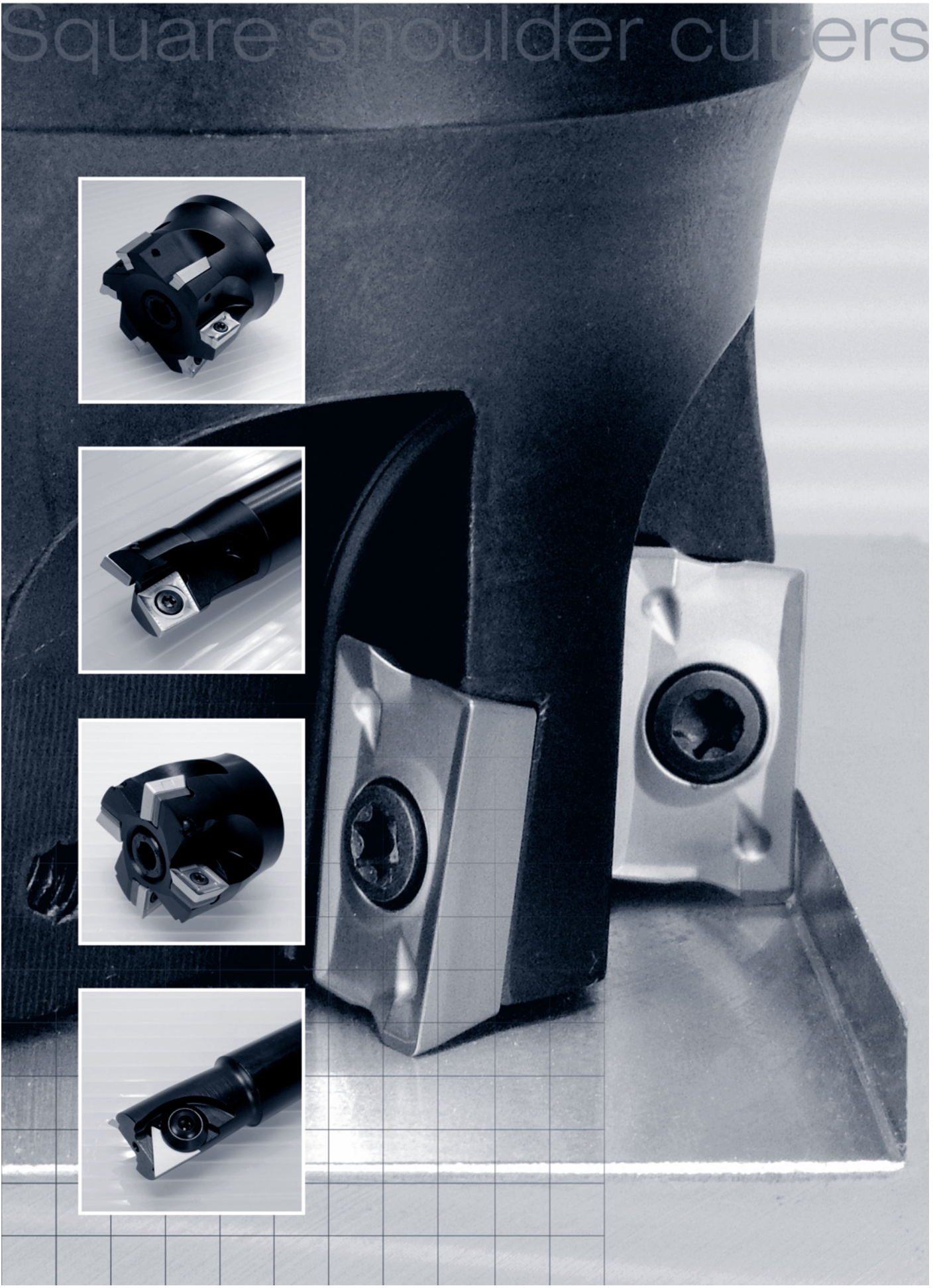
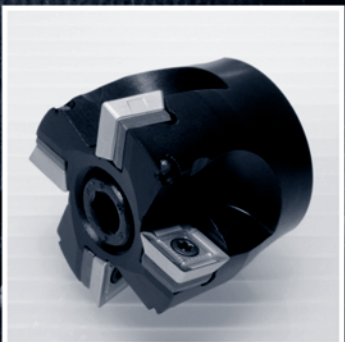
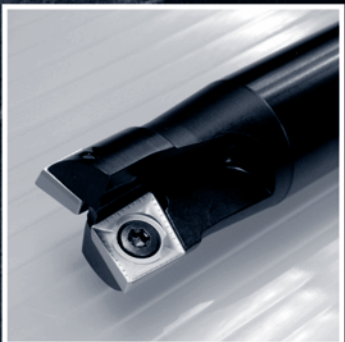
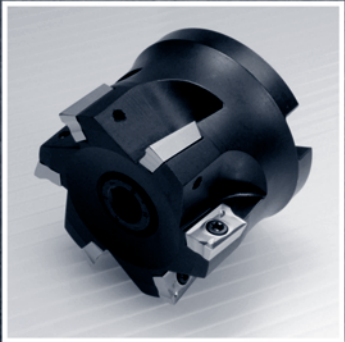


# Square shoulder cutters

Inserts

Face milling cutters

Square shoulder cutters



# Square shoulder cutters

Technical information	C.02
Applications	C.03
Square shoulder cutters	C.04
Cutting data	C.50

Square shoulder cutters

Slot cutters

Porcupine cutters

Specific applications and sets

Profile milling

Solid carbide

Drills

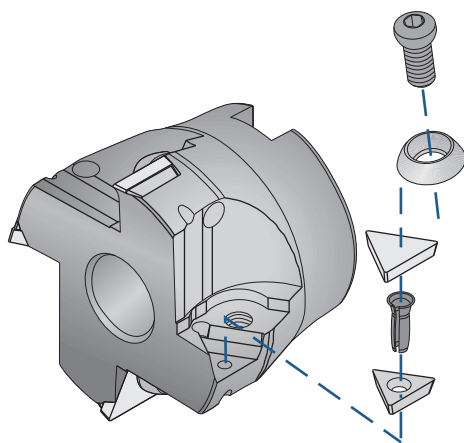
Boring heads

Arbors and adaptors

Inserts

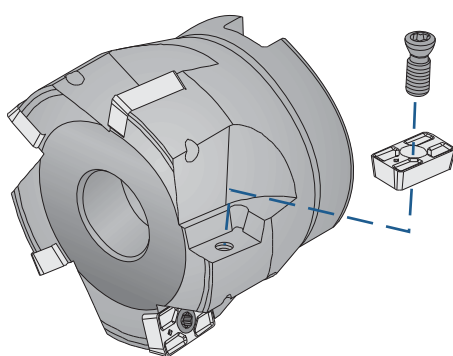
Face milling cutters

Square shoulder cutters



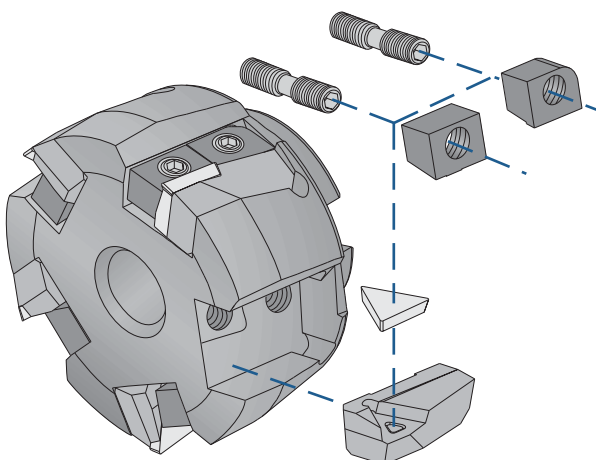
## C Clamp

This classic positive insert clamping system allows the use of all models presenting this geometry, both with additional chipbreaker and sintered.



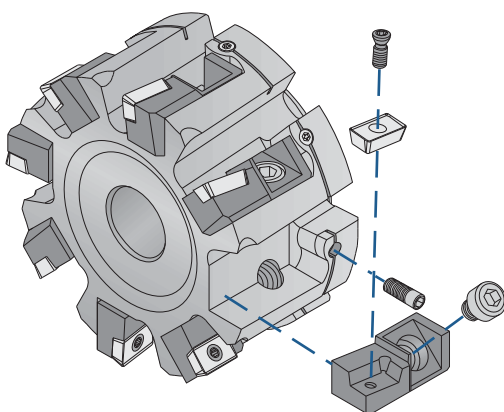
## Screw clamping

Since the advent of the Torx screw it has been possible to hold with complete safety positive inserts with centre hole. Our range covers all the screw clamping permutations.



## Wedge clamping




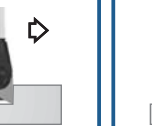
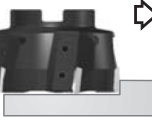


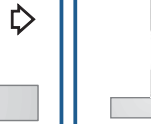
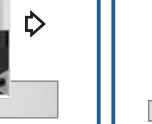

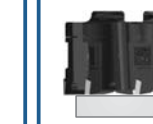

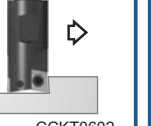




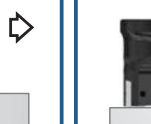



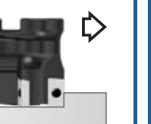
Heavy duty work require good fixation, for this purpose we have designed our wedge clamping system, one of the safest available.



## Cartridge system

Cartridge system for heavy duty work with positive center hole inserts. The axial regulation screw allows a perfect adjustment for super-finishing applications.

Facing square shoulder cutters

<p><b>01<math>\frac{1}{3}</math>0.00</b> General applications 90°</p>  <p>Page C.04 TP.. 1102.. TP.. 1103..</p>	<p><b>0130.<sup>01</sup><sub>02</sub></b> General applications 90°</p>  <p>Page C.06 TP.. 1603..</p>	<p><b>0130.07</b> General applications 90°</p>  <p>Page C.07 TP.. 1603..</p>	<p><b>0130.30</b> General applications 90°</p>  <p>Page C.08 TP.. 1603..</p>	<p><b>0130.80</b> General applications 90°</p>  <p>Page C.09 TP.. 1603..</p>	<p><b>0130.90 90°</b> General application 90°</p>  <p>Page C.10 TP.. 1603..</p>
<p><b>0130.99 90°</b> General application 90°</p>  <p>Page C.11 TP.. 1603..</p>	<p><b>0140.90 90°</b> Deep cutting 90°</p>  <p>Page C.12 TP.. 2204..</p>	<p><b>0140.99 90°</b> Deep cutting 90°</p>  <p>Page C.13 TP.. 2204..</p>	<p><b>0134.00</b> General applications 90°</p>  <p>Page C.14 TC.. 16T3..</p>	<p><b>0134.30</b> General applications 90°</p>  <p>Page C.15 TC.. 16T3..</p>	<p><b>0134.90 90°</b> General application 90°</p>  <p>Page C.16 TC.. 16T3..</p>
<p><b>0240.90 90°</b> Square and facing 90°</p>  <p>Page C.17 SPM.. 1204..</p>	<p><b>0245.90 90°</b> Square and facing 90°</p>  <p>Page C.18 SDMT 12T3..</p>	<p><b>0245.99 90°</b> Square and facing 90°</p>  <p>Page C.19 SDMT 12T3..</p>	<p><b>03<math>\frac{1}{3}</math>4.0<math>\frac{0}{2}</math></b> General applications 90°</p>  <p>Page C.20 CC.. 0602.. CC.. 09T3..</p>	<p><b>03<math>\frac{1}{3}</math>4.06</b> General applications 90°</p>  <p>Page C.22 CC.. 0602.. CC.. 0803.. CC.. 09T3..</p>	<p><b>0334.90</b> General applications 90°</p>  <p>Page C.23 CC.. 09T3..</p>
<p><b>3334.01</b> General applications 90°</p>  <p>Page C.24 CC.. 0602.. CC.. 09T3..</p>	<p><b>3334.06</b> General applications 90°</p>  <p>Page C.25 CC.. 0602.. CC.. 09T3..</p>	<p><b>3334.90</b> General applications 95°</p>  <p>Page C.26 CC.. 09T3..</p>	<p><b>3314.0<math>\frac{0}{1}</math></b> Multi-function centre-cutting end mill</p>  <p>Page C.28 CCKT0602.. CCKT1204..</p>	<p><b>3314.06</b> Multi-function centre-cutting end mill</p>  <p>Page C.29 CCKT0602.. CCKT1204..</p>	<p><b>1220.0<math>\frac{0}{2}</math></b> First choice 90°</p>  <p>Page C.30 APKT 1003..</p>
<p><b>1220.03</b> First choice 90°</p>  <p>Page C.32 APKT 1003..</p>	<p><b>1220.06</b> First choice 90°</p>  <p>Page C.33 AP.. 1003..</p>	<p><b>1220.07</b> First choice 90°</p>  <p>Page C.34 AP.. 1003..</p>	<p><b>1220.90 90°</b> First choice 90°</p>  <p>Page C.35 AP.. 1003..</p>	<p><b>1230.02</b> First choice 90°</p>  <p>Page C.36 APKT 1604..</p>	<p><b>1230.06</b> First choice 90°</p>  <p>Page C.37 AP.. 1604..</p>
<p><b>1230.07</b> First choice 90°</p>  <p>Page C.38 AP.. 1604..</p>	<p><b>22<math>\frac{2}{3}</math>0.07</b> Slot and side milling 90°</p>  <p>Page C.39 APKT 1003.. APKT 1604..</p>	<p><b>1230.90 90°</b> First choice 90°</p>  <p>Page C.40 AP.. 1604..</p>	<p><b>1230.93 90°</b> First choice 90°</p>  <p>Page C.41 AP.. 1604..</p>	<p><b>1230.99 90°</b> First choice 90°</p>  <p>Page C.42 AP.. 1604..</p>	<p><b>1235.00</b> Soft materials 90°</p>  <p>Page C.43 AD.. 1503..</p>
<p><b>1235.07</b> Soft materials 90°</p>  <p>Page C.44 AD.. 1503..</p>	<p><b>1235.30</b> Soft materials 90°</p>  <p>Page C.45 AD.. 1503..</p>	<p><b>2255.<math>\frac{07}{27}</math></b> Milling and boring 90°</p>  <p>Page C.46 AD.. 1503..</p>	<p><b>1235.90 90°</b> Soft materials 90°</p>  <p>Page C.47 AD.. 1503..</p>	<p><b>1240.90 90°</b> Deep cutting 90°</p>  <p>Page C.48 AP.. 2004..</p>	<p><b>1240.99 90°</b> Deep cutting 90°</p>  <p>Page C.49 AP.. 2004..</p>

Square shoulder cutters

Slot cutters

Porcupine cutters

Specific applications and sets

Profile milling

Solid carbide

Drills

Boring heads

Arbors and adaptors

Inserts

Face milling cutters

Square shoulder cutters

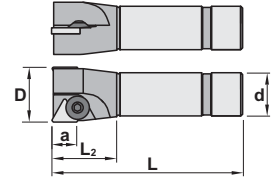
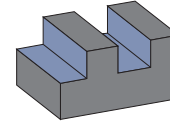
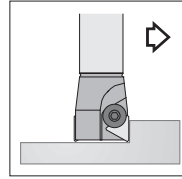


### Characteristics:

Positive milling cutter with 90° entering angle that uses standard triangular inserts. The clamp system allows a quick insert assembly and dismantling. Milling cutter with short cylindrical shank.

### Applications:

This face and square milling cutter works well on steels, alloyed steels, stainless steel and refractory casts. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers. Economical milling cutter that allows to use TPUN inserts and TPKN inserts.



## 0120.00

Ref.		D	L	L2	d	a	Insert size	
0120.00.012	1	12	100	30	16	9	TP.. 1102..	0,150
0120.00.014	1	14	100	30	16	9	TP.. 1102..	0,150
0120.00.016	1	16	110	35	20	9	TP.. 1102..	0,220
0120.00.018	1	18	110	35	20	9	TP.. 1102..	0,230
0120.00.020	2	20	110	35	20	9	TP.. 1103..	0,250
0120.00.022	2	22	110	35	20	9	TP.. 1103..	0,250
0120.00.025	2	25	110	35	25	9	TP.. 1103..	0,400
0120.00.032	3	32	125	35	32	9	TP.. 1103..	0,750
0120.00.040	4	40	125	35	32	9	TP.. 1103..	0,800

Ref.			
0120.00.012	1004	5002	2009
0120.00.014	1004	5002	2009
0120.00.016	1005	5025	2010
0120.00.018	1005	5025	2010
0120.00.020	1005	5025	2010
0120.00.022	1005	5025	2010
0120.00.025	1005	5025	2010
0120.00.032	1005	5025	2010
0120.00.040	1005	5025	2010

Ref.	TP..	l	s	d	Positive 11° clearance - Triangular inserts.
	TP.. 1102..	11,00	2,38	6,35	
TP.. 1103..	11,00	3,18	6,35		

TPKN	TPUN	TPUX-R			

For more information see page: A.21

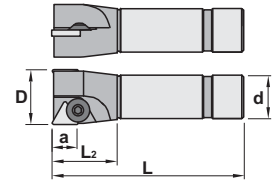
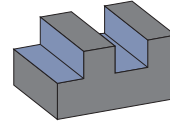
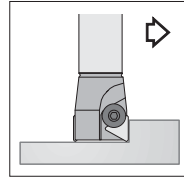


**Characteristics:**

Positive milling cutter with 90° entering angle that uses standard triangular inserts.  
The clamp system allows a quick insert assembly and dismantling.  
Milling cutter with short cylindrical shank.

**Applications:**

This face and square milling cutter works well on steels, alloyed steels, stainless steel and refractory casts.  
This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers. Economical milling cutter that allows to use TPUN inserts and TPKN inserts.



**0130.00**

Ref.			D	L	L2	d	a	Insert size	
0130.00.016	1		16	110	35	20	13	TP.. 1603..	0,215
0130.00.018	1		18	110	35	20	13	TP.. 1603..	0,225
0130.00.020	1		20	110	35	20	13	TP.. 1603..	0,235
0130.00.022	1		22	110	35	20	13	TP.. 1603..	0,240
0130.00.025	2		25	110	35	25	13	TP.. 1603..	0,350
0130.00.032	2		32	125	35	32	13	TP.. 1603..	0,700
0130.00.040	3		40	125	35	32	13	TP.. 1603..	0,750
0130.00.050	4		50	125	35	32	13	TP.. 1603..	0,850

Ref.			
0130.00.016	1005	5025	2054
0130.00.018	1016	5004	2064
0130.00.020	1016	5004	2064
0130.00.022	1016	5004	2064
0130.00.025	1016	5004	2064
0130.00.032	1016	5004	2064
0130.00.040	1016	5004	2064
0130.00.050	1016	5004	2064

	TP..				Positive 11° clearance - Triangular inserts.
	Ref.	l	s	d	
	TP.. 1603..	16,50	3,18	9,52	
	TPKN	TPKR	TPUN	TPUX-R	

For more information see page: A.21

Inserts

Face milling cutters

Square shoulder cutters

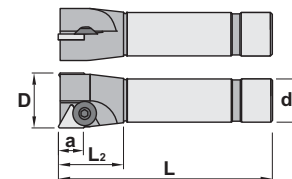
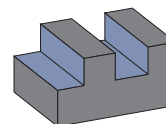
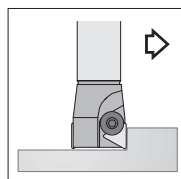


### Characteristics:

Positive milling cutter with 90° entering angle that uses standard triangular inserts. The clamp system allows a quick insert assembly and dismantling. Milling cutter with long cylindrical shank.

### Applications:

This face and square milling cutter works well on steels, alloyed steels, stainless steel and refractory casts. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers. Economical milling cutter that allows to use TPUN inserts and TPKN inserts.

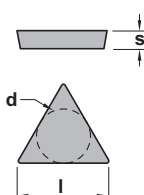


## 0130.0<sup>1</sup>/<sub>2</sub>

Ref.		D	L	L <sub>2</sub>	d	a	Insert size	
0130.01.016	1	16	150	35	20	13	TP.. 1603..	0,300
0130.01.020	1	20	150	35	20	13	TP.. 1603..	0,350
0130.01.025	2	25	150	35	25	13	TP.. 1603..	0,550
0130.01.032	2	32	175	35	32	13	TP.. 1603..	1,050
0130.01.040	3	40	175	35	32	13	TP.. 1603..	1,050
0130.01.050	4	50	175	35	32	13	TP.. 1603..	1,250
0130.02.020	1	20	200	35	20	13	TP.. 1603..	0,450
0130.02.025	2	25	200	35	25	13	TP.. 1603..	0,700
0130.02.032	2	32	250	35	32	13	TP.. 1603..	1,500

Ref.			
0130.01.016	1005	5025	2054
0130.01.020	1016	5004	2064
0130.01.025	1016	5004	2064
0130.01.032	1016	5004	2064
0130.01.040	1016	5004	2064
0130.01.050	1016	5004	2064
0130.02.020	1016	5004	2064
0130.02.025	1016	5004	2064
0130.02.032	1016	5004	2064

Ref.	TP..				Positive 11° clearance - Triangular inserts.
	l	s	d		
TP.. 1603..	16,50	3,18	9,52		
	TPKN	TPKR	TPUN	TPUX-R	



For more information see page: A.21

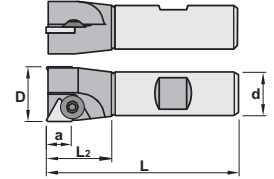
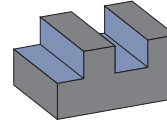
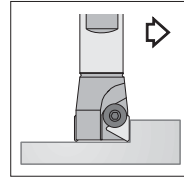


**Characteristics:**

Positive milling cutter with 90° entering angle that uses standard triangular inserts.  
The clamp system allows a quick insert assembly and dismantling.  
Milling cutter with Weldon shank.

**Applications:**

This face and square milling cutter works well on steels, alloyed steels, stainless steel and refractory casts.  
This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers. Economical milling cutter that allows to use TPUN inserts and TPKN inserts.



**0130.07**

Ref.			D	L	L2	d	a	Insert size	
0130.07.016	1	1	16	100	30	20	13	TP.. 1603..	0,180
0130.07.020	1	1	20	100	30	20	13	TP.. 1603..	0,220
0130.07.025	2	2	25	100	30	25	13	TP.. 1603..	0,350
0130.07.032	2	2	32	100	30	32	13	TP.. 1603..	0,550
0130.07.040	3	3	40	100	30	32	13	TP.. 1603..	0,600
0130.07.050	4	4	50	100	30	32	13	TP.. 1603..	0,700

Ref.			
0130.07.016	1005	5025	2054
0130.07.020	1016	5004	2064
0130.07.025	1016	5004	2064
0130.07.032	1016	5004	2064
0130.07.040	1016	5004	2064
0130.07.050	1016	5004	2064

	TP..				Positive 11° clearance - Triangular inserts.
	Ref.	TP.. 1603..	l	s	
			16,50	3,18	9,52
	TPKN	TPKR	TPUN	TPUX-R	

For more information see page: A.21

Inserts

Face milling cutters

Square shoulder cutters

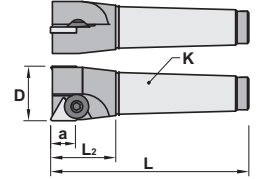
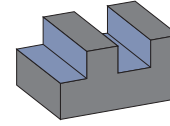
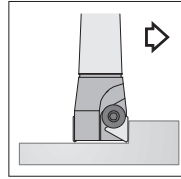


### Characteristics:

Positive milling cutter with 90° entering angle that uses standard triangular inserts. The clamp system allows a quick insert assembly and dismantling. Milling cutter with Morse shank.

### Applications:

This face and square milling cutter works well on steels, alloyed steels, stainless steel and refractory casts. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers. Economical milling cutter that allows to use TPUN inserts and TPKN inserts.



## 0130.30

Ref.			D	L	L2	a	K	Insert size	
0130.30.020	1		20	125	38	13	MK3	TP.. 1603..	0,280
0130.30.025	2		25	125	38	13	MK3	TP.. 1603..	0,300
0130.30.032	2		32	125	38	13	MK3	TP.. 1603..	0,350
0130.30.040	3		40	125	38	13	MK3	TP.. 1603..	0,450
0130.30.050	4		50	125	38	13	MK3	TP.. 1603..	0,550

Ref.				
0130.30.020		1016	5004	2064
0130.30.025		1016	5004	2064
0130.30.032		1016	5004	2064
0130.30.040		1016	5004	2064
0130.30.050		1016	5004	2064

Ref.	TP..				Positive 11° clearance - Triangular inserts.
	TP.. 1603..	l	s	d	
		16,50	3,18	9,52	
	TPKN	TPKR	TPUN	TPUX-R	

For more information see page: A.21

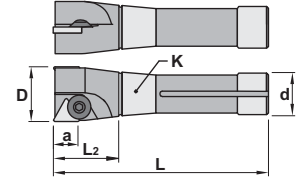
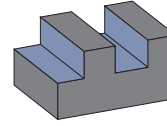
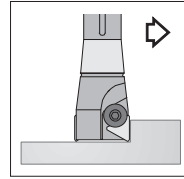


**Characteristics:**

Positive milling cutter with 90° entering angle that uses standard triangular inserts.  
The clamp system allows a quick insert assembly and dismantling.  
Milling cutter with Bridgeport R-8 shank.

**Applications:**

This face and square milling cutter works well on steels, alloyed steels, stainless steel and refractory casts.  
This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers. Economical milling cutter that allows to use TPUN inserts and TPKN inserts.



**0130.80**

Ref.		D	L	L2	a	d	K	Insert size	
0130.80.025	2	25	145	39	13	24	R8	TP.. 1603..	0,450
0130.80.032	2	32	145	39	13	24	R8	TP.. 1603..	0,550
0130.80.040	3	40	145	39	13	24	R8	TP.. 1603..	0,600
0130.80.050	4	50	145	39	13	24	R8	TP.. 1603..	0,700

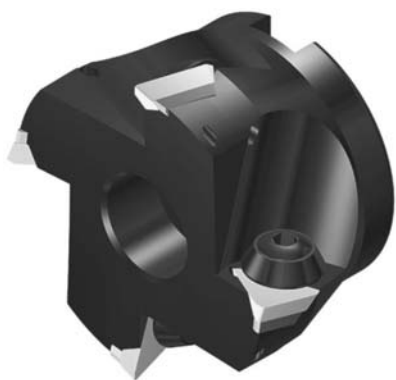
Ref.			
0130.80.025	1016	5004	2064
0130.80.032	1016	5004	2064
0130.80.040	1016	5004	2064
0130.80.050	1016	5004	2064

 TP..	l      s      d				Positive 11° clearance - Triangular inserts.  For more information see page: A.21
	Ref.	TP.. 1603..	16,50	3,18	
TPKN	TPKR	TPUN	TPUX-R		

Inserts

Face milling cutters

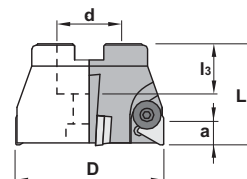
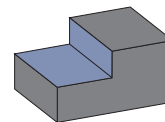
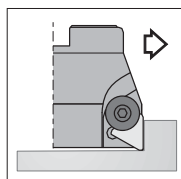
Square shoulder cutters



**Characteristics:** This positive milling cutter with an exact angle of 90° uses very strong inserts allowing depth passes and high feed per teeth. The damp allows a quick insert assembly and dismantling. The milling cutter is equipped with shim seats (except diameter 40 and 50 mm), which protect the milling cutter body in case of accident. Axial rake=+6°; Radial rake=+1°.

**Applications:**

This face and square milling cutter works well on steels, alloyed steels, stainless steel, casts and aluminium alloys. This general milling cutter is recommended for conventional milling machines and machining centers. Economical milling cutter that allows to use TPUN inserts and TPKN inserts.



## 0130.90 90°

Ref.		D	L	d	ls	a	Insert size	
0130.90.040	3	40	40	16	18	13	TP.. 1603..	0,200
0130.90.050	4	50	40	22	20	13	TP.. 1603..	0,300
0130.90.050.Z=3	3	50	40	22	20	13	TP.. 1603..	0,350
0130.90.063	4	63	50	27	22	13	TP.. 1603..	0,650
0130.90.080	5	80	50	32	25	13	TP.. 1603..	1,050
0130.90.100	6	100	50	40	29	13	TP.. 1603..	1,650
0130.90.125	6	125	63	40	30	13	TP.. 1603..	2,850
0130.90.160	7	160	63	40	30	13	TP.. 1603..	4,400
0130.90.200	8	200	63	60	40	13	TP.. 1603..	8,250

Ref.						
0130.90.040	1006	5004	2064	-	-	1058
0130.90.050	1016	5004	2064	-	-	912,10
0130.90.050.Z=3	1006	5004	2064	-	-	912,10
0130.90.063	1006	5004	2064	3016	4016	912,12
0130.90.080	1006	5004	2064	3016	4016	912,16
0130.90.100	1006	5004	2064	3016	4016	912,20
0130.90.125	1006	5004	2064	3016	4016	-
0130.90.160	1006	5004	2064	3016	4016	912,52
0130.90.200	1006	5004	2064	3016	4016	912,56

Ref.	TP..	l	s	d	Positive 11° clearance - Triangular inserts.
	TP.. 1603..	16,50	3,18	9,52	
	TPKN	TPKR	TPUN	TPUX-R	

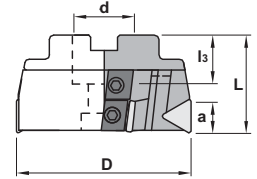
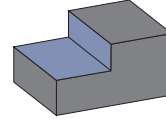
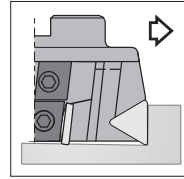
For more information see page: A.21



**Characteristics:** This positive milling cutter with an exact angle of 90° uses very strong inserts allowing depth passes and high feed per teeth. The fixing system by wedge ensures an excellent damping of the insert and a higher security on difficult conditions. The indexable cartridges protect the milling cutter body in case of accident. Axial rake=+7°; Radial rake=-1°.

**Applications:**

This face and square milling cutter works well on steels, alloyed steels, stainless steel, casts and aluminium alloys. This general milling cutter is recommended for conventional milling machines and machining centers. Economical milling cutter that allows to use TPUN inserts and TPKN inserts.



# 0130.99 90°

Ref.		D	L	d	ls	a	Insert size	
0130.99.052	5	52	50	16	18	13	TP.. 1603..	0,500
0130.99.063	6	63	50	22	22	13	TP.. 1603..	0,700
0130.99.080	5	80	50	28	22	13	TP.. 1603..	1,200
0130.99.100	7	100	50	32	25	13	TP.. 1603..	1,900
0130.99.125	7	125	63	40	30	13	TP.. 1603..	3,050
0130.99.160	9	160	63	40	30	13	TP.. 1603..	5,450
0130.99.200	11	200	63	60	40	13	TP.. 1603..	7,200
0130.99.250	15	250	63	60	40	13	TP.. 1603..	13,050

Ref.									
0130.99.052	1166	5615	6031	6032	6526	1460	1058	-	-
0130.99.063	1166	5615	6031	6032	6526	1460	912,10	-	-
0130.99.080	1077	5620	6433	6435	6927	1460	912,12	-	-
0130.99.100	1077	5620	6433	6435	6927	1460	912,16	-	-
0130.99.125	1077	5620	6433	6435	6927	1460	-	-	-
0130.99.160	1077	5620	6433	6435	6927	1460	912,52	40	-
0130.99.200	1077	5620	6433	6435	6927	1460	912,56	50	-
0130.99.250	1077	5620	6433	6435	6927	1460	912,56	60	-

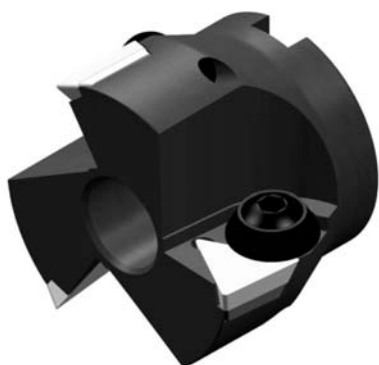
	TP..				Positive 11° clearance - Triangular inserts.	
	Ref.	TP.. 1603..	l	s		d
			16,50	3,18		9,52
	TPKN	TPKR	TPUN	TPUX-R		

For more information see page: A.21

Inserts

Face milling cutters

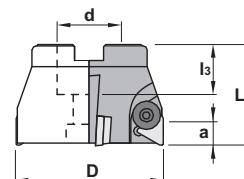
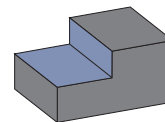
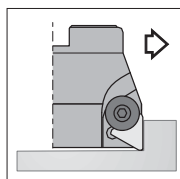
Square shoulder cutters



**Characteristics:** This positive milling cutter with an exact angle of 90° uses very strong inserts allowing depth passes and high feed per teeth. The clamp allows a quick insert assembly and dismantling. The milling cutter is equipped with shim seats, which protect the milling cutter body in case of accident. Axial rake=+6°; Radial rake=+1°.

**Applications:**

This face and square milling cutter works well on steels, alloyed steels, stainless steel, casts and aluminium alloys. This general milling cutter is recommended for conventional milling machines and machining centers. Economical milling cutter that allows to use TPUN inserts and TPKN inserts.



## 0140.90 90°

Ref.		D	L	d	l3	a	Insert size	
0140.90.063	3	63	50	27	22	18	TP.. 2204..	0,600
0140.90.080	4	80	50	32	25	18	TP.. 2204..	0,950
0140.90.100	5	100	50	40	29	18	TP.. 2204..	1,450
0140.90.125	6	125	63	40	30	18	TP.. 2204..	2,600
0140.90.160	7	160	63	40	30	18	TP.. 2204..	4,500
0140.90.200	8	200	63	60	40	18	TP.. 2204..	7,750

Ref.							
0140.90.063	1008	5005	2088	3022	4022	912,12	-
0140.90.080	1008	5005	2088	3022	4022	912,16	-
0140.90.100	1008	5005	2088	3022	4022	912,20	-
0140.90.125	1008	5005	2088	3022	4022	-	-
0140.90.160	1008	5005	2088	3022	4022	912,52	40
0140.90.200	1008	5005	2088	3022	4022	912,56	50

Ref.	TP..	l	s	d	Positive 11° clearance - Triangular inserts.
	TP.. 2204..	22,00	4,76	12,70	
	TPKN	TPUN	TPUX-R		

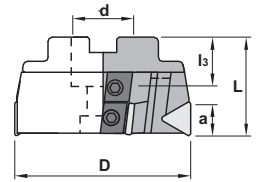
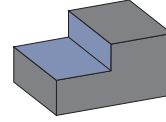
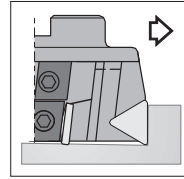
For more information see page: A.21



**Characteristics:** This positive milling cutter with an exact angle of 90° uses very strong inserts allowing depth passes and high feed per teeth. The fixing system by wedge ensures an excellent clamping of the insert and a higher security on difficult conditions. The indexable cartridges protect the milling cutter body in case of accident. Axial rake=+7°; Radial rake=-1°.

**Applications:**

This face and square milling cutter works well on steels, alloyed steels, stainless steel, casts and aluminium alloys. This general milling cutter is recommended for conventional milling machines and machining centers. Economical milling cutter that allows to use TPUN inserts and TPKN inserts.



## 0140.99 90°

Ref.		D	L	d	ls	a	Insert size	
0140.99.080	5	80	50	27	22	18	TP.. 2204..	1,150
0140.99.100	7	100	50	32	25	18	TP.. 2204..	1,850
0140.99.125	7	125	63	40	30	18	TP.. 2204..	3,100
0140.99.160	9	160	63	40	30	18	TP.. 2204..	5,150
0140.99.200	11	200	63	60	40	18	TP.. 2204..	8,900
0140.99.250	15	250	63	60	40	18	TP.. 2204..	13,200

Ref.									
0140.99.080	1077	5620	6434	6436	6942	1460	912,12	-	-
0140.99.100	1077	5620	6434	6436	6942	1460	912,16	-	-
0140.99.125	1077	5620	6434	6436	6942	1460	-	-	-
0140.99.160	1077	5620	6434	6436	6942	1460	912,52	40	-
0140.99.200	1077	5620	6434	6436	6942	1460	912,56	50	-
0140.99.250	1077	5620	6434	6436	6942	1460	912,56	60	-

	TP..			Positive 11° clearance - Triangular inserts.
	l	s	d	
Ref. TP.. 2204..	22,00	4,76	12,70	For more information see page: A.21
TPKN	TPUN	TPUX-R		

Inserts

Face milling cutters

Square shoulder cutters

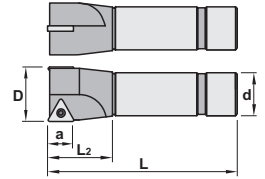
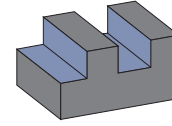
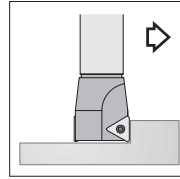


### Characteristics:

This positive milling cutter with an exact angle of 90° uses very strong inserts allowing depth passes and high feed per teeth. The insert thickness is 3,97 mm and is fixed by Torx screw that allow a good chip evacuation and an easy use. Axial rake=0°; Radial rake=-8°.

### Applications:

This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.



## 0134.00

Ref.			D	L	L2	d	a	Insert size	
0134.00.016	1		16	110	35	20	13	TC.. 16T3..	0,230
0134.00.020	1		20	110	35	20	13	TC.. 16T3..	0,250
0134.00.025	2		25	110	35	25	13	TC.. 16T3..	0,350
0134.00.032	2		32	125	35	32	13	TC.. 16T3..	0,700
0134.00.040	3		40	125	35	32	13	TC.. 16T3..	0,750

Ref.		
0134.00.016	1440	5515
0134.00.020	1440	5515
0134.00.025	1240	5515
0134.00.032	1240	5515
0134.00.040	1240	5515

	TC..			Positive 7° clearance - Triangular inserts.
	Ref.	l	s	
	TC.. 16T3..	16,50	3,97	9,52
	TCGT-AL	TCMT-39	TCMW	

For more information see page: A.20

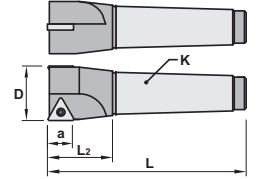
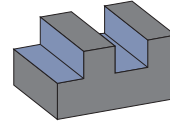
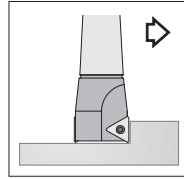


**Characteristics:**

This positive milling cutter with an exact angle of 90° uses very strong inserts allowing depth passes and high feed per teeth. The insert thickness is 3,97 mm and is fixed by Torx screw that allow a good chip evacuation and an easy use. Axial rake=0°; Radial rake=-8°.

**Applications:**

This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.



**0134.30**

Ref.			D	L	L2	a	K	Insert size	
0134.30.025	2	25	125	38	13	MK3	TC.. 16T3..	0,300	
0134.30.032	2	32	125	38	13	MK3	TC.. 16T3..	0,350	
0134.30.040	3	40	125	38	13	MK3	TC.. 16T3..	0,450	

Ref.		
0134.30.025	1240	5515
0134.30.032	1240	5515
0134.30.040	1240	5515

	TC..			Positive 7° clearance - Triangular inserts.
	Ref.	l	s	
	TC.. 16T3..	16,50	3,97	9,52
	TCGT-AL	TCMT-39	TCMW	

For more information see page: A.20

Square shoulder cutters

Slot cutters

Porcupine cutters

Specific applications and sets

Profile milling

Solid carbide

Drills

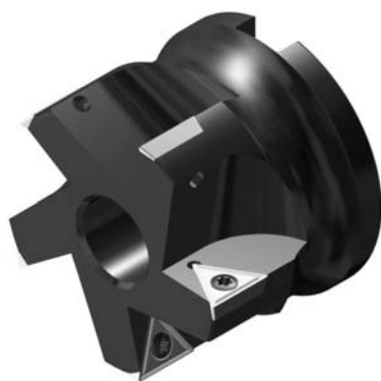
Boring heads

Arbors and adaptors

Inserts

Face milling cutters

Square shoulder cutters

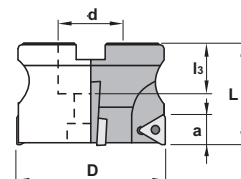
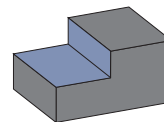
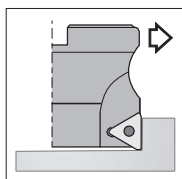


### Characteristics:

This positive milling cutter with an exact angle of 90° uses very strong inserts allowing depth passes and high feed per teeth. The insert thickness is 3,97 mm and is fixed by Torx screw that allow a good chip evacuation and an easy use. Axial rake=0°; Radial rake=-8°.

### Applications:

This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.



## 0134.90 90°

Ref.		D	L	d	l3	a	Insert size	
0134.90.040	3	40	40	16	18	13	TC.. 16T3..	0,200
0134.90.050	4	50	40	22	20	13	TC.. 16T3..	0,300
0134.90.063	5	63	50	27	22	13	TC.. 16T3..	0,650
0134.90.080	6	80	50	32	25	13	TC.. 16T3..	1,100
0134.90.100	7	100	50	40	29	13	TC.. 16T3..	1,750
0134.90.125	8	125	63	40	30	13	TC.. 16T3..	2,800
0134.90.160	10	160	63	40	30	13	TC.. 16T3..	4,900

Ref.				
0134.90.040	1240	5615	1058	-
0134.90.050	1240	5615	912,10	-
0134.90.063	1240	5615	912,12	-
0134.90.080	1240	5615	912,16	-
0134.90.100	1240	5615	912,20	-
0134.90.125	1240	5615	-	-
0134.90.160	1240	5615	912,52	40

Ref.	TC..			Positive 7° clearance - Triangular inserts.
	l	s	d	
TC.. 16T3..	16,50	3,97	9,52	
	TCGT-AL	TCMT-39	TCMW	

For more information see page: A.20

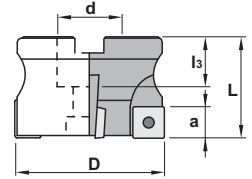
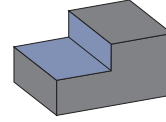
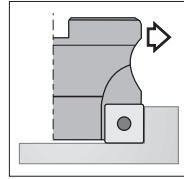


**Characteristics:**

This positive milling cutter with an exact angle of 90° uses very strong inserts allowing depth passes and high feed per teeth. The milling cutter with Torx fixation is equipped with shim seats to protect the milling cutter body in case of accident.

**Applications:**

This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.

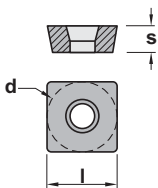


**0240.90 90°**

Ref.		D	L	d	l3	a	Insert size	
0240.90.040	3	40	40	16	20	11	SPM.. 1204..	0,200
0240.90.050	4	50	40	22	22	11	SPM.. 1204..	0,350
0240.90.063	5	63	50	27	25	11	SPM.. 1204..	0,700
0240.90.080	6	80	50	27	25	11	SPM.. 1204..	1,150
0240.90.100	8	100	50	32	26	11	SPM.. 1204..	1,750
0240.90.125	8	125	63	40	29	11	SPM.. 1204..	3,050
0240.90.160	10	160	63	40	30	11	SPM.. 1204..	4,200
0240.90.200	12	200	63	60	40	11	SPM.. 1204..	9,250
0240.90.250	16	250	63	60	40	11	SPM.. 1204..	11,500

Ref.				
0240.90.040	1550	5620	1058	-
0240.90.050	1550	5620	912,10	-
0240.90.063	1550	5620	912,12	-
0240.90.080	1550	5620	912,12	-
0240.90.100	1550	5620	912,16	-
0240.90.125	1550	5620	-	-
0240.90.160	1550	5620	912,52	40
0240.90.200	1550	5620	912,56	40
0240.90.250	1550	5620	912,56	50

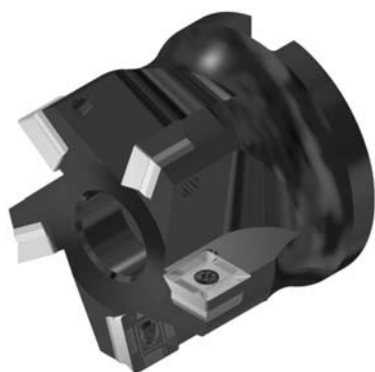
SPM..		l	s	d	Positive 11° clearance - Square inserts.
Ref.	SPM.. 1204..	12,70	4,76	12,70	
					For more information see page: A.19
SPMT	SPMW				



Inserts

Face milling cutters

Square shoulder cutters

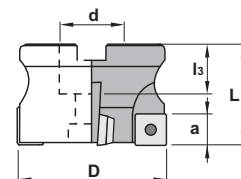
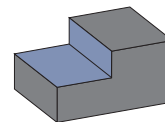
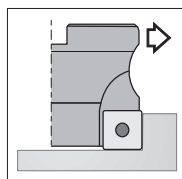


### Characteristics:

This positive milling cutter with an exact angle of 90° uses very strong inserts allowing depth passes and high feed per teeth. The milling cutter with Torx fixation is equipped with shim seats to protect the milling cutter body in case of accident. Axial rake=+7°; Radial rake=-10°.

### Applications:

This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.



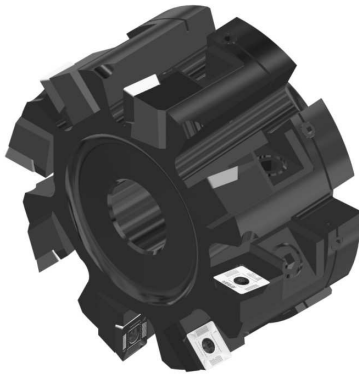
## 0245.90 90°

Ref.		D	L	d	l3	a	Insert size	
0245.90.040	3	40	40	16	20	11	SDMT 12T3..	0,150
0245.90.050	4	50	40	22	22	11	SDMT 12T3..	0,300
0245.90.063	5	63	50	27	25	11	SDMT 12T3..	0,650
0245.90.080	6	80	50	27	25	11	SDMT 12T3..	1,150
0245.90.100	7	100	50	32	26	11	SDMT 12T3..	1,650
0245.90.125	8	125	63	40	29	11	SDMT 12T3..	2,900
0245.90.160	10	160	63	40	30	11	SDMT 12T3..	4,000
0245.90.200	12	200	63	60	40	11	SDMT 12T3..	7,700
0245.90.250	16	250	63	60	40	11	SDMT 12T3..	10,800

Ref.						
0245.90.040	1335	5615	-	-	1058	-
0245.90.050	1335	5615	3511	1750	912,10	-
0245.90.063	1335	5615	3511	1750	912,12	-
0245.90.080	1335	5615	3511	1750	912,12	-
0245.90.100	1335	5615	3511	1750	912,16	-
0245.90.125	1335	5615	3511	1750	-	-
0245.90.160	1335	5615	3511	1750	912,52	40
0245.90.200	1335	5615	3511	1750	912,56	40
0245.90.250	1335	5615	3511	1750	912,56	50

Ref.	SDMT			Positive 15° clearance - Square inserts.
	l	s	d	
SDMT 12T3..	13,29	3,97	13,29	
SDMT				

For more information see page: A.16

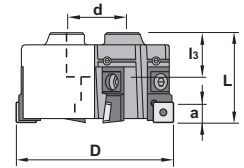
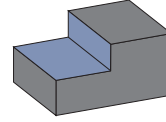
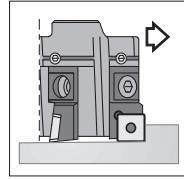


**Characteristics:**

This positive milling cutter with an exact angle of 90° uses very strong inserts allowing depth passes and high feed per teeth. The milling cutter with Torx fixation is equipped with cartridges to protect the milling cutter body in case of accident.

**Applications:**

This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.



**0245.99 90°**

Ref.		D	L	d	ls	a	Insert size	
0245.99.160	10	160	63	40	30	11	SDMT 12T3..	4,000
0245.99.200	12	200	63	60	40	11	SDMT 12T3..	7,700
0245.99.250	16	250	63	60	40	11	SDMT 12T3..	10,800
0245.99.315	20	315	63	60	40	11	SDMT 12T3..	31,000
0245.99.400	22	400	63	60	40	11	SDMT 12T3..	47,500
0245.99.500	28	500	63	60	40	11	SDMT 12T3..	85,000

Ref.							
0245.99.160	1335	5615	6245	1788	1750	1460	40
0245.99.200	1335	5615	6245	1788	1750	1460	50
0245.99.250	1335	5615	6245	1788	1750	1460	50
0245.99.315	1335	5615	6245	1788	1750	1460	50/60
0245.99.400	1335	5615	6245	1788	1750	1460	50/60
0245.99.500	1335	5615	6245	1788	1750	1460	50/60

	SDMT				Positive 15° clearance - Square inserts.
	Ref.	l	s	d	
	SDMT 12T3..	13,29	3,97	13,29	For more information see page: A.16

Inserts

Face milling cutters

Square shoulder cutters

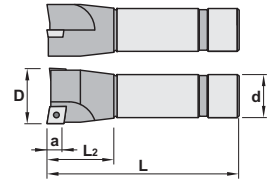
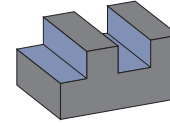
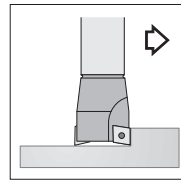


### Characteristics:

This positive milling cutter with 90° entering angle uses rhombic inserts with angle of 80°. The insert is fixed by Torx screw that allow a good chip evacuation and an easy use. Milling cutter equipped with short cylindrical shank. Axial rake=+3°; Radial rake=0°.

### Applications:

Face, slot and side milling cutter that works well on steels, alloyed steels, stainless steels and refractors. This general milling cutter for diversified manufacture is recommended for small conventional milling machines and machining centers.



## 03<sup>1</sup><sub>3</sub>4.00

Ref.		D	L	L <sub>2</sub>	d	a	Insert size	
0314.00.012	1	12	110	25	16	5	CC.. 0602..	0,150
0314.00.016	2	16	110	30	20	5	CC.. 0602..	0,250
0314.00.020	3	20	110	35	20	5	CC.. 0602..	0,250
0334.00.020	2	20	110	35	20	8	CC.. 09T3..	0,250
0334.00.025	2	25	110	35	25	8	CC.. 09T3..	0,400
0334.00.032	3	32	125	35	32	8	CC.. 09T3..	0,700
0334.00.040	4	40	125	35	32	8	CC.. 09T3..	0,800

Ref.		
0314.00.012	1425	5507
0314.00.016	1425	5507
0314.00.020	1425	5507
0334.00.020	1440	5515
0334.00.025	1440	5515
0334.00.032	1240	5515
0334.00.040	1240	5515

Ref.	CC..	l	s	d	Positive 7° clearance - 80° rhombic insert.
	CC.. 0602..	6,45	2,38	6,35	
CC.. 09T3..	9,65	3,97	9,52		

CCGT-AL	CCKT	CCMW			

For more information see page: A.12

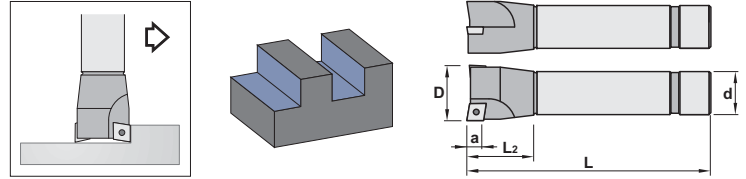


**Characteristics:**

This positive milling cutter with 90° entering angle uses rhombic inserts with angle of 80°. The insert is fixed by Torx screw that allow a good chip evacuation and an easy use. Milling cutter equipped with long cylindric shank. Axial rake=+3°; Radial rake=0°.

**Applications:**

Face, slot and side milling cutter that works well on steels, alloyed steels, stainless steels and refractors. This general milling cutter for diversified manufacture is recommended for small conventional milling machines and machining centers.

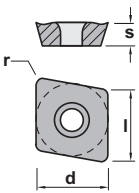


**03<sup>1</sup><sub>3</sub>4.02**

Ref.			D	L	L2	d	a	Insert size	
0314.02.016	2		16	175	30	20	5	CC.. 0602..	0,250
0314.02.020	3		20	200	35	20	5	CC.. 0602..	0,250
0334.02.020	2		20	200	35	20	8	CC.. 09T3..	0,250
0334.02.025	2		25	250	35	25	8	CC.. 09T3..	0,400
0334.02.032	3		32	250	35	32	8	CC.. 09T3..	0,700

Ref.		
0314.02.016	1425	5507
0314.02.020	1425	5507
0334.02.020	1440	5515
0334.02.025	1440	5515
0334.02.032	1240	5515

Ref.	CC..			Positive 7° clearance - 80° rhombic insert.
	l	s	d	
CC.. 0602..	6,45	2,38	6,35	
CC.. 09T3..	9,65	3,97	9,52	
For more information see page: A.12				
CCGT-AL	CCKT	CCMW		



Square shoulder cutters  
Slot cutters  
Percupine cutters  
Specific applications and sets  
Profile milling  
Solid carbide  
Drills  
Boring heads  
Arbors and adaptors

Inserts

Face milling cutters

Square shoulder cutters



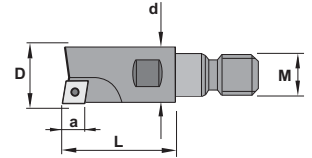
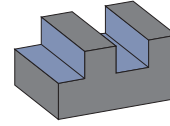
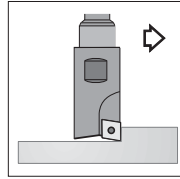
Shanks page: K.45 - K.48

### Characteristics:

This positive milling cutter with 90° entering angle uses rhombic inserts with angle of 80°. The insert is fixed by Torx screw that allow a good chip evacuation and an easy use. Milling cutter equipped with modular cylindrical shank. Axial rake=+3°; Radial rake=0°.

### Applications:

Face, slot and side milling cutter that works well on steels, alloyed steels, stainless steels and refractors. This general milling cutter for diversified manufacture is recommended for small conventional milling machines and machining centers.



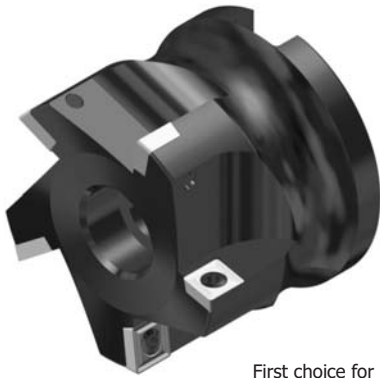
## 03<sub>3</sub> 4.06

Ref.		D	L	M	d	a	Insert size	
0314.06.015	2	15	23	M8	14	5	CC.. 0602..	0,025
0314.06.016	2	16	23	M8	14	5	CC.. 0602..	0,030
0314.06.020	3	20	30	M10	18	5	CC.. 0602..	0,060
0324.06.020	2	20	30	M10	18	7	CC.. 0803..	0,060
0324.06.025	2	25	35	M12	21	7	CC.. 0803..	0,095
0334.06.032	3	32	43	M16	29	8	CC.. 09T3..	0,225
0334.06.045	4	45	43	M16	29	8	CC.. 09T3..	0,320

Ref.		
0314.06.015	1425	5507
0314.06.016	1425	5507
0314.06.020	1425	5507
0324.06.020	1430	5508
0324.06.025	1430	5508
0334.06.032	1440	5515
0334.06.045	1240	5515

Ref.	CC..	l	s	d	Positive 7° clearance - 80° rhombic insert.
CC.. 0602..		6,45	2,38	6,35	
CC.. 0803..		8,05	3,18	7,94	
CC.. 09T3..		9,65	3,97	9,52	
	CCGT-AL	CCKT	CCMW		

For more information see page: A.12



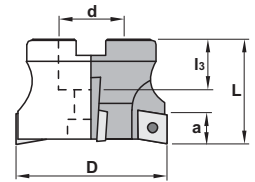
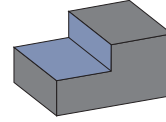
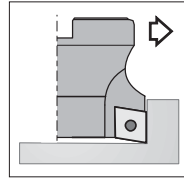
First choice for ramp milling

**Characteristics:**

This positive milling cutter with 90° entering angle uses rhombic inserts with angle of 80°. The insert is fixed by Torx screw that allow a good chip evacuation and an easy use.

**Applications:**

Face, slot and side milling cutter that works well on steels, alloyed steels, stainless steels and refractors. This general milling cutter for diversified manufacture is recommended for small conventional milling machines and machining centers.



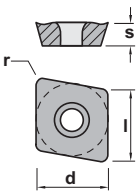
**0334.90**

Ref.		D	L	d	l3	a	Insert size	
0334.90.040	5	40	40	16	18	8	CC.. 09T3	0,240
0334.90.050	5	50	40	22	20	8	CC.. 09T3	0,400
0334.90.052	5	52	40	22	20	8	CC.. 09T3	0,450
0334.90.063	6	63	50	27	22	8	CC.. 09T3	0,900
0334.90.066	6	66	50	27	22	8	CC.. 09T3	0,950
0334.90.080	7	80	50	27	25	8	CC.. 09T3	1,400

Ref.		
0334.90.040	1440	5615
0334.90.050	1440	5615
0334.90.052	1440	5615
0334.90.063	1240	5615
0334.90.066	1240	5615
0334.90.080	1240	5615

Ref.	CC..			Positive 7° clearance - 80° rhombic insert.
	l	s	d	
CC.. 09T3..	9,65	3,97	9,52	
	CCGT-AL	CCKT	CCMW	

For more information see page: A.12



Square shoulder cutters

Slot cutters

Porcupine cutters

Specific applications and sets

Profile milling

Solid carbide

Drills

Boring heads

Arbors and adaptors

Inserts

Face milling cutters

Square shoulder cutters



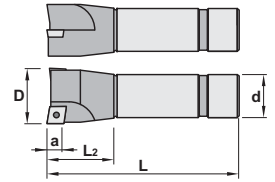
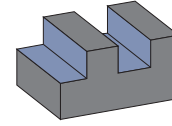
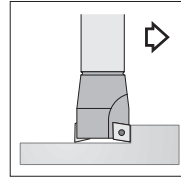
95°

### Characteristics:

This positive milling cutter with 95° entering angle uses rhombic inserts with angle of 80°. The insert is fixed by Torx screw that allow a good chip evacuation and an easy use. Milling cutter equipped with short cylindrical shank. Axial rake=+3°; Radial rake=0°.

### Applications:

Face, slot and side milling cutter that works well on steels, alloyed steels, stainless steels and refractors. This general milling cutter for diversified manufacture is recommended for small conventional milling machines and machining centers.



## 3334.01

Ref.		D	L	L <sub>2</sub>	d	a	Insert size	
3334.01.016	2	16	150	30	20	5	CC.. 0602..	0,250
3334.01.020	3	20	175	35	20	5	CC.. 0602..	0,250
3334.01.025	2	25	175	35	25	8	CC.. 09T3..	0,400
3334.01.032	3	32	175	35	32	8	CC.. 09T3..	0,700

Ref.		
3334.01.016	1425	5507
3334.01.020	1425	5507
3334.01.025	1440	5515
3334.01.032	1240	5515

Ref.	CC..			Positive 7° clearance - 80° rhombic insert.
	l	s	d	
CC.. 0602..	6,45	2,38	6,35	For more information see page: A.12
CC.. 09T3..	9,65	3,97	9,52	
	CCGT-AL	CCKT	CCMW	



95°

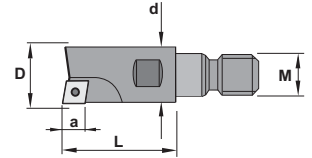
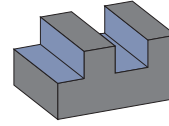
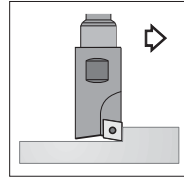
Shanks page: K.45 - K.48

**Characteristics:**

This positive milling cutter with 95° entering angle uses rhombic inserts with angle of 80°. The insert is fixed by Torx screw that allow a good chip evacuation and an easy use. Milling cutter equipped with short modular shank. Axial rake=+3°; Radial rake=0°.

**Applications:**

Face, slot and side milling cutter that works well on steels, alloyed steels, stainless steels and refractors. This general milling cutter for diversified manufacture is recommended for small conventional milling machines and machining centers.

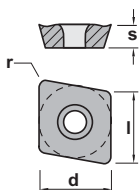


**3334.06**

Ref.		D	L	M	d	a	Insert size	
3334.06.015	2	15	23	M8	14	5	CC.. 0602..	0,025
3334.06.016	2	16	23	M8	14	5	CC.. 0602..	0,030
3334.06.020	3	20	30	M10	18	5	CC.. 0602..	0,060
3334.06.025	2	25	35	M12	21	8	CC.. 09T3..	0,095
3334.06.032	3	32	43	M16	29	8	CC.. 09T3..	0,225
3334.06.045	4	45	43	M16	29	8	CC.. 09T3..	0,320

Ref.		
3334.06.015	1425	5507
3334.06.016	1425	5507
3334.06.020	1425	5507
3334.06.025	1440	5515
3334.06.032	1440	5515
3334.06.045	1240	5515

Ref.	CC..			Positive 7° clearance - 80° rhombic insert.
	l	s	d	
CC.. 0602..	6,45	2,38	6,35	For more information see page: A.12
CC.. 0803..	8,05	3,18	7,94	
CC.. 09T3..	9,65	3,97	9,52	
	CCGT-AL	CCKT	CCMW	



Inserts

Face milling cutters

Square shoulder cutters



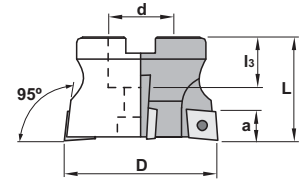
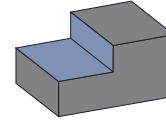
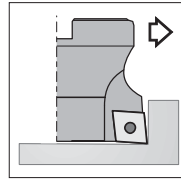
95°

**Characteristics:**

This positive milling cutter with 95° entering angle uses rhombic inserts with angle of 80°. The insert is fixed by Torx screw that allow a good chip evacuation and an easy use.

**Applications:**

Face, slot and side milling cutter that works well on steels, alloyed steels, stainless steels and refractors. This general milling cutter for diversified manufacture is recommended for small conventional milling machines and machining centers.

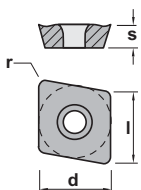


### 3334.90

Ref.		D	L	d	l3	a	Insert size	
3334.90.052	5	52	40	22	20	9	CC.. 09T3..	0,450
3334.90.066	6	66	50	27	22	9	CC.. 09T3..	0,950
3334.90.080	7	80	50	27	25	9	CC.. 09T3..	1,400



Ref.	3334.90.052	1440	5615
	3334.90.066	1240	5615
	3334.90.080	1240	5615



**CC..**

Ref.	CC.. 09T3..	l	s	d
		9,65	3,97	9,52

Positive 7° clearance - 80° rhombic insert.

For more information see page: A.12

CCGT-AL

CCKT

CCMW





Square shoulder  
cutters

Slot cutters

Porcupine cutters

Specific applications  
and sets

Profile milling

Solid carbide

Drills

Boring heads

Arbors and  
adaptors

Inserts

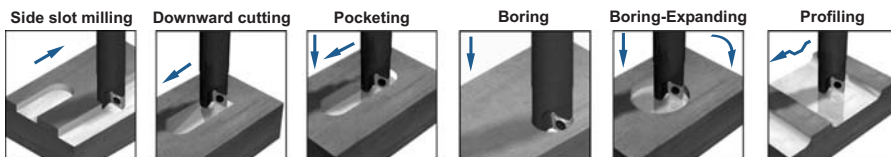
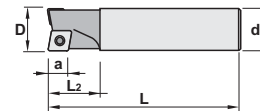
Face milling cutters

Square shoulder cutters



**Characteristics:** Multi-function centre-cutting end mills.

**Applications:** Multiple applications-Side milling, drilling and face milling. Less time in tool changing on both-conventional and N/C machines. Easily able to machine in roughing and finishing applications because of the high rake geometry and high helix which reduce cutting forces for a smoother cut. Longer tool life may be expected because of the low cutting forces generated. Improved performance will be seen in comparison to conventional end mills and mill-drills, especially when ramp milling, drilling, contouring, helical interpolation of bores, pockets or normal profiling.



### 3314.0<sub>1</sub><sup>0</sup>

Ref.			D	d	L	L2	a	Insert size	
3314.00.012	1		12	16	100	25	5,0	CCKT 060204	0,120
3314.00.016	2		16	16	100	25	5,0	CCKT 060204 / 080308	0,160
3314.00.020	2		20	20	125	32	7,0	CCKT 080308 / 09T308	0,300
3314.00.025	2		25	25	125	40	7,6	CCKT 09T308 / 120408	0,480
3314.01.012	1		12	16	150	25	5,0	CCKT 060204	0,210
3314.01.016	2		16	16	175	25	5,0	CCKT 060204 / 080308	0,250
3314.01.020	2		20	20	175	32	7,0	CCKT 080308 / 09T308	0,400
3314.01.025	2		25	25	200	40	7,6	CCKT 09T308 / 120408	0,700

Ref.				
3314.00.012	1425	-	5507	-
3314.00.016	1425	1430	5507	5508
3314.00.020	1430	1440	5508	5515
3314.00.025	1440	1550	5515	5520
3314.01.012	1425	-	5507	-
3314.01.016	1425	1430	5507	5508
3314.01.020	1430	1440	5508	5515
3314.01.025	1440	1550	5515	5520

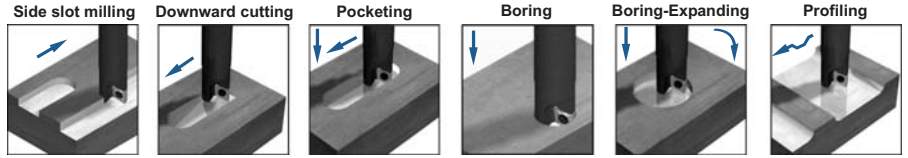
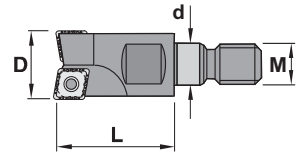
		CCKT	l	s	d	Positive 7° clearance - 80° rhombic inserts.
Ref.	CCKT 0602..		6,45	2,38	6,35	
	CCKT 0803..		8,05	3,18	7,94	
	CCKT 09T3..		9,65	3,97	9,52	
	CCKT 1204..		12,90	4,76	12,70	

For more information see page: A.12



Shanks page: K.45 - K.48

**Characteristics:** Multi-function centre-cutting end mills.  
**Applications:** Multiple applications-Side milling, drilling and face milling. Less time in tool changing on both-conventional and N/C machines. Easily able to machine in roughing and finishing applications because of the high rake geometry and high helix which reduce cutting forces for a smoother cut. Longer tool life may be expected because of the low cutting forces generated. Improved performance will be seen in comparison to conventional end mills and mill-drills, especially when ramp milling, drilling, contouring, helical interpolation of bores, pockets or normal profiling.

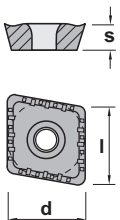


## 3314.06

Ref.			D	L	M	d	Insert size	
3314.06.012	1		12	23	M8	14	CCKT 060204	0,020
3314.06.016	2		16	23	M8	14	CCKT 060204 / 080308	0,030
3314.06.020	2		20	30	M10	18	CCKT 080308 / 09T308	0,060
3314.06.025	2		25	35	M12	21	CCKT 09T308 / 120408	0,095

Ref.				
3314.06.012	1425	-	5507	-
3314.06.016	1425	1430	5507	5508
3314.06.020	1430	1440	5508	5515
3314.06.025	1440	1245	5515	-

Ref.	CCKT			Positive 7° clearance - 80° rhombic inserts.
	l	s	d	
CCKT 0602..	6,45	2,38	6,35	For more information see page: A.12
CCKT 0803..	8,05	3,18	7,94	
CCKT 09T3..	9,65	3,97	9,52	
CCKT 1204..	12,90	4,76	12,70	
CCKT				



Inserts

Face milling cutters

Square shoulder cutters

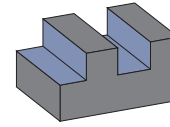
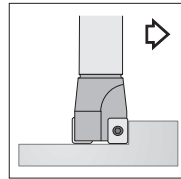


### Characteristics:

This positive milling cutter with an exact angle of 90° uses very strong inserts allowing depth passes and high feed per teeth. The insert is fixed by Torx screw that allow a good chip evacuation and an easy use. Milling cutter equipped with short cylindric shank.

### Applications:

This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.

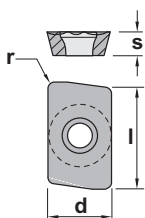


## 1220.00

Ref.		D	L	L2	d	a	Insert size	
1220.00.012	1	12	110	25	16	9	AP.. 1003..	0,150
1220.00.016	2	16	110	25	20	9	AP.. 1003..	0,250
1220.00.020	3	20	125	30	20	9	AP.. 1003..	0,300
1220.00.025	4	25	125	30	25	9	AP.. 1003..	0,450

Ref.		
1220.00.012	1425	5507
1220.00.016	1425	5507
1220.00.020	1225	5507
1220.00.025	1225	5507

AP..		l	s	d	Positive 11° clearance - Rectangular inserts.
Ref.	AP.. 1003..	9,52	3,18	6,35	
For more information see page: A.11					
APHT-AL	APKT				



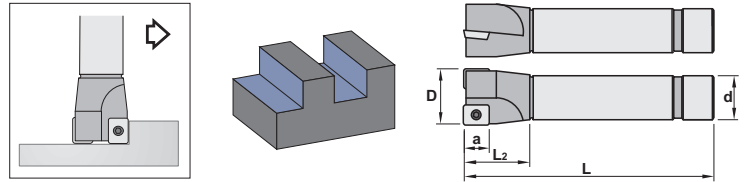


**Characteristics:**

This positive milling cutter with an exact angle of 90° uses very strong inserts allowing depth passes and high feed per teeth. The insert is fixed by Torx screw that allow a good chip evacuation and an easy use.

**Applications:**

This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.



**1220.02**

Ref.		D	L	L2	d	a	Insert size	
1220.02.016	2	16	175	25	20	9	AP.. 1003..	0,250
1220.02.020	3	20	200	30	20	9	AP.. 1003..	0,300

Ref.		
1220.02.016	1425	5507
1220.02.020	1225	5507

	AP..				Positive 11° clearance - Rectangular inserts.
	Ref.	AP.. 1003..	l	s	
			9,52	3,18	6,35
	For more information see page: A.11				
	APHT-AL	APKT			

Square shoulder cutters

Slot cutters

Porcupine cutters

Specific applications and sets

Profile milling

Solid carbide

Drills

Boring heads

Arbors and adaptors

Inserts

Face milling cutters

Square shoulder cutters

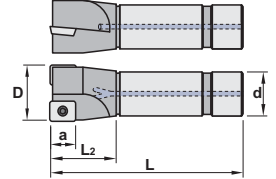
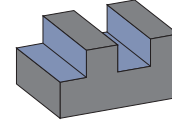
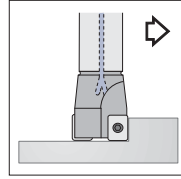


### Characteristics:

This positive milling cutter with an exact angle of 90° uses very strong inserts allowing depth passes and high feed per teeth. The insert is fixed by Torx screw that allow a good chip evacuation and an easy use. Milling cutter equipped with short cylindric shank and internal coolant.

### Applications:

This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.



## 1220.03

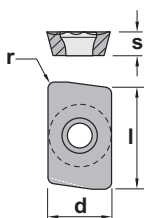


Internal coolant system

Ref.			D	L	L <sub>2</sub>	d	a	Insert size	
1220.03.012	1		12	110	25	16	9	AP.. 1003..	0,150
1220.03.016	2		16	110	25	20	9	AP.. 1003..	0,250
1220.03.020	3		20	125	30	20	9	AP.. 1003..	0,300
1220.03.025	4		25	125	30	25	9	AP.. 1003..	0,450



Ref.	1220.03.012	1425	5507
	1220.03.016	1425	5507
	1220.03.020	1225	5507
	1220.03.025	1225	5507



### AP..

Ref.	AP.. 1003..	l	s	d
		9,52	3,18	6,35

Positive 11° clearance - Rectangular inserts.

For more information see page: A.11

APHT-AL

APKT





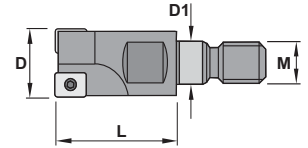
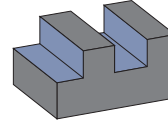
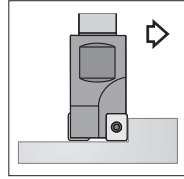
Shanks page: K.45 - K.48

**Characteristics:**

This positive milling cutter with an exact angle of 90° uses very strong inserts allowing depth passes and high feed per teeth. The insert is fixed by Torx screw that allow a good chip evacuation and an easy use.

**Applications:**

This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.



**1220.06**

Ref.		D	L	M	D1	Insert size	
1220.06.016	2	16	23	M8	8,5	AP.. 1003..	0,040
1220.06.020	3	20	30	M10	10,5	AP.. 1003..	0,070
1220.06.025	3	25	35	M12	12,5	AP.. 1003..	0,110

Ref.		
1220.06.016	1425	5507
1220.06.020	1225	5507
1220.06.025	1425	5507

	AP..			Positive 11° clearance - Rectangular inserts.
	Ref.	l	s	
	AP.. 1003..	9,52	3,18	6,35
	For more information see page: A.11			
	APHT-AL	APKT		

Inserts

Face milling cutters

Square shoulder cutters

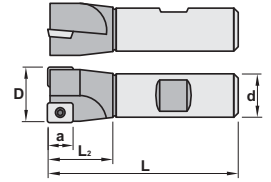
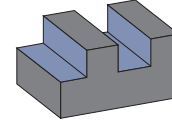
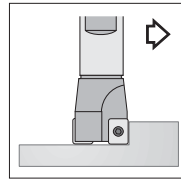


### Characteristics:

This positive milling cutter with an exact angle of 90° uses very strong inserts allowing depth passes and high feed per teeth. The insert is fixed by Torx screw that allow a good chip evacuation and an easy use. Milling cutter equipped with short Weldon shank.

### Applications:

This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.

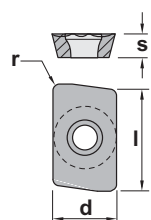


## 1220.07

Ref.		D	L	L2	d	a	Insert size	
1220.07.012	1	12	90	25	16	9	AP.. 1003..	0,100
1220.07.016	2	16	90	25	20	9	AP.. 1003..	0,200
1220.07.020	3	20	95	30	20	9	AP.. 1003..	0,200
1220.07.025	4	25	95	30	25	9	AP.. 1003..	0,350

Ref.		
1220.07.012	1425	5507
1220.07.016	1425	5507
1220.07.020	1225	5507
1220.07.025	1225	5507

AP..		l	s	d	Positive 11° clearance - Rectangular inserts.
Ref.	AP.. 1003..	9,52	3,18	6,35	
For more information see page: A.11					



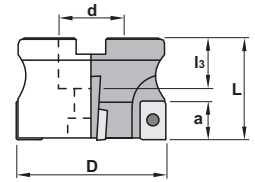
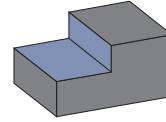
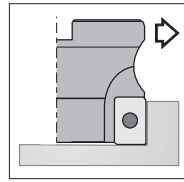


**Characteristics:**

This positive multitooth milling cutter with an exact angle of 90° uses very strong inserts allowing deep passes and high feed per teeth. The insert thickness is 3,18 mm and is fixed by Torx screw that allow a good chip evacuation and an easy use.

**Applications:**

This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.



**1220.90 90°**

Ref.		D	L	d	l3	a	Insert size	
1220.90.032	5	32	40	16	20	9	AP.. 1003..	0,160
1220.90.040	6	40	40	16	20	9	AP.. 1003..	0,240
1220.90.050	7	50	40	22	22	9	AP.. 1003..	0,400
1220.90.063	9	63	50	22	25	9	AP.. 1003..	0,900

Rif.			
1220.90.032	1225	5607	1058
1220.90.040	1225	5607	1058
1220.90.050	1225	5607	912,10
1220.90.063	1225	5607	912,10

	AP..			Positive 11° clearance - Rectangular inserts.
	Ref.	l	s	
	AP.. 1003..	9,52	3,18	6,35
	APHT-AL	APKT		

For more information see page: A.11

Inserts

Face milling cutters

Square shoulder cutters

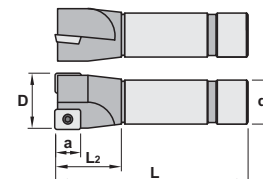
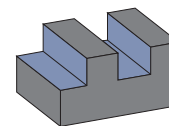
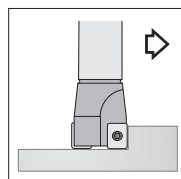


### Characteristics:



This positive multitooth milling cutter with an exact angle of 90° uses very strong inserts allowing deep passes and high feed per teeth. The insert is fixed by Torx screw that allow a good chip evacuation and an easy use. Milling cutter equipped with long cylindrical shank.



### Applications:







This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.

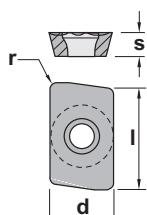


## 1230.02

Ref.			D	L	L <sub>2</sub>	d	a	Insert size	
1230.02.020	1		20	200	35	20	14	AP.. 1604..	0,450
1230.02.025	2		25	200	35	25	14	AP.. 1604..	0,700
1230.02.032	3		32	250	35	32	14	AP.. 1604..	1,500
1230.02.040	4		40	250	35	32	14	AP.. 1604..	1,550

Ref.			
1230.02.020		1440	5515
1230.02.025		1440	5515
1230.02.032		1240	5515
1230.02.040		1240	5515

Ref.	AP..		l	s	d	Positive 11° clearance - Rectangular inserts.
	AP.. 1604..		17,00	4,76	9,52	
						For more information see page: A.10
	APFT	APHT-AL	APKT	APKT-26	APMT	APMT-26
						





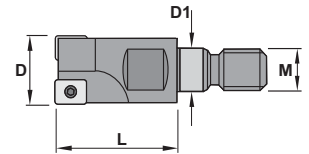
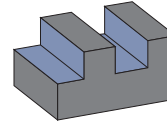
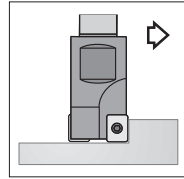
Shanks page: K.45 - K.48

**Characteristics:**

This positive multitooth milling cutter with an exact angle of 90° uses very strong inserts allowing deep passes and high feed per teeth. The insert is fixed by Torx screw that allow a good chip evacuation and an easy use. Milling cutter equipped with modular shank.

**Applications:**

This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.



# 1230.06

Ref.		D	L	M	D1	Insert size	
1230.06.025	2	25	35	M12	12,5	AP.. 1604..	0,110
1230.06.032	3	32	43	M16	17,0	AP.. 1604..	0,240

Ref.		
1230.06.025	1440	5515
1230.06.032	1240	5515

	AP..				Positive 11° clearance - Rectangular inserts.			
	Ref.	AP.. 1604..	l	s	d			
			17,00	4,76	9,52			
						For more information see page: A.10		
			APFT	APHT-AL	APKT	APKT-26	APMT	APMT-26

Inserts

Face milling cutters

Square shoulder cutters

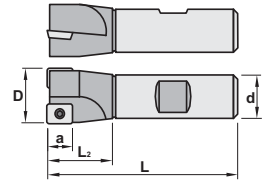
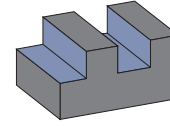
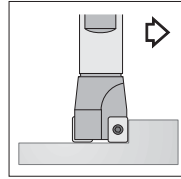


### Characteristics:

This positive multitooth milling cutter with an exact angle of 90° uses very strong inserts allowing deep passes and high feed per teeth. The insert is fixed by Torx screw that allow a good chip evacuation and an easy use. Milling cutter equipped with short Weldon shank.

### Applications:

This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.

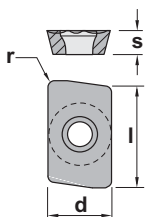


## 1230.07

Ref.			D	L	L2	d	a	Insert size	
1230.07.020	1		20	100	30	20	14	AP.. 1604..	0,200
1230.07.025	2		25	100	30	25	14	AP.. 1604..	0,350
1230.07.032	3		32	110	35	32	14	AP.. 1604..	0,600
1230.07.040	4		40	110	35	32	14	AP.. 1604..	0,650

Ref.			
1230.07.020		1440	5515
1230.07.025		1440	5515
1230.07.032		1240	5515
1230.07.040		1240	5515

Ref.	AP..		l	s	d	Positive 11° clearance - Rectangular inserts.
	AP.. 1604..		17,00	4,76	9,52	
						For more information see page: A.10
APFT	APHT-AL	APKT	APKT-26	APMT	APMT-26	



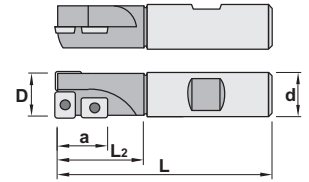
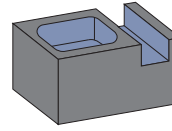
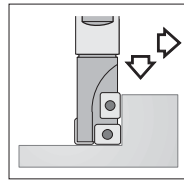


**Characteristics:**

This super positive drill milling cutter with an exact angle of 90° uses strong inserts allowing deep passes. The insert is fixed by Torx screw that allow a good chip evacuation and an easy use. Milling cutter equipped with short Weldon shank.

**Applications:**

This drill milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.



**22<sup>2</sup><sub>3</sub>0.07**

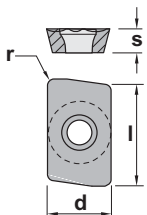
Ref.			D	L	L2	d	a	Insert size	
2220.07.020	1+1	20	90	35	20	19	AP.. 1003..	0,200	
2220.07.025	1+1	25	110	50	25	19	AP.. 1003..	0,350	
2230.07.032	1+1	32	125	50	32	26	AP.. 1604..	0,600	
2230.07.040	1+1	40	125	50	32	26	AP.. 1604..	0,700	

Ref.		
2220.07.020	1425	5507
2220.07.025	1425	5507
2230.07.032	1440	5515
2230.07.040	1440	5515

Ref.	AP..		l	s	d	Positive 11° clearance - Rectangular insert.
	AP.. 1003..	9,52	3,18	6,35		
AP.. 1604..	16,00	4,76	9,52			

For more information see page: A.10

APFT	APHT-AL	APKT	APKT-26	APMT	APMT-26



Square shoulder cutters

Slot cutters

Porcupine cutters

Specific applications and sets

Profile milling

Solid carbide

Drills

Boring heads

Arbors and adaptors

Inserts

Face milling cutters

Square shoulder cutters

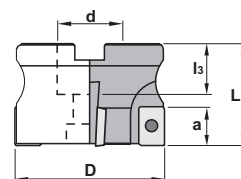
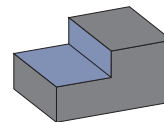
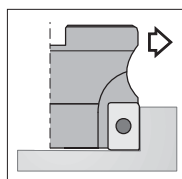


### Characteristics:

This positive milling cutter with an exact angle of 90° uses very strong inserts allowing deep passes and high feed per teeth. The insert thickness is 4,76 mm and it is fixed by Torx screw that allow a good evacuation and an easy use.

### Applications:

This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.



## 1230.90 90°

Ref.			D	L	d	l3	a	Insert size	
1230.90.040	4		40	40	16	20	14	AP.. 1604..	0,200
1230.90.050	5		50	40	22	22	14	AP.. 1604..	0,300
1230.90.063	6		63	50	27	25	14	AP.. 1604..	0,650
1230.90.080	7		80	50	27	25	14	AP.. 1604..	1,150
1230.90.100	8		100	50	32	26	14	AP.. 1604..	1,700
1230.90.125	8		125	63	40	30	14	AP.. 1604..	2,850
1230.90.160	9		160	63	40	30	14	AP.. 1604..	4,400

Ref.				
1230.90.040	1240	5615	1058	-
1230.90.050	1240	5615	912,10	-
1230.90.063	1240	5615	912,12	-
1230.90.080	1240	5615	912,12	-
1230.90.100	1240	5615	912,16	-
1230.90.125	1240	5615	-	-
1230.90.160	1240	5615	912,52	40

Ref.	AP..		l	s	d	Positive 11° clearance - Rectangular inserts.
	AP.. 1604..		17,00	4,76	9,52	
	APFT	APHT-AL	APKT	APKT-26	APMT	APMT-26

For more information see page: A.10

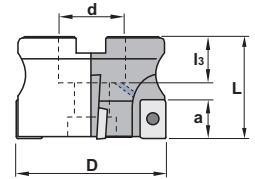
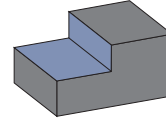
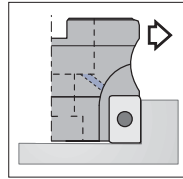


**Characteristics:**

This positive milling cutter with internal coolant and an exact angle of 90° uses very strong inserts allowing deep passes and high feed per teeth. The insert thickness is 4,76 mm and is fixed by Torx screw that allow a good chip evacuation and an easy use.

**Applications:**

This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.



**1230.93 90°**



Internal coolant system

Ref.			D	L	d	l3	a	Insert size	
1230.93.040	4		40	40	16	20	14	AP.. 1604..	0,200
1230.93.050	5		50	40	22	22	14	AP.. 1604..	0,300
1230.93.063	6		63	50	27	25	14	AP.. 1604..	0,650
1230.93.080	7		80	50	27	25	14	AP.. 1604..	1,150
1230.93.100	8		100	50	32	26	14	AP.. 1604..	1,700

Ref.			
1230.93.040	1240	5615	1058
1230.93.050	1240	5615	912,10
1230.93.063	1240	5615	912,12
1230.93.080	1240	5615	912,12
1230.93.100	1240	5615	912,16

	AP..			Positive 11° clearance - Rectangular inserts.		
	Ref.	AP.. 1604..	l	s	d	
			17,00	4,76	9,52	
						For more information see page: A.10
	APFT	APHT-AL	APKT	APKT-26	APMT	APMT-26

Inserts

Face milling cutters

Square shoulder cutters

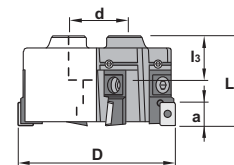
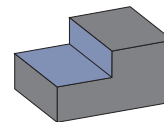
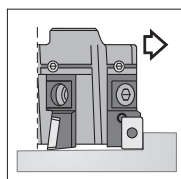


### Characteristics:

This positive milling cutter with an exact angle of 90° uses very strong inserts allowing deep passes and high feed per teeth. The insert thickness is 4,76 mm and is fixed by Torx screw that allow a good chip evacuation and an easy use. The indexable cartridges protect the milling cutter body in case of accident.

### Applications:

This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.

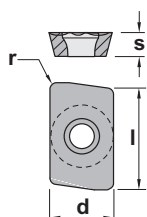


## 1230.99 90°

Ref.		D	L	d	ls	a	Insert size	
<b>1230.99.160</b>	10	160	63	40	30	14	AP.. 1604..	4,000
<b>1230.99.200</b>	12	200	63	60	40	14	AP.. 1604..	7,700
<b>1230.99.250</b>	16	250	63	60	40	14	AP.. 1604..	10,800
<b>1230.99.315</b>	20	315	63	60	40	14	AP.. 1604..	31,000
<b>1230.99.400</b>	22	400	63	60	40	14	AP.. 1604..	47,500
<b>1230.99.500</b>	28	500	63	60	40	14	AP.. 1604..	85,000

Ref.						
<b>1230.99.160</b>	1240	5615	6230	1788	1460	40
<b>1230.99.200</b>	1240	5615	6230	1788	1460	50
<b>1230.99.250</b>	1240	5615	6230	1788	1460	50
<b>1230.99.315</b>	1240	5615	6230	1788	1460	50/60
<b>1230.99.400</b>	1240	5615	6230	1788	1460	50/60
<b>1230.99.500</b>	1240	5615	6230	1788	1460	50/60

Ref.	AP..		l	s	d	Positive 11° clearance - Rectangular inserts.
	AP.. 1604..		17,00	4,76	9,52	
						For more information see page: A.10
	APFT	APHT-AL	APKT	APKT-26	APMT	APMT-26



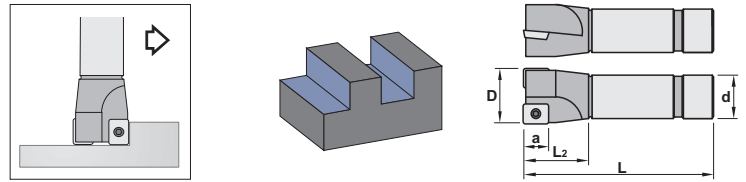


**Characteristics:**

This super positive milling cutter with an exact angle of 90° uses strong inserts allowing deep passes. The insert is fixed by Torx screw that allow a good chip evacuation and an easy use. Milling cutter equipped with short cylindrical shank.

**Applications:**

This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.

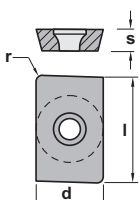


1235.00

Ref.		D	L	L2	d	a	Insert size	
1235.00.016	1	16	110	35	20	13	AD.. 1503..	0,250
1235.00.020	1	20	110	35	20	13	AD.. 1503..	0,250
1235.00.025	2	25	110	35	25	13	AD.. 1503..	0,400
1235.00.032	3	32	125	35	32	13	AD.. 1503..	0,700
1235.00.040	4	40	125	35	32	13	AD.. 1503..	0,750
1235.00.050	4	50	125	35	32	13	AD.. 1503..	0,950

Ref.		
1235.00.016	1440	5515
1235.00.020	1440	5515
1235.00.025	1440	5515
1235.00.032	1440	5515
1235.00.040	1440	5515
1235.00.050	1240	5515

Ref.	AD..			Positive 15° clearance - Rectangular inserts.
	l	s	d	
AD.. 1503..	15,00	3,18	9,52	For more information see page: A.10
	ADMT	ADMW	ADMW-C	



Square shoulder cutters

Slot cutters

Porcupine cutters

Specific applications and sets

Profile milling

Solid carbide

Drills

Boring heads

Arbors and adaptors

Inserts

Face milling cutters

Square shoulder cutters

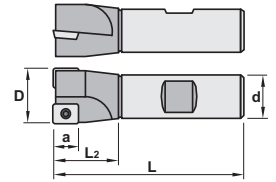
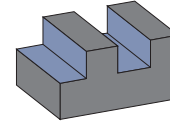
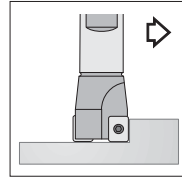


### Characteristics:



This positive milling cutter with an exact angle of 90° uses very strong inserts allowing deep passes and high feed per teeth. The insert is fixed by Torx screw that allow a good chip evacuation and an easy use. Milling cutter equipped with short Weldon shank.

### Applications:



This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.

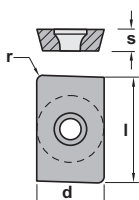


## 1235.07

Ref.		D	L	L2	d	a	Insert size	
1235.07.016	1	16	100	30	20	13	AD.. 1503..	0,150
1235.07.020	1	20	100	30	20	13	AD.. 1503..	0,200
1235.07.025	2	25	100	30	25	13	AD.. 1503..	0,350
1235.07.032	3	32	100	30	32	13	AD.. 1503..	0,550
1235.07.040	4	40	100	30	32	13	AD.. 1503..	0,600
1235.07.050	4	50	100	30	32	13	AD.. 1503..	0,750



Ref.		
1235.07.016	1440	5515
1235.07.020	1440	5515
1235.07.025	1440	5515
1235.07.032	1440	5515
1235.07.040	1440	5515
1235.07.050	1240	5515






### AD..

Ref.	AD.. 1503..	l	s	d
		15,00	3,18	9,52

Positive 15° clearance - Rectangular inserts.

For more information see page: A.10

ADMT	ADMW	ADMW-C			
					

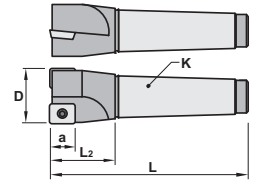
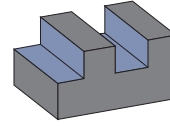
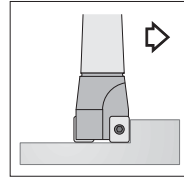


**Characteristics:**

This positive milling cutter with an exact angle of 90° uses very strong inserts allowing deep passes and high feed per teeth. The insert is fixed by Torx screw that allow a good chip evacuation and an easy use.

**Applications:**

This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.



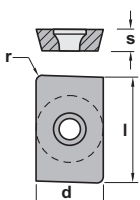
# 1235.30

Ref.			D	L	L2	a	K	Insert size	
1235.30.020	1		20	125	38	13	MK3	AD.. 1503..	0,300
1235.30.025	2		25	125	38	13	MK3	AD.. 1503..	0,300
1235.30.032	3		32	125	38	13	MK3	AD.. 1503..	0,350
1235.30.040	4		40	125	38	13	MK3	AD.. 1503..	0,400
1235.30.050	4		50	125	38	13	MK3	AD.. 1503..	0,600

Ref.		
1235.30.020	1440	5515
1235.30.025	1440	5515
1235.30.032	1440	5515
1235.30.040	1440	5515
1235.30.050	1240	5515

Ref.	AD..			Positive 15° clearance - Rectangular inserts.
	AD.. 1503..	l	s	
		15,00	3,18	9,52
	ADMT	ADMW	ADMW-C	

For more information see page: A.10



Square shoulder cutters

Slot cutters

Porcupine cutters

Specific applications and sets

Profile milling

Solid carbide

Drills

Boring heads

Arbors and adaptors

Inserts

Face milling cutters

Square shoulder cutters

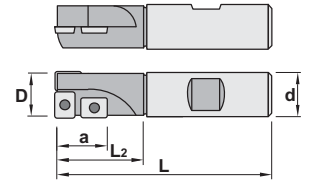
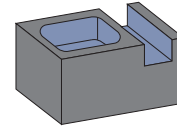
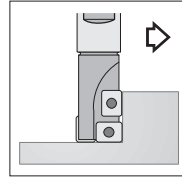


### Characteristics:

This super positive drill milling cutter with an exact angle of 90° uses strong inserts allowing deep passes. The insert is fixed by Torx screw that allow a good chip evacuation and an easy use. Milling cutter equipped with short Weldon shank.

### Applications:

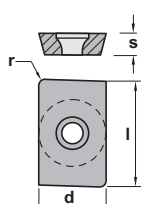
This drill milling cutter, works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.



2255.07.27			D	L	L2	d	a	Insert size	kg
Ref.	2255.07.029	1+1	29	100	40	25	28	AD.. 1503..	0,350
	2255.07.032	1+1	32	100	40	32	28	AD.. 1503..	0,500
	2255.07.040	1+1	40	100	40	32	28	AD.. 1503..	0,600
	2255.27.029	1+1	29	150	40	25	28	AD.. 1503..	0,550
	2255.27.032	1+1	32	175	40	32	28	AD.. 1503..	1,000
	2255.27.040	1+1	40	175	40	32	28	AD.. 1503..	1,100

Ref.	2255.07.029	1440	5515
	2255.07.032	1440	5515
	2255.07.040	1440	5515
	2255.27.029	1440	5515
	2255.27.032	1440	5515
	2255.27.040	1440	5515

AD..		l	s	d	Positive 15° clearance - Rectangular inserts.
Ref.	AD.. 1503..	15,00	3,18	9,52	
					For more information see page: A.10
ADMT	ADMW				



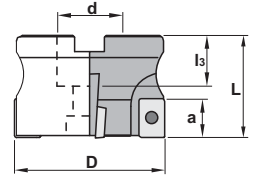
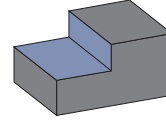
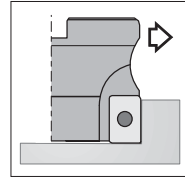


**Characteristics:**

This super positive milling cutter with an exact angle of 90° uses strong inserts allowing deep passes. The insert is 3,18 mm and it fixed by Torx screw that allow a good chip evacuation and an easy use.

**Applications:**

This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.



**1235.90 90°**

Ref.			D	L	d	l3	a	Insert size	
1235.90.040	4		40	40	16	20	13	AD.. 1503..	0,200
1235.90.050	5		50	40	22	20	13	AD.. 1503..	0,300
1235.90.063	6		63	50	27	22	13	AD.. 1503..	0,700
1235.90.080	6		80	50	32	25	13	AD.. 1503..	1,150
1235.90.100	8		100	50	40	29	13	AD.. 1503..	1,900

Ref.			
1235.90.040	1240	5615	1058
1235.90.050	1240	5615	912,10
1235.90.063	1240	5615	912,12
1235.90.080	1240	5615	912,16
1235.90.100	1240	5615	912,20

	AD..				Positive 15° clearance - Rectangular inserts.
	Ref.	AD.. 1503..	l	s	
			15,00	3,18	9,52
	ADMT	ADMW	ADMW-C		

For more information see page: A.10

Inserts

Face milling cutters

Square shoulder cutters

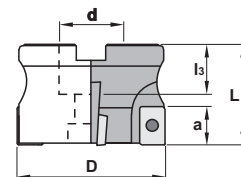
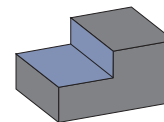
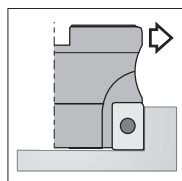


### Characteristics:

This positive milling cutter with an exact angle of 90° uses very strong inserts allowing depth passes and high feed per teeth. The insert thickness is 4,76 mm and it is fixed by Torx screw that allow a good chip evacuation and an easy use.

### Applications:

This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.

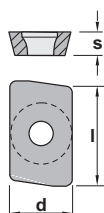


## 1240.90 90°

Ref.		D	L	d	l3	a	Insert size	
1240.90.040	3	40	40	16	20	18	AP.. 2004..	0,200
1240.90.050	4	50	40	22	22	18	AP.. 2004..	0,300
1240.90.063	5	63	50	22	22	18	AP.. 2004..	0,650
1240.90.080	6	80	50	27	25	18	AP.. 2004..	1,050
1240.90.100	6	100	50	32	26	18	AP.. 2004..	1,700
1240.90.125	8	125	63	40	29	18	AP.. 2004..	2,850

Ref.			
1240.90.040	1550	5620	1058
1240.90.050	1550	5620	912,10
1240.90.063	1550	5620	912,10
1240.90.080	1550	5620	912,12
1240.90.100	1550	5620	912,16
1240.90.125	1550	5620	-

AP..		l	s	d	Positive 11° clearance - Rectangular inserts.
Ref.	AP.. 2004..	20,00	4,76	12,70	
For more information see page: A.12					
APMT	APMW				



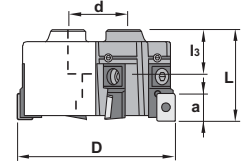
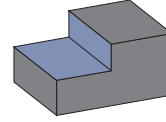
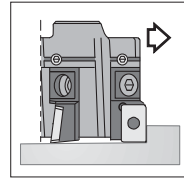


**Characteristics:**

This positive milling cutter with an exact angle of 90° uses very strong inserts allowing depth passes and high feed per teeth. The insert thickness is 4,76 mm and it is fixed by Torx screw that allow a good chip evacuation and an easy use. The indexable cartridges protect the milling cutter body in case of accident.

**Applications:**

This face and square (angle 90°), slot and side milling cutter works well on steels, alloyed steels, stainless steels, refractory casts and aluminium alloys. This general milling cutter for diversified manufacture is recommended for conventional milling machines and machining centers.



**1240.99 90°**

Ref.			D	L	d	ls	a	Insert size	
1240.99.160	10		160	63	40	30	18	AP.. 2004..	4,000
1240.99.200	12		200	63	60	40	18	AP.. 2004..	7,700
1240.99.250	16		250	63	60	40	18	AP.. 2004..	10,800
1240.99.315	20		315	63	60	40	18	AP.. 2004..	31,000
1240.99.400	22		400	63	60	40	18	AP.. 2004..	47,500
1240.99.500	28		500	63	60	40	18	AP.. 2004..	85,000

Ref.						
1240.99.160	1550	5620	6240	1788	1460	40
1240.99.200	1550	5620	6240	1788	1460	50
1240.99.250	1550	5620	6240	1788	1460	50
1240.99.315	1550	5620	6240	1788	1460	50/60
1240.99.400	1550	5620	6240	1788	1460	50/60
1240.99.500	1550	5620	6240	1788	1460	50/60

	AP..			Positive 11° clearance - Rectangular inserts.
	Ref.	l	s	
	AP.. 2004..	20,00	4,76	12,70
	APMT	APMW		

For more information see page: A.12

Inserts

Face milling cutters

Square shoulder cutters

## Cutting data for facing square shoulder cutters

Material	P	HB	Condition	Cutting speed m/min.			
				TIN25	TIN21	PM25	PM40
				0.3-0.2-0.1	0.3-0.2-0.1	0.4-0.2-0.1	0.4-0.2-0.1
Unalloyed steel	P	110	C<0.25%	250-300-390	250-350-450	180-250-310	100-130-160
		150	C<0.80%	155-180-255	100-120-165	120-145-205	65-85-100
		310	C<1.40%	135-165-210	75-110-135	95-130-170	50-75-85
Low alloyed steel	P	125-225 220-450	Hardened	170-200-250 110-130-150	100-120-165 55-75-95	120-160-200 70-100-120	95-85-105 40-55-65
High alloyed steel	P	150-250 250-300	Hardened	140-170-225 90-110-150	90-115-150 60-75-90	110-140-180 65-90-120	60-80-90 40-50-60
High alloyed steel	P	150-250 250-350	Rapid steel (HSS) Hardened Hardened tool steel	130-160-195	75-105-130	90-125-155 70-95-120	50-60-75 30-40-50
Stainless steel	P	150-270	Ferritic, Martensitic	155-180-250	110-150-190	120-165-210	80-105-130
Steel castings	P	150 150-250 160-200	Unalloyed Low alloyed High alloyed	140-180-250 125-150-190 90-110-130	80-120-150 70-100-120 55-70-80	100-145-180 90-120-150 65-90-100	60-75-95 50-65-80 35-45-55
Stainless steel castings	P	150-250	Ferritic, martensitic		50-80	50-70-80	30-40-50

Material	M	HB	Condition	Cutting speed m/min.			
				TIN25	TIN21	KM15	PM25
				0.4-0.2-0.1	0.3-0.2-0.1	0.2-0.1	0.4-0.2-0.1
Stainless steel annealed	M	150-220	Austenitic	180-220-280	80-150-220		150-240-300
Steel castings	M	200	Stainless, austenitic		40-70		50-60
Iron, nickel and cobalt base castings	M	180-300 220-300 220-300			40-100	20-40 20-40 10-20	
Titanium alloys	M	300-400					

Material	K	HB	Condition	Cutting speed m/min.			
				TIN21	TIN25	KM15	PM25
				0.3-0.2-0.1	0.4-0.2-0.1	0.2-0.1	0.4-0.2-0.1
Tempered steel	K	HCR 50-65					
Stainless steel castings	K	250	Manganese steel 12-14% Mn			12-18-20	15-20-30
Malleable cast iron	K	110-145 200-230	Short chipping Long chipping	200-300 150-200		65-80-95 50-65-80	100-125-150 90-115-135
Grey cast iron	K	180 260	Low tensile strength High tensile strength	200-400 150-350		70-95-120 50-70-90	85-120-155 70-90-115
Nodular cast iron	K	160 250	Ferritic Pearlitic	100-250 100-180	100-130 90-110	50-65-80 45-60-70	70-90-115 65-80-100
Chilled cast iron	K	HCR 40-60					
Aluminium alloys	K	60-100 75-110	Non cast Cast			500-2100 400-2000	
Aluminium with high contents of Si	K		10-14% Si 14-16% Si 16-18% Si			200-1000 110-200	

### Cutting data for Drill-Mill cutters

Material	P	HB	Condition	Tool diameter (D mm.)	Basic qualities				Feed/tooth complete slot $f_z$
					TIN25	PM25	PM40	KM15	
					Cutting speed m/min.				
Unalloyed steel	P	110 170 250	C<0,25% C<0,8% C<1,4%	12-16	180-230 120-150 80-130	150-200 100-140 70-110	100-150 80-120 60-100		0,02-0,11 0,11-0,14 0,12-0,18 0,15-0,21 0,18-0,24
				20					
				25					
				32					
				40					
Low alloyed steel	P	125-225 220-450	Annealed Hardened	12-16	100-150 60-110	90-140 60-110	70-110 45-80		0,02-0,11 0,11-0,14 0,12-0,18 0,15-0,21 0,18-0,24
				20					
				25					
				32					
				40					
High alloyed steel	P	150-250 250-500	Annealed Hardened	12-16	80-120	80-120 50-80	60-100 40-70		0,02-0,11 0,11-0,14 0,12-0,18 0,15-0,21 0,18-0,24
				20					
				25					
				32					
				40					
Stainless steel	P	150-270	Ferritic/Martensitic	12-16	120-160	100-130	60-100		0,02-0,11 0,11-0,14 0,12-0,18 0,15-0,21 0,18-0,24
				20					
				25					
				32					
				40					
Steel castings	P	150 150-220 160-200	Unalloyed Low alloyed High alloyed	12-16		80-110 50-90 50-80	70-100 40-80 40-70		0,02-0,11 0,11-0,14 0,12-0,18 0,15-0,21 0,18-0,24
				20					
				25					
				32					
				40					
Stainless steel castings	P	200	Ferritic/Martensitic	12-16	50-80	40-70	35-60		0,02-0,11 0,11-0,14 0,12-0,18 0,15-0,21 0,18-0,24
				20					
				25					
				32					
				40					

Material	M	HB	Condition	Tool diameter (D mm.)	Basic qualities				Feed/tooth complete slot $f_z$
					TIN25	PM25	PM40	KM15	
					Cutting speed m/min.				
Stainless steel	M	150-220	Austenitic	12-16	80-160	70-130	55-90		0,02-0,11 0,11-0,14 0,12-0,18 0,15-0,21 0,18-0,24
				20					
				25					
				32					
				40					
Stainless steel castings	M	200	Austenitic	12-16	40-70	40-60	35-55		0,02-0,11 0,11-0,14 0,12-0,18 0,15-0,21 0,18-0,24
				20					
				25					
				32					
				40					

Material	K	HB	Condition	Tool diameter (D mm.)	Basic qualities				Feed/tooth complete slot $f_z$
					TIN25	PM25	PM40	KM15	
					Cutting speed m/min.				
Malleable cast iron	K	110-145 200-230	Short chipping Long chipping	12-16				90-120 80-100	0,02-0,11 0,11-0,14 0,12-0,18 0,15-0,21 0,18-0,24
				20					
				25					
				32					
				40					
Grey cast iron	K	180 260	Low tensile strength High tensile strength	12-16				60-120 50-100	0,02-0,11 0,11-0,14 0,12-0,18 0,15-0,21 0,18-0,24
				20					
				25					
				32					
				40					
Nodular cast iron Spheroidal graphite	K	160 250	Ferritic Pearlitic	12-16				50-80 40-70	0,02-0,11 0,11-0,14 0,12-0,18 0,15-0,21 0,18-0,24
				20					
				25					
				32					
				40					
Aluminium	K	60-150 40-180	Forged Cast	12-16				300-500 250-450	0,02-0,11 0,11-0,14 0,12-0,18 0,15-0,21 0,18-0,24
				20					
				25					
				32					
				40					
Bronze-brass alloys	K	60-150		12-16				80-120	0,02-0,11 0,11-0,14 0,12-0,18 0,15-0,21 0,18-0,24
				20					
				25					
				32					
				40					



$D/a_r$	50	40	20	10	5	2,5	2	1,5	1
$f_1$	4,5	4	3	2	1,5	1	1	1	1

When you trace a contour (side peripheral milling), you must multiply the  $f_z$  value of a complete slot (see table) by the correction factor  $f_1$  corresponding to the relationship  $D/a_r$  (milling cutter diameter/radial cutting depth) in order to get a suitable feed.

Square shoulder cutters

Slot cutters

Porcupine cutters

Specific applications and sets

Profile milling

Solid carbide

Drills

Boring heads

Arbors and adaptors