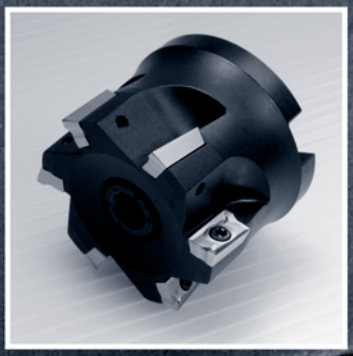
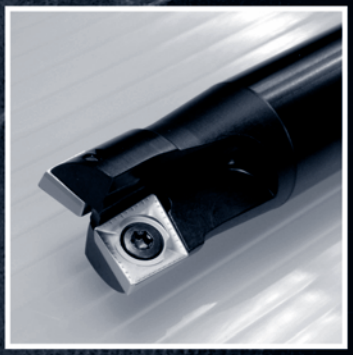
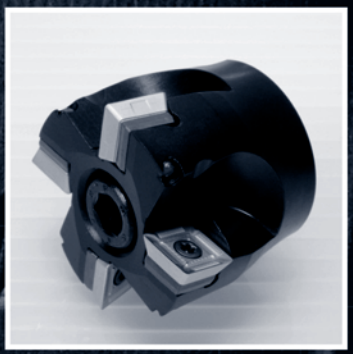
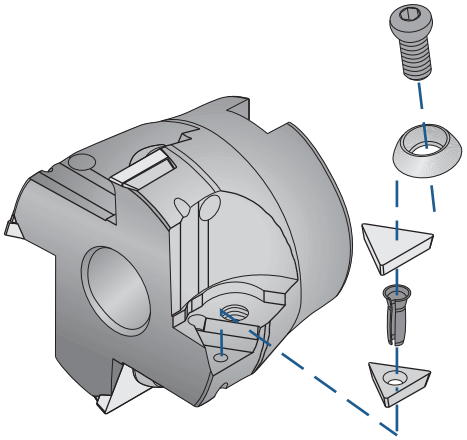
Square shoulder cutters





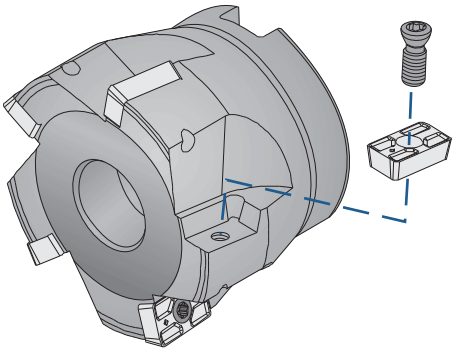


Square shoulder cutters



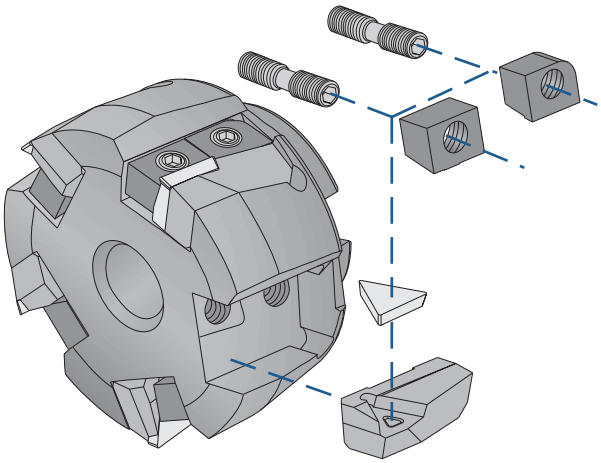
C Clamp

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



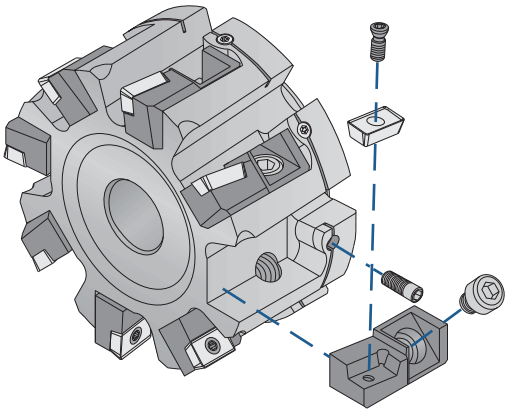
Screw clamping

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

01 2/3 0.00
General applications 90°

Page C.04 — TP.. 1102.. TP.. 1103..

0130. 01/02
General applications 90°

Page C.06 — TP.. 1603..

0130.07
General applications 90°

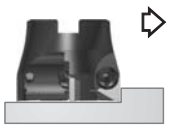
Page C.07 — TP.. 1603..

0130.30
General applications 90°

Page C.08 — TP.. 1603..

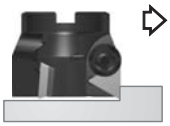
0130.80
General applications 90°

Page C.09 — TP.. 1603..

0130.90 90°
General application 90°

Page C.10 — TP.. 1603..

0130.99 90°
General application 90°

Page C.11 — TP.. 1603..

0140.90 90°
Deep cutting 90°

Page C.12 — TP.. 2204..

0140.99 90°
Deep cutting 90°

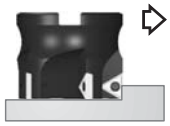
Page C.13 — TP.. 2204..

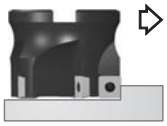
0134.00
General applications 90°

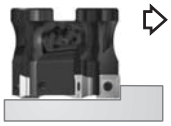
Page C.14 — TC.. 16T3..

0134.30
General applications 90°

Page C.15 — TC.. 16T3..

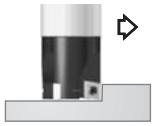
0134.90 90°
General application 90°

Page C.16 — TC.. 16T3..

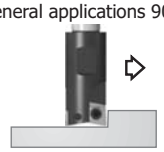
0240.90 90°
Square and facing 90°

Page C.17 — SPM.. 1204..

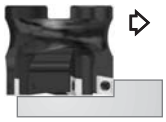
0245.90 90°
Square and facing 90°

Page C.18 — SDMT 12T3..

0245.99 90°
Square and facing 90°

Page C.19 — SDMT 12T3..

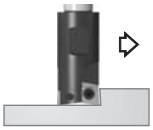
03 1/3 4.0 0/2
General applications 90°

Page C.20 — CC.. 0602.. CC.. 09T3..

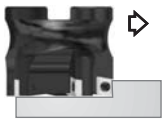
03 1/3 4.06
General applications 90°

Page C.22 — CC.. 0602.. CC.. 0803.. CC.. 09T3..

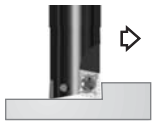
0334.90
General applications 90°

Page C.23 — CC.. 09T3..

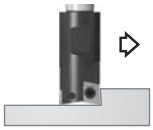
3334.01
General applications 90°

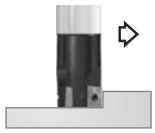
Page C.24 — CC.. 0602.. CC.. 09T3..

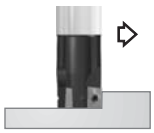
3334.06
General applications 90°

Page C.25 — CC.. 0602.. CC.. 09T3..

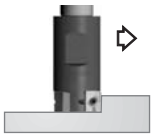
3334.90
General applications 95°

Page C.26 — CC.. 09T3..

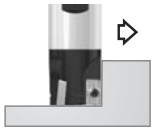
3314.0 0/1 Multi-function centre-cutting end mill

Page C.28 — CCKT0602.. .. CCKT1204..

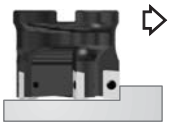
3314.06 Multi-function centre-cutting end mill

Page C.29 — CCKT0602.. .. CCKT1204..

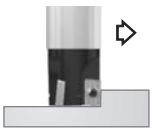
1220.0 0/2
First choice 90°

Page C.30 — APKT 1003..

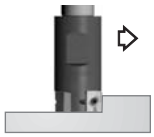
1220.03
First choice 90°

Page C.32 — APKT 1003..

1220.06
First choice 90°

Page C.33 — AP.. 1003..

1220.07
First choice 90°

Page C.34 — AP.. 1003..

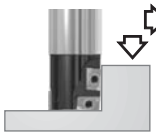
1220.90 90°
First choice 90°

Page C.35 — AP.. 1003..

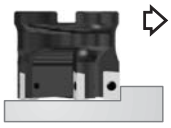
1230.02
First choice 90°

Page C.36 — APKT 1604..

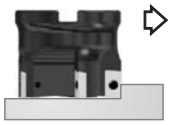
1230.06
First choice 90°

Page C.37 — AP.. 1604..

1230.07
First choice 90°

Page C.38 — AP.. 1604..

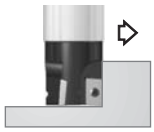
22 2/3 0.07
Slot and side milling 90°

Page C.39 — APKT 1003.. APKT 1604..

1230.90 90°
First choice 90°

Page C.40 — AP.. 1604..

1230.93 90°
First choice 90°

Page C.41 — AP.. 1604..

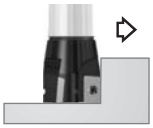
1230.99 90°
First choice 90°

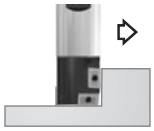
Page C.42 — AP.. 1604..

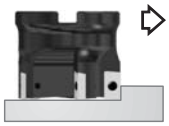
1235.00
Soft materials 90°

Page C.43 — AD.. 1503..

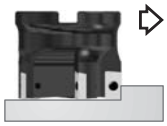
1235.07
Soft materials 90°

Page C.44 — AD.. 1503..

1235.30
Soft materials 90°

Page C.45 — AD.. 1503..

2255. 07/27
Milling and boring 90°

Page C.46 — AD.. 1503..

1235.90 90°
Soft materials 90°

Page C.47 — AD.. 1503..

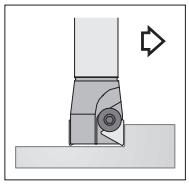
1240.90 90°
Deep cutting 90°

Page C.48 — AP.. 2004..

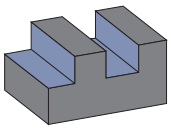
1240.99 90°
Deep cutting 90°

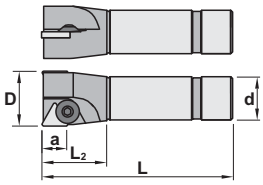
Page C.49 — AP.. 2004..

Characteristics:
Positive milling cutter with 90º entering angle that uses standard triangular inserts.
The clamp system allows a quick insert assembly and dismantling.
Milling cutter with short cylindric 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.



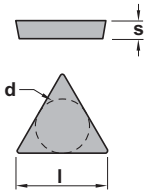




0120.00

Ref.		D	L	L2	d	a	Insert size	Kg
	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



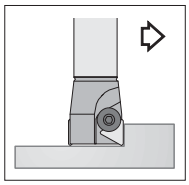
	TP..	l	s	d
Ref.	TP.. 1102..	11,00	2,38	6,35
	TP.. 1103..	11,00	3,18	6,35

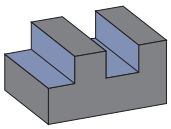
Positive 11° clearance - Triangular inserts.

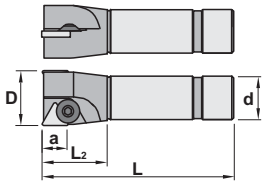
For more information see page: A.21

TPKN	TPUN	TPUX-R				
						

Characteristics:
Positive milling cutter with 90º entering angle that uses standard triangular inserts.
The clamp system allows a quick insert assembly and dismantling.
Milling cutter with short cylindric 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.



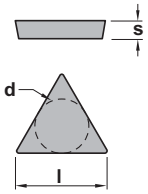




0130.00

			D	L	L2	d	a	Insert size	Kg
Ref.	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..	l	s	d
Ref.	TP.. 1603..	16,50	3,18	9,52

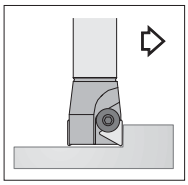
Positive 11° clearance - Triangular inserts.

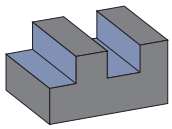
For more information see page: A.21

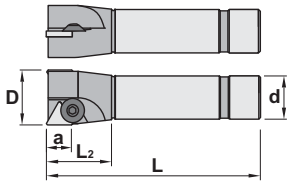
TPKN	TPKR	TPUN	TPUX-R			
						

Characteristics:
Positive milling cutter with 90º entering angle that uses standard triangular inserts.
The clamp system allows a quick insert assembly and dismantling.
Milling cutter with long cylindric 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.



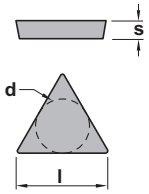




0130.0 1/2

Ref.		D	L	L2	d	a	Insert size	Kg
	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



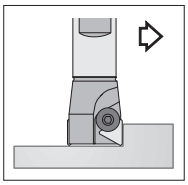
Ref.	TP..	l	s	d
	TP.. 1603..	16,50	3,18	9,52

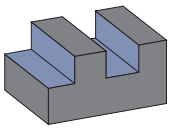
Positive 11° clearance - Triangular inserts.

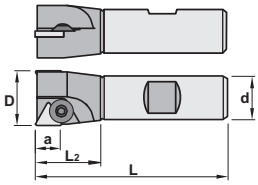
For more information see page: A.21

TPKN	TPKR	TPUN	TPUX-R			
						

Characteristics:
Positive milling cutter with 90º 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.



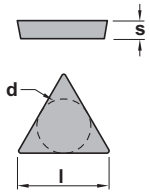




0130.07

			D	L	L2	d	a	Insert size	Kg
Ref.	0130.07.016	1	16	100	30	20	13	TP.. 1603..	0,180
	0130.07.020	1	20	100	30	20	13	TP.. 1603..	0,220
	0130.07.025	2	25	100	30	25	13	TP.. 1603..	0,350
	0130.07.032	2	32	100	30	32	13	TP.. 1603..	0,550
	0130.07.040	3	40	100	30	32	13	TP.. 1603..	0,600
	0130.07.050	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..	l	s	d
Ref.	TP.. 1603..	16,50	3,18	9,52

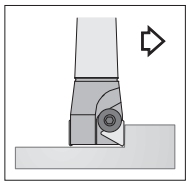
Positive 11° clearance - Triangular inserts.

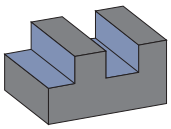
For more information see page: A.21

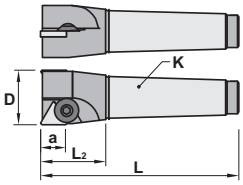
TPKN	TPKR	TPUN	TPUX-R			
						

Characteristics:
Positive milling cutter with 90º 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.



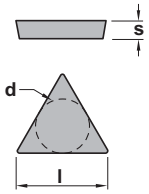




0130.30

Ref.		D	L	L2	a	K	Insert size	Kg
	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..	l	s	d
	TP.. 1603..	16,50	3,18	9,52

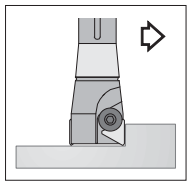
Positive 11° clearance - Triangular inserts.

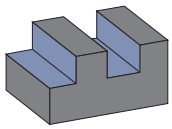
For more information see page: A.21

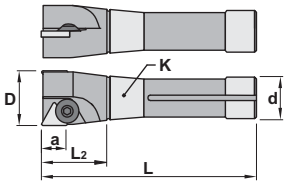
TPKN	TPKR	TPUN	TPUX-R			
						

Characteristics:
Positive milling cutter with 90º 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.



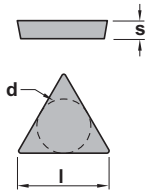




0130.80

			D	L	L2	a	d	K	Insert size	Kg
Ref.	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

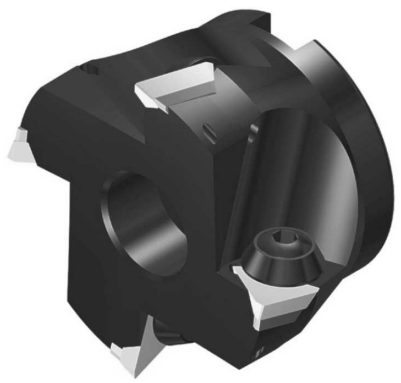


	TP..	l	s	d
Ref.	TP.. 1603..	16,50	3,18	9,52

Positive 11° clearance - Triangular inserts.

For more information see page: A.21

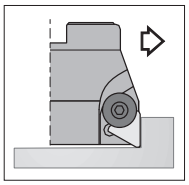
TPKN	TPKR	TPUN	TPUX-R			
						

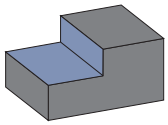


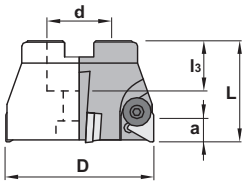
Characteristics: This positive milling cutter with an exact angle of 90º uses very strong inserts allowing depth passes and high feed per teeth. The clamp allows a quick insert assembly and dismantling. The milling cutter is equipped with shim seats (except diameter 40 and 50 mm), which protect the milling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

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.



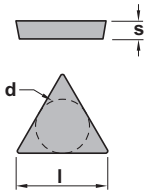




0130.90 90º

Ref.		D	L	d	l3	a	Insert size	Kg
	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	30	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.								DIN 2079
	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	40
	0130.90.200	1006	5004	2064	3016	4016	912,56	50



	TP..	l	s	d
Ref.	TP.. 1603..	16,50	3,18	9,52

Positive 11° clearance - Triangular inserts.

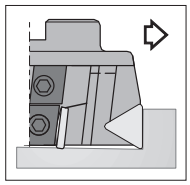
For more information see page: A.21-22

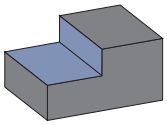
TPKN	TPKR	TPUN	TPUX-R			
						

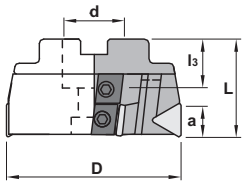
Characteristics: This positive milling cutter with an exact angle of 90º uses very strong inserts allowing depth passes and high feed per teeth. The fixing system by wedge ensures an excellent clamping of the insert and a higher security on difficult conditions. The indexable cartridges protect the milling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

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.



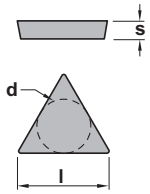




0130.99 90º

			D	L	d	l3	a	Insert size	Kg
Ref.	0130.99.052	5	52	50	16	18	13	TP.. 1603..	0,500
	0130.99.063	6	63	50	22	20	13	TP.. 1603..	0,700
	0130.99.080	5	80	50	27	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

									DIN 2079
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

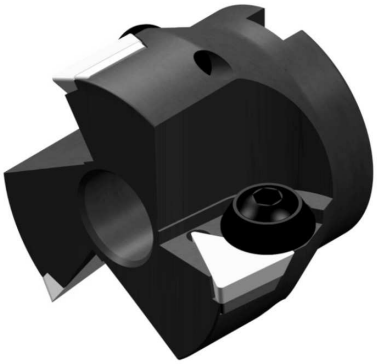


	TP..	l	s	d
Ref.	TP.. 1603..	16,50	3,18	9,52

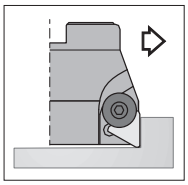
Positive 11° clearance - Triangular inserts.

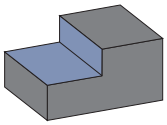
For more information see page: A.21-22

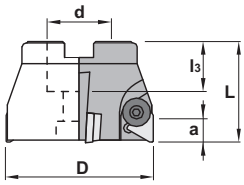
TPKN	TPKR	TPUN	TPUX-R			
						



Characteristics: This positive milling cutter with an exact angle of 90º 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=+6º; Radial rake=+1º.
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.



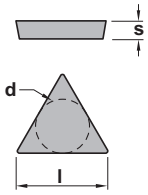




0140.90 90º

			D	L	d	l3	a	Insert size	Kg
Ref.	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	30	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

								DIN 2079
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



	TP..	l	s	d
Ref.	TP.. 2204..	22,00	4,76	12,70

Positive 11° clearance - Triangular inserts.

For more information see page: A.21-22

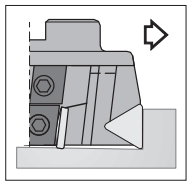
TPKN	TPUN	TPUX-R				
						

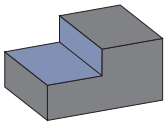
Characteristics: This positive milling cutter with an exact angle of 90º uses very strong inserts allowing depth passes and high feed per teeth. The fixing system by wedge ensures an excellent clamping of the insert and a higher security on difficult conditions. The indexable cartridges protect the milling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

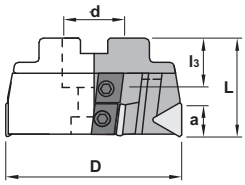
Applications:

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.



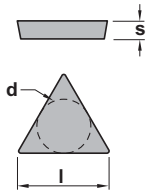




0140.99 90º

			D	L	d	l3	a	Insert size	Kg
Ref.	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

									DIN 2079
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..	l	s	d
Ref. TP.. 2204..	22,00	4,76	12,70

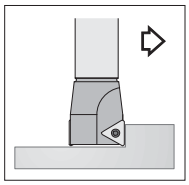
Positive 11° clearance - Triangular inserts.

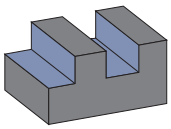
For more information see page: A.21

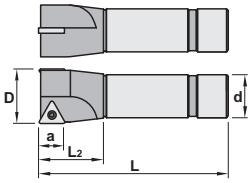
TPKN	TPUN	TPUX-R				
						

Characteristics:
This positive milling cutter with an exact angle of 90º 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=0º; Radial rake=-8º.

Applications:
This face and square (angle 90º), 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.



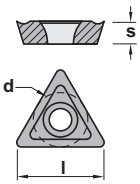




0134.00

			D	L	L2	d	a	Insert size	Kg
Ref.	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..	l	s	d
Ref.	TC.. 16T3..	16,50	3,97	9,52

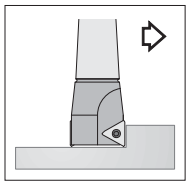
Positive 7° clearance - Triangular inserts.

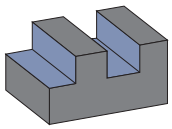
For more information see page: A.20

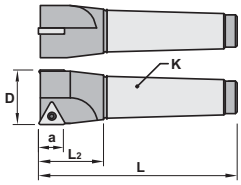
TCGT-AL	TCMT-39	TCMW				
						

Characteristics:
This positive milling cutter with an exact angle of 90º 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=0º; Radial rake=-8º.

Applications:
This face and square (angle 90º), 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.



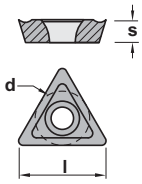




0134.30

			D	L	L2	a	K	Insert size	Kg
Ref.	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

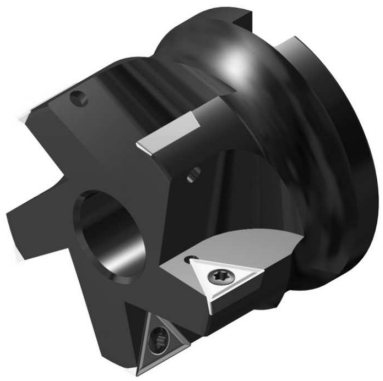


TC..	l	s	d
Ref. TC.. 16T3..	16,50	3,97	9,52

Positive 7° clearance - Triangular inserts.

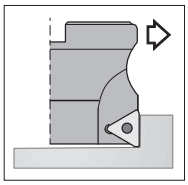
For more information see page: A.20

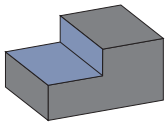
TCGT-AL	TCMT-39	TCMW				
						

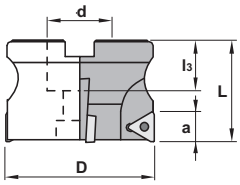


Characteristics:
This positive milling cutter with an exact angle of 90º uses very strong inserts allowing depth passes and high feed per teeth. The insert thickness is 3,97 mm and is fixed by Torx screw that allow a good chip evacuation and an easy use. Axial rake=0º; Radial rake=-8º.

Applications:
This face and square (angle 90º), 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.



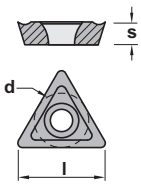




0134.90 90º

			D	L	d	l3	a	Insert size	Kg
Ref.	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	30	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

					DIN 2079
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

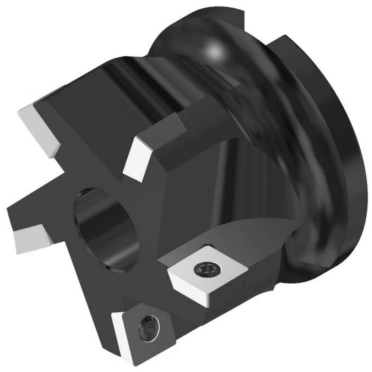


	TC..	l	s	d
Ref.	TC.. 16T3..	16,50	3,97	9,52

Positive 7° clearance - Triangular inserts.

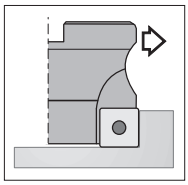
For more information see page: A.20

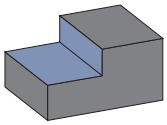
TCGT-AL	TCMT-39	TCMW				
						

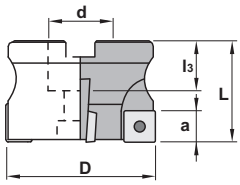


Characteristics:
This positive milling cutter with an exact angle of 90º uses very strong inserts allowing depth passes and high feed per teeth. The milling cutter with Torx fixation is euqipped with shim seats to protect the milling cutter body in case of accident.

Applications:
This face and square (angle 90º), 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.



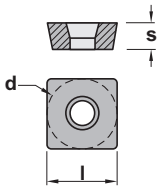




0240.90 90º

			D	L	d	l3	a	Insert size	Kg
Ref.	0240.90.040	3	40	40	16	18	11	SPM.. 1204..	0,200
	0240.90.050	4	50	40	22	20	11	SPM.. 1204..	0,350
	0240.90.063	5	63	50	27	22	11	SPM.. 1204..	0,700
	0240.90.080	6	80	50	27	22	11	SPM.. 1204..	1,150
	0240.90.100	8	100	50	32	25	11	SPM.. 1204..	1,750
	0240.90.125	8	125	63	40	30	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

					DIN 2079
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

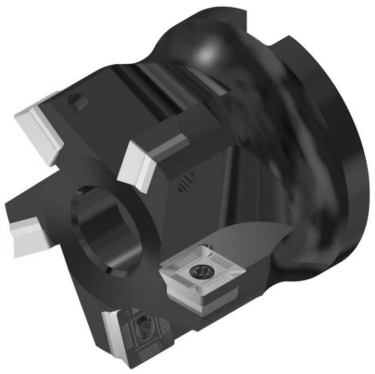


SPM..	l	s	d
Ref. SPM.. 1204..	12,70	4,76	12,70

Positive 11° clearance - Square inserts.

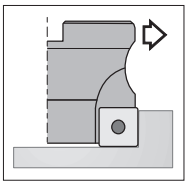
For more information see page: A.19

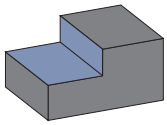
SPMT	SPMW					
						

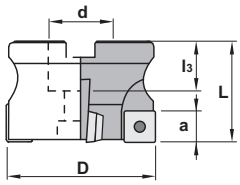


Characteristics:
This positive milling cutter with an exact angle of 90º uses very strong inserts allowing depth passes and high feed per teeth. The milling cutter with Torx fixation is euqipped with shim seats to protect the milling cutter body in case of accident. Axial rake=+7º; Radial rake=-10º.

Applications:
This face and square (angle 90º), 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.



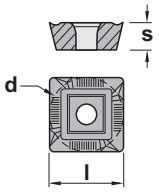




0245.90 90º

			D	L	d	l3	a	Insert size	Kg
Ref.	0245.90.040	3	40	40	16	18	11	SDMT 12T3..	0,150
	0245.90.050	4	50	40	22	20	11	SDMT 12T3..	0,300
	0245.90.063	5	63	50	27	22	11	SDMT 12T3..	0,650
	0245.90.080	6	80	50	27	22	11	SDMT 12T3..	1,150
	0245.90.100	7	100	50	32	25	11	SDMT 12T3..	1,650
	0245.90.125	8	125	63	40	30	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

							DIN 2079
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

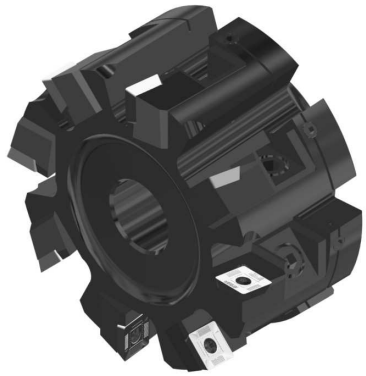


SDMT	l	s	d
Ref. SDMT 12T3..	13,29	3,97	13,29

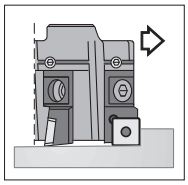
Positive 15° clearance - Square inserts.

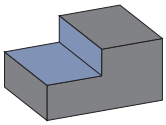
For more information see page: A.16

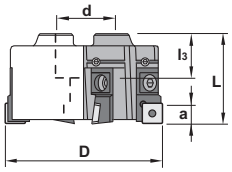
SDMT						
						



Characteristics:
This positive milling cutter with an exact angle of 90º uses very strong inserts allowing depth passes and high feed per teeth. The milling cutter with Torx fixation is euqipped with cartridges to protect the milling cutter body in case of accident.
Applications:
This face and square (angle 90º), 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.



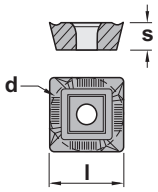




0245.99 90º

			D	L	d	l3	a	Insert size	Kg
Ref.	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

								DIN 2079
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	l	s	d
Ref. SDMT 12T3..	13,29	3,97	13,29

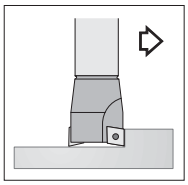
Positive 15° clearance - Square inserts.

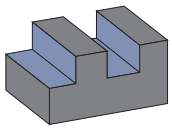
For more information see page: A.16

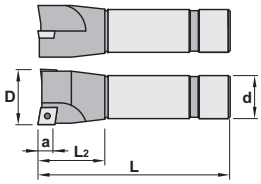
SDMT						
						

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

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.



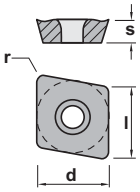




03 1/3 4.00

			D	L	L2	d	a	Insert size	Kg
Ref.	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



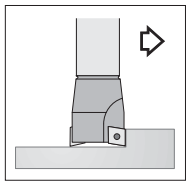
	CC..	l	s	d
Ref.	CC.. 0602..	6,45	2,38	6,35
	CC.. 09T3..	9,65	3,97	9,52

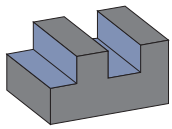
Positive 7° clearance - 80° rhombic insert.

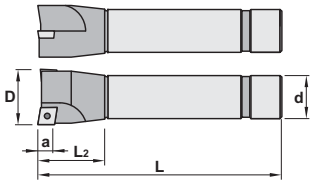
For more information see page: A.12

CCGT-AL	CCKT	CCMW				
						

Characteristics:
This positive milling cutter with 90º entering angle uses rhombic inserts with angle of 80º.
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=+3º; Radial rake=0º.
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.



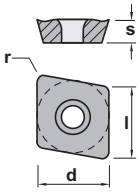




03 1/3 4.02

			D	L	L2	d	a	Insert size	Kg
Ref.	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



	CC..	l	s	d
Ref.	CC.. 0602..	6,45	2,38	6,35
	CC.. 09T3..	9,65	3,97	9,52

Positive 7° clearance - 80° rhombic insert.

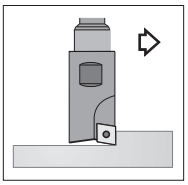
For more information see page: A.12

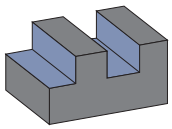
CCGT-AL	CCKT	CCMW				
						

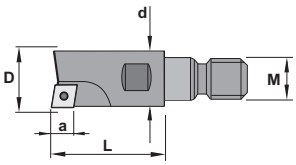
Shanks page: K.45 - K.48

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

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.



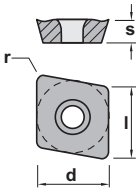




03 1/3 4.06

Ref.		D	L	M	d	a	Insert size	Kg
	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

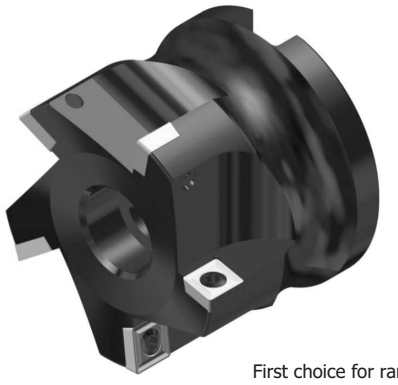


Ref.	CC..	l	s	d
	CC.. 0602..	6,45	2,38	6,35
	CC.. 0803..	8,05	3,18	7,94
	CC.. 09T3..	9,65	3,97	9,52

Positive 7° clearance - 80° rhombic insert.

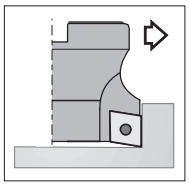
For more information see page: A.12

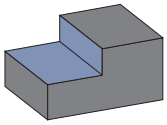
CCGT-AL	CCKT	CCMW				
						

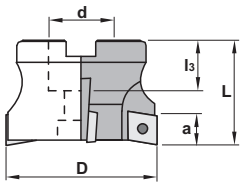


First choice for ramp milling

Characteristics:
This positive milling cutter with 90º entering angle uses rhombic inserts with angle of 80º.
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.



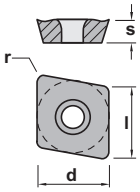




0334.90

			D	L	d	l3	a	Insert size	Kg
Ref.	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	22	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



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

Positive 7° clearance - 80° rhombic insert.

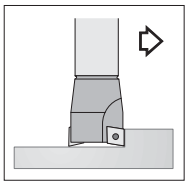
For more information see page: A.12

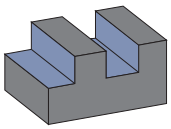
CCGT-AL	CCKT	CCMW				
						

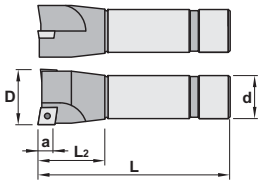
95°

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

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.



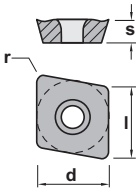




3334.01

Ref.		D	L	L2	d	a	Insert size	Kg
	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..	l	s	d
	CC.. 0602..	6,45	2,38	6,35
	CC.. 09T3..	9,65	3,97	9,52

Positive 7° clearance - 80° rhombic insert.

For more information see page: A.12

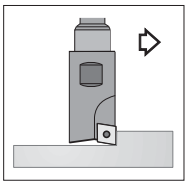
CCGT-AL	CCKT	CCMW				
						

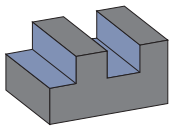
95°

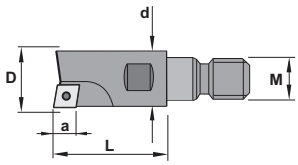
Shanks page: K.45 - K.48

Characteristics:
This positive milling cutter with 95º entering angle uses rhombic inserts with angle of 80º.
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=+3º; Radial rake=0º.

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.



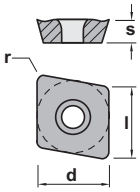




3334.06

Ref.		D	L	M	d	a	Insert size	Kg
	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

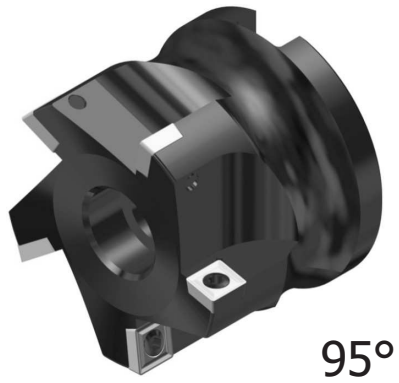


Ref.	CC..	l	s	d
	CC.. 0602..	6,45	2,38	6,35
	CC.. 0803..	8,05	3,18	7,94
	CC.. 09T3..	9,65	3,97	9,52

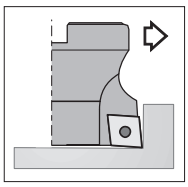
Positive 7° clearance - 80° rhombic insert.

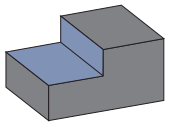
For more information see page: A.12

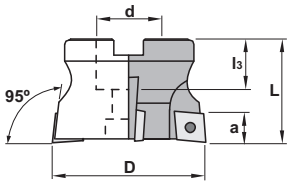
CCGT-AL	CCKT	CCMW				
						



Characteristics:
This positive milling cutter with 95º entering angle uses rhombic inserts with angle of 80º.
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.



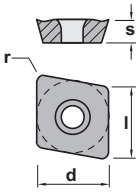




3334.90

Ref.		D	L	d	l3	a	Insert size	Kg
	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	22	9	CC.. 09T3..	1,400

Ref.			
	3334.90.052	1440	5615
	3334.90.066	1240	5615
	3334.90.080	1240	5615



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

Positive 7° clearance - 80° rhombic insert.

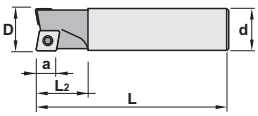
For more information see page: A.12

CCGT-AL	CCKT	CCMW				
						

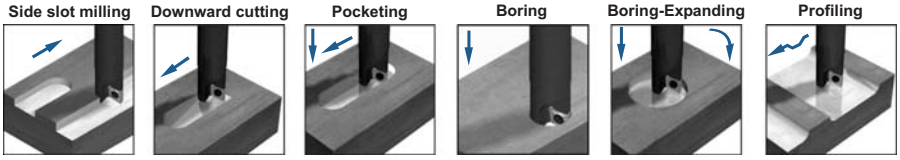

CCKT

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.



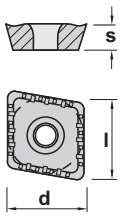
Side slot milling | Downward cutting | Pocketing | Boring | Boring-Expanding | Profiling



3314.0 0/1

			D	d	L	L2	a	Insert size	Kg
Ref.	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
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

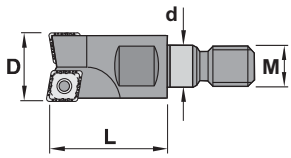
Positive 7° clearance - 80° rhombic inserts.

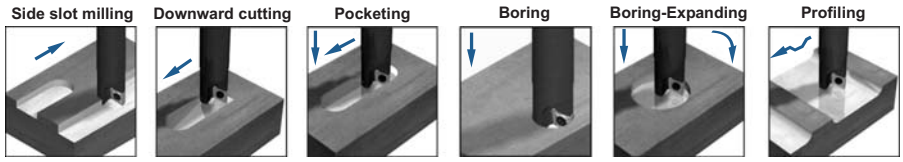
For more information see page: A.12

CCKT						
						

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.

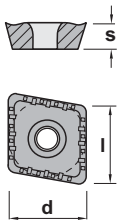




3314.06

			D	L	M	d	Insert size	Kg
Ref.	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	-



CCKT	l	s	d
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

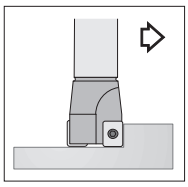
Positive 7° clearance - 80° rhombic inserts.

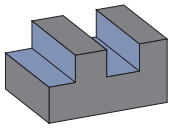
For more information see page: A.12

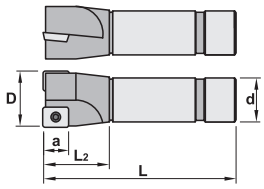
CCKT						
						

Characteristics:
This positive milling cutter with an exact angle of 90º 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 90º), 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.



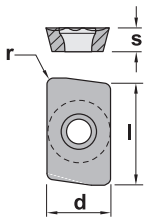




1220.00

			D	L	L2	d	a	Insert size	Kg
Ref.	1220.00.010	1	10	110	25	16	9	AP.. 1003..	-
	1220.00.012	1	12	110	25	16	9	AP.. 1003..	0,150
	1220.00.014	1	14	110	25	16	9	AP.. 1003..	-
	1220.00.016	2	16	110	25	20	9	AP.. 1003..	0,250
	1220.00.018	2	18	110	30	20	9	AP.. 1003..	-
	1220.00.020	3	20	125	30	20	9	AP.. 1003..	0,300
	1220.00.022	3	22	125	30	20	9	AP.. 1003..	-
	1220.00.025	4	25	125	30	25	9	AP.. 1003..	0,450
	1220.00.028	4	28	125	30	25	9	AP.. 1003..	-

Ref.	1220.00.010	1425	5507
	1220.00.012	1425	5507
	1220.00.014	1425	5507
	1220.00.016	1425	5507
	1220.00.018	1225	5507
	1220.00.020	1225	5507
	1220.00.022	1225	5507
	1220.00.025	1225	5507
	1220.00.028	1225	5507



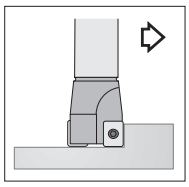
	AP..	l	s	d
Ref.	AP.. 1003..	9,52	3,18	6,35

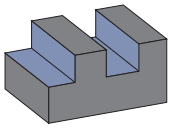
Positive 11° clearance - Rectangular inserts.

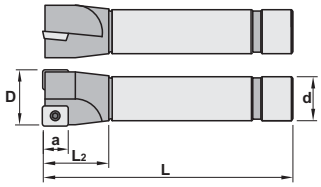
For more information see page: A.11

APHT-AL	APKT					
						

Characteristics:
This positive milling cutter with an exact angle of 90º 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 long cylindric shank.
Applications:
This face and square (angle 90º), 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.



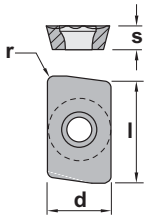




1220.02

		D	L	L2	d	a	Insert size	Kg
Ref.	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..	l	s	d
Ref.	AP.. 1003..	9,52	3,18	6,35

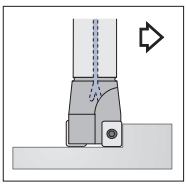
Positive 11° clearance - Rectangular inserts.

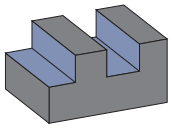
For more information see page: A.11

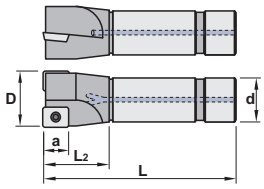
APHT-AL	APKT					
						

Characteristics:
This positive milling cutter with an exact angle of 90º 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 90º), 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.





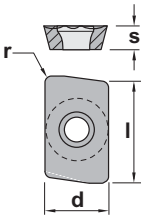


1220.03

Internal coolant system

			D	L	L2	d	a	Insert size	Kg
Ref.	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..	l	s	d
Ref.	AP.. 1003..	9,52	3,18	6,35

Positive 11° clearance - Rectangular inserts.

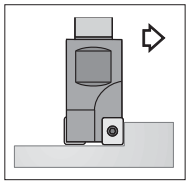
For more information see page: A.11

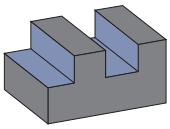
APHT-AL	APKT					
						

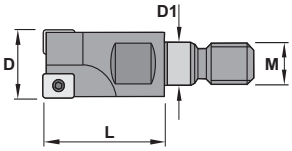
Shanks page: K.45 - K.48

Characteristics:
This positive milling cutter with an exact angle of 90º 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 modular shank.

Applications:
This face and square (angle 90º), 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.



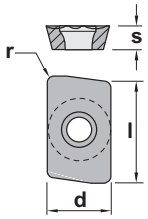




1220.06

			D	L	M	D1	Insert size	Kg
Ref.	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..	l	s	d
Ref. AP.. 1003..	9,52	3,18	6,35

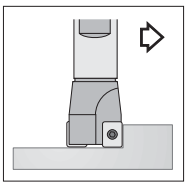
Positive 11° clearance - Rectangular inserts.

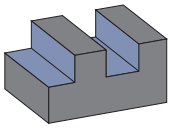
For more information see page: A.11

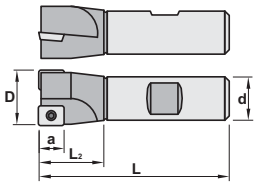
APHT-AL	APKT					
						

Characteristics:
This positive milling cutter with an exact angle of 90º 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 90º), 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.



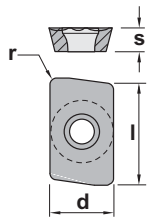




1220.07

			D	L	L2	d	a	Insert size	Kg
Ref.	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



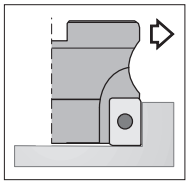
	AP..	l	s	d
Ref.	AP.. 1003..	9,52	3,18	6,35

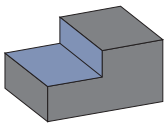
Positive 11° clearance - Rectangular inserts.

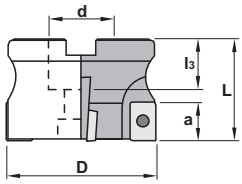
For more information see page: A.11

APHT-AL	APKT					
						

Characteristics:
This positive multitooth milling cutter with an exact angle of 90º 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 90º), 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.



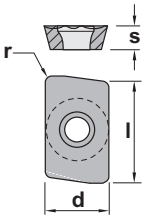




1220.90 90º

			D	L	d	l3	a	Insert size	Kg
Ref.	1220.90.032	5	32	40	16	18	9	AP.. 1003..	0,160
	1220.90.040	6	40	40	16	18	9	AP.. 1003..	0,240
	1220.90.050	7	50	40	22	20	9	AP.. 1003..	0,400
	1220.90.063	9	63	50	22	20	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..	l	s	d
Ref.	AP.. 1003..	9,52	3,18	6,35

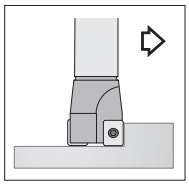
Positive 11° clearance - Rectangular inserts.

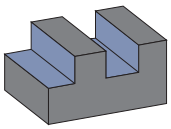
For more information see page: A.11

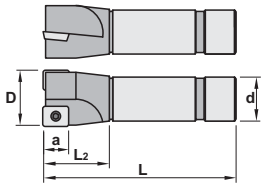
APHT-AL	APKT					
						

Characteristics:
This positive multitooth milling cutter with an exact angle of 90º 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 cylindric shank.

Applications:
This face and square (angle 90º), 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.



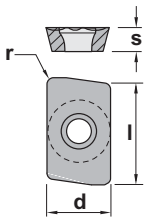




1230.02

			D	L	L2	d	a	Insert size	Kg
Ref.	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



	AP..	l	s	d
Ref.	AP.. 1604..	17,00	4,76	9,52

Positive 11° clearance - Rectangular inserts.

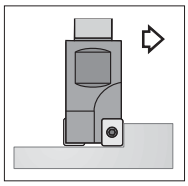
For more information see page: A.10

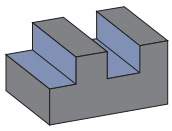
APFT	APHT-AL	APKT	APKT-26	APMT	APMT-26
					

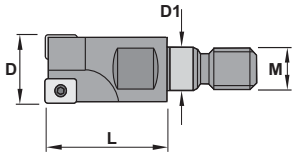
Shanks page: K.45 - K.48

Characteristics:
This positive multitooth milling cutter with an exact angle of 90º 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 90º), 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.



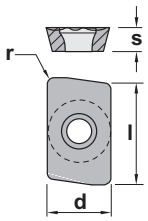




1230.06

Ref.		D	L	M	D1	Insert size	Kg
	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



Ref.	AP..	l	s	d
	AP.. 1604..	17,00	4,76	9,52

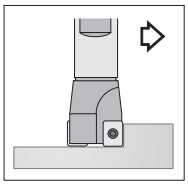
Positive 11° clearance - Rectangular inserts.

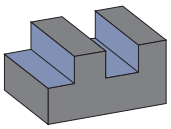
For more information see page: A.10

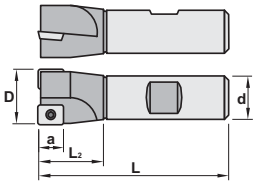
APFT	APHT-AL	APKT	APKT-26	APMT	APMT-26
					

Characteristics:
This positive multitooth milling cutter with an exact angle of 90º 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 90º), 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.



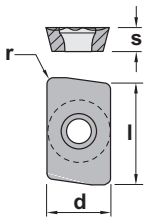




1230.07

			D	L	L2	d	a	Insert size	Kg
Ref.	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



	AP..	l	s	d
Ref.	AP.. 1604..	17,00	4,76	9,52

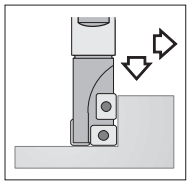
Positive 11° clearance - Rectangular inserts.

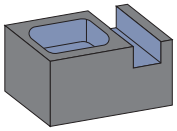
For more information see page: A.10

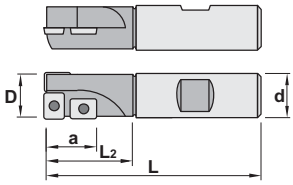
APFT	APHT-AL	APKT	APKT-26	APMT	APMT-26
					

Characteristics:
This super positive drill milling cutter with an exact angle of 90º 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.



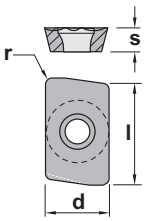




22 2/3 0.07

Ref.			D	L	L2	d	a	Insert size	Kg
	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

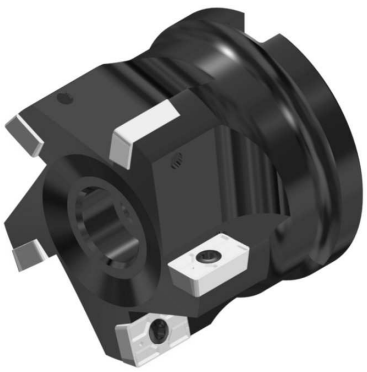


Ref.	AP..	l	s	d
	AP.. 1003..	9,52	3,18	6,35
	AP.. 1604..	16,00	4,76	9,52

Positive 11° clearance - Rectangular insert.

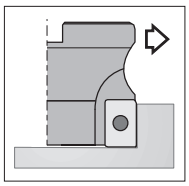
For more information see page: A.10

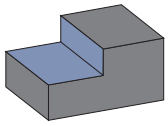
APFT	APHT-AL	APKT	APKT-26	APMT	APMT-26
					

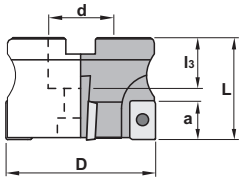


Characteristics:
This positive milling cutter with an exact angle of 90º uses very strong inserts allowing deep passes and high feed per teeth. The insert thickness is 4,76 mm and it fixed by Torx screw that allow a good evacuation and an easy use.

Applications:
This face and square (angle 90º), 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.



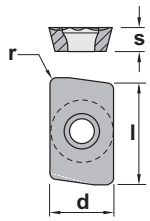




1230.90 90º

			D	L	d	l3	a	Insert size	Kg
Ref.	1230.90.040	4	40	40	16	18	14	AP.. 1604..	0,200
	1230.90.050	5	50	40	22	20	14	AP.. 1604..	0,300
	1230.90.063	6	63	50	27	22	14	AP.. 1604..	0,650
	1230.90.080	7	80	50	27	22	14	AP.. 1604..	1,150
	1230.90.100	8	100	50	32	25	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

					DIN 2079
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

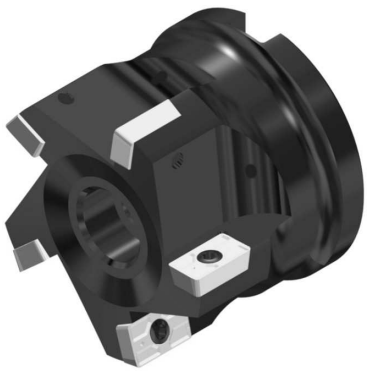


	AP..	l	s	d
Ref.	AP.. 1604..	17,00	4,76	9,52

Positive 11° clearance - Rectangular inserts.

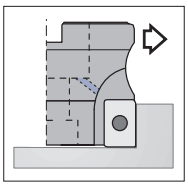
For more information see page: A.10

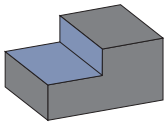
APFT	APHT-AL	APKT	APKT-26	APMT	APMT-26
					

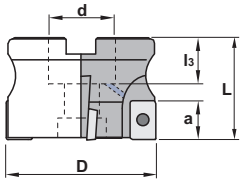


Characteristics:
This positive milling cutter with internal coolant and an exact angle of 90º uses very strong inserts allowing deep passes and high feed per teeth. The insert thickness is 4,76 mm and is fixed by Torx screw that allow a good chip evacuation and an easy use.

Applications:
This face and square (angle 90º), 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.





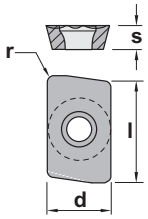


1230.93 90º

Internal coolant system

			D	L	d	l3	a	Insert size	Kg
Ref.	1230.93.040	4	40	40	16	18	14	AP.. 1604..	0,200
	1230.93.050	5	50	40	22	20	14	AP.. 1604..	0,300
	1230.93.063	6	63	50	27	22	14	AP.. 1604..	0,650
	1230.93.080	7	80	50	27	22	14	AP.. 1604..	1,150
	1230.93.100	8	100	50	32	25	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..	l	s	d
Ref. AP.. 1604..	17,00	4,76	9,52

Positive 11° clearance - Rectangular inserts.

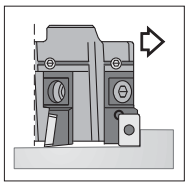
For more information see page: A.10

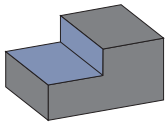
APFT	APHT-AL	APKT	APKT-26	APMT	APMT-26
					

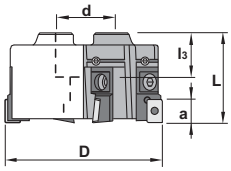
Inserts
Face milling cutters
Square shoulder cutters

Characteristics:
This positive milling cutter with an exact angle of 90º 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 90º), 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.



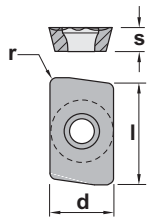




1230.99 90º

Ref.		D	L	d	l3	a	Insert size	Kg
	1230.99.160	10	160	63	40	30	14	AP.. 1604..	4,000
	1230.99.200	12	200	63	60	40	14	AP.. 1604..	7,700
	1230.99.250	16	250	63	60	40	14	AP.. 1604..	10,800
	1230.99.315	20	315	63	60	40	14	AP.. 1604..	31,000
	1230.99.400	22	400	63	60	40	14	AP.. 1604..	47,500
	1230.99.500	28	500	63	60	40	14	AP.. 1604..	85,000

Ref.							DIN 2079
	1230.99.160	1240	5615	6230	1788	1460	40
	1230.99.200	1240	5615	6230	1788	1460	50
	1230.99.250	1240	5615	6230	1788	1460	50
	1230.99.315	1240	5615	6230	1788	1460	50/60
	1230.99.400	1240	5615	6230	1788	1460	50/60
	1230.99.500	1240	5615	6230	1788	1460	50/60



	AP..	l	s	d
Ref.	AP.. 1604..	17,00	4,76	9,52

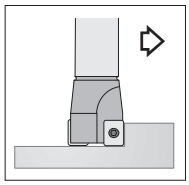
Positive 11° clearance - Rectangular inserts.

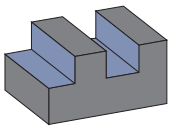
For more information see page: A.10

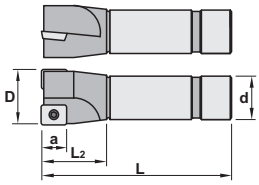
APFT	APHT-AL	APKT	APKT-26	APMT	APMT-26
					

Characteristics:
This super positive milling cutter with an exact angle of 90º 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 cylindric shank.

Applications:
This face and square (angle 90º), 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.



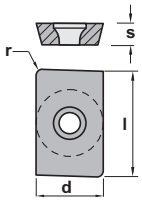




1235.00

			D	L	L2	d	a	Insert size	Kg
Ref.	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



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

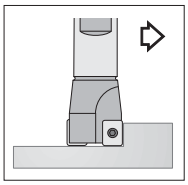
Positive 15° clearance - Rectangular inserts.

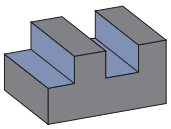
For more information see page: A.10

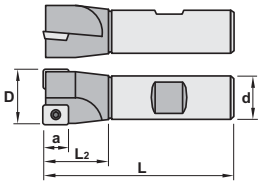
ADMT	ADMW	ADMW-C				
						

Characteristics:
This positive milling cutter with an exact angle of 90º 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 90º), 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.



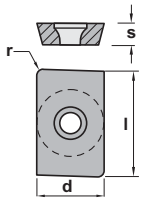




1235.07

			D	L	L2	d	a	Insert size	Kg
Ref.	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



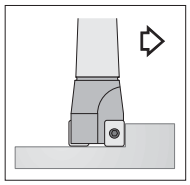
	AD..	l	s	d
Ref.	AD.. 1503..	15,00	3,18	9,52

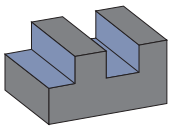
Positive 15° clearance - Rectangular inserts.

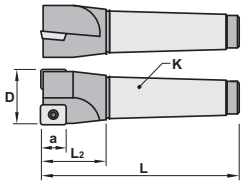
For more information see page: A.10

ADMT	ADMW	ADMW-C				
						

Characteristics:
This positive milling cutter with an exact angle of 90º 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 Morse shank.
Applications:
This face and square (angle 90º), 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.



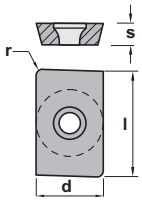




1235.30

			D	L	L2	a	K	Insert size	Kg
Ref.	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



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

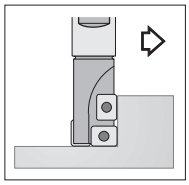
Positive 15° clearance - Rectangular inserts.

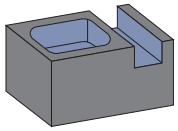
For more information see page: A.10

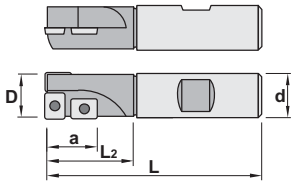
ADMT	ADMW	ADMW-C				
						

Characteristics:
This super positive drill milling cutter with an exact angle of 90º 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.



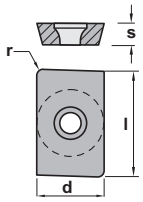




2255.07/27

Ref.		D	L	L2	d	a	Insert size	Kg
	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



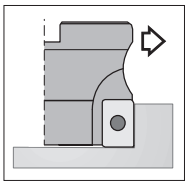
AD..	l	s	d
Ref. AD.. 1503..	15,00	3,18	9,52

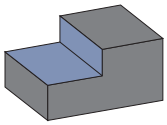
Positive 15° clearance - Rectangular inserts.

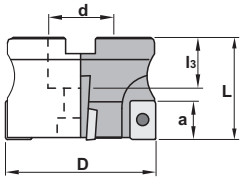
For more information see page: A.10

ADMT	ADMW					
						

Characteristics:
This super positive milling cutter with an exact angle of 90º 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 90º), 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.



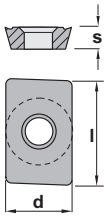




1235.90 90º

			D	L	d	l3	a	Insert size	Kg
Ref.	1235.90.040	4	40	40	16	18	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	30	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



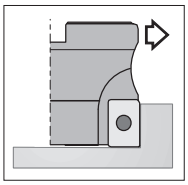
AD..	l	s	d
Ref. AD.. 1503..	15,00	3,18	9,52

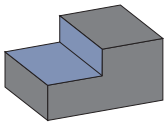
Positive 15° clearance - Rectangular inserts.

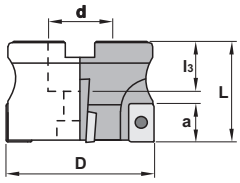
For more information see page: A.10

ADMT	ADMW	ADMW-C				
						

Characteristics:
This positive milling cutter with an exact angle of 90º 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 90º), 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.



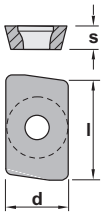




1240.90 90º

			D	L	d	l3	a	Insert size	Kg
Ref.	1240.90.040	3	40	40	16	18	18	AP.. 2004..	0,200
	1240.90.050	4	50	40	22	20	18	AP.. 2004..	0,300
	1240.90.063	5	63	50	22	20	18	AP.. 2004..	0,650
	1240.90.080	6	80	50	27	22	18	AP.. 2004..	1,050
	1240.90.100	6	100	50	32	25	18	AP.. 2004..	1,700
	1240.90.125	8	125	63	40	30	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	-



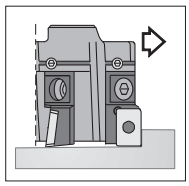
	AP..	l	s	d
Ref.	AP.. 2004..	20,00	4,76	12,70

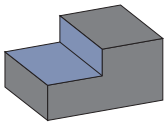
Positive 11° clearance - Rectangular inserts.

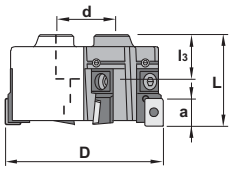
For more information see page: A.12

APMT	APMW					
						

Characteristics:
This positive milling cutter with an exact angle of 90º uses very strong inserts allowing depth passes and high feed per teeth. The insert thickness is 4,76 mm and it 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 90º), 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.



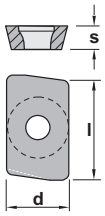




1240.99 90º

			D	L	d	l3	a	Insert size	Kg
Ref.	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

							DIN 2079
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..	l	s	d
Ref.	AP.. 2004..	20,00	4,76	12,70

Positive 11° clearance - Rectangular inserts.

For more information see page: A.12

APMT	APMW					
						

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	110 150 310	C<0.25% C<0.80% C<1.40%	250-300-390 155-180-255 135-165-210	250-350-450 100-120-165 75-110-135	180-250-310 120-145-205 95-130-170	100-130-160 65-85-100 50-75-85
Low alloyed steel	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	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	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	150-270	Ferritic, Martensitic	155-180-250	110-150-190	120-165-210	80-105-130
Steel castings	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	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	150-220	Austenitic	180-220-280	80-150-220		150-240-300
Steel castings	200	Stainless, austenitic		40-70		50-60
Iron, nickel and cobalt base castings	180-300 220-300 220-300			40-100	20-40 20-40 10-20	
Titanium alloys	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	HCR 50-65					
Stainless steel castings	250	Manganese steel 12-14% Mn			12-18-20	15-20-30
Malleable cast iron	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	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	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	HCR 40-60					
Aluminium alloys	60-100 75-110	Non cast Cast			500-2100 400-2000	
Aluminium with high contents of Si		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 TIN25	PM25	PM40	KM15	Feed/tooth complete slot f_2
				Cutting speed m/min.				
Unalloyed steel	110 170 250	C<0,25% C<0,8% C<1,4%	12-16 20 25 32 40	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
Low alloyed steel	125-225 220-450	Annealed Hardened	12-16 20 25 32 40	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
High alloyed steel	150-250 250-500	Annealed Hardened	12-16 20 25 32 40	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
Stainless steel	150-270	Ferritic/Martensitic	12-16 20 25 32 40	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
Steel castings	150 150-220 160-200	Unalloyed Low alloyed High alloyed	12-16 20 25 32 40		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
Stainless steel castings	200	Ferritic/Martensitic	12-16 20 25 32 40	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

Material M	HB	Condition	Tool diameter (D mm.)	Basic qualities TIN25	PM25	PM40	KM15	Feed/tooth complete slot f_2
				Cutting speed m/min.				
Stainless steel	150-220	Austenitic	12-16 20 25 32 40	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
Stainless steel castings	200	Austenitic	12-16 20 25 32 40	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

Material K	HB	Condition	Tool diameter (D mm.)	Basic qualities TIN25	PM25	PM40	KM15	Feed/tooth complete slot f_2
				Cutting speed m/min.				
Malleable cast iron	110-145 200-230	Short chipping Long chipping	12-16 20 25 32 40				90-120 80-100	0,02-0,11 0,11-0,14 0,12-0,18 0,15-0,21 0,18-0,24
Grey cast iron	180 260	Low tensile strength High tensile strength	12-16 20 25 32 40				60-120 50-100	0,02-0,11 0,11-0,14 0,12-0,18 0,15-0,21 0,18-0,24
Nodular cast iron Spheroidal graphite	160 250	Ferritic Pearlitic	12-16 20 25 32 40				50-80 40-70	0,02-0,11 0,11-0,14 0,12-0,18 0,15-0,21 0,18-0,24
Aluminium	60-150 40-180	Forged Cast	12-16 20 25 32 40				300-500 250-450	0,02-0,11 0,11-0,14 0,12-0,18 0,15-0,21 0,18-0,24
Bronze-brass alloys	60-150		12-16 20 25 32 40				80-120	0,02-0,11 0,11-0,14 0,12-0,18 0,15-0,21 0,18-0,24

D/a_e	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 peripherical milling), you must multiply the f_2 value of a complete slot (see table) by the correction factor f_1 corresponding to the relationship D/a_e (milling cutter diameter/radial cutting depth) in order to get a suitable feed.