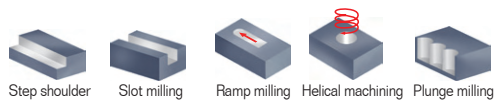


B MILLING Indexable Milling Tools

Square shoulder milling tools

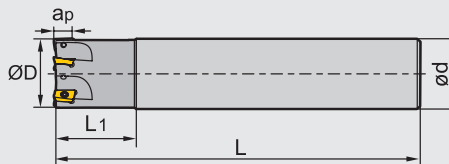
Kr:90°



EMP01 **P** **M** **N**



Straight shank



Specification of tools

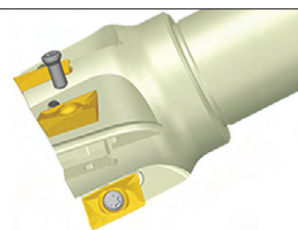
Type		Stock	Basic dimensions(mm)					Number of teeth Z	Weight (kg)
			ØD	ød	L	L ₁	a _p max		
EMP01 Straight shank	-012-G16-AP11-01	▲	12	16	85	25	10.5	1	0.1
	-016-G16-AP11-02	▲	16	16	90	25	10.5	2	0.1
	-020-G20-AP11-02	▲	20	20	100	30	10.5	2	0.2
	-025-G25-AP11-03	▲	25	25	115	35	10.5	3	0.4
	-032-G32-AP11-04	▲	32	32	125	40	10.5	4	0.7
	-025-G25-AP16-02	▲	25	25	115	35	15.5	2	0.4
	-032-G32-AP16-03	▲	32	32	125	40	15.5	3	0.7
	-040-G32-AP16-04	▲	40	32	130	42	15.5	4	0.8
	-050-G32-AP16-05	▲	50	32	135	45	15.5	5	1.0
	-063-G32-AP16-06	▲	63	32	135	45	15.5	6	1.4

▲Stock available

△Make-to-order

Spare parts

Diameter ØD	Inserts	Screw	Wrench	
				
Ø12-Ø32	AP11	I60M2.5×6.5T	WT08IP	--
Ø25-Ø63	AP16	I60M4×8.4	--	WT15IS



Tools code key
B24-B25

Grade selection guide
B19-B23

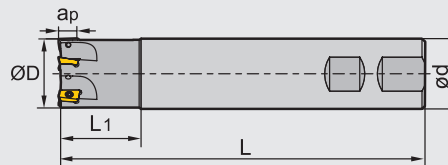
Technical data
B210-B216

Square shoulder milling tools

Kr:90°

**EMP01** **P** **M** **N**

Weldon shank



Specification of tools

Type	Stock	Basic dimensions(mm)					Number of teeth Z	Weight (kg)
		ØD	ød	L	L ₁	a _p max		
EMP01 Weldon shank	▲	12	16	85	25	10.5	1	0.1
	▲	16	16	90	25	10.5	2	0.1
	▲	20	20	100	30	10.5	2	0.2
	▲	25	25	115	35	10.5	3	0.4
	▲	32	32	125	40	10.5	4	0.7
	▲	25	25	115	35	15.5	2	0.4
	▲	32	32	125	40	15.5	3	0.7
	▲	40	32	130	42	15.5	4	0.8
	▲	50	32	135	45	15.5	5	1.0
	▲	63	32	135	45	15.5	6	1.4

▲Stock available

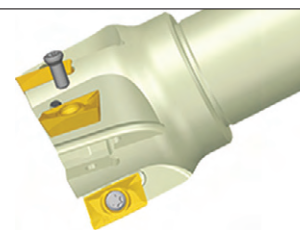
△Make-to-order

Indexable
milling tools

Square shoulder milling tools

Spare parts

Diameter ØD	Inserts	Screw	Wrench	
				
Ø12-Ø32	AP11	I60M2.5×6.5T	WT08IP	--
Ø25-Ø63	AP16	I60M4×8.4	--	WT15IS



Tools code key

B24-B25

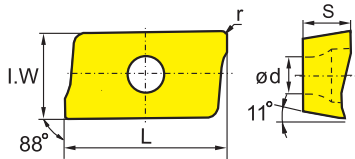
Grade selection guide

B19-B23

Technical data

B210-B216

Selection of inserts



😊 Good working condition 😐 Normal working condition 😞 Bad working condition

[illegible][illegible]

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

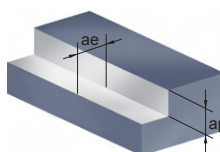
Indexable milling tools

Square shoulder milling tools

➤ Chipbreaker selection

Classification \ Function	For finishing	For semi-finishing
P	-APF	-APM
M	-APF	-APM
N	-ALH	

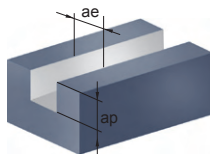
1 Square shoulder milling



➤ Recommended cutting parameters (D: Diameter)

Workpiece material		Hardness HB	Insert grade	Cutting parameters			
				V (m/min)	f (mm/z)		ae(mm)
					-APF	-APM	
P	Low-carbon steel, Soft steel	≤ 180	YB9320	320 (200-400)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	≤ 0.5D
	High-carbon steel, Alloy steel	180-280	YB9320	280 (180-350)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	≤ 0.5D
	Alloy tool steel	280-350	YB9320	260 (160-330)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	≤ 0.5D
M	Stainless steel	≤ 270	YB9320	200 (110-300)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	≤ 0.5D
N					-ALH		
	Aluminium alloy	--	YD101	300-	0.2 (0.08-0.4)		≤ 0.5D
			YD201	300-	0.2 (0.08-0.4)		≤ 0.5D

B MILLING Indexable Milling Tools



2 Slot milling

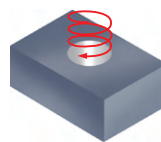
➤ Recommended cutting parameters ((D: Diameter))

Workpiece material		Hardness HB	Insert grade	Cutting parameters			
				V (m/min)	f (mm/z)		ae(mm)
					-APF	-APM	
P	Low-carbon steel, Soft steel	≤180	YB9320	190 (140-250)	0.1 (0.08-0.15)	0.15 (0.1-0.25)	D
	High-carbon steel, Alloy steel	180-280	YB9320	170 (130-250)	0.1 (0.08-0.15)	0.15 (0.1-0.25)	D
	Alloy tool steel	280-350	YB9320	150 (110-240)	0.1 (0.08-0.15)	0.15 (0.1-0.25)	D
M	Stainless steel	≤270	YB9320	120 (80-190)	0.1 (0.08-0.15)	0.15 (0.1-0.25)	D
N					-ALH		
	Aluminium alloy	--	YD101	300-	0.2 (0.08-0.3)		D
			YD201	300-	0.2 (0.08-0.3)		D

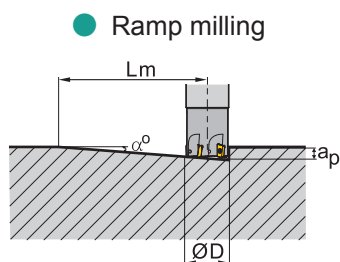
Indexable
milling tools

Square shoulder milling tools

3 Ramp milling, helical interpolation milling

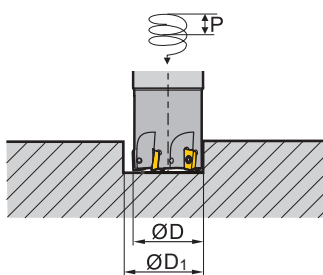


Recommended cutting parameters (D: Diameter)



$$L_m = \frac{a_p}{\tan \alpha} \quad (\alpha: \text{Maximum ramp angle})$$

Helical interpolation milling



$$\tan \alpha = \frac{P}{\pi D_1} \quad (\alpha: \text{Helical angle})$$

Diameter ØD(mm)	APKT Ramp milling, helical interpolation milling(Inserts—11)				
	Ramp milling			Helical interpolation milling	
	Maximum cutting depth ap(mm)	Maximum ramp angle α°	Minimum length Lm(mm)	Minimum diameter ØD1(mm)	Maximum pitch(mm)
16	10.0	10.0	56.7	20.0	2.0
20	10.0	5.0	114.4	28.0	2.0
25	10.0	4.5	127.0	40.0	2.0
32	10.0	3.0	190.8	56.0	2.0
40	10.0	2.0	286.4	70.0	2.0

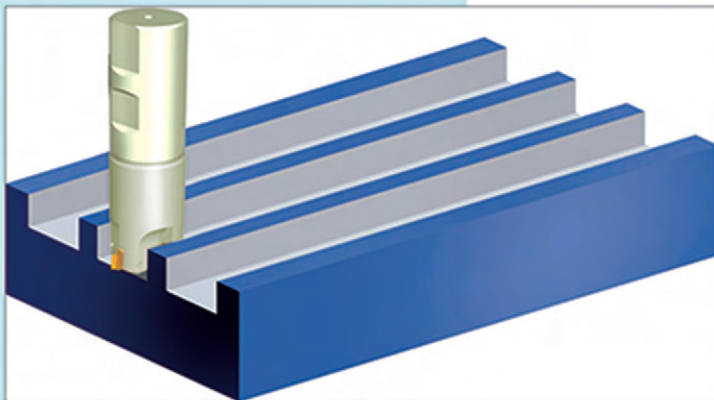
Note: For cutting speed and feed rate per tooth, see square shoulder milling.

Indexable
milling tools

Square shoulder milling tools

B MILLING Indexable Milling Tools

Case for EMP01



Machine: Vertical machining center
Diameter: $\varnothing 40\text{mm}$
Operation: Interpolation milling
Insert: APKT160408-APM/YB9320
Workpiece material: P20(HRC 33-36)
Cutting data:
 $V_c=150\text{m/min}$
 $f=0.2\text{mm/z}$



Insert specification/grade: APKT160408-APM/YB9320

Tools specification: EMP01-040-XP32-AP16-04

●Comprehensively improve mould cavity machining efficiency



Optimized structure in combination with brand-new "golden drill" coating technique, ZCC-CT products with APM chipbreaker is more suitable for mold cavity machining, greatly improve machining efficiency when compare with competitors similar products.

Indexable
milling tools

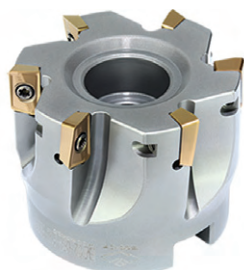
Square shoulder milling tools

Square shoulder milling tools

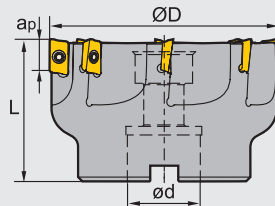
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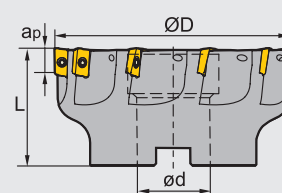
EMP02 P M N



A-type coupling



B-type coupling



Specification of tools

Type	Stock	Basic dimensions(mm)				Number of teeth Z	Type of coupling	Weight (kg)
		ØD	ød	L	apmax			
EMP02 -050-A22-AP11-06	▲	50	22	40	11	6	A	0.3
-063-A22-AP11-08	▲	63	22	40	11	8	A	0.6
-080-A27-AP11-08	▲	80	27	50	11	8	A	1.2
-100-B32-AP11-10	▲	100	32	50	11	10	B	1.7
-050-A22-AP16-05	▲	50	22	40	15.5	5	A	0.3
-063-A22-AP16-06	▲	63	22	40	15.5	6	A	0.5
-080-A27-AP16-07	▲	80	27	50	15.5	7	A	1.1
-100-B32-AP16-08	▲	100	32	50	15.5	8	B	1.6
-125-B40-AP16-10	▲	125	40	63	15.5	10	B	3.2
-160-B40-AP16-10	▲	160	40	63	15.5	10	B	6.3

▲Stock available

△Make-to-order

Indexable milling tools

Square shoulder milling tools

Spare parts

Diameter ØD	Inserts	Screw	Wrench	
Ø50-Ø100	AP11	I60M2.5×6.5T	WT08IS	
Ø50-Ø160	AP16	I60M4×10	WT15IS	

Tools code key

B24-B25

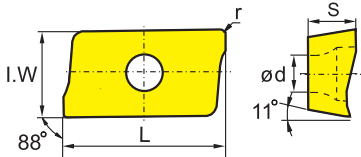
Grade selection guide

B19-B23

Technical data

B210-B216

Selection of inserts



😊 Good working condition 😐 Normal working condition 😞 Bad working condition

[illegible][illegible]

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

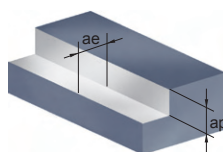
Indexable milling tools

Square shoulder milling tools

Chipbreaker selection

Classification \ Function	For finishing	For semi-finishing
P	-APF	-APM
M	-APF	-APM
N	-ALH	

Square shoulder milling



Recommended cutting parameters (D: Diameter)

Workpiece material		Hardness HB	Insert grade	Cutting parameters			
				V (m/min)	f (mm/z)		ae(mm)
					-APF	-APM	
P	Low-carbon steel, Soft steel	≤180	YB9320	320 (200-400)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	≤0.5D
	High-carbon steel, Alloy steel	180-280	YB9320	280 (180-350)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	≤0.5D
	Alloy tool steel	280-350	YB9320	260 (160-330)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	≤0.5D
M	Stainless steel	≤270	YB9320	200 (110-300)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	≤0.5D
N					-ALH		
	Aluminium alloy	--	YD101	300-	0.2 (0.08-0.4)		≤0.5D
			YD201	300-	0.2 (0.08-0.4)		≤0.5D

B MILLING Indexable Milling Tools

Square shoulder milling tools

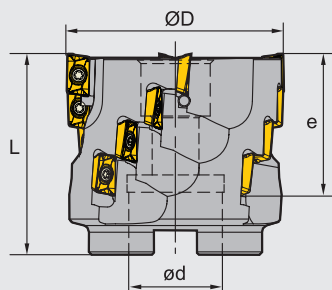
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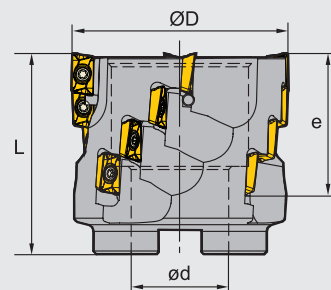
EMP03 P M N



A-type coupling



B-type coupling



Specification of tools

Type	Stock	Basic dimensions(mm)				Number of flute z	Number of inserts	Type of coupling	Weight (kg)
		ØD	ød	L	e				
EMP03 -050-A22-AP11-04	▲	50	22	58	39	4	16	A	0.5
-063-A27-AP11-04	▲	63	27	58	39	4	16	A	0.9
-080-B32-AP11-05	▲	80	32	63	39	5	20	B	1.3
-100-B40-AP11-06	▲	100	40	63	39	6	24	B	2.0

▲ Stock available

△ Make-to-order

Spare parts

Diameter ØD	Screw	Wrench	
Ø50-Ø100	I60M2.5×6.5T	WT08IS	

Tools code key

B24-B25

Grade selection guide

B19-B23

Technical data

B210-B216

Square shoulder milling tools

Kr:90°



Step shoulder



Slot milling

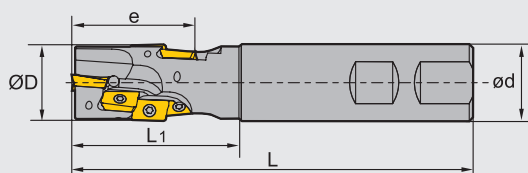


Side milling

EMP04 P M N



Weldon shank



Specification of tools

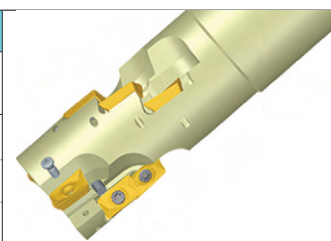
Type	Stock	Basic dimensions(mm)					Number of flute z	Number of inserts	Weight (kg)
		ØD	ød	L	L1	e			
EMP04 -020-XP20-AP11-01	▲	20	20	120	45	29.4	1	3	0.3
-025-XP25-AP11-02	▲	25	25	130	55	38.9	2	8	0.4
-032-XP32-AP11-02	▲	32	32	140	65	48.5	2	10	0.7
-040-XP40-AP11-02	▲	40	40	150	75	58.0	2	14	1.3

▲ Stock available

△ Make-to-order

Spare parts

Diameter ØD	Screw	Wrench
Ø20-Ø40	I60M2.5×6.5T	WT08IS

Indexable
milling tools

Square shoulder milling tools

Tools code key

B24-B25

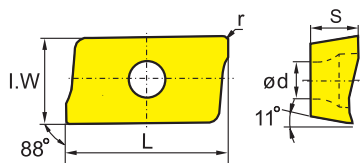
Grade selection guide

B19-B23

Technical data

B210-B216

Selection of inserts



😊 Good working condition 😐 Normal working condition 😞 Bad working condition

	Low	Low-medium	Medium-low	Medium	Medium-high	High	Very high	Extremely high
P Steel	😊😊😊😊😞				😊😊😊😊😞	😊😊😊😊😞		
M Stainless steel	😊😊😊😊😊				😊😊😊😊😊	😊😊😊😊😊	😊😊😊😊😊	
K Cast iron				😞😞😊			😞😊	😊😞
N Non-ferrous metal								😊😊
S Heat resistant alloy, Ti alloy					😊😊😊😊			

[illegible]

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

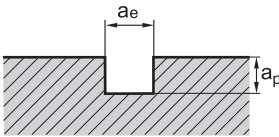
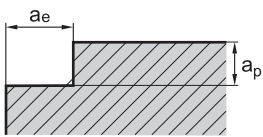
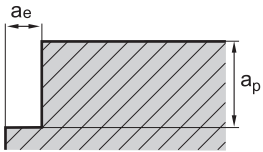
Indexable milling tools

Square shoulder milling tools

➤ Chipbreaker selection

Classification	Function	For finishing	For semi-finishing
P		-APF	-APM
M		-APF	-APM
N		-ALH	

➤ Recommended cutting parameters

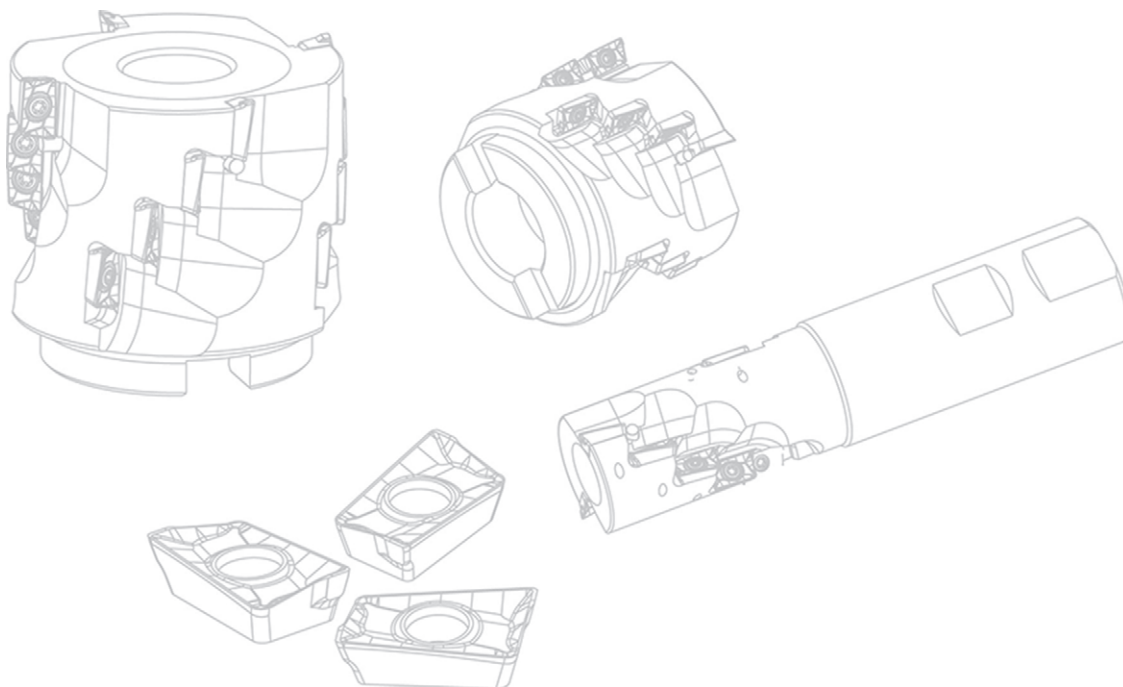
Slot milling	Square shoulder milling	Deep square shoulder milling
		
$a_e = D$ $a_p \leq 0.5D$	$a_e \leq 0.5D$ $a_p \leq 1.2D$	$a_e \leq 0.2D$ $a_p < \text{Cutting length of insert}$

Workpiece material	Hardness HB	Insert grade	Cutting parameters			
			Square shoulder milling			
			V (m/min)	f (mm/z)		
				-APF	-APM	
P	Low-carbon steel, Soft steel	≤ 180	YB9320	270 (200-360)	0.1 (0.08-0.2)	0.2 (0.1-0.3)
	High-carbon steel, Alloy steel	180-280	YB9320	240 (180-360)	0.1 (0.08-0.2)	0.2 (0.1-0.3)
	Alloy tool steel	280-350	YB9320	220 (160-340)	0.1 (0.08-0.2)	0.2 (0.1-0.3)
M	Stainless steel	≤ 270	YB9320	150 (110-270)	0.1 (0.08-0.2)	0.2 (0.1-0.3)
N					-ALH	
	Aluminium alloy	--	YD101	300-	0.2 (0.08-0.4)	
		--	YD201	300-	0.2 (0.08-0.4)	

B MILLING Indexable Milling Tools

➤ Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters		
				Slot milling、Deep square shoulder milling		
				V（m/min）	f（mm/z）	
	-APF	-APM				
P	Low-carbon steel、Soft steel	≤180	YB9320	270 (200-360)	0.1 (0.08-0.15)	0.15 (0.1-0.25)
	High-carbon steel、Alloy steel	180-280	YB9320	240 (180-360)	0.1 (0.08-0.15)	0.15 (0.1-0.25)
	Alloy tool steel	280-350	YB9320	220 (160-340)	0.1 (0.08-0.15)	0.15 (0.1-0.25)
M	Stainless steel	≤270	YB9320	150 (110-270)	0.1 (0.08-0.15)	0.15 (0.1-0.25)
N					-ALH	
	Aluminium alloy	--	YD101	300-	0.2 (0.08-0.3)	
			YD201	300-	0.2 (0.08-0.3)	



Indexable
milling tools

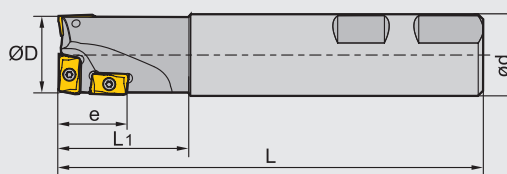
Square shoulder milling tools

Square shoulder milling tools

Kr:90°

**EMP05** **P** **M** **K**

Weldon shank



Specification of tools

Type	Stock	Basic dimensions(mm)					Number of inserts		Weight (kg)
	R	ØD	ød	L	L1	e	APMT11	APMT16	
EMP05 -025-XP25	▲	25	25	130	40	20	3	--	0.5
-032-XP32	▲	32	32	140	50	30	--	3	0.8
-040-XP32	▲	40	32	150	60	40	--	4	1.0

▲ Stock available

△ Make-to-order

Indexable
milling tools

Square shoulder milling tools

Spare parts

Diameter ØD	Inserts	Screw	Wrench	
Ø25-Ø40	APMT11	I60M2.5×6.5T	WT08IP	
	APMT16	I60M4×10	WT15IP	

Tools code key

B24-B25

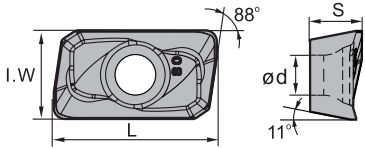
Grade selection guide

B19-B23

Technical data

B210-B216

Selection of inserts



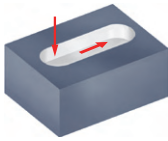
😊 Good working condition 😐 Normal working condition 😞 Bad working condition

P	Steel															
M	Stainless steel															
K	Cast iron															
N	Non-ferrous metal															
S	Heat resistant alloy, Ti alloy															

Insert shape	Type	Basic dimensions(mm)					CVD Coating						PVD Coating				Cermet		Cemented carbide							
		L	I.W	S	ød	r	YBC301	YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YB9320	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	APMT1135PDR	11.25	6.2	3.5	2.8	0.8			○					○	●	★		○								
	APMT160408PDER	17.25	9.25	4.76	4.4	0.8									●	★		○								

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

1 Drilling



➤ Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters	
				V (m/min)	f (mm/z)
P	Low-carbon steel, Soft steel	≤ 180	YBG202 YBG205	180 (150-220)	0.2 (0.08-0.25)
	High-carbon steel, Alloy steel	180-280	YBG202 YBG205	160 (130-200)	0.15 (0.08-0.2)
	Alloy tool steel	280-350	YBG202 YBG205	140 (120-180)	0.12 (0.05-0.2)
M	Stainless steel	≤ 270	YBG202 YBG205	80 (50-150)	0.08 (0.03-0.15)
K	Cast iron	180-250	YBG202 YBG205	150 (100-220)	0.15 (0.08-0.2)

2 Milling

➤ Recommended cutting parameters

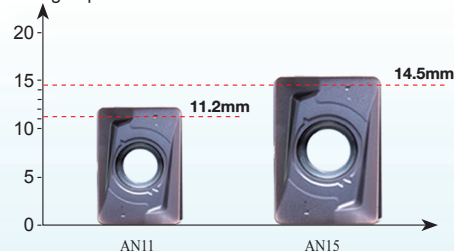
Workpiece material		Hardness HB	Insert grade	Cutting parameters	
				V (m/min)	f (mm/z)
P	Low-carbon steel、 Soft steel	≤180	YBG202 YBG205	190 (140-250)	0.08 (0.04-0.15)
	High-carbon steel、 Alloy steel	180-280	YBG202 YBG205	170 (130-250)	0.08 (0.04-0.15)
	Alloy tool steel	280-350	YBG202 YBG205	150 (110-240)	0.08 (0.04-0.15)
M	Stainless steel	≤270	YBG202 YBG205	120 (80-190)	0.08 (0.04-0.15)
K	Cast iron	180-250	YBG202 YBG205	120 (80-210)	0.08 (0.04-0.15)

Kr:90°

achieving high quality 90°
square shoulder milling

EMP13 Series Square Shoulder Milling Tools

Maximum
cutting depth



Cutting edge properly designed with high precision control for high quality 90° square shoulder milling.

Extra thick insert with double negative cutter can achieve double positive cutting angle, reduce cutting force and greatly improve impact resistance.



-LH geometry with excellent wear resistance, rake face specially treated with mirror effect, good adhesion re-sistance, ensuring high-efficiency high-stability Aluminum machining.

Square shoulder milling tools

Kr:90°

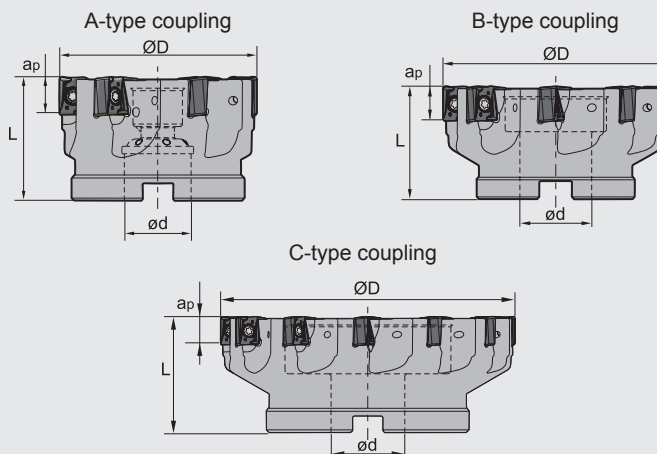


Face milling



Step shoulder

EMP13 P K N



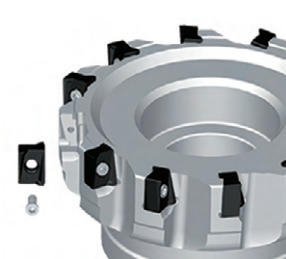
Specification of tools

Type	Stock	Basic dimensions(mm)				Number of flute z	Type of coupling	Weight (kg)
		ØD	Ød	L	apmax			
EMP13 -050-A22-AN11-06C	▲	50	22	40	11.2	6	A	0.30
-063-A22-AN11-07C	▲	63	22	40	11.2	7	A	0.49
-080-A27-AN11-09C	▲	80	27	50	11.2	9	A	1.18
-100-B32-AN11-12	▲	100	32	50	11.2	12	B	1.46
-125-B40-AN11-14	▲	125	40	63	11.2	14	B	2.92
-160-C40-AN11-16	▲	160	40	63	11.2	16	C	4.30
-050-A22-AN15-04C	▲	50	22	40	14.5	4	A	0.26
-063-A22-AN15-05C	▲	63	22	40	14.5	5	A	0.53
-080-A27-AN15-06C	▲	80	27	50	14.5	6	A	1.23
-100-B32-AN15-08	▲	100	32	50	14.5	8	B	1.52
-125-B40-AN15-10	▲	125	40	63	14.5	10	B	3.05
-160-C40-AN15-12	▲	160	40	63	14.5	12	C	4.46

▲ Stock available

△ Make-to-order

Spare parts

Diameter ØD	Inserts	Screw	Wrench	
				
Ø50-Ø160	ANGX11□□□□-GM/LH	I60M3X9	WT09IS	
Ø50-Ø160	ANGX15□□□□-GM/LH	I60M4X12	WT15IS	

Tools code key

B24-B25

Grade selection guide

B19-B23

Technical data

B210-B216

Square shoulder milling tools

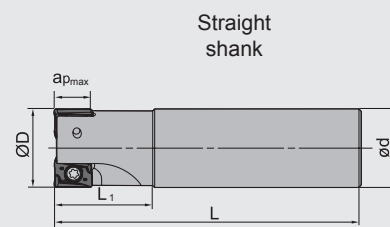
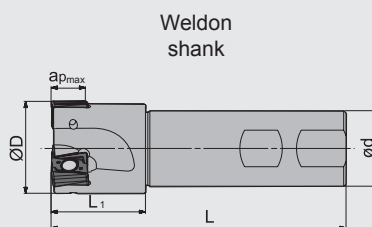
Kr:90°

**EMP13** P K N

Weldon shank



Straight shank



Specification of tools

Type	Stock	Basic dimensions(mm)					Number of flute z	Weight (kg)
		ØD	Ød	L	L1	apmax		
EMP13 Weldon shank	▲ -025-XP25-AN11-02C	25	25	100	32	11.2	2	0.31
	▲ -032-XP32-AN11-03C	32	32	115	40	11.2	3	0.61
	▲ -040-XP32-AN11-04C	40	32	125	40	11.2	4	0.75
	▲ -032-XP32-AN15-02C	32	32	125	40	14.5	2	0.66
	▲ -040-XP32-AN15-03C	40	32	125	40	14.5	3	0.76
Straight shank	▲ -025-G25-AN11-02C	25	25	100	32	11.2	2	0.31
	▲ -032-G32-AN11-03C	32	32	115	40	11.2	3	0.61
	▲ -040-G32-AN11-04C	40	32	125	40	11.2	4	0.75
	▲ -032-G32-AN15-02C	32	32	125	40	14.5	2	0.66
	▲ -040-G32-AN15-03C	40	32	125	40	14.5	3	0.76

▲ Stock available

△ Make-to-order

Spare parts

Diameter ØD	Inserts	Screw	Wrench	
Ø25-Ø40	ANGX11□□□□-GM/LH	I60M3X9	WT09IS	
Ø32-Ø40	ANGX15□□□□-GM/LH	I60M4X12	WT15IS	

Tools code key

B24-B25

Grade selection guide

B19-B23

Technical data

B210-B216

Square shoulder milling tools

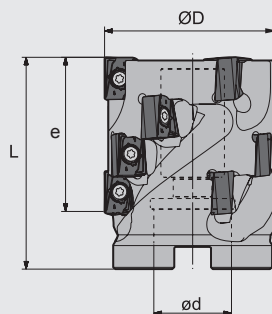
Kr:90°



EMP13 P K N



A-type coupling



Specification of tools

Type	Stock	Basic dimensions(mm)				Number of grooves	Number of inserts	Type of coupling	Weight (kg)
		ØD	Ød	L	e				
EMP13 -050×43-A22-AN11-03	▲	50	22	60	43	3	12	A	0.52
-063×65-A27-AN11-04	▲	63	27	80	64	4	24	A	1.15
-063×53-A27-AN15-03	▲	63	27	75	53	3	12	A	1.14
-080×56-A32-AN15-04	▲	80	32	75	53	4	16	A	1.82

▲ Stock available

△ Make-to-order

Spare parts

Diameter ØD	Inserts	Screw	Wrench	
Ø50-Ø63	ANGX11□□□□-GM/LH	I60M3X9	WT09IS	
Ø63-Ø80	ANGX15□□□□-GM/LH	I60M4X12	WT15IS	

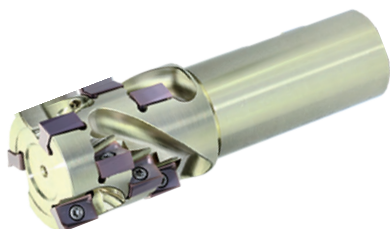
Tools code key
B24-B25

Grade selection guide
B19-B23

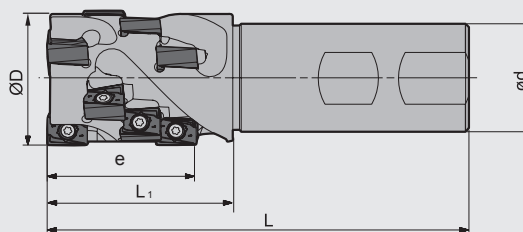
Technical data
B210-B216

Square shoulder milling tools

Kr:90°

**EMP13** P K N

Weldon shank



Specification of tools

Type	Stock	Basic dimensions(mm)					Number of grooves	Number of inserts	Weight (kg)
		ØD	Ød	L	L ₁	e			
EMP13 -032×43-XP32-AN11-02	▲	32	32	115	48	43	2	8	0.61
-040×43-XP32-AN11-03	▲	40	32	125	55	43	3	12	0.79
-040×40-XP32-AN15-02	▲	40	32	115	55	40	2	6	0.79
-050×53-XP40-AN15-02	▲	50	40	145	70	53	2	8	1.53

▲ Stock available

△ Make-to-order

Indexable
milling tools

Square shoulder milling tools

Spare parts

Diameter ØD	Inserts	Screw	Wrench	
Ø32-Ø40	ANGX11□□□□-GM/LH	I60M3X9	WT09IS	
Ø40-Ø50	ANGX15□□□□-GM/LH	I60M4X12	WT15IS	

Tools code key

B24-B25

Grade selection guide

B19-B23

Technical data

B210-B216

	Steel	Stainless steel	Cast iron	Non-ferrous metal	Heat resistant alloy, Ti alloy
Workpiece material					



★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Workpiece material		Hardness HB	Insert grade	Cutting parameters		
				V(m/min)	f(mm/z)	a _{pmax} (mm)
P	Low carbon steel	≤ 180	YBM253 YBG205 YB9320	270(220-350)	0.25(0.1-0.4)	11.2(AN11) 14.5(AN15)
	Alloy steel	180-350	YBM253 YBG205 YB9320	240(180-320)	0.2(0.1-0.4)	
K	Cast iron	180-260	YBD152 YBD252	270(150-300) 220(120-320)	0.25(0.1-0.4) 0.2(0.1-0.3)	
N	Aluminium alloy	--	YD101	-LH		
				300-	0.2(0.08-0.4)	

Workpiece material: NAK80(HRC36)
Tool: EMP13-032-G32-AN15-02C
Insert: ANGX150608PNR-GM/YBG205
Cutting data: $V_c=220\text{m/min}$,
 $f_z=0.1\text{mm/z}$,
 $a_p=14.5\text{mm}$,
 $a_e=10\text{mm}$
Cutting condition: Dry cutting

Company A

B 124