

Inserts

General turning

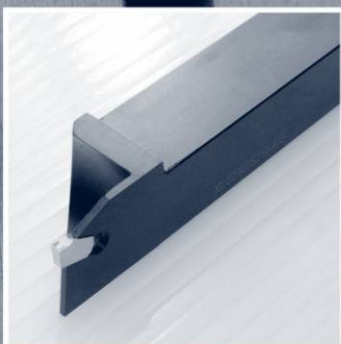
Aluminium
wheel turning

Automatic lathes

Ceramic tools

Parting and
grooving

Parting and grooving



Parting and grooving

Inserts	G.02
Applications	G.07
Toolholders	G.08
Boring bars	G.14
Tool blocks	G.16
Blades	G.17
Notch tools	G.20
Cutting data	G.24

Parting and
grooving

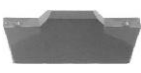
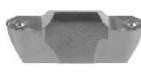
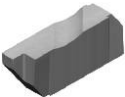
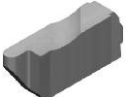
Threading

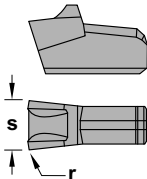
Drills

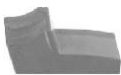
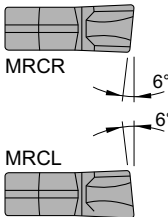
Cartridges

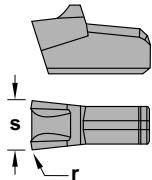
Brazed tools

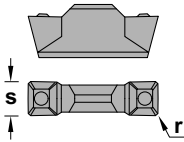
Tooling

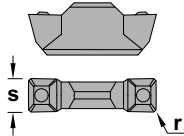
Inserts							
General turning	MRCN  Single-ended. Page G.03	MRCR/L  Single-ended. Page G.03	MTE  Single-ended. Page G.03	MTC  Double-ended. Page G.03	MTCJ  Double-ended. Page G.03	MTR  Double-ended. Page G.04	MTRJ  Double-ended. Page G.04
Aluminium wheel turning	PTNT  Single ended. Page G.04	PTR/LT  Single-ended. Page G.04					
Automatic lathes							
Ceramic tools	NG  Double-ended For Parting Page G.05	NR  Double-ended For Parting (radius) Page G.05	NT  Double-ended For Threading Page G.06				
Parting and grooving							
	ER/L LG  Triangular negative Page G.06						

	Normally available for immediate delivery ● Only available in a limited quantity ○												
	MRCN	s	r	KM15	PM25	PM40	TiN16	TiN17	TiN22	TiN32	ZR10	TL40	
	1.6	1,6	0,15	○	○					●			
	2.2	2,2	0,20	○	●					●		○	
	3.0	3,0	0,20	○	●					●		○	
	4.0	4,0	0,20	○	●					●		○	
	5.0	5,0	0,30	○	○					●		○	
	6.0	6,0	0,40	○	○					●		○	

	Normally available for immediate delivery ● Only available in a limited quantity ○												
	MRCR/L	s	r	KM15	PM25	PM40	TiN16	TiN17	TiN22	TiN32	ZR10	TL40	
	MRCR 3.0	3,0	0,20									●	
	MRCR 4.0	4,0	0,20									●	
	MRCL 3.0	3,0	0,20									●	
	MRCL 4.0	4,0	0,20									●	

	Normally available for immediate delivery ●												
	Only available in a limited quantity ○												
	MTE	s	r	KM15	PM25	PM40	TiN16	TiN17	TiN22	TiN32	ZR10	TL40	
	MTE 3.0	3,0	0,20							●		○	
	MTE 4.0	4,0	0,20							●		○	

	Normally available for immediate delivery ● Only available in a limited quantity ○											
	MTC	s	r	KM15	PM25	PM40	TiN16	TiN17	TiN22	TiN32	ZR10	
	MTC 3.0	3,0	0,15	●	●					○		
	MTC 4.0	4,0	0,20	●	●					●		

	Normally available for immediate delivery ● Only available in a limited quantity ○												
	MTCJ	s	r	KM15	PM25	PM40	TiN16	TiN17	TiN22	TiN32	ZR10		
	MTCJ 3.0	3,0	0,15	●	●						●		
	MTCJ 4.0	4,0	0,20	●	●						●		

Parting and
grooving

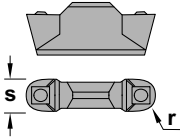
Threading

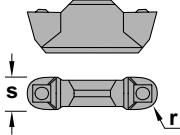
Drills

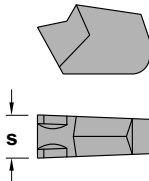
Cartridges

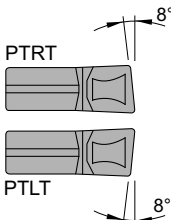
Braze tools

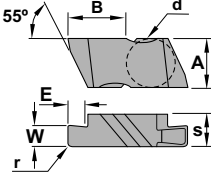
Tooling

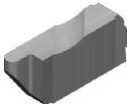
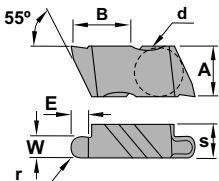
	Normally available for immediate delivery ● Only available in a limited quantity ○											
MTR		s	r	KM15	PM25	PM40	TIN16	TIN17	TIN22	TIN32	ZR10	
MTR 3.0		3,0	1,50	○	○					○		
MTR 3.8		3,8	1,90	○	○					○		
												

	Normally available for immediate delivery ● Only available in a limited quantity ○											
MTRJ		s	r	KM15	PM25	PM40	TIN16	TIN17	TIN22	TIN32	ZR10	
MTRJ 3.0		3,0	1,50	○	○					○		
MTRJ 3.8		3,8	1,90	○	○					○		
												

	Normally available for immediate delivery ● Only available in a limited quantity ○											
PTNT		s	KM15	PM25	PM40	TIN16	TIN17	TIN22	TIN32	ZR10		
PTNT 02		2,10		●	●				●			
PTNT 03		3,10	○	●	●				●			
PTNT 04		4,10		●	●				●			
PTNT 05		5,10	○	○					○			
PTNT 06		6,10	○	○					○			
PTNT 08		8,10			○							
PTNT 09		9,10		○								
												

	Normally available for immediate delivery ● Only available in a limited quantity ○											
PTR/LT		s	KM15	PM25	PM40	TIN16	TIN17	TIN22	TIN32	ZR10		
PTRT 3.0		3,0							○			
PTRT 4.0		4,0							○			
PTLT 3.0		3,0							○			
PTLT 4.0		4,0							○			
												

	Normally available for immediate delivery ● Only available in a limited quantity ○																
	NG	d	A	B	E	r	s	W	KM15	PM25	PM40	TiN16	TiN17	TiN22	TiN32	ZR10	
	NG-2031R/L	4,76	5,56	6,86	1,27	0,05	3,81	0,79				○					
	NG-210R/L	4,76	5,56	6,86	1,27	0,05	3,81	0,99				○					
	NG2041R/L	4,76	5,56	6,86	1,27	0,05	3,81	1,04				○					
	NG2047R/L	4,76	5,56	6,86	1,27	0,05	3,81	1,19				○					
	NG2058R/L	4,76	5,56	6,86	1,27	0,05	3,81	1,47				○					
	NG2062R/L	4,76	5,56	6,86	2,79	0,05	3,81	1,57				○					
	NG220R/L	4,76	5,56	6,86	2,79	0,05	3,81	2,01				○					
	NG2094R/L	4,76	5,56	6,86	2,79	0,05	3,81	2,39				○					
	NG230R/L	4,76	5,56	6,86	2,79	0,05	3,81	3,00				○					
	NG2125R/L	4,76	5,56	6,86	2,79	0,05	3,81	3,18				○					
	NG3031R/L	9,53	8,74	10,29	1,27	0,05	4,95	0,79				○					
	NG310R/L	9,53	8,74	10,29	1,27	0,05	4,95	0,99				○					
	NG3047R/L	9,53	8,74	10,29	1,91	0,05	4,95	1,19				○					
	NG3062R/L	9,53	8,74	10,29	3,05	0,13	4,95	1,57				○					
	NG3072R/L	9,53	8,74	10,29	3,05	0,13	4,95	1,83				○					
	NG3078R/L	9,53	8,74	10,29	3,05	0,13	4,95	1,98				○					
	NG320R/L	9,53	8,74	10,29	3,05	0,13	4,95	2,01				○					
	NG3088R/L	9,53	8,74	10,29	3,05	0,13	4,95	2,24				○					
	NG3094R/L	9,53	8,74	10,29	4,57	0,13	4,95	2,39				○					
	NG3097R/L	9,53	8,74	10,29	4,57	0,13	4,95	2,46				○					
	NG3105R/L	9,53	8,74	10,29	4,57	0,13	4,95	2,67				○					
	NG3110R/L	9,53	8,74	10,29	4,57	0,13	4,95	2,79				○					
	NG330R/L	9,53	8,74	10,29	4,57	0,13	4,95	3,10				○					
	NG3122R/L	9,53	8,74	10,29	4,57	0,13	4,95	3,10				○					
	NG3125R/L	9,53	8,74	10,29	4,57	0,13	4,95	3,18				○					
	NG3142R/L	9,53	8,74	10,29	4,57	0,13	4,95	3,61				○					
	NG3156R/L	9,53	8,74	10,29	4,57	0,13	4,95	3,96				○					
	NG340R/L	9,53	8,74	10,29	4,57	0,13	4,95	4,01				○					
	NG3178R/L	9,53	8,74	10,29	4,57	0,13	4,95	4,52				○					
	NG3185R/L	9,53	8,74	10,29	4,57	0,51	4,95	4,70				○					
	NG3189R/L	9,53	8,74	10,29	4,57	0,51	4,95	4,80				○					
	NG4125R/L	9,53	11,51	16,15	6,35	0,13	6,48	3,18				○					
	NG4189R/L	9,53	11,51	16,15	6,35	0,51	6,48	4,80				○					
	NG450R/L	9,53	11,51	16,15	6,35	0,25	6,48	5,00				○					
	NG4213R/L	9,53	11,51	16,15	6,35	0,13	6,48	5,41				○					
	NG4219R/L	9,53	11,51	16,15	6,35	0,51	6,48	5,56				○					
	NG4250R/L	9,53	11,51	16,15	6,35	0,51	6,48	6,35				○					
	NG4312R/L	9,53	11,51	16,15	6,35	0,76	6,48	7,92				○					
	NG6281R/L	9,53	11,51	16,15	6,35	0,76	9,73	7,14				○					
	NG6312R/L	9,53	11,51	16,15	6,35	0,76	9,73	7,92				○					
	NG6375R/L	9,53	11,51	16,15	6,35	0,76	9,73	9,53				○					

		Normally available for immediate delivery ● Only available in a limited quantity ○															
		NR							KM15	PM25	PM40	TIN16	TIN17	TIN22	TIN32	ZR10	
		d	A	B	E	r	s	W									
NR2031R/L		4,76	5,56	6,81	2,79	0,79	3,81	1,57				○					
NR2047R/L		4,76	5,56	6,79	2,79	1,19	3,81	2,39				○					
NR2062R/L		4,76	5,56	6,77	2,79	1,57	3,81	3,18				○					
NR3031R/L		9,53	8,74	10,24	3,81	0,79	4,95	1,57				○					
NR3047R/L		9,53	8,74	10,22	3,81	1,19	4,95	2,39				○					
NR3062R/L		9,53	8,74	10,20	3,81	1,57	4,95	3,18				○					
NR3078R/L		9,53	8,74	10,18	3,81	1,98	4,95	3,96				○					
NR3094R/L		9,53	8,74	10,16	3,81	2,39	4,95	4,78				○					
NR4062R/L		9,53	11,51	16,07	6,35	1,57	6,48	3,18				○					
NR4094R/L		9,53	11,51	10,03	6,35	2,39	6,48	4,78				○					
NR4125R/L		9,53	11,51	15,98	6,35	3,18	6,48	6,35				○					

Parting and
grooving

Threading

Drills

Cartridges

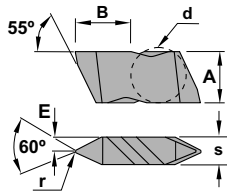
Brazed tools

Tooling



Normally available for immediate delivery ●

Only available in a limited quantity ○

NT

	d	A	B	E	r	s	KM15	PM25	PM40	TIN16	TIN17	TIN22	TIN32	ZR10
NT2R/L	4,76	5,56	6,76	1,91	0,08	3,81				○				
NT3R/L	9,53	8,74	10,16	2,49	0,13	4,95				○				
NT4R/L	9,53	11,51	15,98	3,25	0,13	6,48				○				

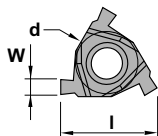
 Grooving - External inserts
Lock ring groove inserts type LG

Normally available for immediate delivery ●

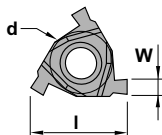
Only available in a limited quantity ○

ER-LG**ER-LG**

	l	d	W	KM15	PM25	TIN25	TL20
16ER-100LG	16,00	9,52	1,15				●
16ER-120LG	16,00	9,52	1,35				●
16ER-150LG	16,00	9,52	1,65				●
16ER-175LG	16,00	9,52	1,90				●
16ER-200LG	16,00	9,52	2,15				●

EL-LG**ER**

	l	d	W	KM15	PM25	TIN25	TL20
16EL-100LG	16,00	9,52	1,15				●
16EL-120LG	16,00	9,52	1,35				●
16EL-150LG	16,00	9,52	1,65				●
16EL-175LG	16,00	9,52	1,90				●
16EL-200LG	16,00	9,52	2,15				●

**EL**

Toolholders

CZGB Page G.08 MTE 03/04 MRCN 03/04	CZFB Page G.08 MTE 03/04 MRCN 03/04	CZCB Page G.10 MRCN 1,6 ... MRCN 6,0	CZCF Page G.11 MTC 3,0 MTC 4,0 MTR 3,0 MTR 3,8	CZCP Page G.12 MTC 3,0 MTC 4,0 MTR 3,0 MTR 3,8	XLCF Page G.13 PTNT 02 PTNT 03 PTNT 04
--	--	---	---	---	--

Boring bars

CZGF Page G.14 MTCJ 3,0 MTCJ 4,0 MTRJ 3,0 MTRJ 3,8	CZGB Page G.15 MTCJ 3,0 MTCJ 4,0 MTRJ 3,0 MTRJ 3,8				
---	---	--	--	--	--

Tool blocks

CPTS Page G.16	DPTS Page G.16				
------------------------------	------------------------------	--	--	--	--

Blades

CRCFN Page G.17 MRCN 2,2 ... MRCN 6,0	XLCFN Page G.18 PTNT 02 ... PTNT 09	XLCTN Page G.19 PTNT 02 ... PTNT 06			
--	--	--	--	--	--

Top Notch Tools

NE 93° Page G.20 N.. 2 N.. 3 N.. 4	NR 45° Page G.21 N.. 3	NS 93° Page G.22 N.. 2 N.. 3 N.. 4	NNTO 93° Page G.23 N.. 2 N.. 3 N.. 4		
--	--------------------------------------	--	--	--	--

Parting and
grooving

Threading

Drills

Cartridges

Brazed tools

Tooling

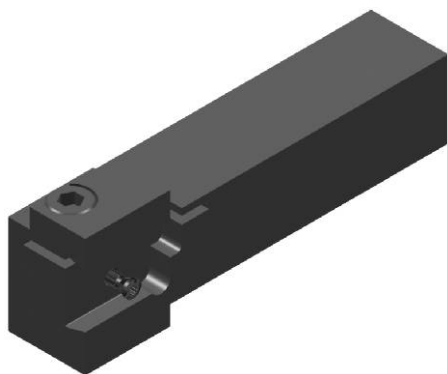
Inserts

General turning

Aluminium
wheel turning

Automatic lathes

Ceramic tools

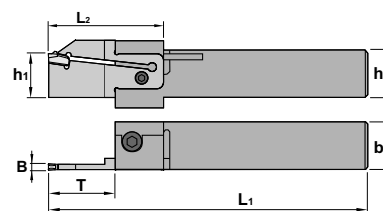
Parting and
grooving**Characteristics:**

Modular system for inserts with thickness from 3 to 4 mm.

The "V" positioning system of the pocket and the clamp integrated to the tool ensure maximum security and repetitivity on the dimensions when the insert is changed.

Applications:

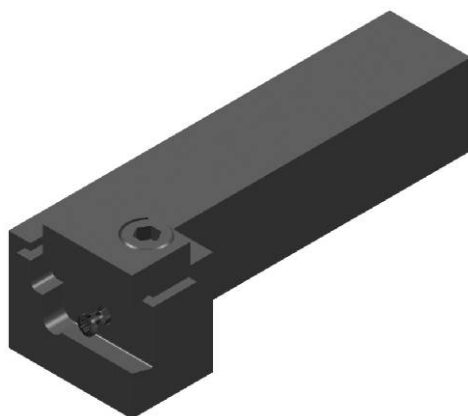
Parting, grooving and face grooving toolholder that works well on steels, alloyed steels, stainless steels and refractories.

**CZGB**

Ref.		h	b	L1	L2	h1	B	T	Kg
CZGB R/L 2020 M34		20	20	150	53	20	3-4	25-30	0,600
CZGB R/L 2525 M34		25	25	150	53	25	3-4	25-30	0,750
CZGB R/L 3232 P34		32	32	175	53	32	3-4	25-30	1,300



Ref.		1096	1240	5005	5515
CZGB R/L 2020 M34		1096	1240	5005	5515
CZGB R/L 2525 M34		1096	1240	5005	5515
CZGB R/L 3232 P34		1096	1240	5005	5515

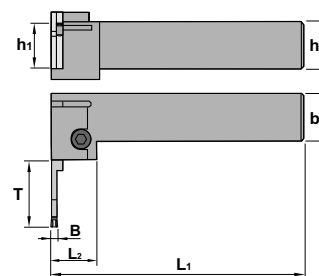
**Characteristics:**

Modular system for inserts with thickness from 3 to 4 mm.

The "V" positioning system of the pocket and the clamp integrated to the tool ensure maximum security and repetitivity on the dimensions when the insert is changed.

Applications:

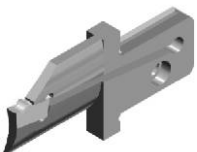
Parting, grooving and face grooving toolholder that works well on steels, alloyed steels, stainless steels and refractories.

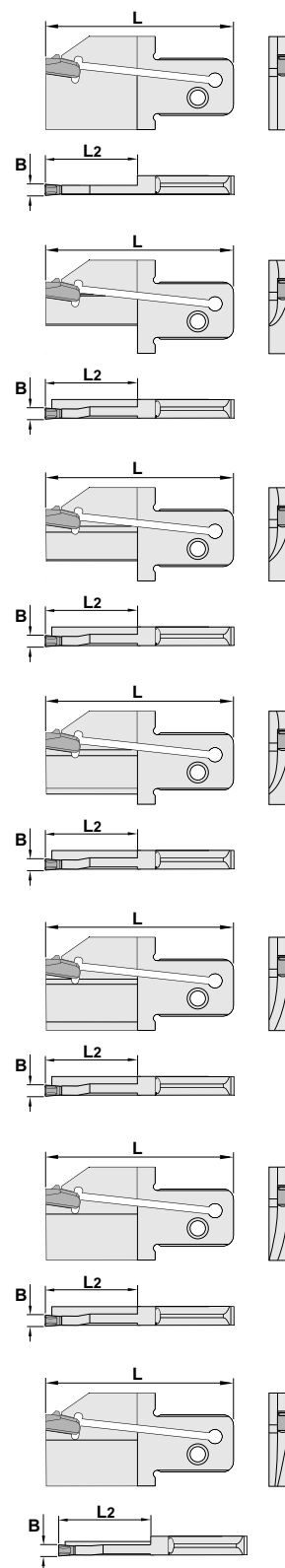
**CZFB**

Ref.		h	b	L1	L2	h1	B	T	Kg
CZFB R/L 2525 M34		25	25	150	25	25	3-4	25-30	0,750
CZFB R/L 3232 P34		32	32	175	25	32	3-4	25-30	1,300



Ref.		1096	1240	5005	5515
CZFB R/L 2525 M34		1096	1240	5005	5515
CZFB R/L 3232 P34		1096	1240	5005	5515

	CZXB 00					
		L	L2	B	Insert size	
	Ref.	CZXB R/L 00X03	53	30	3	MRCN 03
		CZXB R/L 00X04	53	30	4	MRCN 04
	CZXB 40-50					
		L	L2	B	Ø Range	Insert size
	Ref.	CZXB R/L 4050X03	53	25	3	40 - 50
		CZXB R/L 4050X04	53	25	4	40 - 50
	CZXB 50-65					
		L	L2	B	Ø Range	Insert size
	Ref.	CZXB R/L 5065X03	53	25	3	50 - 65
		CZXB R/L 5065X04	53	25	4	50 - 65
	CZXB 65-92					
		L	L2	B	Ø Range	Insert size
	Ref.	CZXB R/L 6592X03	53	25	3	65 - 92
		CZXB R/L 6592X04	53	25	4	65 - 92
	CZXB 90-122					
		L	L2	B	Ø Range	Insert size
	Ref.	CZXB R/L 90122X03	53	30	3	90 - 122
		CZXB R/L 90122X04	53	30	4	90 - 122
	CZXB 120-160					
		L	L2	B	Ø Range	Insert size
	Ref.	CZXB R/L 120160X03	53	30	3	120 - 160
		CZXB R/L 120160X04	53	30	4	120 - 160
	CZXB 150-500					
		L	L2	B	Ø Range	Insert size
	Ref.	CZXB R/L 150500X03	53	30	3	150 - 500
		CZXB R/L 150500X04	53	30	4	150 - 500

Parting and
grooving

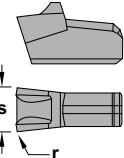
Threading

Drills

Cartridges

Braze tools

Tooling

	MRCN / MTE		s	r	Single-ended insert for parting, turning and grooving		
	Ref.	MRCN 03 / MTE 03	3,0	0,20			
		MRCN 04 / MTE 04	4,0	0,20			
					For more information see page: G.03		
	MRCN	MTE					
							

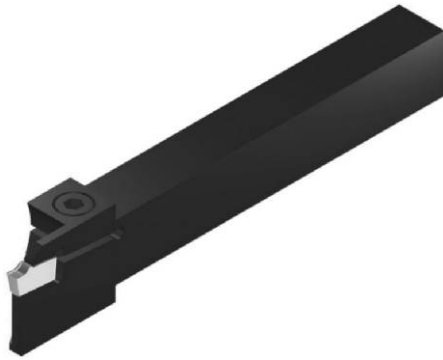
Inserts

General turning

Aluminium
wheel turning

Automatic lathes

Ceramic tools

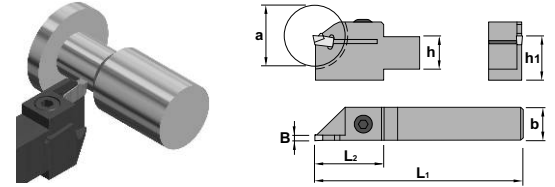
Parting and
grooving**Characteristics:**

One sided inserts with thickness from 1,6 to 6 mm.

The "V" positioning system of the pocket and the clamp integrated to the tool ensure maximum security and repetitivity on the dimensions when the insert is changed.

Applications:

Parting, grooving and side turning toolholder that works well on steels, alloyed steels, stainless steels and refractories.

**CZCB**

Ref.		h	b	L1	L2	h1	B	a	Insert size	Kg
	CZCB R/L 1010 J01	10	10	110	25	21	1,6	22	MRCN 1,6	0,080
	CZCB R/L 1010 J02	10	10	110	25	21	2,2	22	MRCN 2,2	0,080
	CZCB R/L 1212 J01	12	12	110	25	21	1,6	22	MRCN 1,6	0,100
	CZCB R/L 1212 J02	12	12	110	25	21	2,2	22	MRCN 2,2	0,100
	CZCB R/L 1612 J02	16	12	110	29	21	2,2	32	MRCN 2,2	0,150
	CZCB R/L 1612 J03	16	12	110	29	21	3,0	32	MRCN 3,0	0,150
	CZCB R/L 2016 K03	20	16	125	35	30	3,0	42	MRCN 3,0	0,350
	CZCB R/L 2016 K04	20	16	125	35	30	4,0	42	MRCN 4,0	0,350
	CZCB R/L 2016 K05	20	16	125	35	30	5,0	42	MRCN 5,0	0,350
	CZCB R/L 2016 K06	20	16	125	35	30	6,0	42	MRCN 6,0	0,350
	CZCB R/L 2520 M03	25	20	150	50	30	3,0	80	MRCN 3,0	0,550
	CZCB R/L 2520 M04	25	20	150	50	30	4,0	80	MRCN 4,0	0,550
	CZCB R/L 2520 M05	25	20	150	50	30	5,0	80	MRCN 5,0	0,550
	CZCB R/L 2520 M06	25	20	150	50	30	6,0	80	MRCN 6,0	0,550



Ref.			
	CZCB R/L 1010 J01	1905	5004
	CZCB R/L 1010 J02	1905	5004
	CZCB R/L 1212 J01	1905	5004
	CZCB R/L 1212 J02	1905	5004
	CZCB R/L 1612 J02	1916	5005
	CZCB R/L 1612 J03	1916	5005
	CZCB R/L 2016 K03	1906	5005
	CZCB R/L 2016 K04	1906	5005
	CZCB R/L 2016 K05	1906	5005
	CZCB R/L 2016 K06	1906	5005
	CZCB R/L 2520 M03	1906	5005
	CZCB R/L 2520 M04	1906	5005
	CZCB R/L 2520 M05	1906	5005
	CZCB R/L 2520 M06	1906	5005

Ref.	MRCN	s	r	Single-ended insert for parting, turning and grooving			
	MRCN 1,6	1,6	0,15	For more information see page: G.03			
	MRCN 2,2	2,2	0,20				
	MRCN 3,0	3,0	0,20				
	MRCN 4,0	4,0	0,20				
	MRCN 5,0	5,0	0,30				
	MRCN 6,0	6,0	0,40				
MRCN							

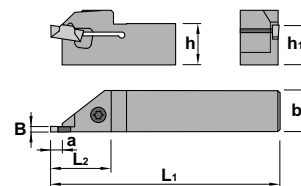
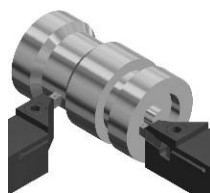
**Characteristics:**

Double sided inserts with thickness from 3 to 4 mm.

The "V" positioning system of the pocket and the clamp integrated to the tool ensure maximum security and repetitivity on the dimensions when the insert is changed.

Applications:

Face grooving and side turning toolholder that works well on steels, alloyed steels, stainless steels and refractories.

**CZCF**

Ref.		h=h ₁	b	L ₁	L ₂	B	a	Insert size	
CZCF R/L 1616 H34		16	16	100	24	3-4	4,5	MT.. 3,0-4,0	0,200
CZCF R/L 2020 K34		20	20	125	24	3-4	4,5	MT.. 3,0-4,0	0,300
CZCF R/L 2525 M34		25	25	150	24	3-4	4,5	MT.. 3,0-4,0	0,450

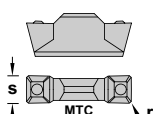
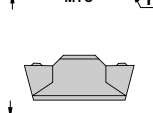
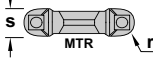
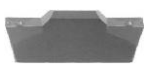
Parting and
grooving

Ref.		
CZCF R/L 1616 H34	1916	5005
CZCF R/L 2020 K34	1906	5005
CZCF R/L 2525 M34	1906	5005

Threading

Drills

Cartridges

MT..		s	r	Double-ended insert for turning and grooving.			
Ref.							
MTC 3,0		3,0	0,15	For more information see page: G.03			
MTC 4,0		4,0	0,20				
MTR 3,0		3,0	1,50				
MTR 3,8		3,8	1,90				
MTC	MTR						
							

Braze tools

Tooling

Inserts

General turning

Aluminium
wheel turning

Automatic lathes

Ceramic tools

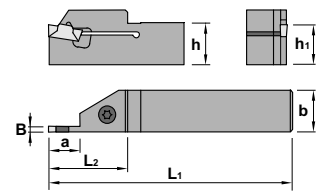
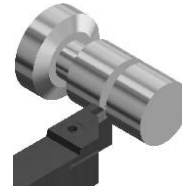
Parting and
grooving**Characteristics:**

Double sided inserts with thickness from 3 to 3,8 mm.

The "V" positioning system of the pocket and the clamp integrated to the tool ensure maximum security and repetitivity on the dimensions when the insert is changed.

Applications:

Parting, grooving and side turning toolholder that works well on steels, alloyed steels, stainless steels and refractories.

**CZCP**

Ref.		h=h ₁	b	L ₁	L ₂	B	a	Insert size	 Kg
	CZCP R/L 1616 H34	16	16	100	30	3-4	12	MT.. 3,0-4,0	0,200
	CZCP R/L 2020 K34	20	20	125	30	3-4	12	MT.. 3,0-4,0	0,300
	CZCP R/L 2525 M34	25	25	150	30	3-4	12	MT.. 3,0-4,0	0,450



Ref.			
	CZCP R/L 1616 H34	1916	5005
	CZCP R/L 2020 K34	1906	5005
	CZCP R/L 2525 M34	1906	5005

MT..		s	r	Double-ended insert for turning and grooving.			
Ref.							
	MTC 3,0	3,0	0,15	For more information see page: G.03			
	MTC 4,0	4,0	0,20				
	MTR 3,0	3,0	1,50				
	MTR 3,8	3,8	1,90				
		MTC	MTR				
							

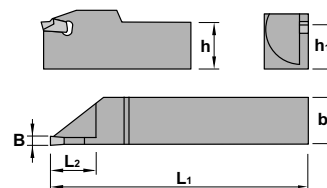
**Characteristics:**

One sided inserts with thickness from 2 to 4 mm.

The "V" positioning system of the pocket and the clamp integrated to the tool ensure maximum security and repetitivity on the dimensions when the insert is changed.

Applications:

Parting and grooving toolholder that works well on steels, alloyed steels, stainless steels and refractories.

**XLCF**

Ref.		h=h ₁	b	L ₁	L ₂	B	Insert size	Kg
	XLCF R/L 1010 J02	10	10	110	18	2	PTNT 02	0,080
	XLCF R/L 1212 J02	12	12	110	18	2	PTNT 02	0,100
	XLCF R/L 1612 J03	16	12	110	20	3	PTNT 03	0,150
	XLCF R/L 1612 J04	16	12	110	20	4	PTNT 04	0,150
	XLCF R/L 2012 K03	20	12	125	20	3	PTNT 03	0,200
	XLCF R/L 2012 K04	20	12	125	20	4	PTNT 04	0,200
	XLCF R/L 2020 K03	20	20	125	20	3	PTNT 03	0,350
	XLCF R/L 2020 K04	20	20	125	20	4	PTNT 04	0,350
	XLCF R/L 2525 M03	25	25	150	20	3	PTNT 03	0,650
	XLCF R/L 2525 M04	25	25	150	20	4	PTNT 04	0,650



Ref.	XLCF R/L 1010 J02	5732
	XLCF R/L 1212 J02	5732
	XLCF R/L 1612 J03	5732
	XLCF R/L 1612 J04	5732
	XLCF R/L 2012 K03	5732
	XLCF R/L 2012 K04	5732
	XLCF R/L 2020 K03	5732
	XLCF R/L 2020 K04	5732
	XLCF R/L 2525 M03	5732
	XLCF R/L 2525 M04	5732

PTNT		s	Single-ended insert for parting and grooving. For more information see page: G.04				
Ref.							
	PTNT 02	2,10					
	PTNT 03	3,10					
	PTNT 04	4,10					
			PTNT				

Parting and
grooving

Threading

Drills

Cartridges

Braze tools

Tooling

Inserts

General turning

Aluminium
wheel turning

Automatic lathes

Ceramic tools

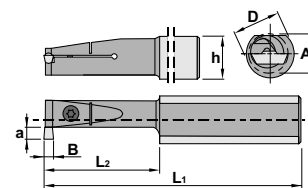
Parting and
grooving**Characteristics:**

Double sided inserts with thickness from 3 to 3,8 mm.

The "V" positioning system of the pocket and the clamp integrated to the tool ensure maximum security and repetitivity on the dimensions when the insert is changed.

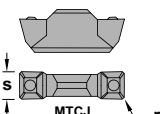
Applications:

Grooving and internal turning boring bar that works well on steels, alloyed steels, stainless steels and refractories.

**CZGF**

Ref.		D	A	h	L ₁	L ₂	B	a	Insert size	 Kg
S20R CZGF R/L 34		20	16,5	18	200	40	3-4	5	MT.. 3,0-4,0	0,400
S25R CZGF R/L 34		25	25,0	23	200	50	3-4	5	MT.. 3,0-4,0	0,650
S32S CZGF R/L 34		32	30,0	30	250	60	3-4	5	MT.. 3,0-4,0	1,400

Ref.				
S20R CZGF R/L 34	1250	5520	-	-
S25R CZGF R/L 34	-	-	1006	5004
S32S CZGF R/L 34	-	-	1006	5004

MT..J		s	r	Double-ended insert for turning and grooving.			
Ref.							
MTCJ 3,0		3,0	0,15	For more information see page: G.03			
MTCJ 4,0		4,0	0,20				
MTRJ 3,0		3,0	1,50				
MTRJ 3,8		3,8	1,90				
MTCJ	MTRJ						
							

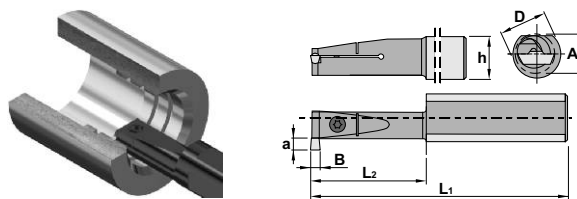
**Characteristics:**

Single side inserts with thickness from 3 to 4 mm.

The "V" positioning system of the pocket and the clamp integrated to the tool ensure maximum security and repetitivity on the dimensions when the insert is changed.

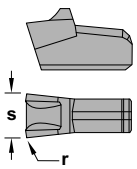
Applications:

Grooving boring bar that works well on steels, alloyed steels, stainless steels and refractories.

**CZGB**

		D	A	h	L1	L2	B	a	Insert size	 Kg
Ref.	S16M CZGB R/L 03	16	15,0	15	150	30	3	4	MCRN 3,0	0,180
	S20R CZGB R/L 03	20	16,5	18	200	40	3	6	MCRN 3,0	0,400
	S25S CZGB R/L 03	25	25,0	23	250	50	3	8	MCRN 3,0	0,650
	S20R CZGB R/L 04	20	16,5	18	200	40	4	6	MCRN 4,0	0,400
	S25S CZGB R/L 04	25	25,0	23	250	50	4	8	MCRN 4,0	0,650

					
Ref.	S16M CZGB R/L 03	1250	5520	-	-
	S20R CZGB R/L 03	1250	5520	-	-
	S25S CZGB R/L 03	-	-	1006	5004
	S20R CZGB R/L 04	-	-	1006	5004
	S25S CZGB R/L 04	-	-	1006	5004

	MRCN		s	r	Single-ended insert for parting, turning and grooving		
	Ref.	MRCN 3,0	3,0	0,20			
		MRCN 4,0	4,0	0,20			
	MRCN						
							

For more information see page: G.03

Inserts

General turning

Aluminium
wheel turning

Automatic lathes

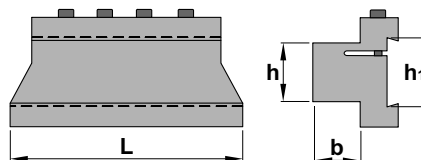
Ceramic tools

Parting and
grooving**Characteristics:**

Tool blocks manufactured with two slot-guide which allows to maintain the blade always guided. The fixing system by flexion ensures good rigidity and security.

Uses:

Tool block for manual and C.N.C. lathes.

**CPTS**

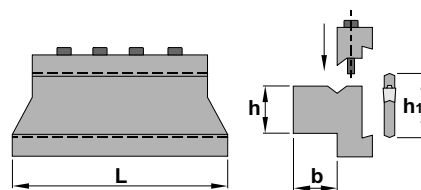
Ref.		h_1	L	h	b	 Kg		
	CPTS 1916	19	76	16	16	0,300	1075	5004
	CPTS 2616	26	87	16	16	0,450	1076	5005
	CPTS 2620	26	87	20	20	0,500	1076	5005
	CPTS 2625	26	87	25	25	0,650	1076	5005
	CPTS 3220	32	100	20	20	0,700	1076	5005
	CPTS 3225	32	110	25	25	0,950	1076	5005
	CPTS 3232	32	120	32	32	1,400	1076	5005
	CPTS 5250	52	135	50	50	3,400	1078	5006

Characteristics:

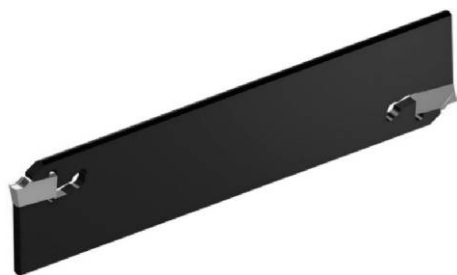
Tool blocks manufactured with two slot-guide which allows to maintain the blade always guided. Fixing system in two parts for machines with difficult access.

Uses:

Tool block for manual and C.N.C. lathes.

**DPTS**

Ref.		h_1	L	h	b	 Kg		
	DPTS 1916	19	76	16	16	0,250	1075	5004
	DPTS 2620	26	87	20	20	0,550	1076	5005
	DPTS 2625	26	87	25	25	0,700	1076	5005
	DPTS 3220	32	100	20	20	0,750	1076	5005
	DPTS 3225	32	110	25	25	1,000	1076	5005
	DPTS 3232	32	120	32	32	1,450	1076	5005
	DPTS 5250	52	135	50	50	3,450	1078	5006

**Characteristics:**

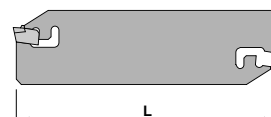
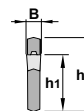
One sided inserts with thickness from 2,2 to 6 mm.

The double "V" pocket ensures a reliable and repetitive insert positioning and centering.

Available in 4 sizes (19, 26 and 32).

Applications:

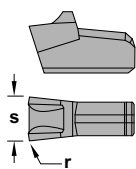
Parting and grooving blade that works well on steels, alloyed steels, stainless steels and refractories.

**CRCFN**

Ref.		h	L	h ₁	B	Insert size	 Kg
	CRCF N 1901 X02	19	86	15,4	2,2	MRCN 2,2	0,040
	CRCF N 2601 J02	26	110	21,4	2,2	MRCN 2,2	0,060
	CRCF N 2602 J03	26	110	21,4	3,0	MRCN 3,0	0,070
	CRCF N 2603 J04	26	110	21,4	4,0	MRCN 4,0	0,090
	CRCF N 2604 J05	26	110	21,4	5,0	MRCN 5,0	0,100
	CRCF N 2605 J06	26	110	21,4	6,0	MRCN 6,0	0,100
	CRCF N 3202 M03	32	150	25,0	3,0	MRCN 3,0	0,100
	CRCF N 3203 M04	32	150	25,0	4,0	MRCN 4,0	0,125
	CRCF N 3204 M05	32	150	25,0	5,0	MRCN 5,0	0,150
	CRCF N 3205 M06	32	150	25,0	6,0	MRCN 6,0	0,170



Ref.	CRCF N 1901 X02	5733
	CRCF N 2601 J02	5733
	CRCF N 2602 J03	5733
	CRCF N 2603 J04	5733
	CRCF N 2604 J05	5733
	CRCF N 2605 J06	5733
	CRCF N 3202 M03	5733
	CRCF N 3203 M04	5733
	CRCF N 3204 M05	5733
	CRCF N 3205 M06	5733

	MRCN			Single-ended insert for parting, turning and grooving		
	Ref.					
	MRCN 2,2	2,2	0,20			
	MRCN 3,0	3,0	0,20			
	MRCN 4,0	4,0	0,20			
	MRCN 5,0	5,0	0,30			
	MRCN 6,0	6,0	0,40			
	MRCN					
						

For more information see page: G.03

Parting and
grooving

Threading

Drills

Cartridges

Brazed tools

Tooling

Inserts

General turning

Aluminium
wheel turning

Automatic lathes

Ceramic tools

Parting and
grooving**Characteristics:**

One sided inserts with thickness from 2 to 9 mm.

The double "V" pocket ensures a reliable and repetitive insert positioning and centering.

Available in 4 sizes (19,26,32 and 53).

Applications:

Parting, grooving blade that works well on steels, alloyed steels, stainless steels and refractories.

**XLCFN**

Ref.		h	L	B	Insert size		
	XLCF N 1901 X02	19	86	2,1	PTNT 02	0,040	5732
	XLCF N 2601 J02	26	110	2,1	PTNT 02	0,050	5732
	XLCF N 2602 J03	26	110	3,1	PTNT 03	0,050	5732
	XLCF N 2603 J04	26	110	4,1	PTNT 04	0,085	5732
	XLCF N 2604 J05	26	110	5,1	PTNT 05	0,095	5732
	XLCF N 2605 J06	26	110	6,1	PTNT 06	0,120	5732
	XLCF N 3201 M02	32	150	2,1	PTNT 02	0,075	5732
	XLCF N 3202 M03	32	150	3,1	PTNT 03	0,100	5732
	XLCF N 3203 M04	32	150	4,1	PTNT 04	0,130	5732
	XLCF N 3204 M05	32	150	5,1	PTNT 05	0,160	5732
	XLCF N 3205 M06	32	150	6,1	PTNT 06	0,190	5732
	XLCF N 3207 M08	32	150	8,1	PTNT 08	0,230	5732
	XLCF N 3208 M09	32	150	9,1	PTNT 09	0,270	5732
	XLCF N 5207 X08	53	190	8,1	PTNT 08	0,500	5732
	XLCF N 5208 X09	53	190	9,1	PTNT 09	0,600	5732
	XLCF N 5307 X08	53	260	8,1	PTNT 08	0,700	5732
	XLCF N 5308 X09	53	260	9,1	PTNT 09	0,800	5732

PTNT**s**

Ref.

PTNT 02

2,10

PTNT 03

3,10

PTNT 04

4,10

PTNT 05

5,10

PTNT 06

6,10

PTNT 08

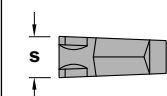
8,10

PTNT 09

9,10

Single-ended insert for parting and grooving.

For more information see page: G.04

PTNT

**Characteristics:**

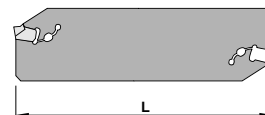
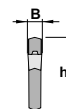
Positive stop blade for inserts with thickness from 2 to 6 mm.

The double "V" pocket ensures a reliable and repetitive insert positioning and centering.

Available in 4 sizes (19, 26 and 32).

Applications:

Parting, grooving blade that works well on steels, alloyed steels, stainless steels and refractories.

**XLCTN**

Ref.		h	L	B	Insert size	Kg
XLCT N 1901 X02		19	86	2,1	PTNT 02	0,040
XLCT N 2601 J02		26	110	2,1	PTNT 02	0,050
XLCT N 2602 J03		26	110	3,1	PTNT 03	0,050
XLCT N 2603 J04		26	110	4,1	PTNT 04	0,085
XLCT N 2604 J05		26	110	5,1	PTNT 05	0,095
XLCT N 2605 J06		26	110	6,1	PTNT 06	0,120
XLCT N 3201 M02		32	150	2,1	PTNT 02	0,075
XLCT N 3202 M03		32	150	3,1	PTNT 03	0,100
XLCT N 3203 M04		32	150	4,1	PTNT 04	0,130
XLCT N 3204 M05		32	150	5,1	PTNT 05	0,160
XLCT N 3205 M06		32	150	6,1	PTNT 06	0,190



Ref.	XLCT N 1901 X02	5732
XLCT N 2601 J02		5732
XLCT N 2602 J03		5732
XLCT N 2603 J04		5732
XLCT N 2604 J05		5732
XLCT N 2605 J06		5732
XLCT N 3201 M02		5732
XLCT N 3202 M03		5732
XLCT N 3203 M04		5732
XLCT N 3204 M05		5732
XLCT N 3205 M06		5732

PTNT		s	Single-ended insert for parting and grooving.			
Ref.						
PTNT 02		2,10				
PTNT 03		3,10				
PTNT 04		4,10				
PTNT 05		5,10				
PTNT 06		6,10				
			For more information see page: G.04			
PTNT						
						

Parting and
grooving

Threading

Drills

Cartridges

Braze tools

Tooling

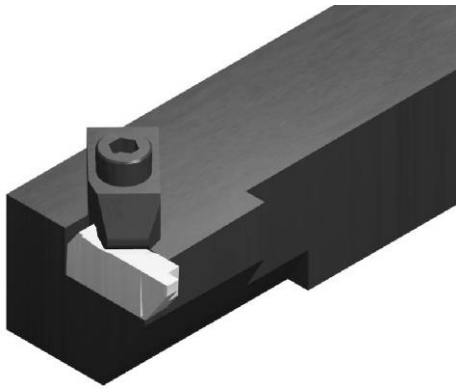
Inserts

General turning

Aluminium
wheel turning

Automatic lathes

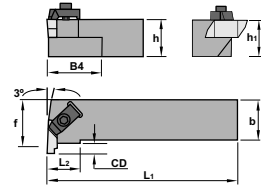
Ceramic tools

Parting and
grooving**Characteristics:**

Multipurpose grooving and threading top clamp toolholder.
 Right tools require left inserts and vice versa.
 Maximum grooving depth depending on insert.

Applications:

External/internal grooving toolholder.

**NE 93°**

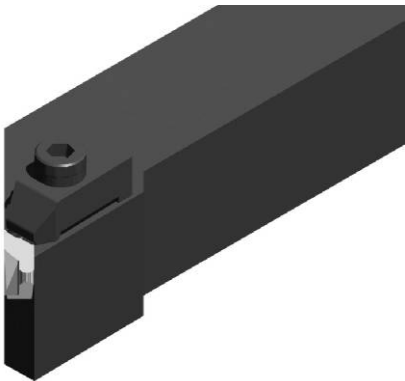
Ref.		h=h1	b	L1	L2	f	Insert size	Kg
	NE R/L 1616 H02	16	16	100	25,40	20	N..2	0,200
	NE R/L 2020 K02	20	20	125	25,40	25	N..2	0,400
	NE R/L 2525 M02	25	25	150	25,40	32	N..2	0,700
	NE R/L 2525 M03	25	25	150	50,80	32	N..3	0,700
	NE R/L 3225 P03	32	25	170	50,80	32	N..3	1,000
	NE R/L 2525 M04	25	25	150	50,80	35	N..4	0,700
	NE R/L 3225 P04	32	25	170	50,80	35	N..4	1,000
	NE R/L 3232 P04	32	32	170	50,80	40	N..4	1,250

Ref.					
NE R/L 1616 H02	TF-75	TF-74	-	-	1494
NE R/L 2020 K02	TF-75	TF-74	-	-	1494
NE R/L 2525 M02	TF-75	TF-74	-	-	1494
NE R/L 2525 M03	TF-73	TF-72	-	-	1495
NE R/L 3225 P03	TF-73	TF-72	-	-	1495
NE R/L 2525 M04	TF-73	TF-72	3521	1625	1495
NE R/L 3225 P04	TF-73	TF-72	3521	1625	1495
NE R/L 3232 P04	TF-73	TF-72	3521	1625	1495

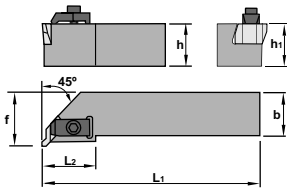
	N..	D	A	T	NG: Insert for parting NR: Insert for parting with radius NT: Insert for threading		
	Ref. N.. 2	4,76	5,56	3,81			
	N.. 3	9,53	8,74	4,95			
	N.. 4	9,53	11,51	6,48			
					For more information see page: G.05		
NG	NR	NT					
							

NG: Insert for parting
 NR: Insert for parting with radius
 NT: Insert for threading

For more information see page: G.05



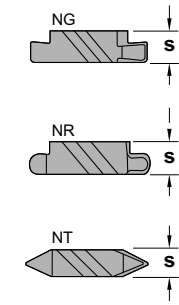
Characteristics:
Specific application grooving toolholder.
Right tools require left inserts and vice versa.
Maximum grooving depth depending on insert.
Applications:
External grooving toolholder.



NR 45°								
		h=h1	b	L1	L2	f	Insert size	
Ref.	NR R/L 2020 K03	20	20	125	32	25	N..3	0,400
	NR R/L 2525 M03	25	25	150	32	32	N..3	0,700
	NR R/L 3225 P03	32	25	170	32	32	N..3	1,000

					R		L	
Ref.	NR R/L 2020 K03	TF-73		TF-72		1495		
	NR R/L 2525 M03	TF-73		TF-72		1495		
	NR R/L 3225 P03	TF-73		TF-72		1495		

N..					NG: Insert for parting NR: Insert for parting with radius NT: Insert for threading		
Ref.	N.. 3	D	A	T			
					For more information see page: G.05		
		NG	NR	NT			
							



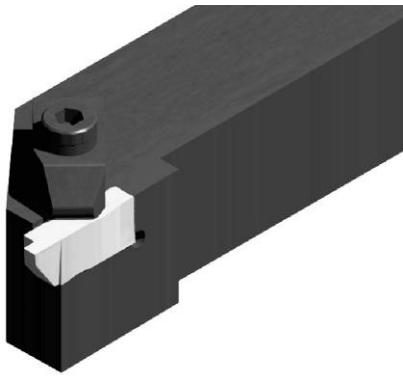
Inserts

General turning

Aluminium
wheel turning

Automatic lathes

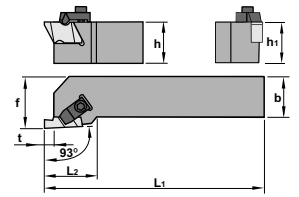
Ceramic tools

Parting and
grooving**Characteristics:**

Multipurpose grooving and threading top clamp toolholder.
Maximum grooving depth depending on insert.

Applications:

External grooving toolholder.

**NS 93°**

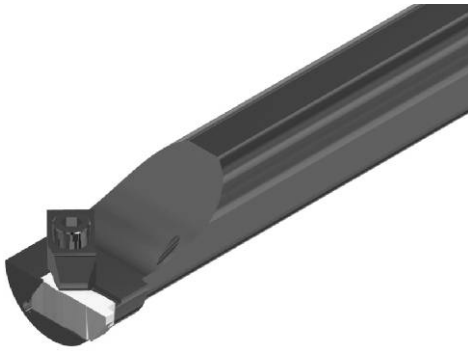
Ref.		h=h ₁	b	L ₁	L ₂	f	Insert size	Kg
NS R/L 1010 E02		10	10	70	6,35	14	N..2	0,070
NS R/L 1212 F02		12	12	80	6,35	16	N..2	0,100
NS R/L 1616 H02		16	16	100	6,35	20	N..2	0,200
NS R/L 2020 K02		20	20	125	6,35	25	N..2	0,400
NS R/L 2525 M02		25	25	150	6,35	32	N..2	0,700
NS R/L 2020 K03		20	20	125	9,65	25	N..3	0,400
NS R/L 2525 M03		25	25	150	9,65	32	N..3	0,700
NS R/L 3225 P03		32	25	170	9,65	32	N..3	0,900
NS R/L 3232 P03		32	32	170	9,65	40	N..3	1,250
NS R/L 2525 M04		25	25	150	9,65	32	N..4	0,700
NS R/L 3225 P04		32	25	170	9,65	32	N..4	0,900
NS R/L 3232 P04		32	32	170	9,65	40	N..4	1,250

Ref.	R	L			
NS R/L 1010 E02	TF-74	TF-75	-	-	1494
NS R/L 1212 F02	TF-74	TF-75	-	-	1494
NS R/L 1616 H02	TF-74	TF-75	-	-	1494
NS R/L 2020 K02	TF-74	TF-75	-	-	1494
NS R/L 2525 M02	TF-74	TF-75	-	-	1494
NS R/L 2020 K03	TF-72	TF-73	-	-	1495
NS R/L 2525 M03	TF-72	TF-73	-	-	1495
NS R/L 3225 P03	TF-72	TF-73	-	-	1495
NS R/L 3232 P03	TF-72	TF-73	-	-	1495
NS R/L 2525 M04	TF-72	TF-73	3521	1625	1495
NS R/L 3225 P04	TF-72	TF-73	3521	1625	1495
NS R/L 3232 P04	TF-72	TF-73	3521	1625	1495

Ref.	N..	D	A	T	NG NR NT		
	N.. 2	4,76	5,56	3,81			
	N.. 3	9,53	8,74	4,95			
	N.. 4	9,53	11,51	6,48			
					For more information see page: G.05		
					NG	NR	NT

NG: Insert for parting
 NR: Insert for parting with radius
 NT: Insert for threading

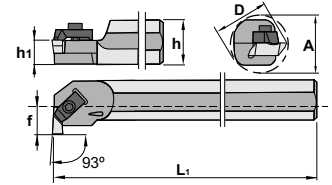
For more information see page: G.05

**Characteristics:**

Multipurpose grooving and threading top clamp boring bar.
Right tools require left inserts and vice versa.
Maximum grooving depth depending on insert.

Applications:

Internal grooving toolholder.

**NNTO 93°**

Ref.		D	h	h1	L1	f	A	Insert size	Kg
A12M-NNTO R/L 02		12	11	5,5	150	11	18,5	N..2	0,150
A16M-NNTO R/L 02		16	15	7,5	150	11	22,0	N..2	0,200
A20Q-NNTO R/L 02		20	18	9,0	180	13	26,0	N..2	0,400
A25R-NNTO R/L 02		25	23	11,5	200	17	34,0	N..2	0,700
A25R-NNTO R/L 03		25	23	11,5	200	17	34,0	N..3	0,700
A32S-NNTO R/L 03		32	30	15,0	250	22	44,0	N..3	1,400
A40T-NNTO R/L 03		40	37	18,5	300	27	54,0	N..3	2,650
A40T-NNTO R/L 04		40	37	18,5	300	27	54,0	N..4	2,650
A50U-NNTO R/L 04		50	47	23,5	350	35	70,0	N..4	5,400

Ref.	R	L	
A12M-NNTO R/L 02	TF-147	TF-146	1494
A16M-NNTO R/L 02	TF-75	TF-74	1494
A20Q-NNTO R/L 02	TF-75	TF-74	1494
A25R-NNTO R/L 02	TF-75	TF-74	1494
A25R-NNTO R/L 03	TF-73	TF-72	1495
A32S-NNTO R/L 03	TF-73	TF-72	1495
A40T-NNTO R/L 03	TF-73	TF-72	1495
A40T-NNTO R/L 04	TF-73	TF-72	1495
A50U-NNTO R/L 04	TF-73	TF-72	1495

Ref.	N..	D	A	T	NG: Insert for parting NR: Insert for parting with radius NT: Insert for threading For more information see page: G.05			
N.. 2		4,76	5,56	3,81				
N.. 3		9,53	8,74	4,95				
N.. 4		9,53	11,51	6,48				
NG	NR	NT						

Nominal cutting speed for parting

Material	HB	Condition		Basic qualities			Specific cutting force N/mm ²	
				TIN32	PM25	KM15		
				Cutting speed m/min.				
Unalloyed steel	P	125	C=0.15%		200-150	160-120		1900
		150	C=0.35%		190-140	150-110		2100
		200	C=0.60%		170-120	130-90		2250
Low alloyed steel		180	Annealed		180-130	140-100		2100
		275	Hardened		160-110	120-80		2600
		300	Hardened		150-100	110-70		2700
		350	Hardened		140-90	90-60		2850
High alloyed steel		200	Annealed		110-90	70-60		2600
		325	Hardened		70-50	45-30		3900
Stainless steel		200	Martensitic/Ferritic		170-120	130-90		2300
Steel		180	Unalloyed		130-90	100-60		2000
		200	Low alloyed		115-75	90-50		2500
		225	High alloyed		100-60	80-40		2700
Stainless steel annealed	M	180			170-120	130-90	100-60	2450
Heat resistant alloys		200	Annealed	Iron base			50-30	3000
		280	Aged				40-20	3050
		250	Annealed	Ni or Co base			30-20	3500
		350	Agest				20-10	4150
		320	Cast				20-10	4150
Titanium alloys		400	Ti					1520
		950	Cast , almost a and +					1675
		1050	Aged cast +					1690
Hardened steel	K	220	Hardened steel					4500
		250	Manganese steel 12%					
Malleable cast iron		130	Ferritic		140-110		100-80	1100
		230	Pearlitic		100-70		70-50	1100
Cast iron		180	Low tensile strength		110-85		80-60	1100
		260	High tensile strength		100-70		70-50	1500
Nodular SG iron		160	Ferritic		100-70		70-50	1100
		250	Pearlitic		85-60		60-40	1800
Aluminium alloys		60	Non heat treatable		1500	1500	1000	500
		100	Heat treatable		500	500	420	800
Aluminium alloys (cast)		75	Non heat treatable		1500	1500	1000	750
		90	Heat treatable		750	750	650	900
Bronze-Brass alloys		110	Lead alloys, Pb>1%		300	300	300	700
		90	Brass, red brass		200	200	200	750
		100	Bronze and lead-free copper		150	150	150	1750

Nominal cutting speed for grooving

Material	HB	Condition		External			Internal / Axial			Specific cutting force N/mm ²
				TIN32	PM25	KM15	TIN32	PM25	KM15	
				Cutting speed m/min.						
Unalloyed steel	P	125	C=0.15%	200-150	160-120		140-105	110-85		1900
		150	C=0.35%	190-140	150-110		135-100	105-80		2100
		200	C=0.60%	170-120	130-90		120-85	90-60		2250
Low alloyed steel		180	Annealed	180-130	140-100		125-90	100-70		2100
		275	Hardened	160-110	120-80		110-80	85-55		2600
		300	Hardened	150-100	110-70		105-70	80-50		2700
		350	Hardened	140-90	90-60		100-60	60-45		2850
High alloyed steel		200	Annealed	110-90	70-60		80-60	50-45		2600
		325	Hardened	70-50	45-30		80-35	32-20		3900
Stainless steel		200	Martensitic/Ferritic	170-120	130-90		120-85	90-60		2300
Steel		180	Unalloyed	130-90	100-60		90-60	70-45		2000
		200	Low alloyed	115-75	90-50		80-50	60-35		2500
		225	High alloyed	100-60	80-40		70-45	55-30		2700
Stainless steel annealed	M	180		170-120	130-90	100-60	120-85	90-60	70-45	2450
Heat resistant alloys		200	Annealed			50-30		50-30	3000	
		280	Aged			40-20		40-20	3050	
		250	Annealed			30-20		30-20	3500	
		350	Agest			20-10		20-10	4150	
		320	Cast			20-10		20-10	4150	
Titanium alloys		400	Ti			175			1520	
		950	Cast , almost a and +			72				1675
		1050	Aged cast +			65				1690
Hardened steel	K	220	Hardened steel							4500
250	Manganese steel 12%									
Malleable cast iron		130	Ferritic	140-110		100-80	100-80		100-80	1100
		230	Pearlitic	100-70		70-50	70-50		70-50	1100
Cast iron		180	Low tensile strength	110-85		80-60	80-60		80-60	1100
		260	High tensile strength	100-70		70-50	70-50		70-50	1500
Nodular SG iron		160	Ferritic	100-70		70-50	70-50		70-50	1100
		250	Pearlitic	85-60		60-40	60-45		60-40	1800
Aluminium alloys		60	Non heat treatable	1500	1500	1000	1050	1050	700	500
		100	Heat treatable	500	500	420	350	350	300	800
Aluminium alloys (cast)		75	Non heat treatable	1500	1500	1000	1050	1050	700	750
		90	Heat treatable	750	750	650	525	525	460	900
Bronze-Brass alloys		110	Lead alloys, Pb>1%	300	300	300	210	210	210	700
		90	Brass, red brass	200	200	200	140	140	140	750
		100	Bronze and lead-free copper	150	150	150	105	105	105	1750

Parting and
grooving

Threading

Drills

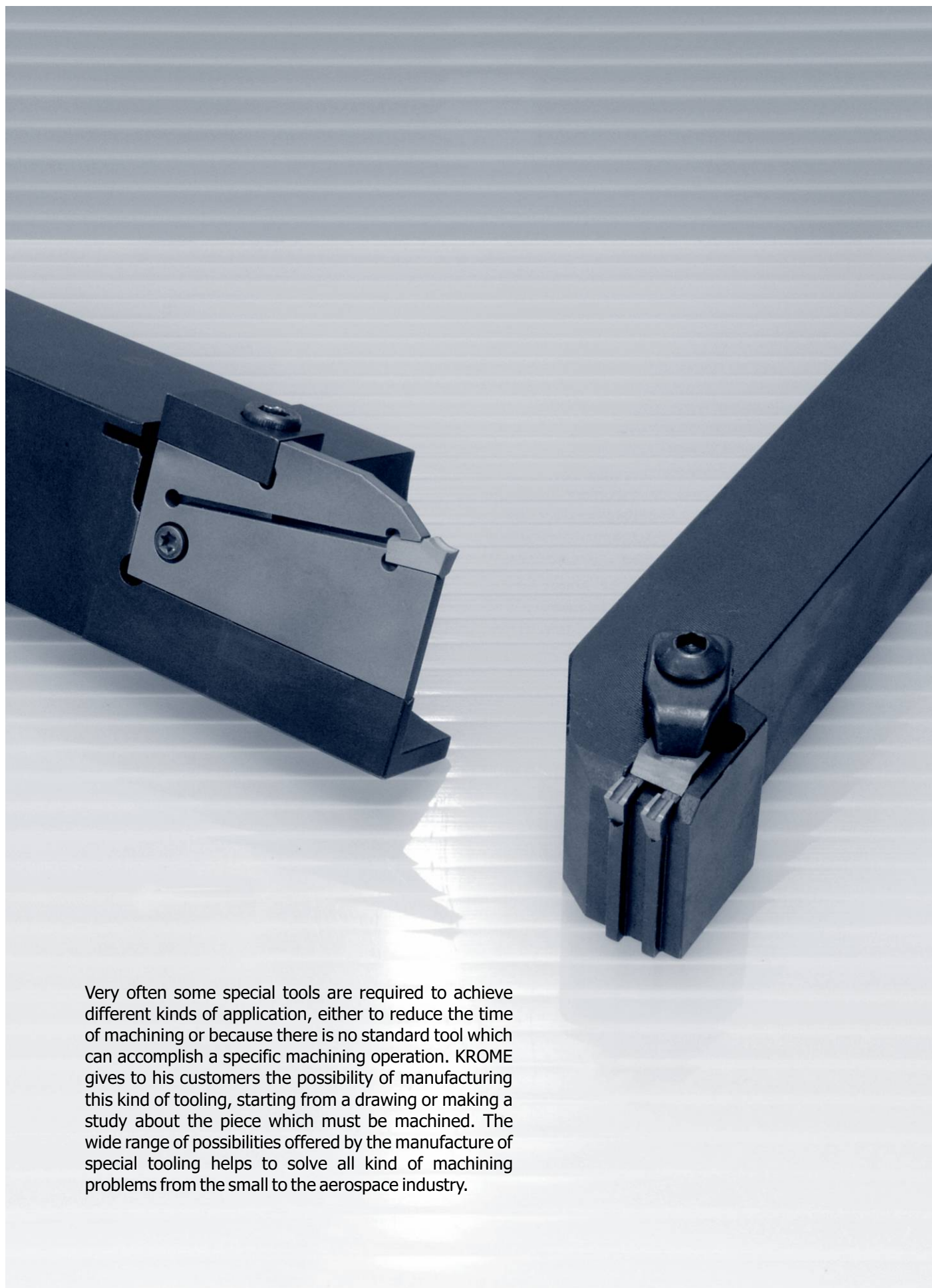
Cartridges

Brazed tools

Tooling

Nominal cutting speed for profiling

Material	HB	Condition		Basic qualities			Specific cutting force N/mm²
				TIN32	PM25	KM15	
				Cutting speed m/min.			
Unalloyed steel	P	125	C=0.15%	200	160		1900
		150	C=0.35%	190	150		2100
		200	C=0.60%	170	130		2250
Low alloyed steel	180	Annealed	180	140		2100	
	275	Hardened	160	120		2600	
	300	Hardened	150	110		2700	
	350	Hardened	140	90		2850	
High alloyed steel	200	Annealed	130	100		2600	
	325	Hardened	100	60		3900	
Stainless steel	200	Martensitic/Ferritic		170	130		2300
Steel	180	Unalloyed	130	100		2000	
	200	Low alloyed	115	90		2500	
	225	High alloyed	100	70		2700	
Stainless steel annealed	M	180		170	120	100	2450
Heat resistant alloys	200	Annealed	Iron base			60	3000
	280	Aged				50	3050
	250	Annealed	Ni or Co base			30	3500
	350	Agest				20	4150
	320	Cast				20	4150
Titanium alloys	400	Ti			175	1520	
	950	Cast , almost a and +			72	1675	
	1050	Aged cast +			65	1690	
Hardened steel	K	220	Hardened steel				4500
	250	Manganese steel 12%					
Malleable cast iron	130	Ferritic	140		100	1100	
	230	Pearlitic	110		70	1100	
Cast iron	180	Low tensile strength	110		100	1100	
	260	High tensile strength	100		70	1500	
Nodular SG iron	160	Ferritic	100		100	1100	
	250	Pearlitic	85		70	1800	
Aluminium alloys	60	Non heat treatable	1500	1500	1000	500	
	100	Heat treatable	500	500	420	800	
Aluminium alloys (cast)	75	Non heat treatable	1500	1500	450	750	
	90	Heat treatable	750	750	300	900	
Bronze-Brass alloys	110	Lead alloys, Pb>1%	300	300	300	700	
	90	Brass, red brass	200	200	200	750	
	100	Bronze and lead-free copper	150	150	150	1750	



Very often some special tools are required to achieve different kinds of application, either to reduce the time of machining or because there is no standard tool which can accomplish a specific machining operation. KROME gives to his customers the possibility of manufacturing this kind of tooling, starting from a drawing or making a study about the piece which must be machined. The wide range of possibilities offered by the manufacture of special tooling helps to solve all kind of machining problems from the small to the aerospace industry.

Parting and
grooving

Threading

Drills

Cartridges

Brazed tools

Tooling