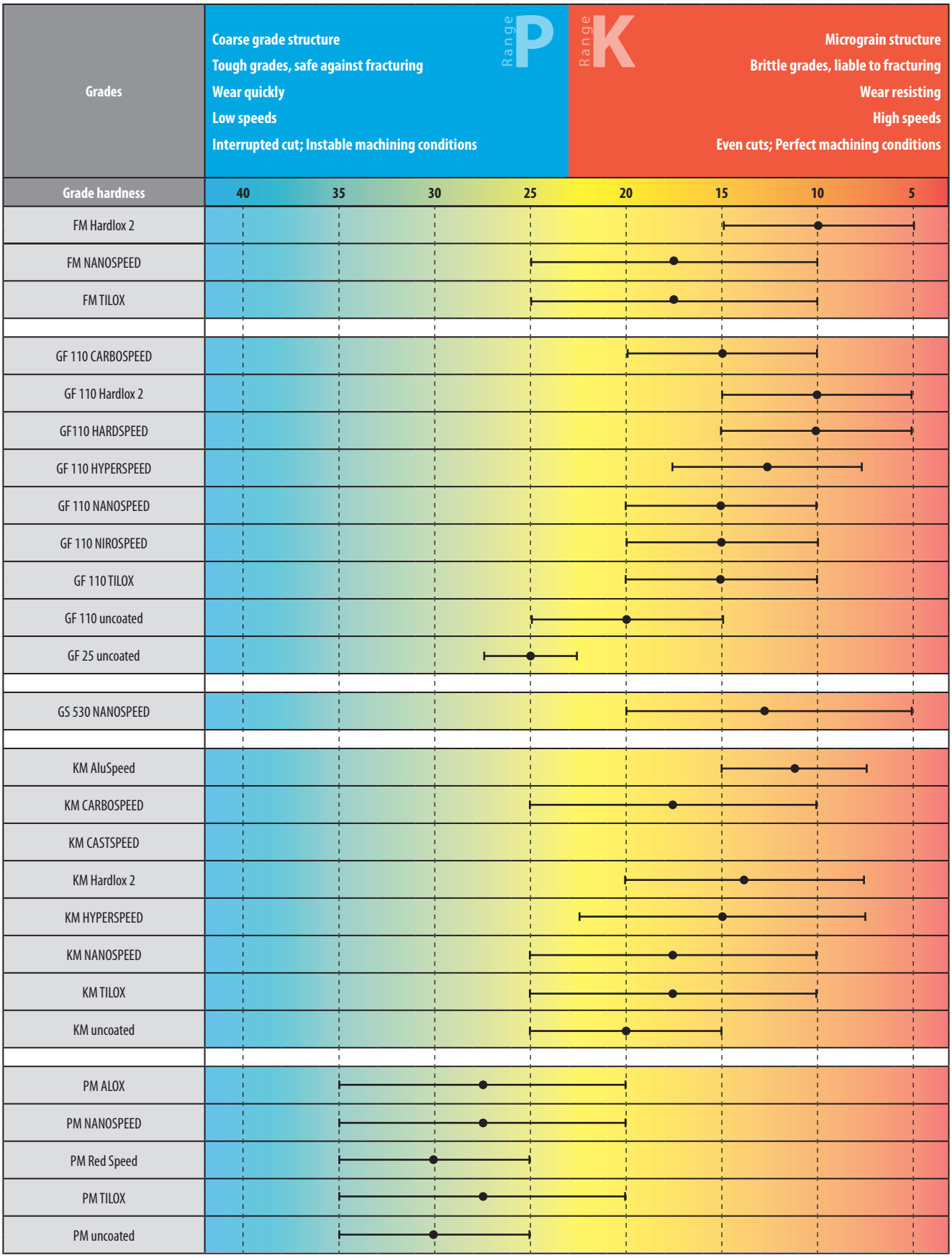
Feed: f = 0.05 - 0.02

Proceed carefully. Bad chip removal. No efficient cooling. Speed runs to zero.

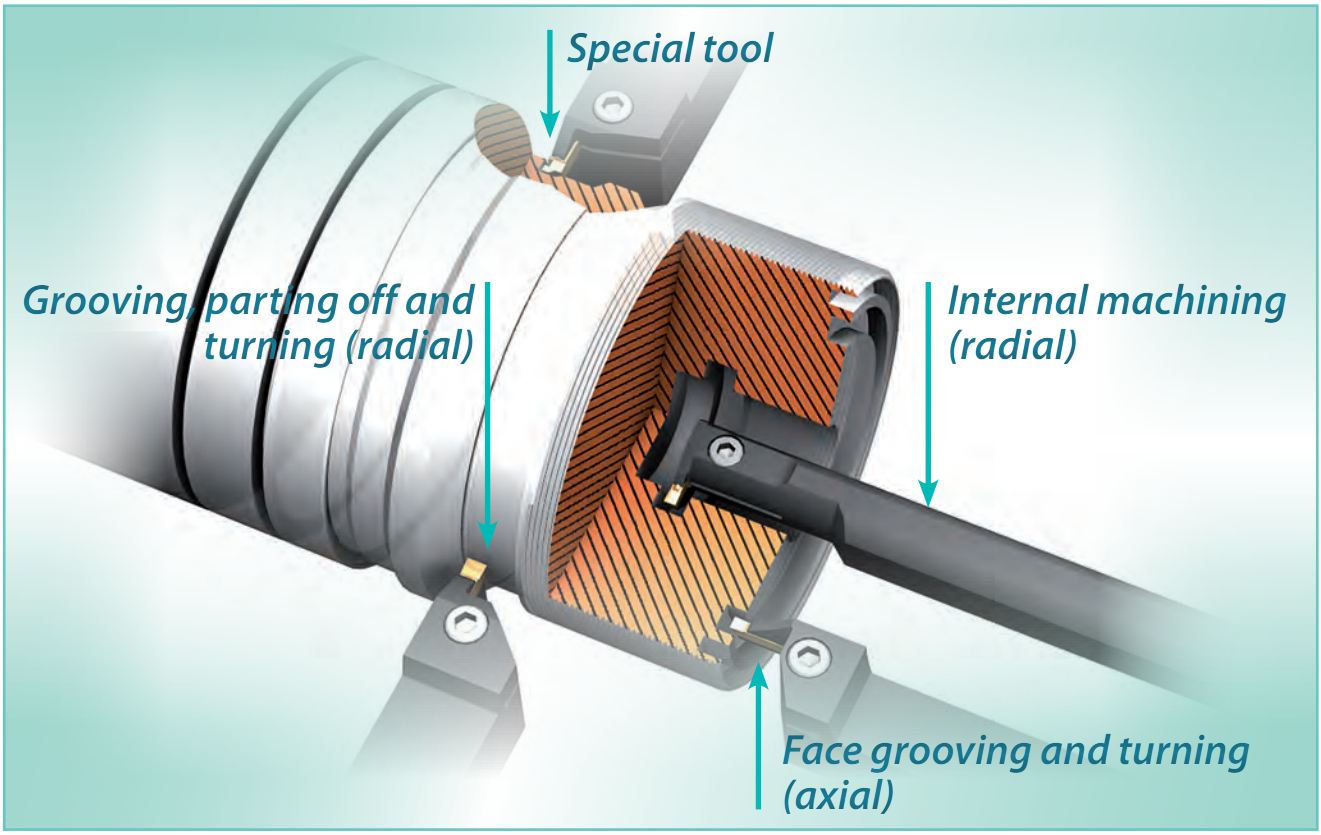
▶ A practical and safe way to select coatings and find appropriate speeds and feeds

Grades	cutting speed Vc in m/min	Feed f in mm/Rev.
	Alloy Steel	
FM NANOSPEED	160 → 300	0,1 → 0,3
FM TILOX		
GF110 HARDSPEED		
GF110 NANOSPEED		
GS530 NANOSPEED		
KM TILOX		
PM NANOSPEED	120 → 240	0,08 → 0,3
	Cast materials	
KM CASTSPEED	100 → 270	0,1 → 0,3
PM ALOX	100 → 200	0,1 → 0,3
	Stainless Steel	
FM NANOSPEED	60 → 120	0,08 → 0,2
FM TILOX		
GF 110 NANOSPEED		
KM NANOSPEED		
KM TILOX		
PM NANOSPEED		
PM TILOX		
Red Speed		
	Hard materials	
FM Hardlox 2	20 → 60	0,05 → 0,1
GF Hardlox 2		
KM Hardlox 2		

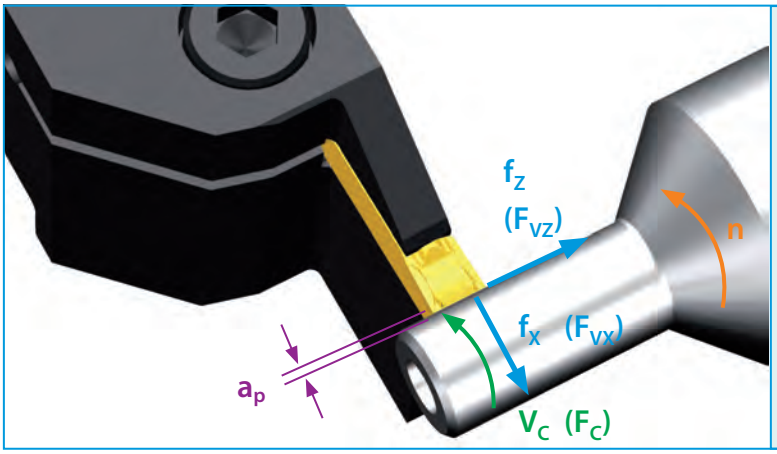
Hardness range of grades with principle recommendations



Basics to select the right tools



Cutting: Dimensions and formulas



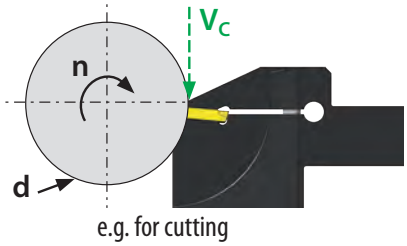
Dimensions

a_p ... cutting depth [mm]
F_C ... cutting force [N]
F_{vx} ... feedforce in X - direction [N]
F_{vz} ... feedforce in Z - direction [N]
f_x ... feed in X - direction [mm]
f_z ... feed in Z - direction [mm]
n ... revolutions of main spindel [min^{-1}]
V_c ... cutting speed [m/min]

Cutting speed V_C [m/min]:

Resulting force: **Cutting force (F_C)**

$$V_C = \frac{\pi \cdot d\,[mm] \cdot n\,[min^{-1}]}{1\,000}$$

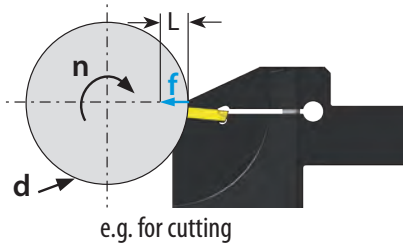


e.g. for cutting

Feed f [mm/Rev]:

Resulting force: **Feedforce (F_V)**

$$f = \frac{L\ (depth)\ [mm]}{Revolution\ s}$$

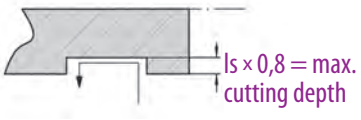


e.g. for cutting

Cutting depth a_p [mm]:

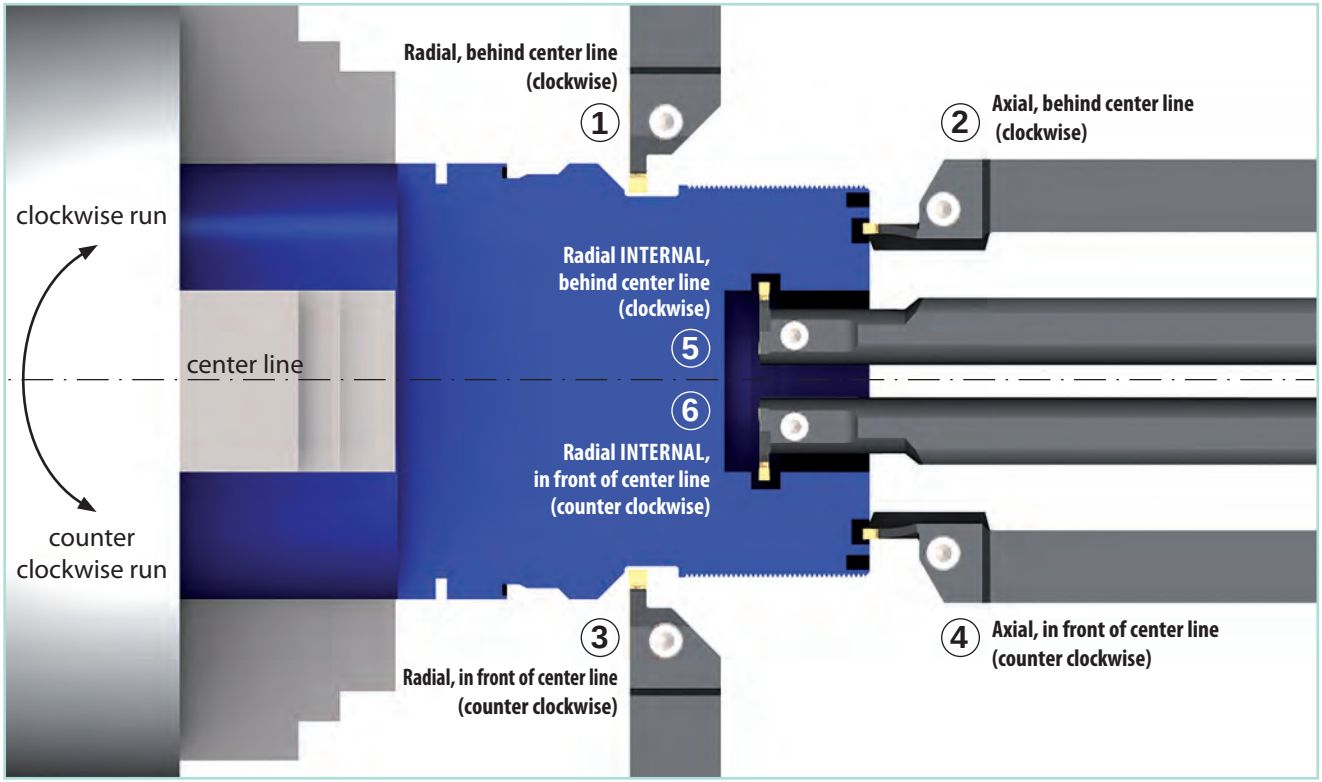
Cutting depth for longitudinal turning

$a_p = \ldots$ mm

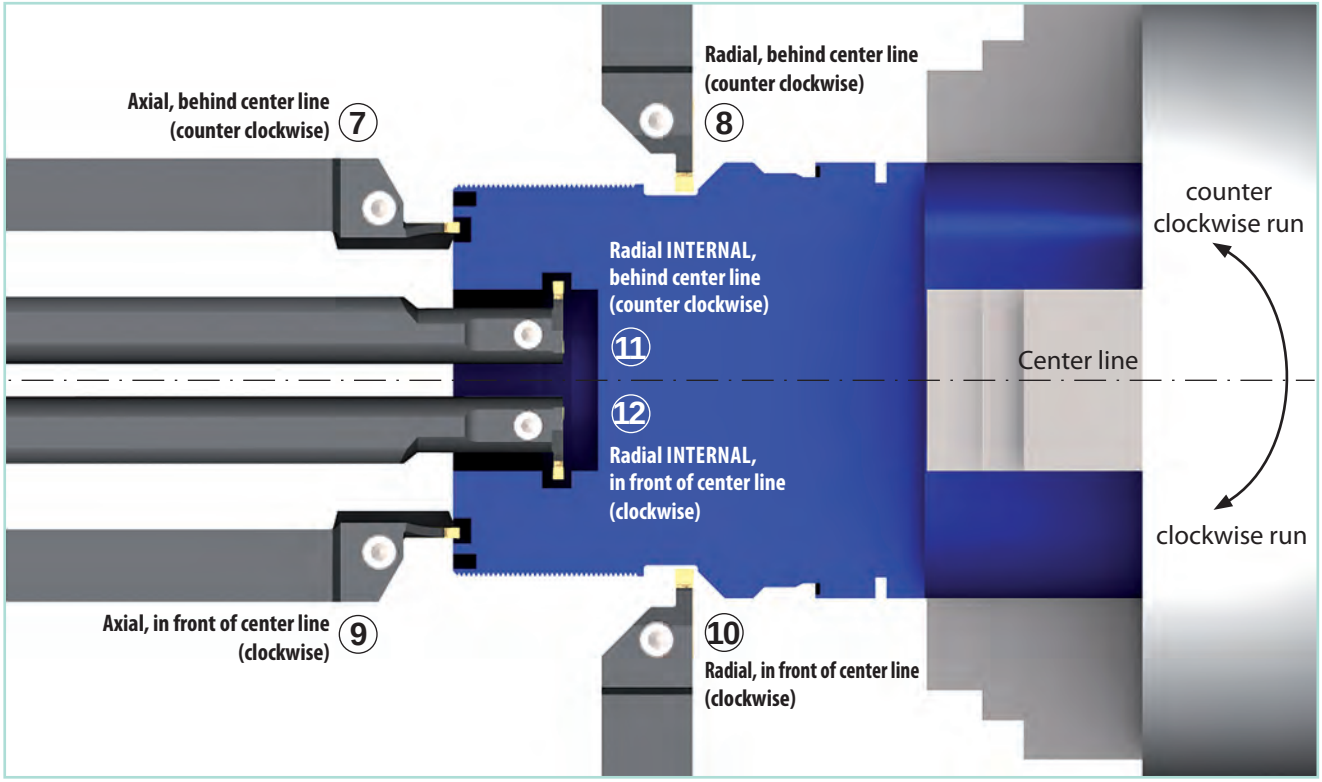


Dimension **ls x 0,8** is the maximum cutting depth refering to the minor cutting edges of the different chip breakers.

Tool application on the MAIN SPINDLE



Tool application on the COUNTER SPINDLE



(3) Point of reference in case of cunsulting

Coatings

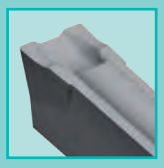
ALOX

Coating type:
Super Nitrid

Layers:
Nanocomposite, TiAlN

The multi layer coating ALOX
with a layer thickness of 8-10 µm it is the ideal coating for turning steel with interrupted cuts, and crusts. . The cutting edges of inserts coated with ALOX are honed before being coated.

Recommended applications: cast iron, free cutting steel



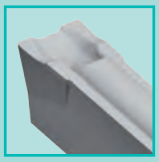
AluSpeed

Coating type:
Borid

Layers:
Monolayer, TiB2

The mono layer coating AluSpeed
has a light gray colour. The high performance coating features an extremely smooth surface and high hardness. It withstands wear extensively and achieves an easy chip flow.

Recommended applications: Aluminium and Aluminium alloys



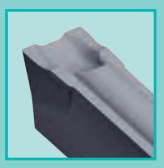
CARBOSPEED

Coating type:
Powernitrid

Layers:
Nanocomposite, TiAlCrN

The multi layer coating CARBOSPEED
The special HiPMS technology combines the advantages of the different PVD coating processes. It features a dense and hard coating layer, with low residual stress. It also features an excellent adhesive force with a fine and smooth surface.

Recommended applications: low and high alloy steels.



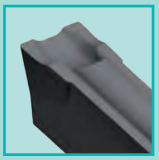
CASTSPEED

Coating type:
MT-CVD Gas Phase Deposition

Layers:
TiN-TiCN-Al_2O_3

Tooth bonding strength beween layers:
The MT-CVD toplayer is perfectly connected to the lower layers. The extremely smooth surface prevents chip sticking. The coating is suitable for dry machining.
Layer hardness: ca. 2700 HV Operation temp. > 1000 °C

Recommended applications: gray cast iron, alloy gray iron, spheroidal iron and malleable cast iron



Hardlox 2

Coating type:
Super Nitrid

Layers:
Nanocomposite, AlTixN

The multi layer coating Hardlox 2
has been developed to machine especially hardened materials. This most advanced coating represents the current state of the art.
It is now possible to machine hard materials with a hardness of more than 60 HRC (Rockwell hardness). The coating layer consists of a micro crystalline structure.

Recommended applications: hardened materials.



Coatings

HARDSPEED

Coating type:
Super Nitrid

Layers:
Nanocomposite, AlTixN

The multi layer coating HARDSPEED

has been developed to machine especially heat developing materials and difficult to cut materials. This most advanced coating represents the current state of the art.
It is now possible to machine hard materials with a hardness of more than 50 HRC (Rockwell hardness). The coating layer consists of a micro crystalline structure.

Recommended applications: heat developing materials and difficult to cut materials.



HYPERSPEED

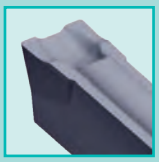
Coating type:
Supernitrid

Layers:
Nanocomposite AlTiN

The multi layer coating HYPERSPEED

features an extremely fine layer-structure and surface hardness.
Due to outstanding oxidation-stability, red hardness and, owing to the high aluminum contents, this coating is especially suitable for machining without cooling. It performs with an amazing wear-resistance.

Recommended applications: difficult to cut materials and titanium.



NANOSPEED

Coating type:
Super Nitrid

Layers:
Nanocomposite
TiAlN + TiN

The multi layer coating NANOSPEED

Owing to the nano layer-structure, it combines extreme hardness with high toughness. The layer has been processed with the new sputter-technology. Therefore the surface is extremely even and smooth. Owing to the golden colour of the coating, wearmarks can be seen easily. Layer thickness: 2-4 µm.

Recommended applications: tool steels and stainless steels.



TILOX

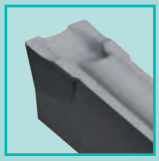
Beschichtungstyp:
Supernitrid

Schichtaufbau:
Nanocomposite, TiAlN

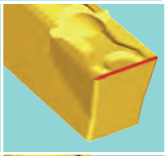
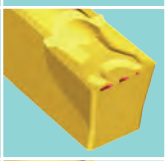
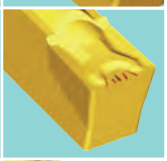
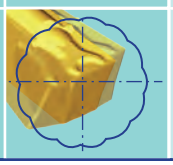
The multi layer coating TILOX

combines extreme hardness, smooth surface and high toughness. An ideal coating to machine materials ranging from steel, stainless steel to cast iron. Layer thickness: 2-4 µm.

Recommended applications: steel, stainless steel, cast iron.

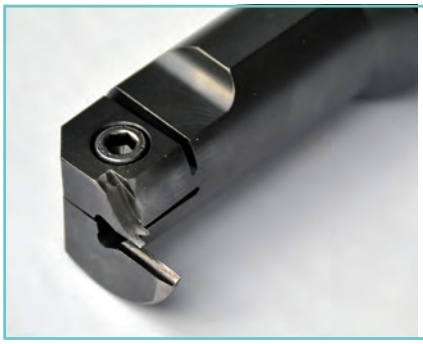


Wear marks and tips to solve them

Effects on and around the cutting edge \ Recommendations	Take smaller corner radius	Take mor positive geometry	Increase cutting speed	Reduce cutting speed	Increase cutting depth	Reduce cutting depth	Take a more wear resistant grade	Increase feed	Reduce feed	Take a tougher grade
Built-up-edge 		☺	☺							
Splintering 		☺	☺							☺
Wear on flanks or top clearances 				☺			☺			
Notch wear 				☺			☺			
Long chips 		☺		☺				☺		
Crater wear 					☺		☺	☺		
Plastic deformation 				☺			☺		☺	
Cracks vertical to edge 										☺
Vibrations 	☺	☺		☺		☺		☺		

The cutting edge area shows the effects of undefined causes.
To assume the damage is due to unfit and/or a poor grade might be entirely wrong.

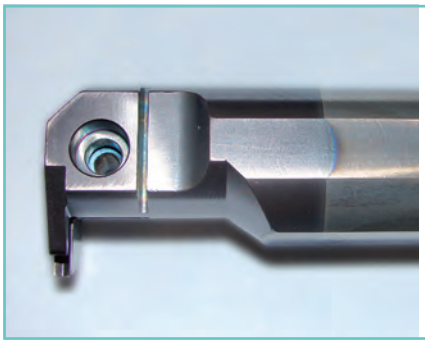
Abrasion by cutting action



Picture shows a boring bar damaged by abrasion.

Abrasion in the area of insert pocket, caused by unfavorable chip flow.

The damage is caused by interaction of machining heat , material and chip flow.



Picture shows a plasma-nitrided protecting layer, which reduces abrasion.

Plasma-nitriding is a complex procedure. The size of the tool determines the price.

Description of causes

Damaged tools as a result of abrasion is a phenomenon, which rarerly arises. It is caused by interaction of different parameters:
Machining heat and chip flow are two reasons. Plasma-nitriding can prevent or decelerate strongly the abrasion. It is a complex procedure, where the price is mainly determined by the size of the tool. The smaller the tool the lower are the costs. Diameters and lengths determine the price.

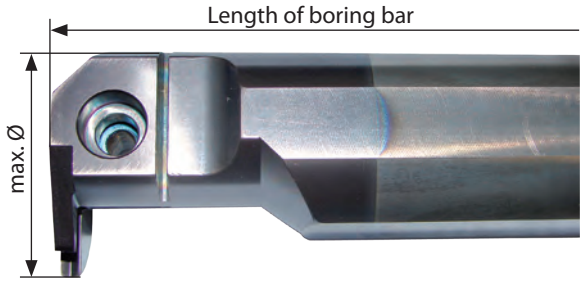
Conditions

Plasma-nitriding requires always a **certain volume** of tools. In practice it means, that a customer need to commission a **minimum quantity** of tools. These amount of tools will be plasma-nitrided together, but they can be ordered as a **call-off order** over a specific time period as agreed.

Offer

If you have this phenomenon of abrasion, we can make you an offer to solve the problem. Following information are therefore neccessary:

Measurements for round tools



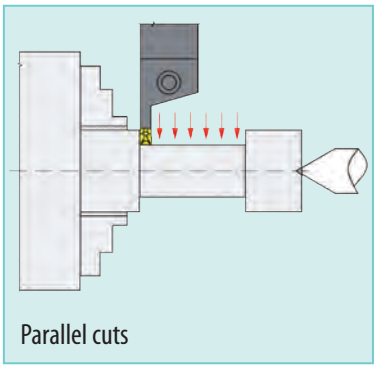
We send you with pleasure an offer for plasma-nitrided tools.

Tool	H	Ø or width	max. Ø or width	L	Min. order quantity
Boring bar		25	29,5	150	9
Boring bar		32	36,5	150	6
Boring bar		40	50	150	3

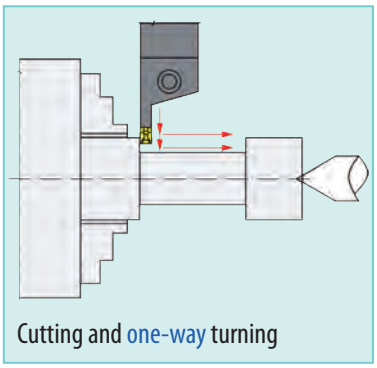
Cutting and turning machining

The major cutting edge cuts a groove and then the minor edge turns in longitudinal directions

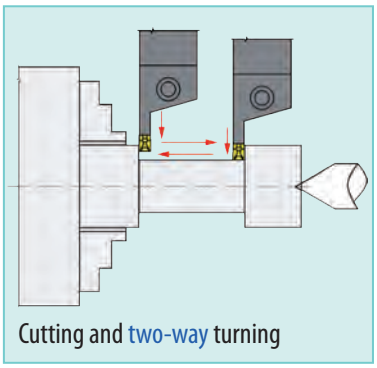
Different methods to cut and turn



Parallel cuts

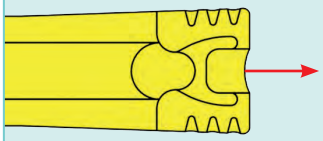


Cutting and one-way turning

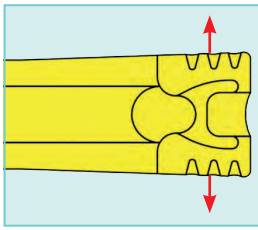


Cutting and two-way turning

The cutting edges

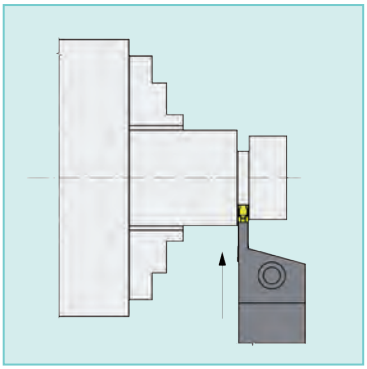


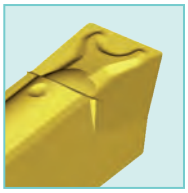
The major cutting edge features an efficient chip breaker for cutting applications.



The minor cutting edges, left and right, feature efficient chip breaker for longitudinal turning.

Grooving

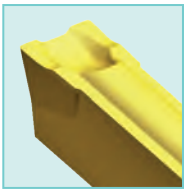




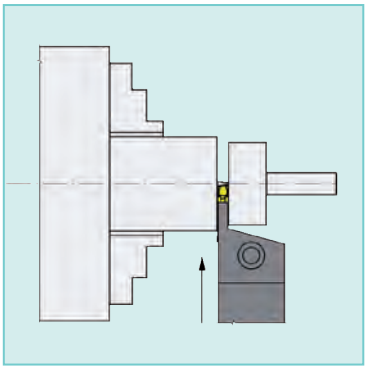
Grooving: MTNS insert with solid and rounded cutting edge

The major cutting edge cuts a groove.

Parting off



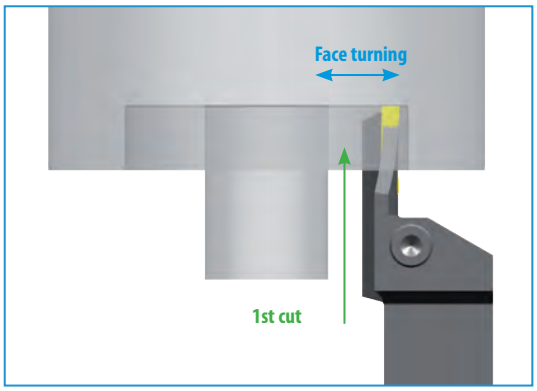
Parting off: BTNN insert featuring a large and efficient chip breaker



The major edge parts off a component from the bar.

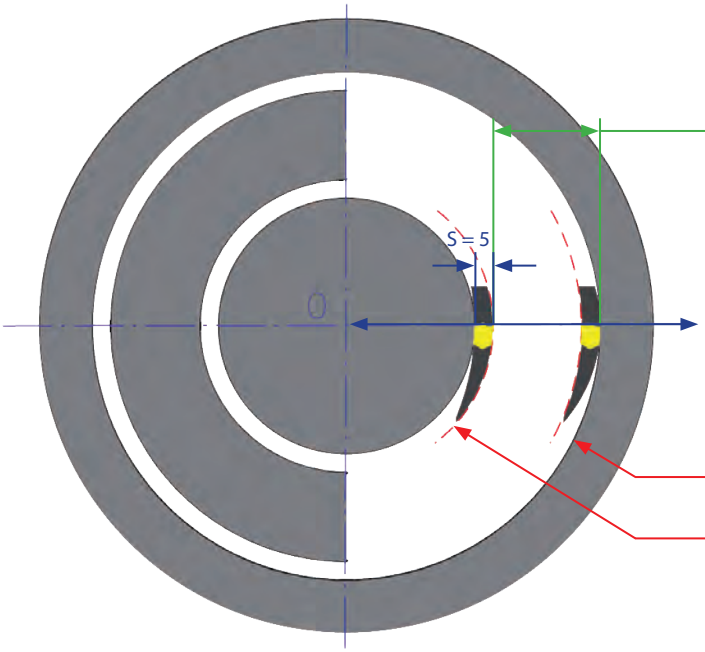
Explanations on face grooving

Diameter for the 1st cut



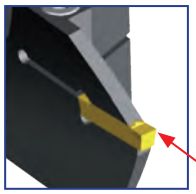
Each cartridge fits for a certain diameter range. This range is marked as Ømin - Ø max. The 1st cut has to be positioned within this range. The dimension Ø min is reduced by the width of the cutting insert.
After the 1st cut the groove width can be enlarged moving the tool radially to the center or to the outer diameter. No danger of collision! The following insert types are ideal for radial front turning: CTDS, MTNS, VTNS, MTNZ and BTNG.

Tool holder: P92 2 CXCBR 2020 K50 75



Ø Range for the 1st cut

Provided the 1st cut has been set correctly, turning to the outer diameter or to the center is possible.



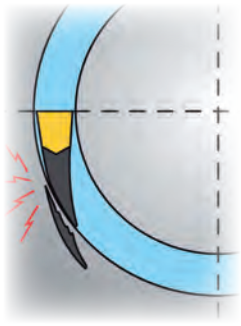
Edge corner facing the outer diameter of the component.

Ø max = 130 mm

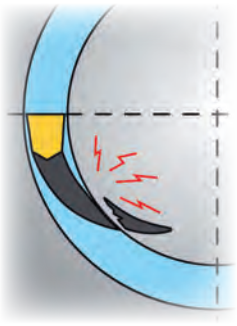
Ø min = 75 mm

The diameter range always refers to the cutting edge corner, which faces the outer diameter of the component.

Damage caused when the 1st cut is not within the Ø min - Ø max range.



Shows the damage caused when the 1st cut is positioned within a smaller dimension than Ø min. **The outer face** of the cartridge collides with the component.



Shows the damage caused when the 1st cut is positioned outside Ø max, to the outer diameter. **The inner face** of the cartridge collides with the component.

Find out the RIGHT cutting speed: Chips must come out SMOOTHLY and may be slightly blue!

Advantages of GripLock threading inserts

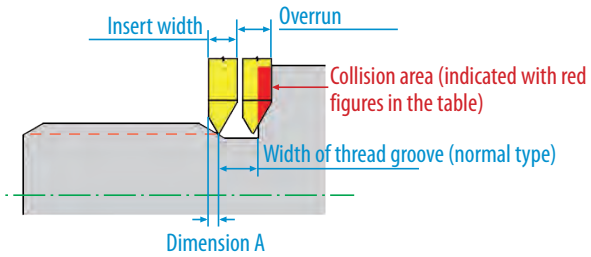
- ✓ Inserts fit into many already available tool holders and boring bars.
- ✓ Precision ground inserts.
- ✓ Wide chip-flow clearances.
- ✓ No spare parts.
- ✓ Easy cutting owing to ground clearance angles.
- ✓ Price per cutting edge is comparable to inserts with 3 cutting edges.
- ✓ No shims necessary.

Basics on threading

► Overrun dimensions for GripLock threading inserts

System		MC4-external thread full profile			P92-P external and internal thread full and part profile					P92-S external and internal thread full profile		
Pitch	Width of thread relieve cut to DIN76-A	Dimension A	Insert width	Overrun	Dimension A full profile	Dimension A part profile	Insert width	Overrun full profile	Overrun part profile	Dimension A	Insert width	Overrun
0,35	0,7									1,0	2,0	-0,3
0,50	1,1	0,5	2,0	-0,4		2,0	4,0		-0,9	1,0	2,0	0,1
0,70	1,5	0,5	2,0	0,0		2,0	4,0		-0,5	1,0	2,0	0,5
0,75	1,6	0,5	2,0	0,1		2,0	4,0		-0,4	1,0	2,0	0,6
0,80	1,7	0,7	2,0	0,4		2,0	4,0		-0,3	1,0	2,0	0,7
1,00	2,1	0,7	2,0	0,8	0,8	2,0	4,0	-1,1	0,1	1,0	2,0	1,1
1,25	2,7	0,7	2,0	1,4	0,8	2,0	4,0	-0,5	0,7	1,0	2,0	1,7
28W=0,907	2,1	1,0	2,0	1,1		2,0	4,0		0,1	1,0	2,0	1,1
24W=1,05	2,1					2,0	4,0		0,1			
20W=1,27	2,7					2,0	4,0		0,7			
19W=1,337	3,2	1,0	2,0	2,2	0,8	2,0	4,0	0,0	1,2	1,0	2,0	2,2
18W=1,411	3,2					2,0	4,0		1,2			
16W=1,587	3,2					2,0	4,0		1,2			
14W=1,814	3,9	1,3	3,5	1,7	1,3	2,0	4,0	1,2	1,9	1,0	2,0	2,9
12W=2,116	4,5					2,0	4,0	0,5	2,5			
11W=2,309	5,6	1,5	3,5	3,6	1,5	2,0	4,0	3,1	3,6			
10W=2,54	5,6					2,0	4,0		3,6			
1,50	3,2	0,8	3,5	0,5	1,0	2,0	4,0	0,2	1,2	1,0	2,0	2,2
1,75	3,9	0,9	3,5	1,3	1,1	2,0	4,0	1,0	1,9			
2,00	4,5	1,0	3,5	2,0	1,4	2,0	4,0	1,9	2,5			
2,50	5,6	1,3	3,5	3,4	1,5	2,0	4,0	3,1	3,6			
3,00	6,7	1,8	3,5	5	1,8	2,0	4,0	4,5	4,7			

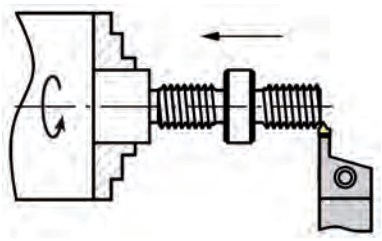
Overrun dimensions marked in RED indicate that a special insert is needed to prevent collision.



Basics on threading

EXTERNAL THREAD – Threading on main spindle

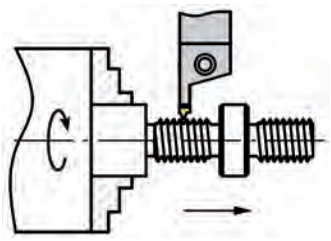
Threading with: *Main spindle* Holder: *RH*
Thread: *RH* Rotation: *CCW*



Available tool holders and inserts

M92 Q	P92 P	P92 S
p. 33	p112-113	p. 86

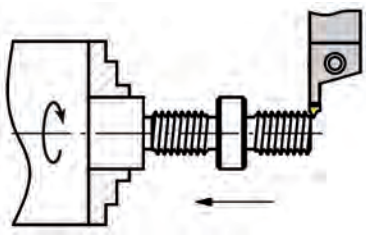
Working area: *behind the collar*
Threading with: *Main spindle* Holder: *LH*
Thread: *RH* Rotation: *CW*



Available tool holders and inserts

P92 S — p. 86

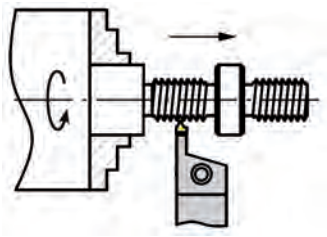
Threading with: *Main spindle* Holder: *LH*
Thread: *LH* Rotation: *CW*



Available tool holders and inserts

M92 Q	P92 P	P92 S
p. 33	p. 113	p. 86

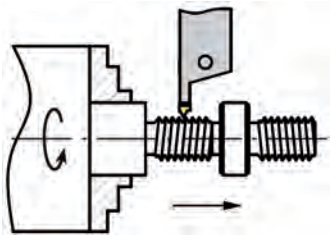
Threading with: *Main spindle* Holder: *RH*
Thread: *LH* Rotation: *CCW*



Available tool holders and inserts

P92 S — p. 86

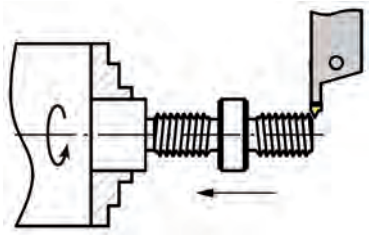
Working area: *behind the collar*
Threading with: *Main spindle* Holder: *RH overhead*
Thread: *RH* Rotation: *CCW*



Available tool holders and inserts

P92 S — p. 86

Threading with: *Main spindle* Holder: *RH overhead*
Thread: *RH* Rotation: *CCW*

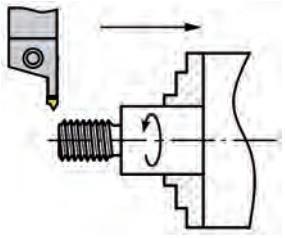


Available tool holders and inserts

M92 Q	P92 P	P92 S
p. 33	p112-113	p. 86

EXTERNAL THREAD – Threading on tail spindle

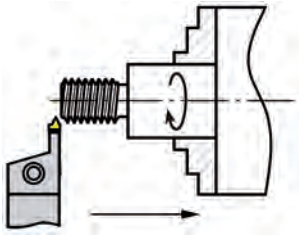
Threading with: *Tail spindle* Holder: *RH*
Thread: *RH* Rotation: *CCW*



Available tool holders and inserts

M92 Q	P92 P	P92 S
p. 33	p112-113	p. 86

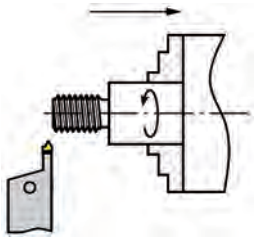
Threading with: *Tail spindle* Holder: *LH*
Thread: *LH* Rotation: *CW*



Available tool holders and inserts

M92 Q	P92 P	P92 S
p. 33	p112-113	p. 86

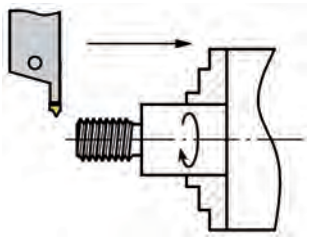
Threading with: *Tail spindle* Holder: *RH overhead*
Thread: *RH* Rotation: *CCW*



Available tool holders and inserts

M92 Q	P92 P	P92 S
p. 33	p112-113	p. 86

Threading with: *Tail spindle* Holder: *LH overhead*
Thread: *LH* Rotation: *CW*



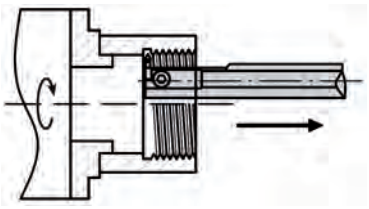
Available tool holders and inserts

M92 Q	P92 P	P92 S
p. 33	p112-113	p. 86

Basics on threading

INTERNAL THREAD – Threading on main spindle

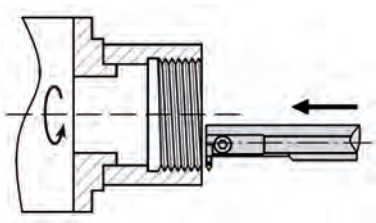
Threading with: *Main spindle* Boring bar: *LH*
Thread: *RH* Rotation: *CW*



Available tool holders and inserts

P92 S	P92 S
p. 87	p. 88

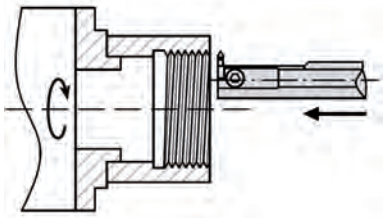
Threading with: *Main spindle* Boring bar: *RH*
Thread: *RH* Rotation: *CCW*



Available tool holders and inserts

P92 P	P92 P K	P92 S	P92 S
p112-113	p. 121	p. 87	p. 88

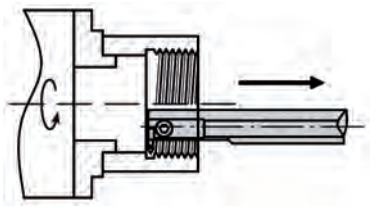
Threading with: *Main spindle* Boring bar: *LH*
Thread: *LH* Rotation: *CW*



Available tool holders and inserts

P92 P	P92 P K	P92 S	P92 S
p112-113	p. 121	p. 87	p. 88

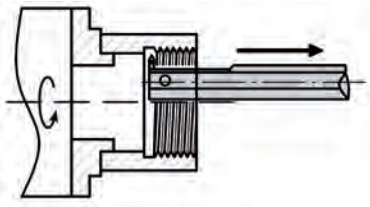
Threading with: *Main spindle* Boring bar: *RH*
Thread: *LH* Rotation: *CCW*



Available tool holders and inserts

P92 P	P92 P K	P92 S	P92 S
p112-113	p. 121	p. 87	p. 88

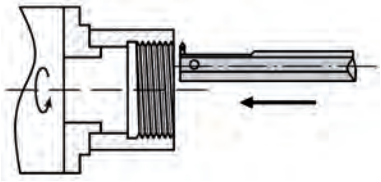
Threading with: *Main spindle* Boring bar: *RH overhead*
Thread: *LH* Rotation: *CCW*



Available tool holders and inserts

P92 P	P92 P K	P92 S	P92 S
p112-113	p. 121	p. 87	p. 88

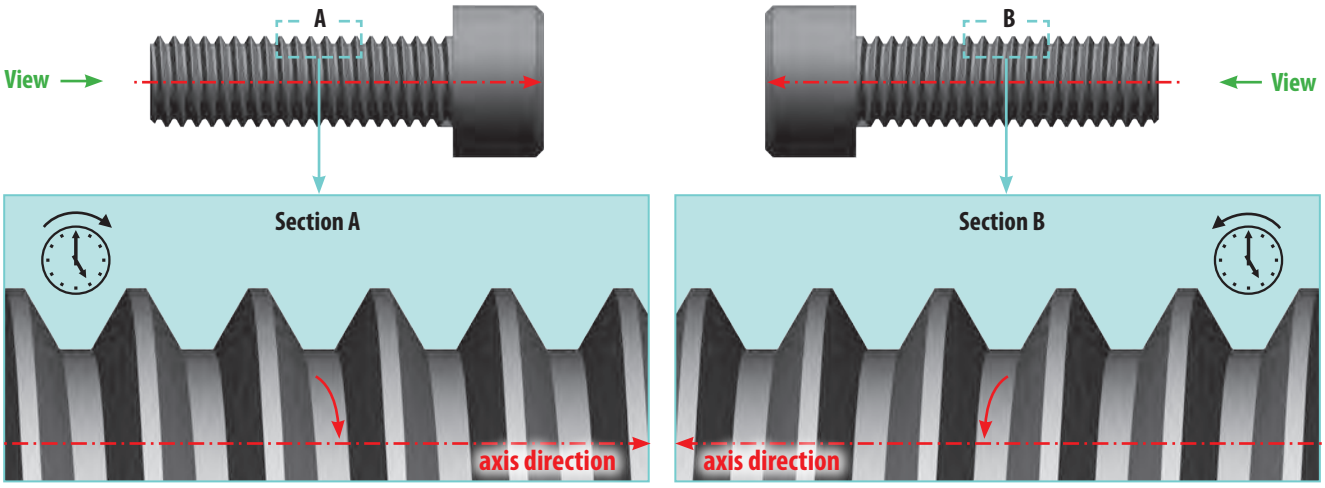
Threading with: *Main spindle* Boring bar: *RH overhead*
Thread: *RH* Rotation: *CCW*



Available tool holders and inserts

P92 P	P92 P K	P92 S	P92 S
p112-113	p. 121	p. 87	p. 88

RH and LH threads



RH thread

View in axis direction:
Tooth profile winds in clockwise (CW) direction.

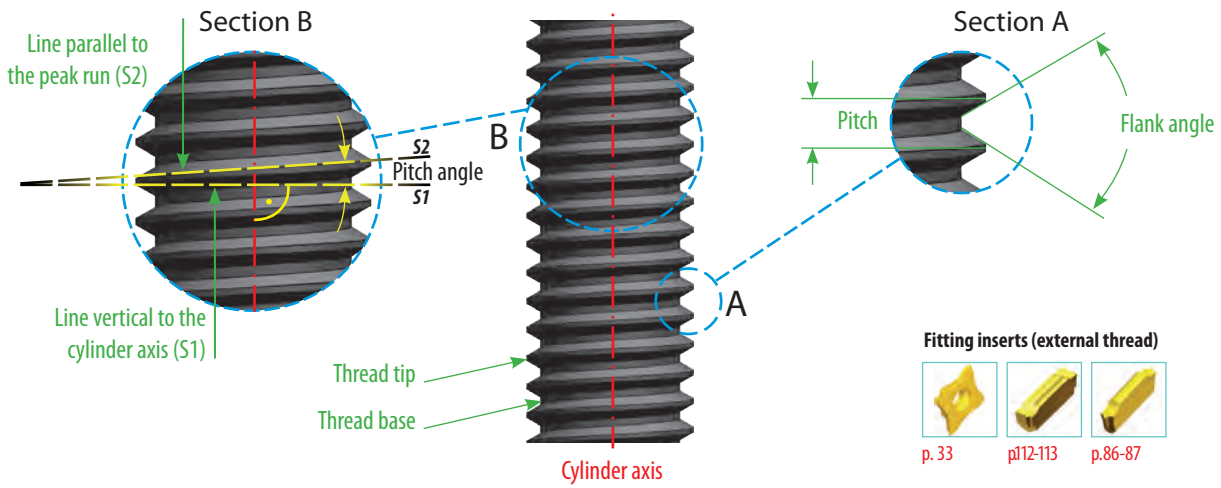
LH thread

View in axis direction:
Tooth profile winds in counter clockwise (CCW) direction.

Basics on threading

Definitions

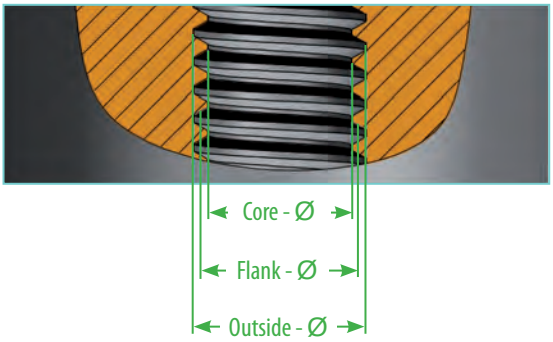
External thread



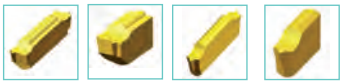
Fitting inserts (external thread)

p. 33 p112-113 p.86-87

Internal thread



Fitting inserts (internal thread)



p. 112-113 p. 121 p. 86-87 p. 88

External thread:
Thread on the outside of a cylinder.

Internal thread:
A thread machined in the surface of a hollow shaft of cylinder.

Outside - Ø (Nominal - Ø):
Diameter of the imaginary cylinder, which touches the thread tips.

Core - Ø:
Diameter of an imaginary cylinder whose surface line touches the thread of the external thread or the thread tips of the internal thread.

Flank - Ø:
The diameter at which the width of the thread tooth equals the width of the spacing between two flanks.

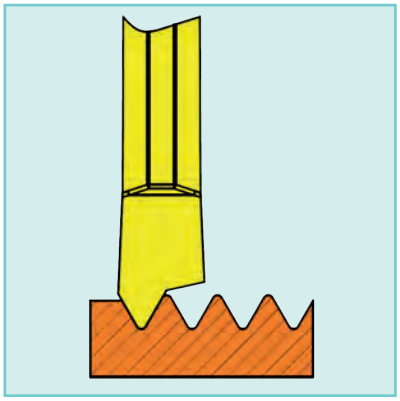
Pitch:
Distance between two threads.

Pitch angle:
Angle between a line vertical to the cylinder axis (S1) and a line parallel with the peak run (S2).

Basics on threading

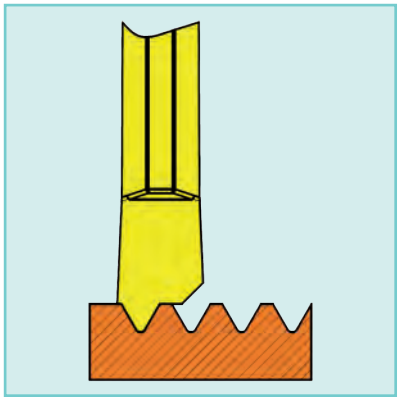
Thread profiles

Part profile



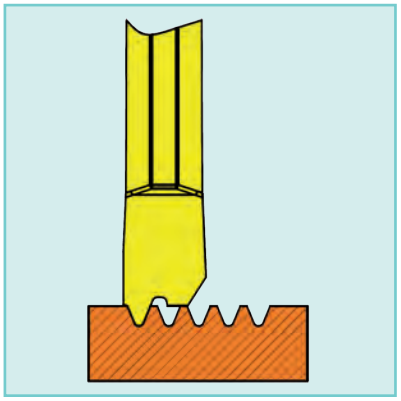
The part profile insert does not finish the outside diameter of external threads or the inside diameter of internal threads.

Full profile



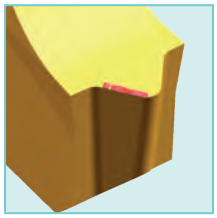
The full profile insert finishes the thread completely. For each pitch and thread type a different insert is necessary

Full profile for small pitches



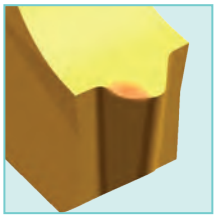
A minor cutting edge finishes the thread.

Wear marks and tips to solve them



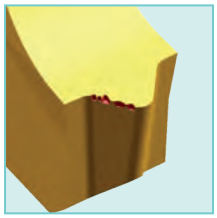
Built up edge

- increase speed step by step



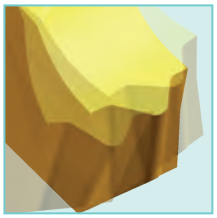
Plastic deformation

- reduce speed
- increase amount of cuts
- increase cooling
- check diameter of component. This diameter may be 1.14 mm bigger than the thread diameter. No more!



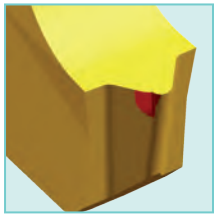
Splintering

- check speed. Is it appropriate?
- increase stability of tooling (Least possible extension? Strongest possible tool holder?)
- change to modified flank feed
- take a tougher grade



Vibration

- alter speed until vibrations cease
- check stability of tooling (Least possible extension? Strongest possible tool holder?)
- check center height
- check diameter of component



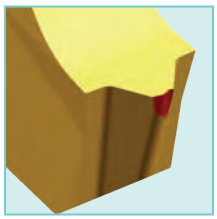
Front clearance wear

- reduce speed
- increase feed
- change to modified flank feed
- take a more wear resistant grade



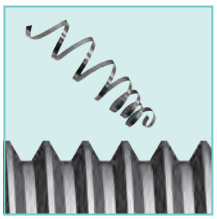
Poor thread surface

- increase speed step by step
- change to modified flank feed or to radial feed if possible
- take a more wear resistant grade



Fractured edge

- increase amount of cuts
- increase stability of tooling (Least possible extension? Strongest possible tool holder?)
- change to modified flank feed
- take a tougher grade
- check center height

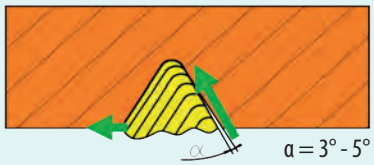
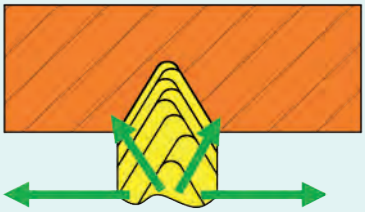
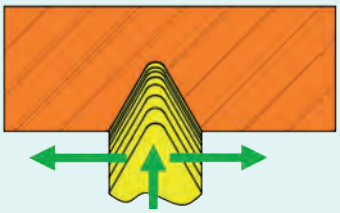


Poor chip control

- reduce amount of cuts
- change to modified flank feed
- increase speed step by step
- increase cooling flow

Basics on threading

Feed methods

Feed method	Machine tools	Adviced
Modified flank feed 	CNC	1 st choice for CNC machine tools. Good results provided feed direction differs 3° - 5° from the thread flank. **This method achieves:** • Good chip control • Good thread surface • Good tool life
Two-way flank feed 	CNC	1 st choice on large thread profiles. **This method achieves:** • Good tool life • Even flank wear
Flank feed 	CNC and conventional machine tools	Recommended provided the modified flank feed method can´t be applied. **This method achieves:** • Good chip control • Good heat conveyance
Radial feed 	conventional machine tools	Multi edge inserts require radial feed

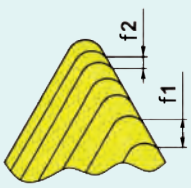
Amount of cuts

To machine the full depth of the thread several different cuts are necessary.
The chip volume increases steadily the more the cutting edge arrives at the bottom of the thread. For this reason the depth of each cut must be reduced constantly, otherwise the edge may fracture quickly.
In any case it is recommended to keep a check on the cutting edge at the beginning of the thread machining:

- Built-up edge will occur, if the speed is too low.
- Plastic deformation will occur, if the speed is too high.
- Fractured edge will occur, if the amount of cuts and the cut setting are insufficient and not fit for the job.

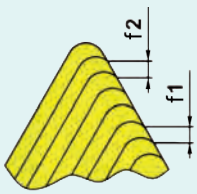
The amount of cuts, the setting accuracy of cuts, the components hardness, respectively toughness and the way cooling or lubrication is applied, strongly influences the quality of the thread.

right



f2 < f1

wrong



f2 = f1

Basics on threading

Number of cuts

Pitch in mm	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	8.00
Threads per inch	48	32	24	20	16	14	12	10	8	7	6	5.5	5	4.5	4	3
Amount of cuts	4-6	4-7	4-8	5-9	6-10	7-12	7-12	8-14	9-16	10-18	11-18	11-19	12-20	12-20	12-20	15-24

Recommended threading speeds

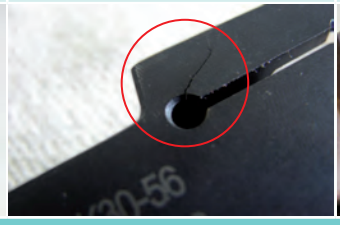
			PM NANOSPEED	
Material to be machined			HB (Härte Brinell)	Vc in m/min
P	None alloy steel	Carbon steel	125	120 - 180
	Low alloy steel	none hardened	180	85 - 140
		hardened	275	60 - 130
		hardened	350	60 - 130
	High alloy steel	annealed	200	70 - 100
		hardened	325	50 - 100
	Cast steel	low alloy	200	60 - 140
		high alloy	225	60 - 120
M	Stainless steel ferritic	none hardened	200	70 - 130
		hardened	330	60 - 100
	Stainless steel austenitic	austenitic	180	90 - 140
		austenitic	200	40 - 100
	Stainless cast steel		200	90 - 110
		hardened	330	65 - 110
K	Malleable cast iron	ferritic	130	70 - 160
		pearlitic	230	60 - 140
	Grey cast iron	low tensile strength	180	70 - 130
		high tensile strength	260	50 - 115
	Cast iron, nodular graphit	ferritic	160	125 - 160
		pearlitic	260	80 - 120
N	Aluminium materials	none hardened	60	100 - 365
		aged	100	80 - 180
	Aluminium alloys	cast	75	200 - 450
		aged cast	90	200 - 280
	Aluminium materials	cast Si 13 - 22 %	130	60 - 160
	Brass, copper alloy		100	80 - 190
		Bronze	100	80 - 190
S	Heat resisting materials	annealed	200	40 - 60
		aged	280	35 - 50
	Titanium alloys	clean	400 RM	140 - 180
		Alloys Alpha, Beta	1050 RM	50 - 70
H	Hardened steel	hardened and tempered	58 Hrc	45 - 55

Tool holder damages: cause, effect and solution

Cause

Key and pipe prolongation	Key and forcing with hammer	
		

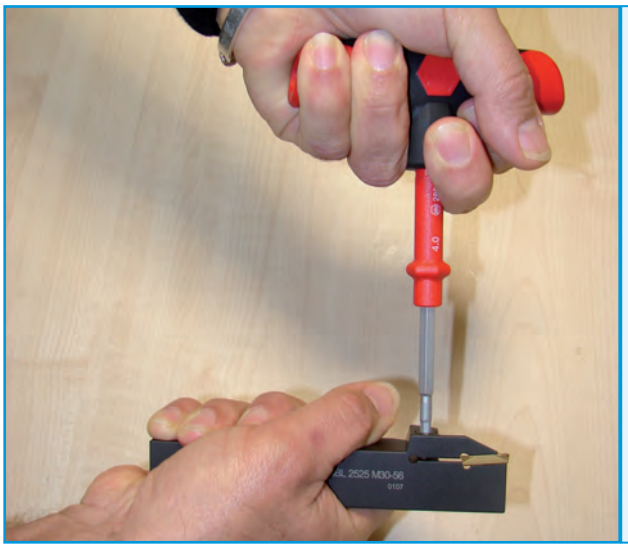
Effect

Screw fracturing	Countersink fracturing	Cracking	Hexagonal screw wear
			

Solution

Handforce	Perfect: with the correct torque	Torque key
	Only with a torque key, correct screw forces can be applied. To apply correct torques by hand force, requires a lot of experience.	

Recommended torques on page 238.



Save youreself a lot of trouble and energy!

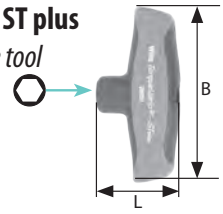
By using our high quality torque keys, which you will find on the following page.

Torque key



Torque VARIO ST plus

T-handle torque tool





Torque Vario-S

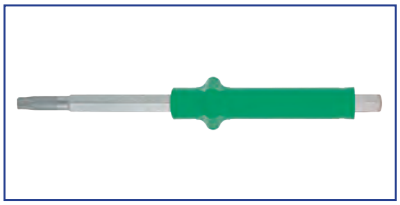
Torque screwdriver



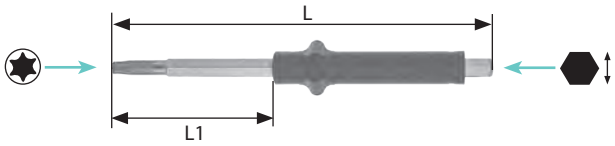
WG355 Ref.	Torque Nm	ID-Nr.	⬡	L	B	D	Interchangeable blades
Torque VARIO ST plus	5,0 - 14,0	43723	6	56	120	-	Wp..+ WS
Torque Vario-S	1,0 - 5,0	43884	4	138	-	36	WSF.. + WTF

Handle: Window scale displays torque value numerically. Torque infinitely adjustable with Torque-Setter setting tool (also supplied). Soft-grip T-handle for optimal torque transmission. Audible and perceptible click when the pre-set torque has been attained.
Standards: Based on EN ISO 6789, BS EN 26789, ASME B107.14M.
Accuracy: ±6%, traceable to national standards.
Application: For applications where recommended torque settings are important. Use in combination with an interchangeable 6 mm blade for Wiha T-handle torque tools.
Extra: Delivered in practical plastic box, incl. factory calibration certificate.

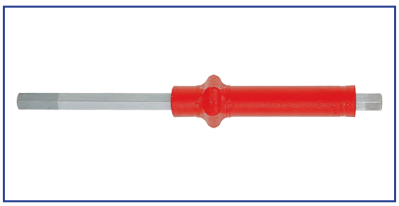
Handle: Ergonomic multi-component handle, particulary light and compact. Handle sizes proportioned to optimise torque setting.Audible and perceptible click when the pre-set torque has been attained.
Standards: EN ISO 6798, BS EN 26789, ASME B107.14M.
Accuracy: ±6%, traceable to national standards.
Application: For applications where recommended torque settings are important.
Use in combination with a Wiha torque interchangeable blade.
Extra: Delivered in practical plastic box, incl. factory calibration certificate.



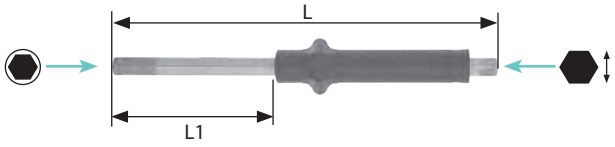
Torx-Interchangeable blades



WG355 Ref.	ID-Nr.	⬟	⬍	L	L1	max Nm	max in.lbs
WTF15	43888	T15	4	175	42	5,5	-
WT15	43716	T15	6	130	53	6	53
WT20	43717	T20	6	130	53	10	88
WT25	43718	T25	6	130	53	15	132



hex-Interchangeable blades



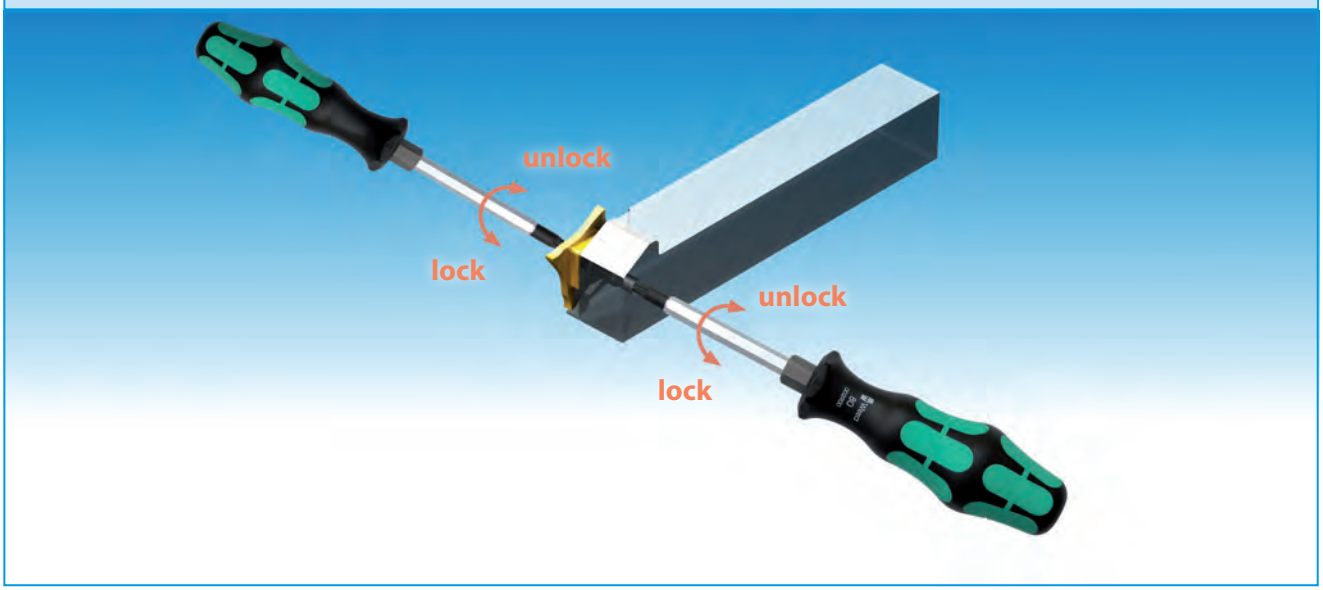
WG355 Ref.	ID-Nr.	⬢	⬍	L	L1	max Nm	max in.lbs
WSF2	43885	2	4	175	42	1,8	-
WSF2,5	43886	2,5	4	175	42	3,8	-
WSF3	43887	3	4	175	42	5,5	-
WS3	43719	3	6	130	53	9	79
WS4	43720	4	6	130	53	15	132
WS5	43721	5	6	130	53	15	132
WS6	43722	6	6	130	53	15	132

Blade: High quality chrome-vanadium-molybdenum steel, through hardened. Wiha ChromTop® finish on tip for a perfect fit. Colour-coding Torx-iterchangeable blades: dark green.

Colour-coding: Hex interchangeable blades: red.
Application: For applications where recommended torque settings are important.

Special screwdriver for MULTICUT 4 holders and blades

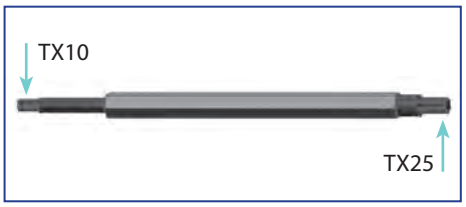
Special screwdriver with interchangeable blade to change MULTICUT 4 inserts in confined spaces





TX 6
Handle

ET-Nr.	WG355 Ref.	ID-Nr.	Items
40	TX 6	45112	Handle



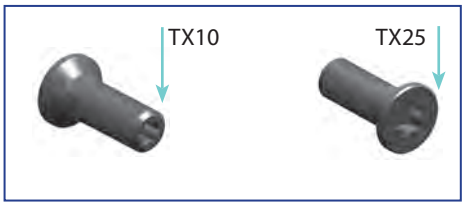
WK 25 10
interchangeable blade

ET-Nr.	WG355 Ref.	ID-Nr.	Items
39	WK 25 10	45113	Blade



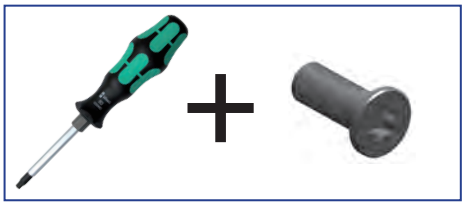
TX 25 10
Screwdriver

ET-Nr.	WG355 Ref.	ID-Nr.	Items
41	TX 25 10	45130	Torque screwdriver



TXM5x14 10 25
Torx screw

ET-Nr.	WG355 Ref.	ID-Nr.	Items	Recommended Torque max. [Nm]
33	TXM5x14 10 25	44641	Torxscrew L=14 (holder)	4,5
34	TXM5x10 10 25	44817	Torxscrew L=10 (blades)	4,5



TX 25 10 1
TX 25 10 2
Torque screwdriver

Offer assembly

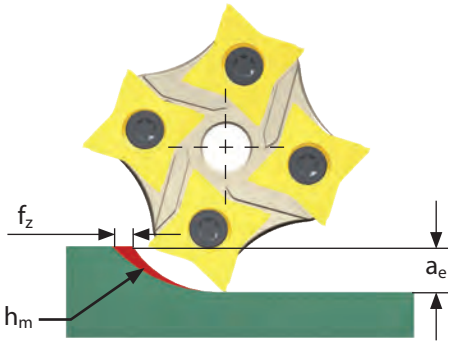
WG355 Ref.	ID-Nr.	Items
TX25 10 1	45131	Set contents 39 + 40 + 33 (holder)
TX25 10 2	45132	Set contents 39 + 40 + 34 (blades)

Remark:
Holder need 14 mm screw length ET-Nr. 32;
Blades need 10 mm screw length ET-Nr. 34

Milling parameters

Recommendations

type of milling tool	insert type	feed per tooth f_z in [mm] min - max	Thickness of chip [mm] h_m min - max
	OFQ16L...P...S	0,04 - 0,22	0,02 - 0,07
	OFQ16L...P...M	0,11 - 0,20	0,06 - 0,14

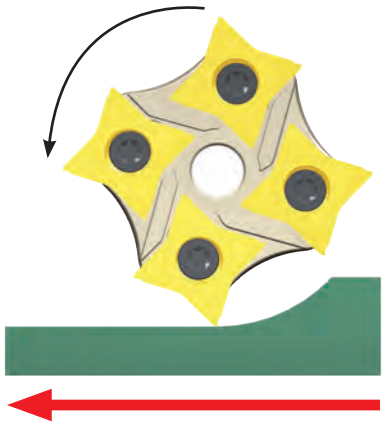


Drawing: dimensions for groove milling

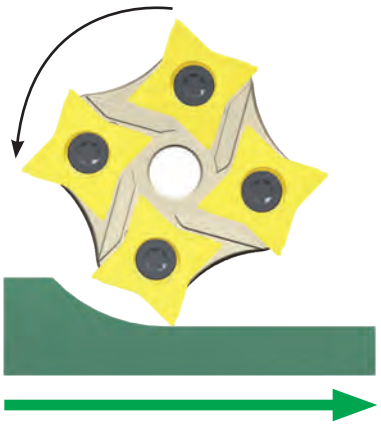
Calculation

average chip thickness	feed per tooth
$h_m = f_z \cdot \sqrt{\frac{a_e}{D}}$ [mm]	$f_z = h_m \cdot \sqrt{\frac{D}{a_e}}$ [mm]

recommended values for the chip thickness:
steel: 0,06 mm
grey cast iron: 0,08 mm



OPPOSED MILLING
not recommended



CUT-DOWN MILLING
recommended to achieve best results

Fomulars

Cutting speed	Feed per tooth
$V_c = \frac{D \cdot \pi \cdot n}{1000}$ [$^{m}/_{min}$]	$f_z = \frac{V_f}{n \cdot z}$ [mm]

Revolution	Feed speed
$n = \frac{Vc \cdot 1000}{D \cdot \pi}$ [min^{-1}]	$V_f = f_z \cdot z \cdot n$ [$^{mm}/_{min}$]

caption
V_c = Cutting speed
f_z = Feed per tooth
n = Revolution
V_f = Feed speed
h_m = Average chip thickness
a_e = Cutting depth
D = Tool diameter
z = Amount of cutting edges in action
π = Basic circle dimension = 3,14

Material Comparison Table

Material group	Material No.	Germany DIN No.	Italy UNI	Japan JIS
		Steel, free cutting steel		
P	1,0036	USt37-3	FE37BFU	
	1,0050	St50-2	FE50	SM50YA
	1,0060	St60-2	FE60-2	SM570
	1,0070	St70-2	FE70-2	
	1,0332	St14		
	1,0401	C15	C15C16	515C
	1,0402	C22	C20C21	S20C; S22C
	1,0715	95Mn28	CF95Mn28	SUM22
	1,0501	C35	C35	S35C
	1,0503	C45	C45	S45C
	1,0535	C55	C55	S55C
	1,0601	C60	C60	S60C
	1,0718	95MnPb28	CF95MnPb28	SUM22L
	1,0721	10S20		
	1,1158	Ck25	C25	S25C
	1,1121	Ck10		S10C
	1,1141	CK 15	C16	S15C
	1,1183	Cf35	C36	S35C
	1,1191	Ck45	C45	S45C
	1,1203	Ck55	C50	S55C
	1,1213	Cf53	C53	S50C
	1,1221	Ck60	C60	S58C
	1,1203	Ck55	C50	S55C
	1,1221	Ck60	C60	S58C
	1,2311	40CrMnMo7	35CrMo8KU	
	1,3501	100Cr2		
	1,4882	X50CrMnNiNbN219		
	1,5415	15Mo3	16Mo3KW	
	1,5423	16Mo5	16Mo5	SB450M
	1,5710	36NiCr6		SNC236
	1,5736	36NiCr10		SNC631(H)
	1,5755	31NiCr14		SNC836
	1,5864	35NiCr18		
	1,7223	41CrMo4	41CrMo4	SCM440
	1,7225	42CrMo4	42CrMo4	SCM440(H)
	1,7238	49CrMo4		
	1,7242	16CrMo4		
	1,7262	15CrMo5		SCM415(H)
	1,7335	13CrMo4 4	14CrMo45	SPVAF12
	1,7337	16CrMo4 4	A18CrMo45KW	
	1,7361	32CrMo12	32CrMo12	
	1,7362	12CrMo19 5	16CrMo205	
	1,7380	10CrMo9 10		SPVA, SCMV4
	1,7561	42CrV6		
	1,7701	51CrMoV4	51CrMoV4	
	1,7715	14MoV6 3		
	1,7733	24CrMoV55	21CrMoV511	
	1,7755	GS-45CrMoV104		
	1,8070	21CrMoV511	35NiCr9	
	1,8159	50CrV4	50CrV4/ 51CrV4	SUP10
	1,8509	41CrAlMo7	41CrAlMo7	SACM645
	1,8523	39CrMoV139	36CrMoV12	

Material Comparison Table

Material group	Material No.	Germany DIN No.	Italy UNI	Japan JIS
Alloy steel and tool steel				
P	1,2067	100Cr6		SUJ2
	1,2210	115CrV3	107CrV3KU	
	1,2241	51CrV4		
	1,2419	105WCr6	10WCr6/107WCr5KU	SKS31
	1,2542	45WCrV7	45WCrV8KU	
	1,2550	60WCrV7	58WCr9KU	
	1,2713	55NiCrMoV6		SKH1/SKT4
	1,2721	50NiCr13		
	1,2762	75CrMoNiW67		
	1,2842	90MnCrV8	88MnV8KU	
	1,3505	100Cr6	100Cr6	
	1,5622	14Ni6	14Ni6	SUJ2
	1,5752	14NiCr10/14NiCr14	16NiCr11	SNC415(H)
	1,6511	36CrNiMo4	38NiCrMo4(KB)	SNC815(H)
	1,6523	21NiCrMo2	20NiCrMo2	SNCM447
	1,6546	40NiCrMo22	40NiCrMo2(KB)	SNCM220(H)
	1,6582	35CrNiMo6	35NiCrMo6(KB)	SNCM240
	1,6587	17CrNiMo6		SNCM447
	1,6657	14NiCrMo34	15NiCrMo13	
	1,7033	34Cr4		
	1,7035	41Cr4	41Cr4	SCR430(H)
	1,7045	42Cr4		SCR440(H)
	1,7131	16MnCr5	16MnCr5	SCR415
	1,7176	55Cr3		SUP9(A)
	1,7218	25CrMo4	25CrMo4(KB)	SM420/SCM430
	1,7220	34CrMo4	35CrMo4	SCM432/SCCRM3
High alloy steel and high alloy tool steel				
P	1,2343	X38CrMoV51	X37CrMoV51KYU	SKD6
	1,2344	X40CrMoV51	X40CrMoV511KU	SKD61
	1,2379	X155CrVMo121	X155CrVMo12 1KU	SKD11
	1,2436	X210CrW12	X215CrW121KU	SKD2
	1,2581	X30WCrV93	X30WCrV93KU	SKD5
	1,2601	X165CrMoV12	X165CrMoW12KU	
	1,2606	X37CrMoW 51	X35CrMoW05KU	SKD62
	1,3202	S12-1-4-5	HS12-1-5-5	
	1,3207	S10-4-3-10	HS10-4-3-10	SKH57
	1,3243	S6-5-2-5	HS6-5-2-5	SLKH55
	1,3246	S7-4-2-5	HS7-4-2-5	
	1,3247	S2-10-1-8	HS2-9-1-8	SKH51
	1,3249	S2-9-2-8		
	1,3343	S6-5-2	HS6-5-2-5	SKH9; SKH51
	1,5662	X8Ni9	X10Ni9	SL9N60(53)
	1,5680	12Ni19		

Material Comparison Table

Material group	Material No.	Germany DIN No.	Italy UNI	Japan JIS
Stainless steel				
M	1,4000	X6Cr13	X6Cr3	SUS403
	1,4001	X6Cr14		4105, 429
	1,4002	X6CrAl13	X6CrAl13	SUS405
	1,4006	(G-)X10Cr13	X12Cr13	SUS410
	1,4016	X8Cr17	X8Cr17	SUS430
	1,4021	X20Cr13	X20Cr13	SUS420/1
	1,4027	G-X20Cr14		SCS2
	1,4034	X46Cr13	X40Cr14	
	1,4057	X20CrNi17	X16CrNi16	SUS431
	1,4086	G-X120Cr29		
	1,4104	X12CrMoS17	X10CrS17	SUS430F
	1,4113	X6CrMo17	X8CrMo17	SUS434
	1,4125	X105CrMo17	X105CrMo17	SUS440C
	1,4340	G-X40CrNi274		
	1,4417	X2CrNiMoSi195		
	1,4720	X20CrMo13		
	1,4724	X10CrA113	X10CrA112	SUS405
	1,4742	X10CrA118	X8Cr17	SUS430
	1,4762	X10CrA124	X16Cr26	SUH446
Austenitic stainless steel				
M	1,4301	X5CrNi189	X5CrNi1810	SUS304
	1,4310	X12CrNi177	X2CrNi1807	SUS301
	1,4311	X2CrNiN1810	X2CrNiN1810	SUS304LN
	1,4312	G-X10CrNi188		
	1,4350	X5CrNi189	X5CrNi1810	
	1,4362	X2CrNiN234		
	1,4401	X5CrNiMo17 122	X5CrNiMo17 12	SUS316
	1,4404	X2CrNiMo1810	X2CrNiMo1712	SUS316
	1,4410	G-X10CrNiMo189		
	1,4429	X2CrNiMoN17133	X2CrNiMoN1713	SUS316LN
	1,4435	X2CrNiMo18 143	X2CrNiMo1712	SCS16
	1,4436	X3CrNiMo17133	X8CrNiMo1713	SUS316
	1,4438	X2CrNiMo17133	X2CrNiMo1816	SUS317L
	1,4500	G-X7NiCrMoCuNb2520		
	1,4541	X5CrNiTi18 9	X6CrNiTi18 11	SUS321
	1,4550	X10CrNiNb	X6CrNiNb18 11	SUS347
	1,4552	G_X7CrNiNb189		
	1,4571	X10CrNiMoTi1810	X6CrNiMoTi1712	SUS316Ti
	1,4583	X10CrNiMoNb1812	X6CrNiMoNb	
	1,4828	X12CrNi2521		SUH309
	1,4850	G-X7CrNiMoCuNb1818	X6CrNiMoTi1712	
	1,4845	X12CrNi25 21	X6CrNi25 20	SUH310/SUS310S
Austenitic / ferritic stainless steel (Duplex)				
M	1,4460	X8CrNiMo275		SUS329J1
	1,4462	X2CrNiMoN2253		
	1,4821	X15CrNiSi254		
	1,4823	GX40CrNiSi274		

Material Comparison Table

Material group	Material No.	Germany DIN No.	Italy UNI	Japan JIS
Grey cast iron				
K	0,6010	GG10	G10	FC100
	0,6015	GG15	G14	FC150
	0,6020	GG20	G20	FC200
	0,6025	GG25	G25	FC250
	0,6030	GG30	G30	FC300
	0,6035	GG35	G35	FC350
	0,6040	GG40		FC400
Nodular cast iron				
K	0,7033	GGG35,3		FDC350
	0,7040	GGG40	GGG40	FDC400
	0,7043	GGG40,3		FDC400
	0,7050	GGG50	GGG50	FDC500
	0,7060	GGG60	GGG60	FCD600
	0,7070	GGG70	GGG70	FCD700
Malleable cast iron				
K	0,8035	GTW-35		
	0,8040	GTW-40	GMB40	
	0,8045	GTW-45	GMB45	
	0,8055	GTW-55		
	0,8065	GTW-65		
	0,8135	GTS-35		
	0,8145	GTS-45		
	0,8155	GTS-55		
	0,8165	GTS-65		
	0,8170	GTS-70		

Material Comparison Table

Material group	Material No.	Germany DIN No.	Italy UNI	Japan JIS
Aluminium alloys				
N	3,0255	Al99.5		
	3,1655	AlCuSiPb		
	3,1754	G-AlCu5Ni1,5	AZ4GU/9051	7050
	3,2373	G-AlSi9Mg		
	3,2381	G-AlSi10Mg		
	3,2382	GD-AlSi10Mg		
	3,2383	G-AlSi10Mg(Cu)		
	3,2581	G-AlSi12		
	3,2582	GD-AlSi12		A6061
	3,2583	G-AlSi12(Cu)		ADC12
	3,3315	AlMg1		
	3,3561	G-AlMg5		AC4A
	3,5101	G-MgZn4SE1Zr1		
	3,5103	MgSE3Zn2Zr1		
	3,5106	G-MgAg3SE2Zr1		
	3,5812	G-MgAl8Zn1		
	3,5912	G-MgAl9Zn1		
	2,1871	G-AlCu4TiMg		
	3,2371	G-AlSi7Mg		
Copper alloys				
N	2,1090	G-CuSn7ZnPb		
	2,1096	G-CuSn5ZnPb		
	2,1098	G-CuSn2ZnPb		
	2,1176	G-CuPb10Sn		
	2,1182	G-CuPb15Sn		
	2,0240	CuZn15		
	2,0265	CuZn30		
	2,0321	CuZn37	C2700,C2720	
	2,0592	G-CuZn35Al1		
	2,0596	G-CuZn34Al2		
	2,1188	G-CuPb20Sn		
	2,1292	G-CuCrF35		
	2,1293	CuCrZr		
	2,0966	CuAl10Ni5Fe4		
	2,0975	G-CuAl10Ni		
	2,1050	G-CuSn10		
	2,1052	G-CuSn12		

Material Comparison Table

Material group	Material No.	Germany DIN No.	Italy UNI	Japan JIS
Super alloys on Fe-basis			**US-Trade Mark**	
S	1,4558	X2NiCrAlTi3220	Incoloy 800	
	1,4562	X1NiCrMoCu32287		
	1,4563	X1NiCrMoCuN31274		
	1,4864	X12NiCrSi		SUH330
	1,4864	X5NiCrSi3616		SUH330
	1,4958	X5NiCrAlTi3120		
	1,4977	X40CoCrNi2020		
Super alloys on Ni-basis			**US-Trade Mark**	
S	1,4360	NiCu30FE	Monel 400	
	2,4375	NiCu30Al	Monel K-500	
	2,4610	NiMo16Cr16Ti	Hastelloy C-4	
	2,4630	NiCr20Ti	Nimonic 75	
	2,4642	NiCr29Fe	Inconel 690	
	2,4668	NiCr19FeNbMo	Inconle 718	
	2,4669	NiCr15Fe7TiAl	Inconel X-750	
	2,4685	G-NiMo28	Hastelloy B	
	2,4694	NiCr16Fe7TiAl	Inconel 751	
	2,4810	G-NiMo30	Hastelloy C-4	
	2,4856	NiCr22Mo9N	Inconel 625	
	2,4858	NiCr21Mo	Incoloy 825	
Titanium and Titanium alloys			**US-Trade Mark**	
S	3,7025	Ti 1		
	3,7124	TiCu2		
	3,7195	TiAl3V2.5		
	3,2250	Ti1Pd		
	3,7115	TiAl6Sn2		
	3,7145	TiAl6Sn2Zr4Mo2Si		
	3,7165	TiAl6V4	TiAl6V4	
	3,7175	TiAl6V6Sn2	Ti6V6Al2Sn	
	3,7185	TiAl4Mo4Sn2		

Material group	Material No.	Germany DIN No.	Italy UNI	Japan JIS
Hard cast iron				
H	0,9620	G-X260NiCr42		
	0,9625	G-X330NiCr42		
	0,9630	G-X300CrNiSi952		
	0,9635	G-X300CrMo153		
Hardened cast iron				
H	0,9640	G-X300CrMoNi1521		
	0,9645	G-X260CrMoNi2021		
	0,9650	G-X260Cr27		
	0,9655	G-X300CrMo271		

Explanations

Spare parts, symbols, abbreviations, product index

Spare parts . . . . . p. 238
Symbols . . . . . p. 240
Abbreviations . . . . . p. 240
Product index . . . . . p. 241



Spare parts

WG355 ET	ID-Nr.		ID-Nr.		Recommended Torque [Nm]
1	13701	M 5x16	14746	P4	7
2	13707	M 6x20	14747	P5	14
3	13709	M 8x25	14748	P6	14
4	15635	TXM 4x16 15	12900	T15W	3,8
5	13702	M 5x20	14746	P4	7
6	13700	M 5x12	14746	P4	7
7	15166	M 4x8 DIN 7984	14745	P3	5
8	13699	M 5x10	14746	P4	7
9	18777	TXM 4x12	12900	T15W	3,8
10	41015	TXM 4x12/15	40681	T15F	3,8
11	13698	M 4x16	14745	P3	5
12	13708	M 6x25	14747	P5	8
13	15086	M 3x12 DIN 913(Tapped pin)	14743	P1,5	0,8
14	13705	M 6x16	14747	P5	14
15	14846	LM 4x8	12771	P2,5	3
16	10397	Order Nr. 1856 (Ejector)		-	
17	10398	26 L (Wedgelock)		-	
18	13696	M 4x10	14745	P3	5
19	16203	M 5x10 DIN 7984	14746	P4	7
20	14749	M 4x16 DIN 913 (Tapped pin)	14744	P2	1,9
21	21949	M 5x20 DIN 913 (Tapped pin)	12771	P2,5	4
22	14846	LM 4x8 DIN 7380	14745	P3	3
23	34839	TXM 5x14 25	31353	T25W	5
24	35587	TXM 5x10 25	31353	T25W	5
25	29276	TXM 5x13 20	29312	T20W	5
26	33051	M 5x8 DIN 914 (Tapped pin)	35393	P2,5	6
27	35166	LM 3x8 DIN7380	14744	P2	1,5
28	34656	Order Nr. 34656 (Ejector A-TWIN)		-	
29	37353	LM 6x20 (Oval head screw)	38549	TX25	7
30	37556	M4x4 (Tapped pin)	14744	P2	4
31	37221	Leiste KL 32		-	
32	44188	M 6x20 1	14747	P5	14
33	44641	TXM5x14 10 25	45130	TX25/10	4,5
34	44817	TXM5x10 10 25	45130	TX25/10	4,5
35	34839	TXM 5x14 25	38549	TX25	7
36	44609	TXM5x13 20P92C	29312	T20W	5
37	44630	TXM6x17 20P92C	29312	T20W	5
38	45133	52 L (Wedgelock)			
39	45113	WK 25 10 (Interchangeable blade)			
40	45112	TX 6 (Grip)			
41	45130	TX25/10 (ET 39+40)			
42	49360	M 4x6 DIN 914 (Tapped pin)	14744	P2	3,5
43	19621	M5x16 DIN7984	14746	P4	7
44	54555	M5X0,5WN	14745	P3	3

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Spare parts for GLM-ISO-cartridges with positive pocket

WG355 Cartridges Ref.							
	ID-Nr.	ID-Nr.	ID-Nr	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.
GLMCL/R DC11T3	40679	40680	42889	40678	40681		
GLMCL/R CC09T3	-			40677	40681		
GLMCL/R VC1604	42656	40680	42889	40678	40681	41105	14747
GLMCL/R VC1303	13025	13024	14744	13026	16003	44117	14747

Spare parts for GLM-ISO-cartridges with negative pocket

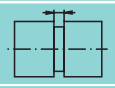
WG355 Cartridges Ref.										
	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.	ID-Nr.
GLMCL/R CN1204	42671	42749	18154	42652	42739	14745	42637	47168	41105	14745
GLMCL/R DN1506	42658	42749	18154	42653	42739	14745	42637	47168	41105	14745
GLMCL/R VN1604	15261	12760	14744	-	-	-	-	-	41105	14745
GLMCL/R WN0804	42668	42750	18154	42652	42739	14745	42637	47168	41105	14745

Spare parts for GLM-ISO-cartridges for ISO threading inserts

WG355 Cartridges Ref.					
	ID-Nr.	ID-Nr.	ID-Nr	ID-Nr.	ID-Nr.
GLMCL/R 16ER ISO	42664	40680	42889	40678	40681

Symbols

Symbols	Meaning
	Rotation / Run
	Diameter
	Angle

Symbols	Meaning
	Pitch
	Groove width
	Outside

Symbols	Meaning
	Inside
	Spare parts (ET)
	Weight

Abbreviations

Abbreviation	Meaning
ALU	Aluminium
ap	Cutting depth [mm]
b	Width
CCW	Counter clockwise
CW	Clockwise
D	Degree
e. g.	For instance
f	Cutting feed [mm/Revolution]
h	Height
ID-Nr	Identification Number
L	Length

Abbreviation	Meaning
LH	Left hand
max	No more than
min	No less than
o. r.	On request
P	Extension range
p.	Page, e.g. p. 16 = page 16
R	Radius
Ref.	Reference order code
RH	Right hand
S	Width of cutting edge [mm]
Vc	Cutting speed [m/min]

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