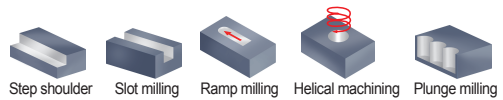


Square shoulder milling tools

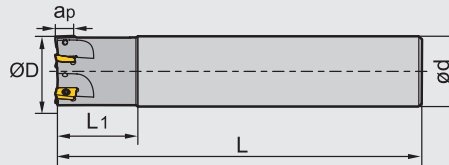
Kr:90°



EMP01 P M K S N



Straight shank



Specification of tools

Type	Stock	Basic dimensions(mm)					Number of teeth Z	Weight (kg)
		ØD	ød	L	L1	apmax		
EMP01 Straight shank								
-010-G10-AP07-02C(25/85)	△	10	10	85	25	6.0	2	0.043
-010-G10-AP07-02C(25/120)	△	10	10	120	25	6.0	2	0.063
-012-G12-AP07-02C(25/85)	△	12	12	85	25	6.0	2	0.061
-012-G12-AP07-02C(25/120)	△	12	12	120	25	6.0	2	0.089
-014-G16-AP07-03C(25/85)	△	14	16	85	25	6.0	3	0.104
-014-G16-AP07-03C(25/120)	△	14	16	120	25	6.0	3	0.153
-016-G16-AP07-03C(25/85)	△	16	16	85	25	6.0	3	0.112
-016-G16-AP07-03C(25/120)	△	16	16	120	25	6.0	3	0.162
-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
-016-G16-AP11-02C(25/85)	△	16	16	85	25	10.5	2	0.108
-016-G16-AP11-02C(25/120)	△	16	16	120	25	10.5	2	0.16
-016-G16-AP11-02C(25/180)	△	16	16	180	25	10.5	2	0.248
-020-G16-AP11-03C(25/85)	△	20	16	85	25	10.5	3	0.121
-020-G20-AP11-02	▲	20	20	100	30	10.5	2	0.2
-020-G20-AP11-02C(30/100)	△	20	20	100	30	10.5	2	0.18
-020-G20-AP11-02C(30/150)	△	20	20	150	30	10.5	2	0.312
-020-G20-AP11-02C(30/200)	△	20	20	200	30	10.5	2	0.401
-020-G20-AP11-03C(30/100)	△	20	20	100	30	10.5	3	0.2
-020-G20-AP11-03C(30/150)	△	20	20	150	30	10.5	3	0.357
-020-G20-AP11-03C(30/200)	△	20	20	200	30	10.5	3	0.424
-025-G25-AP11-03	▲	25	25	115	35	10.5	3	0.4
-025-G25-AP11-03C(35/115)	△	25	25	115	35	10.5	3	0.357
-025-G25-AP11-03C(35/170)	△	25	25	170	35	10.5	3	0.577
-025-G25-AP11-03C(35/220)	△	25	25	220	35	10.5	3	0.758
-025-G25-AP11-04C(35/115)	△	25	25	115	35	10.5	4	0.376
-025-G25-AP11-04C(35/170)	△	25	25	170	35	10.5	4	0.575
-025-G25-AP11-04C(35/220)	△	25	25	220	35	10.5	4	0.686

▲Stock available △Make-to-order

EMP01-010-G10-AP07-02C(25/85)

Effective cutting depth/Overall length

Tools code key

B24-B25

Grade selection guide

B19-B23

Technical data

B234-B240

Specification of tools




Type	Stock	Basic dimensions(mm)					Number of teeth Z	Weight (kg)	
		ØD	ød	L	L ₁	apmax			
EMP01 Straight shank	-030-G25-AP11-04C(35/115)	△	30	25	115	35	10.5	4	0.411
	-030-G25-AP11-04C(35/170)	△	30	25	170	35	10.5	4	0.61
	-030-G25-AP11-04C(35/220)	△	30	25	220	35	10.5	4	0.791
	-032-G32-AP11-04	▲	32	32	125	40	10.5	4	0.7
	-032-G32-AP11-04C(45/125)	△	32	32	125	45	10.5	4	0.673
	-032-G32-AP11-04C(45/190)	△	32	32	190	45	10.5	4	1.057
	-032-G32-AP11-04C(45/260)	△	32	32	260	45	10.5	4	1.47
	-032-G32-AP11-05C(45/125)	△	32	32	125	45	10.5	5	0.71
	-032-G32-AP11-05C(45/190)	△	32	32	190	45	10.5	5	1.054
	-032-G32-AP11-05C(45/260)	△	32	32	260	45	10.5	5	1.53
	-025-G25-AP16-02	▲	25	25	115	35	15.5	2	0.4
	-025-G25-AP16-02C(35/115)	△	25	25	115	35	15.5	2	0.374
	-025-G25-AP16-02C(35/170)	△	25	25	170	35	15.5	2	0.496
	-025-G25-AP16-02C(35/220)	△	25	25	220	35	15.5	2	0.658
	-030-G25-AP16-02C(35/115)	△	30	25	115	35	15.5	2	0.521
	-030-G25-AP16-02C(35/170)	△	30	25	170	35	15.5	2	0.632
	-030-G25-AP16-02C(35/220)	△	30	25	220	35	15.5	2	0.78
	-032-G32-AP16-03	▲	32	32	125	40	15.5	3	0.7
	-032-G32-AP16-03C(45/125)	△	32	32	125	45	15.5	3	0.607
	-032-G32-AP16-03C(45/190)	△	32	32	190	45	15.5	3	0.976
	-032-G32-AP16-03C(45/260)	△	32	32	260	45	15.5	3	1.374
	-040-G32-AP16-04	▲	40	32	130	42	15.5	4	0.8
	-040-G32-AP16-04C(45/125)	△	40	32	125	45	15.5	4	0.716
	-040-G32-AP16-04C(45/190)	△	40	32	190	45	15.5	4	1.085
	-040-G32-AP16-04C(45/260)	△	40	32	260	45	15.5	4	1.483
	-050-G32-AP16-05	▲	50	32	135	45	15.5	5	1.0
	-050-G32-AP16-05C(45/125)	△	50	32	125	45	15.5	5	0.825
	-050-G32-AP16-05C(45/190)	△	50	32	190	45	15.5	5	1.195
	-050-G32-AP16-05C(45/260)	△	50	32	260	45	15.5	5	1.592
	-063-G32-AP16-06	▲	63	32	135	45	15.5	6	1.4

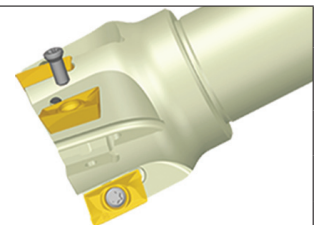
▲ Stock available △ Make-to-order

EMP01-010-G10-AP07-02C(25/85)

Effective cutting depth/Overall length

Spare parts

Diameter ØD	Inserts	Screw	Wrench	
				
Ø10-Ø16	AP07	I60M1.8×4	WT05IP	--
Ø12-Ø32	AP11	I60M2.5×6.5T	WT08IP	--
Ø25-Ø63	AP16	I60M4×8.4	--	WT15IS



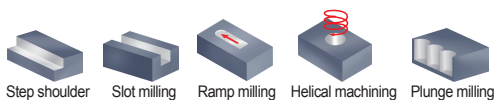
Tools code key
B24-B25

Grade selection guide
B19-B23

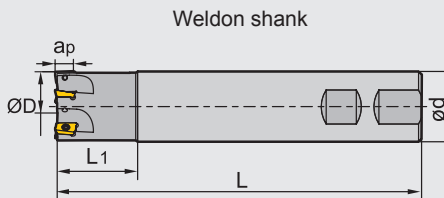
Technical data
B234-B240

Square shoulder milling tools

Kr:90°



EMP01 P M K S N



Specification of tools

Type	Stock	Basic dimensions(mm)					Number of teeth Z	Weight (kg)	
		ØD	ød	L	L ₁	apmax			
EMP01 Weldon shank	▲	-012-XP16-AP11-01	12	16	85	25	10.5	1	0.1
	▲	-016-XP16-AP11-02	16	16	90	25	10.5	2	0.1
	▲	-020-XP20-AP11-02	20	20	100	30	10.5	2	0.2
	▲	-025-XP25-AP11-03	25	25	115	35	10.5	3	0.4
	▲	-032-XP32-AP11-04	32	32	125	40	10.5	4	0.7
	▲	-025-XP25-AP16-02	25	25	115	35	15.5	2	0.4
	▲	-032-XP32-AP16-03	32	32	125	40	15.5	3	0.7
	▲	-040-XP32-AP16-04	40	32	130	42	15.5	4	0.8
	▲	-050-XP32-AP16-05	50	32	135	45	15.5	5	1.0
	▲	-063-XP32-AP16-06	63	32	135	45	15.5	6	1.4

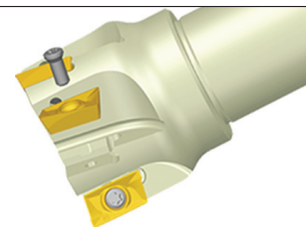
▲ Stock available △ Make-to-order

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

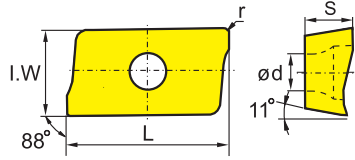


Tools code key [B24-B25](#)

Grade selection guide [B19-B23](#)

Technical data [B234-B240](#)

Selection of inserts



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

Workpiece material	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metal	S Heat resistant alloy, Ti alloy
Steel	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊
Stainless steel	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊
Cast iron	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊
Non-ferrous metal	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊
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	YBS203	YBS303	YNG151	YNG151C	YC30S	YD051	YD101	YD201	
	APKT070204-APF	7.32	4.34	2.38	2	0.4	●	●							★														
	APKT11T304-APF	12.24	6.6	3.6	2.8	0.4	●	●							★														
	APKT11T308-APF	12.24	6.6	3.6	2.8	0.8	●	●							★						●	●							
	APKT160408-APF	17.877	9.33	5.76	4.4	0.8	●								★						●	●							
	APKT070204-APM	7.32	4.34	2.38	2	0.4			●	●					★														
	APKT11T304-APM	12.24	6.6	3.6	2.8	0.4			●						★														
	APKT11T308-APM	12.24	6.6	3.6	2.8	0.8			●	●					★						●	●							
	APKT11T312-APM	12.24	6.6	3.6	2.8	1.2					●				★														
	APKT11T316-APM	12.24	6.6	3.6	2.8	1.6									★														
	APKT11T320-APM	12.24	6.6	3.6	2.8	2.0			●						★														
	APKT160408-APM	17.877	9.33	5.76	4.4	0.8			●	●					★						●	●							
	APKT160416-APM	17.877	9.33	5.76	4.4	1.6			●	●					★						●								
	APKT160420-APM	17.877	9.33	5.76	4.4	2.0					●				★														
	APKT160424-APM	17.877	9.33	5.76	4.4	2.4									★														
APKT160430-APM	17.877	9.33	5.76	4.4	3.0									★															
	APKT11T304-ALH	12.24	6.6	3.6	2.8	0.4																					★	★	
	APKT11T308-ALH	12.24	6.6	3.6	2.8	0.8																					★	○	
	APKT160408-ALH	17.877	9.33	5.76	4.4	0.8																					★	★	

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

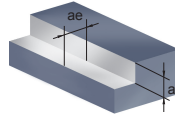
Chipbreaker selection

Classification	Application	For finishing	For semi-finishing
P		-APF	-APM
M		-APF	-APM
S		-APF	-APM
K		-APF	-APM
N		-ALH	

Indexable milling tools

Square shoulder milling tools

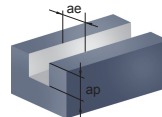
1 Square shoulder milling



Recommended cutting parameters (D: Diameter)

Workpiece material	Hardness HB	Insert grade	Cutting parameters				
			Vc(m/min)	fz(mm/z)		ae(mm)	
				-APF	-APM		
P Low-carbon steel, Soft steel	≤ 180	YBC302	320 (240-400)	0.1 (0.08-0.2)	--	≤ 0.5D	
		YB9320	320 (200-400)	0.1 (0.08-0.2)	0.2 (0.1-0.3)		
		YBM253	300 (320-350)	0.1 (0.08-0.2)	0.2 (0.1-0.3)		
	High-carbon steel, Alloy steel	180-280	YBC302	280 (210-380)	0.1 (0.08-0.2)	--	≤ 0.5D
			YB9320	280 (180-350)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	
			YBM253	260 (150-380)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	
	Alloy tool steel	280-350	YBC302	260 (180-350)	0.1 (0.08-0.2)	--	≤ 0.5D
			YB9320	260 (160-330)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	
			YBM253	220 (150-280)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	
M Stainless steel	≤ 270	YB9320	200 (110-300)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	≤ 0.5D	
		YBM253	180 (150-300)				
K Cast iron	180-250	YB9320	180 (150-250)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	≤ 0.5D	
		YBD152	200 (150-250)	--	0.2 (0.1-0.3)		
S Difficult-to-machine materials	≤ 400	YBS203	100 (60-120)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	≤ 0.5D	
		YBS303	100 (60-120)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	≤ 0.5D	
N Aluminium alloy	--	-ALH					
		YD101	300-	0.2 (0.08-0.4)		≤ 0.5D	
		YD201	300-	0.2 (0.08-0.4)		≤ 0.5D	

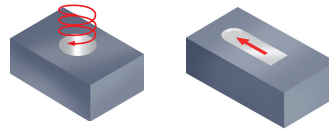
2 Slot milling



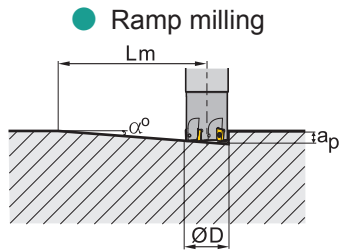
Recommended cutting parameters (D: Diameter)

Workpiece material	Hardness HB	Insert grade	Cutting parameters				
			Vc(m/min)	fz(mm/z)		ae(mm)	
				-APF	-APM		
P Low-carbon steel, Soft steel	≤ 180	YBC302	190 (170-250)	0.1 (0.08-0.15)	--	D	
		YB9320	190 (140-250)	0.1 (0.08-0.15)	0.15 (0.1-0.25)		
		YBM253	150 (130-210)	0.1 (0.08-0.15)	0.15 (0.1-0.25)		
	High-carbon steel, Alloy steel	180-280	YBC302	170 (150-220)	0.1 (0.08-0.15)	--	D
			YB9320	170 (130-250)	0.1 (0.08-0.15)	0.15 (0.1-0.25)	
			YBM253	140 (110-200)	0.1 (0.08-0.15)	0.15 (0.1-0.25)	
Alloy tool steel	280-350	YBC302	150 (130-210)	0.1 (0.08-0.15)	--	D	
		YB9320	150 (110-240)	0.1 (0.08-0.15)	0.15 (0.1-0.25)		
		YBM253	130 (110-180)	0.1 (0.08-0.15)	0.15 (0.1-0.25)		
M Stainless steel	≤ 270	YB9320	120 (80-190)	0.1 (0.08-0.15)	0.15 (0.1-0.25)	D	
		YBM253	100 (80-170)				
K Cast iron	180-250	YB9320	120 (80-180)	0.1 (0.08-0.15)	0.15 (0.1-0.25)	D	
		YBD152	120 (80-210)	--	0.15 (0.1-0.25)		
S Difficult-to-machine materials	≤ 400	YBS203	60 (45-110)	0.1 (0.08-0.15)	0.15 (0.1-0.25)	D	
		YBS303	60 (45-110)	0.1 (0.08-0.15)	0.15 (0.1-0.25)	D	
N Aluminium alloy	--	-ALH					
		YD101	300-	0.2 (0.08-0.3)		D	
		YD201	300-	0.2 (0.08-0.3)		D	

3 Ramp milling, helical interpolation milling

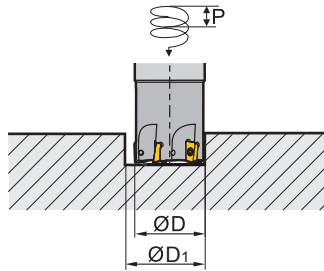


▶ Recommended cutting parameters (D: Diameter)



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

● 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-7)				
	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)
10	6	6	57	12	2.0
12	6	4	85	15	2.0
14	6	3	114	18	2.0
16	6	2.5	137	21	2.0
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
30	10.0	3.5	153.0	48.0	2.0
32	10.0	3.0	190.8	56.0	2.0
40	10.0	2.0	286.4	70.0	2.0
Diameter ØD(mm)	APKT Ramp milling, helical interpolation milling (Inserts-16)				
	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)
25	15	6	142	32	2.0
30	15	5	171	40	2.0
32	15	4.5	214	45	2.0
40	15	2.5	343	60	2.0
50	15	1.5	572	80	2.0
63	15	1	859	105	2.0

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

Case for EMP01



Machine: Vertical machining center
 Diameter: Ø40mm
 Operation: Interpolation milling
 Insert: APKT160408-APM/YB9320
 Workpiece material: P20(HRC 33-36)
 Cutting data:
 Vc=150m/min
 f= 0.2mm/z

Insert specification/grade: APKT160408-APM/YB9320

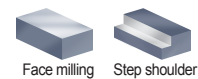
Tools specification: EMP01-040-XP32-AP16-04

● Comprehensively improve mould cavity machining efficiency

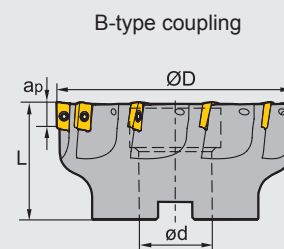
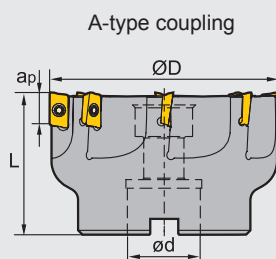
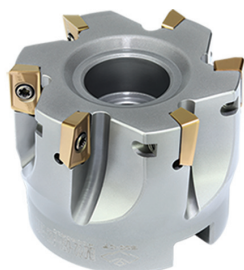


Optimized structure in combination with brand-new "golden drill" coating technique, ZCC-CT products with APM chipbreaker is more suitable for mold cavity machining, greatly improve machining efficiency when compare with competitors similar products.

Square shoulder milling tools **Kr:90°**



EMP02 P M K S N




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	10.5	6	A	0.3
-063-A22-AP11-08	▲	63	22	40	10.5	8	A	0.6
-080-A27-AP11-08	▲	80	27	50	10.5	8	A	1.2
-100-B32-AP11-10	▲	100	32	50	10.5	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

Spare parts

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

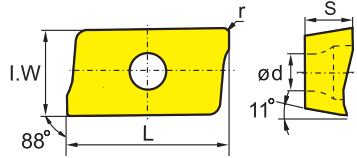


Tools code key **B24-B25**

Grade selection guide **B19-B23**

Technical data **B234-B240**

Selection of inserts



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

Workpiece material	Steel (P)	Stainless steel (M)	Cast iron (K)	Non-ferrous metal (N)	Heat resistant alloy, Ti alloy (S)
YBC301	😊	😊	😊	😊	😊
YBC302	😊	😊	😊	😊	😊
YBM251	😊	😊	😊	😊	😊
YBM253	😊	😊	😊	😊	😊
YBM351	😊	😊	😊	😊	😊
YBD152	😊	😊	😊	😊	😊
YBD252	😊	😊	😊	😊	😊
YBG102	😊	😊	😊	😊	😊
YBG202	😊	😊	😊	😊	😊
YBG205	😊	😊	😊	😊	😊
YB9320	😊	😊	😊	😊	😊
YBG302	😊	😊	😊	😊	😊
YBG152	😊	😊	😊	😊	😊
YBG252	😊	😊	😊	😊	😊
YBS203	😊	😊	😊	😊	😊
YBS303	😊	😊	😊	😊	😊
YNG151	😊	😊	😊	😊	😊
YNG151C	😊	😊	😊	😊	😊
YC30S	😊	😊	😊	😊	😊
YD051	😊	😊	😊	😊	😊
YD101	😊	😊	😊	😊	😊
YD201	😊	😊	😊	😊	😊

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	YBS203	YBS303	YNG151	YNG151C	YC30S	YD051	YD101	YD201	
	APKT11T304-APF	12.24	6.6	3.6	2.8	0.4	●	●									★												
	APKT11T308-APF	12.24	6.6	3.6	2.8	0.8	●	●									★					●	●						
	APKT160408-APF	17.877	9.33	5.76	4.4	0.8	●										★					●	●						
	APKT11T304-APM	12.24	6.6	3.6	2.8	0.4			●								★												
	APKT11T308-APM	12.24	6.6	3.6	2.8	0.8			●	●							★					●	●						
	APKT11T312-APM	12.24	6.6	3.6	2.8	1.2					●						★												
	APKT11T316-APM	12.24	6.6	3.6	2.8	1.6											★												
	APKT11T320-APM	12.24	6.6	3.6	2.8	2.0			●								★												
	APKT160408-APM	17.877	9.33	5.76	4.4	0.8			●	●							★					●	●						
	APKT160416-APM	17.877	9.33	5.76	4.4	1.6			●	●							★					●							
	APKT160420-APM	17.877	9.33	5.76	4.4	2.0					●						★												
	APKT160424-APM	17.877	9.33	5.76	4.4	2.4											★												
	APKT160430-APM	17.877	9.33	5.76	4.4	3.0											★												
	APKT11T304-ALH	12.24	6.6	3.6	2.8	0.4																				★	★		
	APKT11T308-ALH	12.24	6.6	3.6	2.8	0.8																				★	○		
	APKT160408-ALH	17.877	9.33	5.76	4.4	0.8																				★	★		

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

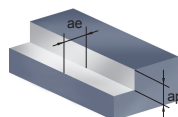
Indexable milling tools

Square shoulder milling tools

➤ Chipbreaker selection

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

1 Square shoulder milling



➤ Recommended cutting parameters (D: Diameter)

Workpiece material	Hardness HB	Insert grade	Cutting parameters				
			Vc(m/min)	fz(mm/z)		ae(mm)	
				-APF	-APM		
P	Low-carbon steel, Soft steel	YBC302	320 (240-400)	0.1 (0.08-0.2)	--	≤0.5D	
		YB9320	320 (200-400)	0.1 (0.08-0.2)	0.2 (0.1-0.3)		
		YBM253	300 (320-350)	0.1 (0.08-0.2)	0.2 (0.1-0.3)		
	High-carbon steel, Alloy steel	180-280	YBC302	280 (210-380)	0.1 (0.08-0.2)	--	≤0.5D
			YB9320	280 (180-350)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	
			YBM253	260 (150-380)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	
	Alloy tool steel	280-350	YBC302	260 (180-350)	0.1 (0.08-0.2)	--	≤0.5D
			YB9320	260 (160-330)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	
			YBM253	220 (150-280)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	
M	Stainless steel	YB9320	200 (110-300)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	≤0.5D	
		YBM253	180 (150-300)				
K	Cast iron	YB9320	180 (150-250)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	≤0.5D	
		YBD152	200 (150-250)	--	0.2 (0.1-0.3)		
S	Difficult-to-machine materials	YBS203	100 (60-120)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	≤0.5D	
		YBS303	100 (60-120)	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	

Indexable milling tools

Square shoulder milling tools

Square shoulder milling tools

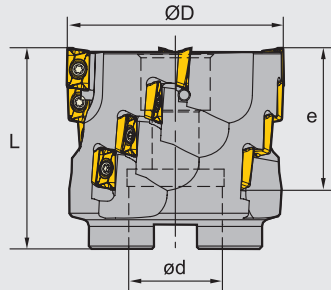
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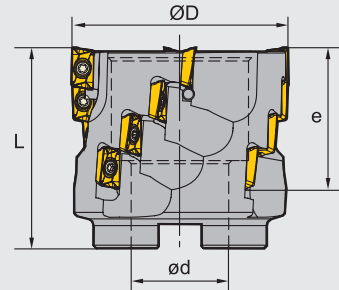
EMP03 P M K S N



A-type coupling



B-type coupling



Specification of tools

Type	Stock	Basic dimensions(mm)				Number of teeth 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

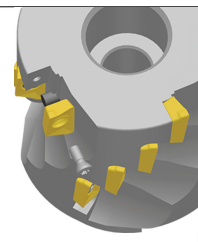
▲ Stock available △ Make-to-order

Indexable milling tools

Square shoulder milling tools

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
B234-B240

Square shoulder milling tools

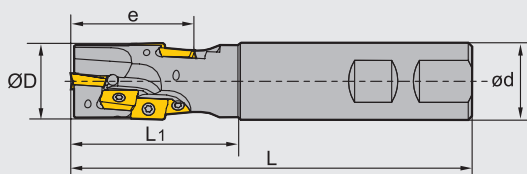
Kr:90°



EMP04 P M K S N



Weldon shank



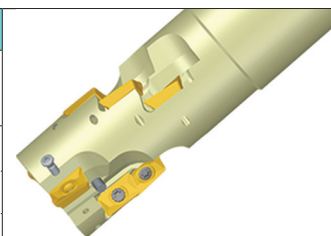
Specification of tools

Type	Stock	Basic dimensions(mm)					Number of teeth 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

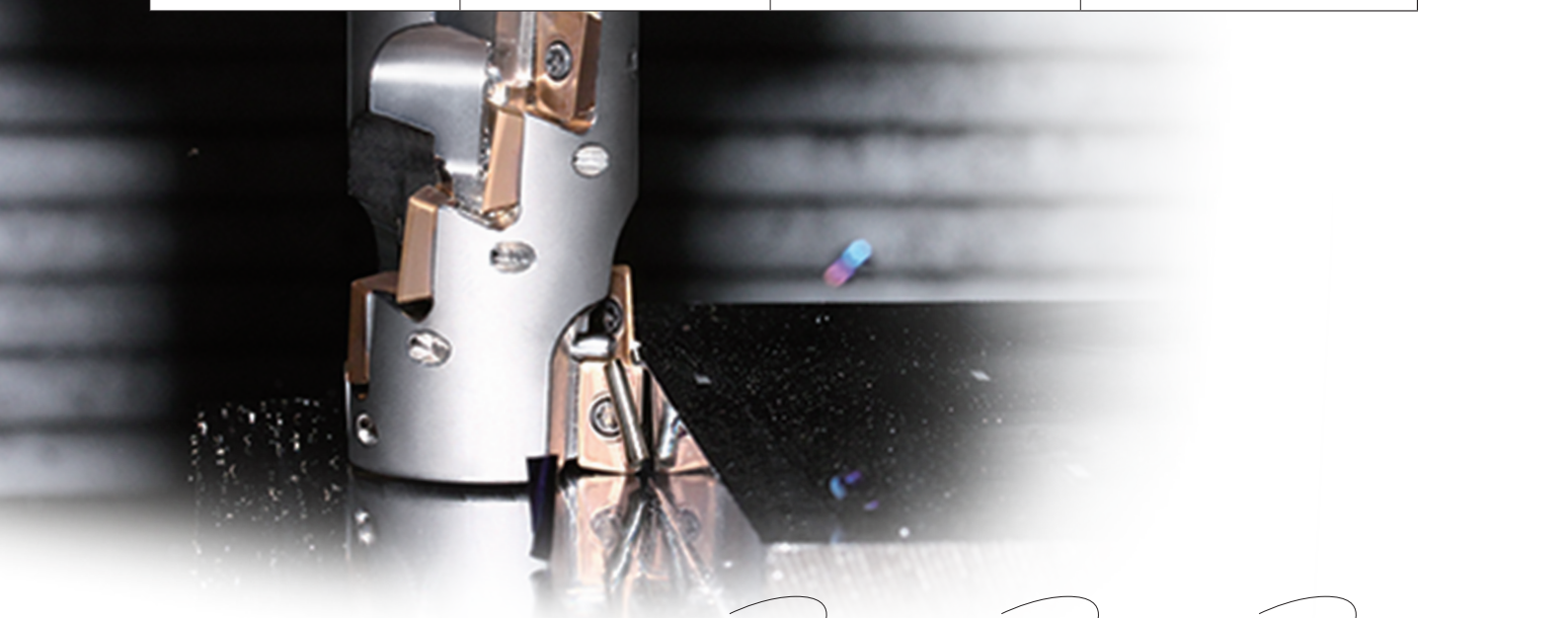
Spare parts

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



Indexable milling tools

Square shoulder milling tools

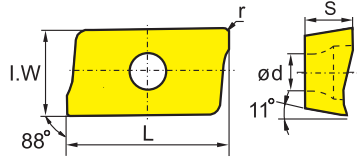


Tools code key → B24-B25

Grade selection guide → B19-B23

Technical data → B234-B240

Selection of inserts



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

Workpiece material	P	M	K	N	S
Steel	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊
Stainless steel	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊
Cast iron	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊
Non-ferrous metal	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊	😊😊😊😊😊😊
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	YBS203	YBS303	YNG151	YNG151C	YC30S	YD051	YD101	YD201	
	APKT11T304-APF	12.24	6.6	3.6	2.8	0.4	●	●								★													
	APKT11T308-APF	12.24	6.6	3.6	2.8	0.8	●	●								★					●	●							
	APKT11T304-APM	12.24	6.6	3.6	2.8	0.4			●							★													
	APKT11T308-APM	12.24	6.6	3.6	2.8	0.8			●	●						★					●	●							
	APKT11T312-APM	12.24	6.6	3.6	2.8	1.2					●					★													
	APKT11T316-APM	12.24	6.6	3.6	2.8	1.6										★													
	APKT11T320-APM	12.24	6.6	3.6	2.8	2.0			●							★													
	APKT11T304-ALH	12.24	6.6	3.6	2.8	0.4																				★	★		
	APKT11T308-ALH	12.24	6.6	3.6	2.8	0.8																				★	○		

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

Indexable milling tools

Square shoulder milling tools

Chipbreaker selection

Classification	Application	For finishing	For semi-finishing
P		-APF	-APM
M		-APF	-APM
S		-APF	-APM
K		-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			
			Vc(m/min)	Square shoulder milling		
				fz(mm/z)		
-APF	-APM					
P Low-carbon steel, Soft steel	≤ 180	YBC302	270 (240-350)	0.1 (0.08-0.2)	--	
		YB9320	220 (200-360)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	
		YBM253	270 (180-300)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	
	High-carbon steel, Alloy steel	180-280	YBC302	240 (210-320)	0.1 (0.08-0.2)	--
			YB9320	240 (180-360)	0.1 (0.08-0.2)	0.2 (0.1-0.3)
			YBM253	200 (160-280)	0.1 (0.08-0.2)	0.2 (0.1-0.3)
Alloy tool steel	280-350	YBC302	220 (180-300)	0.1 (0.08-0.2)	--	
		YB9320	220 (160-340)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	
		YBM253	180 (150-250)	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)	
		YBM253	140 (100-250)			
K Cast iron	180-250	YB9320	150 (100-200)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	
		YBD152	180 (120-300)	--	0.2 (0.1-0.3)	
S Difficult-to-machine materials	≤ 400	YBS203	100 (60-120)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	
		YBS303	100 (60-120)	0.1 (0.08-0.2)	0.2 (0.1-0.3)	
N Aluminium alloy	--	-ALH				
		YD101	300-	0.2 (0.08-0.4)		
		YD201	300-	0.2 (0.08-0.4)		

Workpiece material	Hardness HB	Insert grade	Cutting parameters			
			Vc(m/min)	Slot milling, Deep square shoulder milling		
				fz(mm/z)		
-APF	-APM					
P Low-carbon steel, Soft steel	≤ 180	YBC302	270 (240-350)	0.1 (0.08-0.15)	--	
		YB9320	270 (200-360)	0.1 (0.08-0.15)	0.15 (0.1-0.25)	
		YBM253	220 (180-300)	0.1 (0.08-0.15)	0.15 (0.1-0.25)	
	High-carbon steel, Alloy steel	180-280	YBC302	240 (210-320)	0.1 (0.08-0.15)	--
			YB9320	240 (180-360)	0.1 (0.08-0.15)	0.15 (0.1-0.25)
			YBM253	200 (160-280)	0.1 (0.08-0.15)	0.15 (0.1-0.25)
Alloy tool steel	280-350	YBC302	220 (180-300)	0.1 (0.08-0.15)	--	
		YB9320	220 (160-340)	0.1 (0.08-0.15)	0.15 (0.1-0.25)	
		YBM253	180 (150-250)	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)	
		YBM253	140 (100-250)			
K Cast iron	180-250	YB9320	150 (100-200)	0.1 (0.08-0.15)	0.15 (0.1-0.25)	
		YBD152	180 (120-300)	--	0.15 (0.1-0.25)	
S Difficult-to-machine materials	≤ 400	YBS203	60 (45-110)	0.1 (0.08-0.15)	0.15 (0.1-0.25)	
		YBS303	60 (45-110)	0.1 (0.08-0.15)	0.15 (0.1-0.25)	
N Aluminium alloy	--	-ALH				
		YD101	300-	0.2 (0.08-0.3)		
		YD201	300-	0.2 (0.08-0.3)		

Indexable
milling tools

Square shoulder milling tools



4 available cutting edges and precise 90° square shoulder.

Double rake angle can effectively reduce cutting force.

High precision of cutting tool can achieve high quality and efficient roughing.

The Tangential assembling can change the cutting force of main direction to be borne by the thickness direction to realize the high rigidity of the cutting tool.

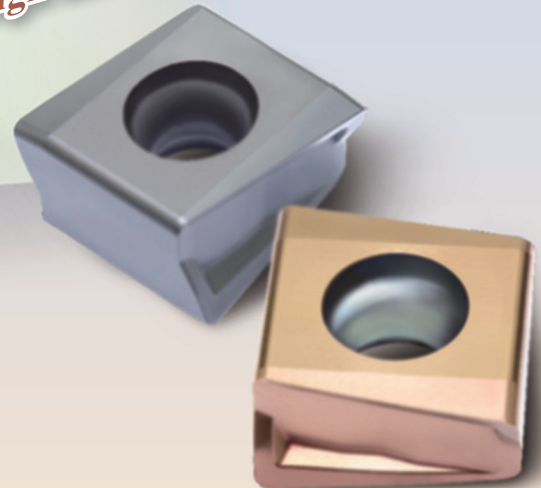
The optimized material of cutter body with high strength and special coating treatment achieves better wear-resistance and longer tool life.

Kr:90°

A New Generation of Tangential Milling Cutter **EMPO9** Series

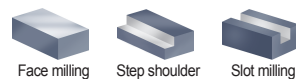
*To meet the diverse processing
needs and achieve efficient
rough machining.*

- High strength of tool nose, sharp cutting and good wear resistance.
- The spiral cutting edge stands for a lighter chipbreaker.
- Excellent universal coating materials, super smooth coating technology, no sticky chip and longer life.
- The vertical design makes the carbide has large volume along the direction of the cutting force, so that the feed per tooth is 30% higher than the flat load insert.

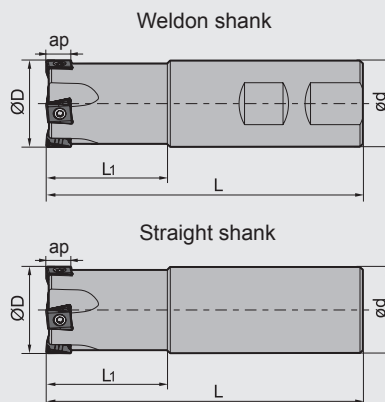
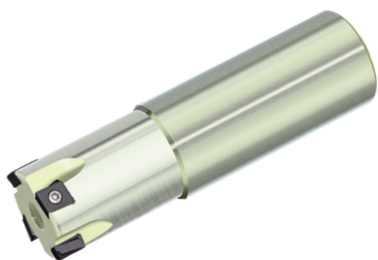


Square shoulder milling tools

Kr:90°



EMP09 P M K S



Specification of tools

Type	Stock	Basic dimensions(mm)					Number of teeth z	Weight (kg)		
		ØD	ød	L	L ₁	apmax				
EMP09 Weldon shank	▲	-020-XP20-LN08-02C	▲	20	20	100	25	8.0	2	0.20
	▲	-020-XP20-LN08-03C	▲	20	32	100	25	8.0	3	0.20
	▲	-025-XP25-LN08-03C	▲	25	25	100	32	8.0	3	0.36
	▲	-025-XP25-LN08-04C	▲	25	25	100	32	8.0	4	0.35
	▲	-032-XP32-LN08-04C	▲	32	32	115	40	8.0	4	0.67
	▲	-032-XP32-LN08-05C	▲	32	32	115	40	8.0	5	0.67
	▲	-040-XP40-LN08-05C	▲	40	40	125	40	8.0	5	1.15
	▲	-040-XP40-LN08-06C	▲	40	40	125	40	8.0	6	1.14
	▲	-040-XP40-LN12-03C	▲	40	40	125	40	11.5	3	1.11
▲	-040-XP40-LN12-04C	▲	40	40	125	40	11.5	4	1.10	
Straight shank	▲	-020-G20-LN08-02C	▲	20	20	100	25	8.0	2	0.2
	▲	-020-G20-LN08-03C	▲	20	20	100	25	8.0	3	0.2
	▲	-025-G25-LN08-03C	▲	25	25	100	32	8.0	3	0.36
	▲	-025-G25-LN08-04C	▲	25	25	100	32	8.0	4	0.35
	▲	-032-G32-LN08-04C	▲	32	32	115	40	8.0	4	0.67
	▲	-032-G32-LN08-05C	▲	32	32	115	40	8.0	5	0.67
	▲	-040-G40-LN12-03C	▲	40	40	125	40	11.5	3	1.11
	▲	-040-G40-LN12-04C	▲	40	40	125	40	11.5	4	1.10

▲Stock available △Make-to-order

Spare parts

Diameter ØD	Inserts	Screw	Wrench	
Ø20~Ø40	LN□T0804□□-GM/GL	I60M3×7	WT09IS	
Ø32~Ø40	LN□T1206□□-GM/GL	I60M4×12	WT15IS	

Tools code key **B24-B25**

Grade selection guide **B19-B23**

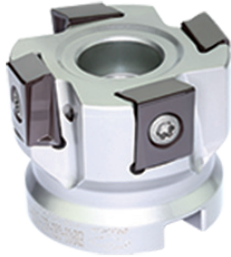
Technical data **B234-B240**

Square shoulder milling tools

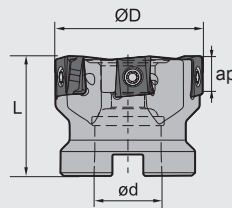
Kr:90°



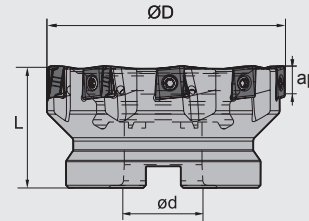
EMP09 P M K S



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			
EMP09 -040-A16-LN08-05C	▲	40	16	40	8	5	A	0.21
-040-A16-LN08-06C	▲	40	16	40	8	6	A	0.21
-050-A22-LN08-06C	▲	50	22	40	8	6	A	0.35
-050-A22-LN08-07C	▲	50	22	40	8	7	A	0.35
-063-A22-LN08-08C	▲	63	22	40	8	8	A	0.60
-063-A22-LN08-10C	▲	63	22	40	8	10	A	0.60
-080-A27-LN08-10C	▲	80	27	50	8	10	A	1.26
-080-A27-LN08-12C	▲	80	27	50	8	12	A	1.26
-040-A16-LN12-03C	▲	40	16	40	11.5	3	A	0.20
-040-A16-LN12-04C	▲	40	16	40	11.5	4	A	0.19
-050-A22-LN12-05C	▲	50	22	40	11.5	5	A	0.30
-050-A22-LN12-06C	▲	50	22	40	11.5	6	A	0.30
-063-A22-LN12-06C	▲	63	22	40	11.5	6	A	0.54
-063-A22-LN12-08C	▲	63	22	40	11.5	8	A	0.54
-080-A27-LN12-07C	▲	80	27	50	11.5	7	A	1.18
-080-A27-LN12-10C	▲	80	27	50	11.5	10	A	1.18
-100-B32-LN12-09C	▲	100	32	50	11.5	9	B	1.64
-100-B32-LN12-13C	▲	100	32	50	11.5	13	B	1.64
-125-B40-LN12-11C	▲	125	40	63	11.5	11	B	2.74
-125-B40-LN12-16C	▲	125	40	63	11.5	16	B	2.74

▲Stock available △Make-to-order

Tools code key
B24-B25

Grade selection guide
B19-B23

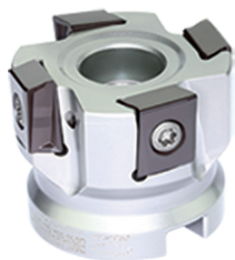
Technical data
B234-B240

Indexable milling tools
Square shoulder milling tools

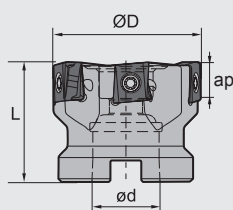
Square shoulder milling tools **Kr:90°**



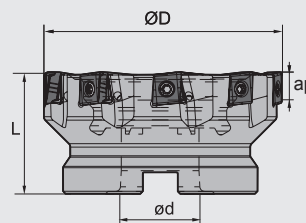
EMP09 **P** **M** **K** **S**



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			
EMP09 -050-A22-LN16-04C	▲	50	22	40	15	4	A	0.31
-050-A22-LN16-05C	▲	50	22	40	15	5	A	0.31
-063-A22-LN16-05C	▲	63	22	40	15	5	A	0.56
-063-A22-LN16-06C	▲	63	22	40	15	6	A	0.56
-080-A27-LN16-06C	▲	80	27	50	15	6	A	1.20
-080-A27-LN16-07C	▲	80	27	50	15	7	A	1.20
-100-B32-LN16-08C	▲	100	32	50	15	8	B	1.62
-100-B32-LN16-10C	▲	100	32	50	15	10	B	1.62
-125-B40-LN16-10C	▲	125	40	63	15	10	B	3.27
-125-B40-LN16-13C	▲	125	40	63	15	13	B	3.27
-160-B40-LN16-12C	▲	160	40	63	15	12	B	6.37
-160-B40-LN16-16C	▲	160	40	63	15	16	B	6.37

▲Stock available △Make-to-order

Indexable milling tools
Square shoulder milling tools

Spare parts

Diameter ØD	Inserts	Screw	Wrench	
Ø40~Ø80	LN□T0804□□-GM/GL	I60M3×7	WT09IS	
Ø40~Ø125	LN□T1206□□-GM/GL	I60M4×12	WT15IS	
Ø50~Ø160	LN□T1607□□-GM/GL	I60M5×13	WT20IS	

Tools code key → **B24-B25**

Grade selection guide → **B19-B23**

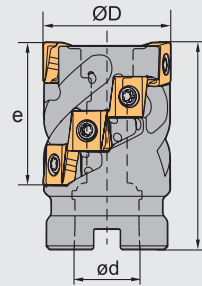
Technical data → **B234-B240**

Square shoulder milling tools

Kr:90°



EMP09 P M K S



Specification of tools

Type	Stock	Basic dimensions(mm)				Number of teeth Z	Number of inserts	Weight (kg)
		ØD	ød	L	e			
EMP09 -032×38-A16-LN08-03C	▲	32	16	55	38	3	15	0.15
-040×38-A16-LN08-04C	▲	40	16	55	38	4	20	0.3
-040×45-A16-LN08-04C	▲	40	16	65	45	4	24	0.4
-050×38-A22-LN08-05C	▲	50	22	55	38	5	25	0.5
-050×45-A22-LN08-05C	▲	50	22	65	45	5	30	0.6
-040×33-A16-LN12-02C	▲	40	16	55	33	2	6	0.3
-040×43-A16-LN12-02C	▲	40	16	65	43	2	8	0.34
-050×33-A16-LN12-03C	▲	50	16	55	33	3	9	0.5
-050×43-A22-LN12-03C	▲	50	22	70	43	3	12	0.62
-063×43-A27-LN12-04C	▲	63	27	70	43	4	16	1.03
-063×53-A27-LN12-04C	▲	63	27	80	53	4	20	1.2
-080×43-A27-LN12-05C	▲	80	27	70	43	5	20	1.91
-080×53-A27-LN12-05C	▲	80	27	80	53	5	25	2.1
-100×63-A27-LN12-06C	▲	100	27	90	63	6	36	3.3

▲Stock available △Make-to-order

Indexable milling tools

Square shoulder milling tools

Spare parts

Diameter ØD	Inserts	Screw	Wrench	
Ø32×38-Ø50×45	LN□T0804□□-GM/GL	I60M3×7	WT09IP	
Ø40×33-Ø63×53	LN□T1206□□-GM/GL	I60M4×12	WT15IP	
Ø80×43-Ø100×63			WT15IS	

Tools code key
B24-B25

Grade selection guide
B19-B23

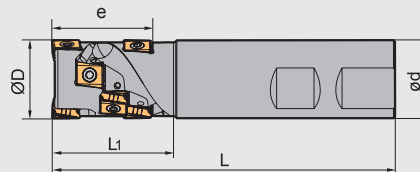
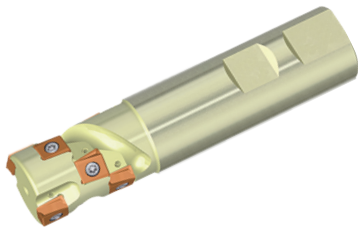
Technical data
B234-B240

Square shoulder milling tools

Kr:90°



EMP09 **P** **M** **K** **S**



Specification of tools

Type	Stock	Basic dimensions(mm)					Number of teeth Z	Number of inserts	Weight (kg)
		ØD	ød	L	L1	e			
EMP09 -025×30-XP25-LN08-02C	▲	25	25	100	40	30	2	8	0.31
-032×38-XP32-LN08-03C	▲	32	32	115	45	38	3	15	0.62
-040×45-XP32-LN08-04C	▲	40	32	120	55	45	4	24	0.7
-040×33-XP32-LN12-02C	▲	40	32	115	45	33	2	6	0.7
-040×43-XP32-LN12-02C	▲	40	32	125	55	43	2	8	0.7
-050×43-XP40-LN12-03C	▲	50	40	135	55	43	3	12	1.4
-050×53-XP40-LN12-03C	▲	50	40	145	65	53	3	15	1.5

▲Stock available △Make-to-order

Indexable milling tools

Square shoulder milling tools

Spare parts

Diameter ØD	Inserts	Screw	Wrench	
Ø25×30-Ø32×38	LN□T0804□□-GM/GL	I60M3×7	WT09IS	
Ø40×33-Ø50×53	LN□T1206□□-GM/GL	I60M4×12	WT15IP	

Tools code key → B24-B25

Grade selection guide → B19-B23

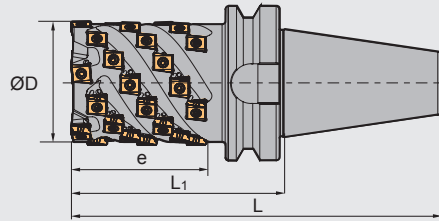
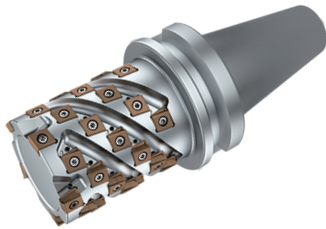
Technical data → B234-B240

Square shoulder milling tools

Kr:90°



EMP09 P M K S



Specification of tools

Type	Stock	Basic dimensions(mm)				Number of teeth Z	Shank type	Number of inserts	Weight (kg)
		ØD	e	L1	L				
EMP09 -050×63-BT50-LN12-03C	△	50	63	124	225.8	3	BT	18	4.34
-050×85-BT50-LN12-03C	△	50	85	146	246.8	3	BT	24	4.57
-050×103-BT50-LN12-03C	△	50	103	164	265.8	3	BT	30	4.89
-063×85-BT50-LN12-04C	△	63	85	146	246.8	4	BT	32	5.35
-063×115-BT50-LN12-04C	△	63	115	176	277.8	4	BT	44	6.07
-080×125-BT50-LN12-05C	△	80	125	186	287.8	5	BT	60	8.25

▲Stock available △Make-to-order

Indexable milling tools
Square shoulder milling tools

Spare parts

Diameter ØD	Inserts	Screw	Wrench	
		 I60M4×12	 WT15IP WT15IS	

Tools code key
B24-B25

Grade selection guide
B19-B23

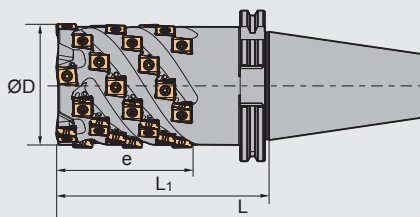
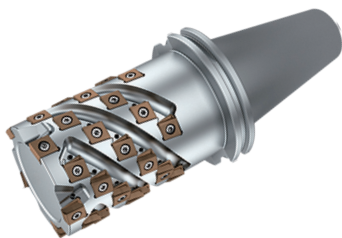
Technical data
B234-B240

Square shoulder milling tools

Kr:90°



EMP09 **P** **M** **K** **S**



Specification of tools

Type	Stock	Basic dimensions(mm)				Number of teeth Z	Shank type	Number of inserts	Weight (kg)
		ØD	e	L1	L				
EMP09 -050×103-JT50-LN12-03C	△	50	103	164	265.75	3	JT	30	5.11
-063×85-JT50-LN12-04C	△	63	85	146	246.75	4	JT	32	4.34
-063×115-JT50-LN12-04C	△	63	115	176	277.75	4	JT	44	5.46
-080×125-JT50-LN12-05C	△	80	125	186	287.75	5	JT	60	7.82

▲ Stock available △ Make-to-order

Indexable milling tools

Square shoulder milling tools

Spare parts

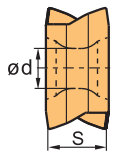
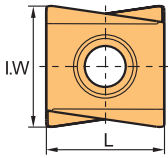
Diameter ØD	Inserts	Screw	Wrench	
Ø50×63-Ø63×115	LN□T1206□□-GM/GL	I60M4×12	WT15IP	
Ø80×125			WT15IS	

Tools code key → **B24-B25**

Grade selection guide → **B19-B23**

Technical data → **B234-B240**

Selection of inserts



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

Workpiece material	YBC301	YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YB9320	YBG302	YBG152	YBG252	YBS203	YBS303	YNG151	YNG151C	YC30S	YD051	YD101	YD201	
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	YBS203	YBS303	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	LNKT080404PNR-GM	8.75	8.5	4.45	3.4	0.4			★	●	●					★					●							
	LNKT080408PNR-GM	8.75	8.5	4.45	3.4	0.8			★	●	●					★												
	LNKT080412PNR-GM	8.75	8.5	4.45	3.4	1.2			★	●	●					★												
	LNKT120608PNR-GM	12.7	13	6.75	4.4	0.8			★	●	●					★					●							
	LNKT120612PNR-GM	12.7	13	6.75	4.4	1.2			★	●	●					★												
	LNKT120616PNR-GM	12.7	13	6.75	4.4	1.6			★	●	●					★												
	LNKT120620PNR-GM	12.7	13	6.75	4.4	2.0			★	●	●					★												
	LNKT120624PNR-GM	12.7	13	6.75	4.4	2.4			★	●	●					★												
	LNKT120632PNR-GM	12.7	13	6.75	4.4	3.2			★	●	●					★												
	LNKT160708PNR-GM	16.05	15	7.35	5.5	0.8			★	●	●					★					●							
	LNKT160712PNR-GM	16.05	15	7.35	5.5	1.2			★	●	●					★												
	LNKT160716PNR-GM	16.05	15	7.35	5.5	1.6			★	●	●					★												
	LNKT080404PNR-GL	8.75	8.5	4.45	3.4	0.4			★	●	●					★					●							
	LNKT120608PNR-GL	12.7	13	6.75	4.4	0.8			★	●	●					★					●							
	LNKT160708PNR-GL	16.05	15	7.35	5.5	0.8			★	●	●					★					●							
	LNMT080404PNR-GM	8.75	8.5	4.45	3.4	0.4			★	●	●					★												
	LNMT120608PNR-GM	12.7	13	6.75	4.4	0.8			★	●	●					★												
	LNMT160708PNR-GM	16.05	15	7.35	5.5	0.8			★	●	●					★												

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

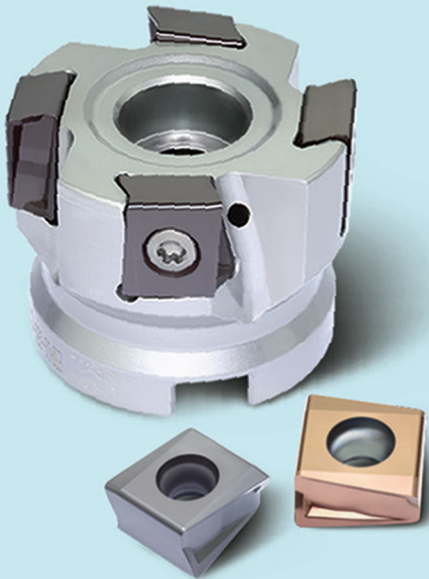
Recommended cutting parameters

Workpiece material	Hardness HB	Insert grade	Cutting parameters	
			Vc(m/min)	fz(mm/z)
P Low-carbon steel, Soft steel	≤ 180	YBM253	260 (160-300)	0.3 (0.1-0.35)
		YB9320	260 (160-300)	0.3 (0.1-0.35)
	180-280	YBM253	240 (160-240)	0.25 (0.1-0.35)
		YB9320	240 (160-240)	0.25 (0.1-0.35)
Alloy tool steel	280-350	YBM253	200 (120-240)	0.2 (0.1-0.35)
		YB9320	200 (120-240)	0.2 (0.1-0.35)
M Stainless steel	≤ 270	YBM253	180 (100-230)	0.15 (0.1-0.3)
		YB9320	160 (100-230)	0.15 (0.1-0.3)
K Cast iron	180-250	YBD152 YBD252	220 (140-250)	0.2 (0.1-0.3)
			220 (140-250)	0.2 (0.1-0.3)
			220 (140-250)	0.2 (0.1-0.3)
S Difficult-to-machine materials	≤ 400	YBS303	100 (60-120)	0.15 (0.1-0.25)

Indexable milling tools

Square shoulder milling tools

Case for EMP09



Indexable
milling tools

Square shoulder milling tools

● Ultra-long working life

The material of workpiece: 45#

Hardness: 175-190 (HB)

Machine tool: Planer-type milling machine

Type of cooling: No cooling

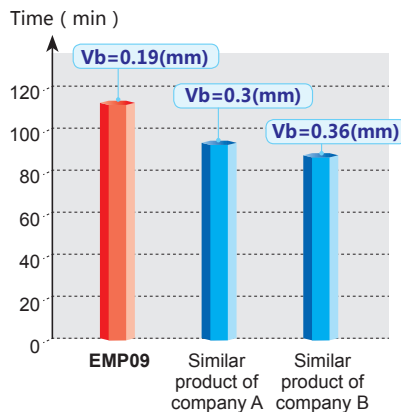
The machining type: Shoulder milling

Toolholder: EMP09-050-A22-LN12-05C

Insert: LNKT120608PNR-GM/YB9320

Cutting parameter: $V_c=260\text{m/min}$, $A_p=8\text{mm}$, $A_e=2\text{mm}$, $f_z=0.2\text{mm/z}$

Comparison of tool life



Result: The processing life of LNKT12 (YB9320) is approximately 1.3 times of the similar product of company A and 1.4 times of the similar product of company B, with excellent wear resistance and longer tool life.

● Better surface quality

The material of workpiece: NAK80

Hardness: HRC(33-37)

Machine tool: Planer-type milling machine

Type of cooling: No cooling

The machining type: Shoulder milling

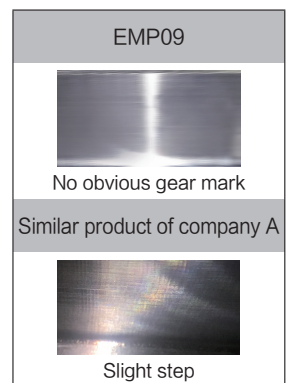
Toolholder: EMP09-050-A22-LN12-05C

Insert: LNKT120608PNR-GM (YB9320)

Similar product of company A

Cutting parameter: $V_c=240\text{m/min}$, $A_p=8\text{mm}$

$A_e=2\text{mm}$, $f_z=0.2\text{mm/z}$



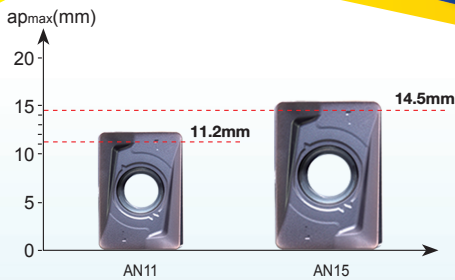
Result: EMP09 series of tangential milling cutter has higher precision and better surface quality, no obvious gear mark, and runout value, which is better than the similar product of company A.

Kr:90°

Achieving high quality 90° square shouldering milling

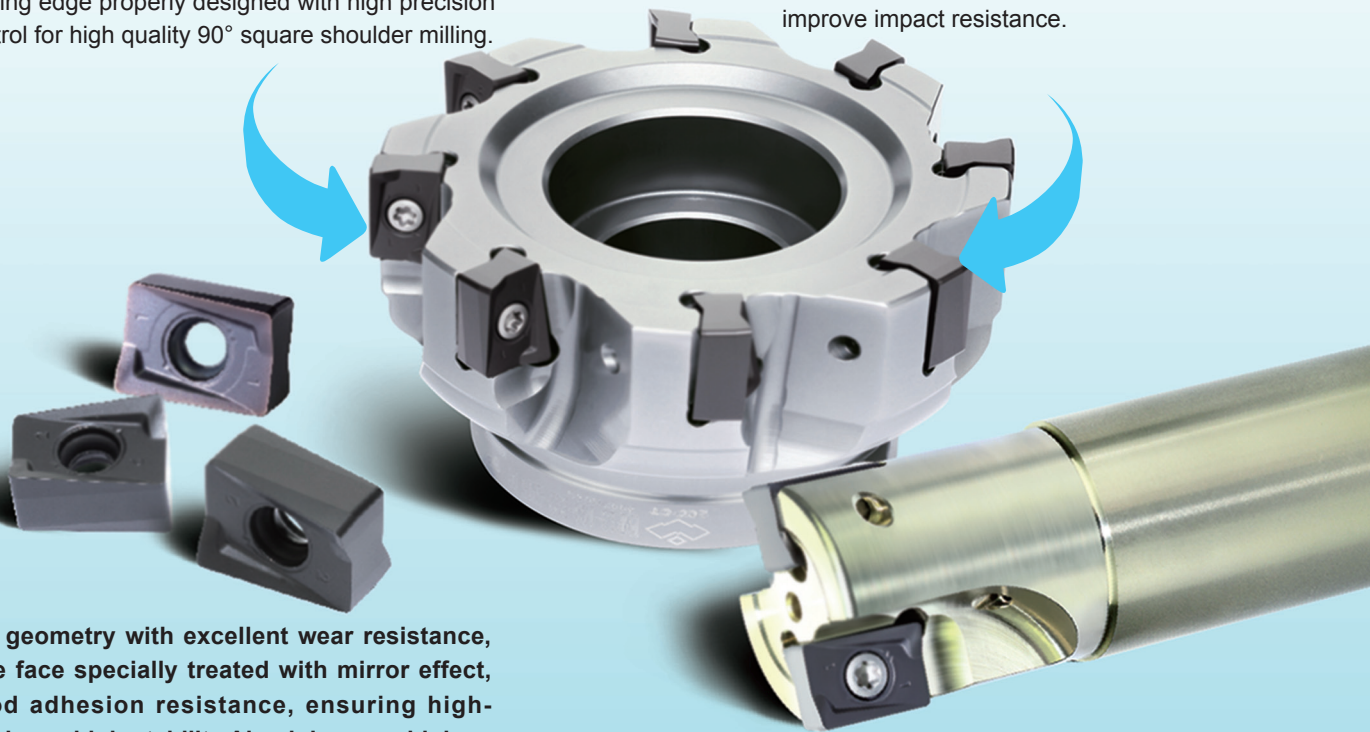
EMP13

Series Square Shoulder Milling Tools



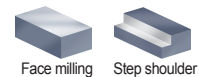
Cutting edge properly designed with high precision control for high quality 90° square shouldering milling.

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

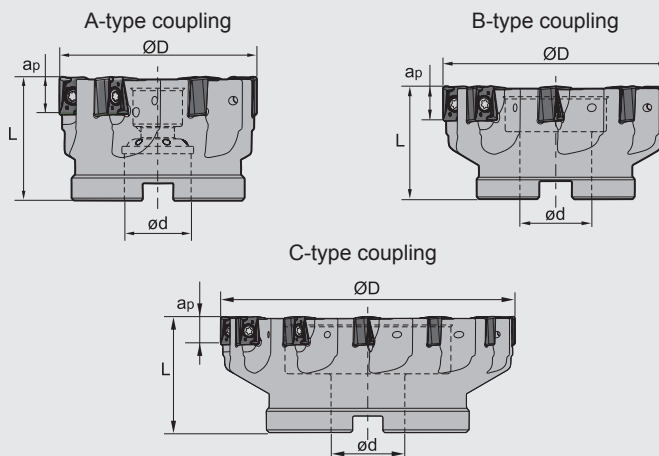


-LH geometry with excellent wear resistance, rake face specially treated with mirror effect, good adhesion resistance, ensuring high-efficiency high-stability Aluminium machining.

Square shoulder milling tools **Kr:90°**



EMP13 **P M K N S**

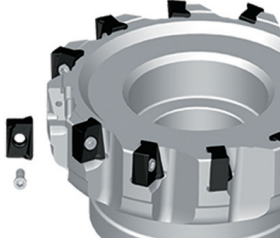




Specification of tools

Type	Stock	Basic dimensions(mm)				Number of teeth 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	AN□X11□□□□-GM/LH	I60M3X9	WT09IS	
Ø50-Ø160	AN□X15□□□□-GM/LH	I60M4X12	WT15IS	

Tools code key **B24-B25**

Grade selection guide **B19-B23**

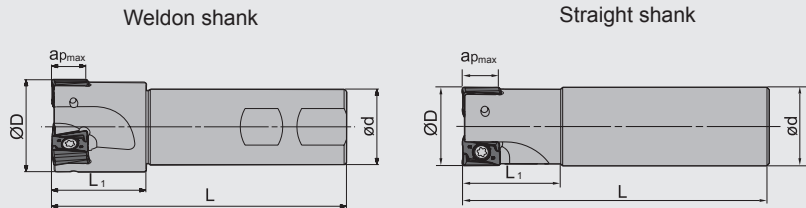
Technical data **B234-B240**

Square shoulder milling tools

Kr:90°



EMP13 P M K N S



Specification of tools

Type	Stock	Basic dimensions(mm)					Number of flute Z	Weight (kg)
		ØD	ød	L	L1	apmax		
EMP13 Weldon shank	▲	25	25	100	32	11.2	2	0.31
	▲	32	32	115	40	11.2	3	0.61
	▲	40	32	125	40	11.2	4	0.75
	▲	32	32	125	40	14.5	2	0.66
	▲	40	32	125	40	14.5	3	0.76
Straight shank	▲	25	25	100	32	11.2	2	0.31
	▲	32	32	115	40	11.2	3	0.61
	▲	40	32	125	40	11.2	4	0.75
	▲	32	32	125	40	14.5	2	0.66
	▲	40	32	125	40	14.5	3	0.76

▲Stock available △Make-to-order

Spare parts

Diameter ØD	Inserts	Screw	Wrench	
Ø25-Ø40	AN□X11□□□□-GM/LH	I60M3X9	WT09IS	
Ø32-Ø40	AN□X15□□□□-GM/LH	I60M4X12	WT15IS	

Tools code key
B24-B25

Grade selection guide
B19-B23

Technical data
B234-B240

Indexable milling tools
Square shoulder milling tools

Square shoulder milling tools

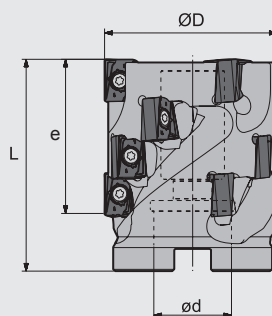
Kr:90°



EMP13 P M K N S



A-type coupling



Specification of tools

Type	Stock	Basic dimensions(mm)				Number of teeth Z	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

Indexable milling tools

Square shoulder milling tools

Spare parts

Diameter ØD	Inserts	Screw	Wrench	
Ø50-Ø63	AN□X11□□□□-GM/LH	I60M3×9	WT09IS	
Ø63-Ø80	AN□X15□□□□-GM/LH	I60M4×12	WT15IS	

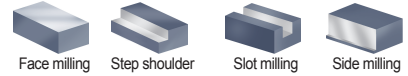
Tools code key → B24-B25

Grade selection guide → B19-B23

Technical data → B234-B240

Square shoulder milling tools

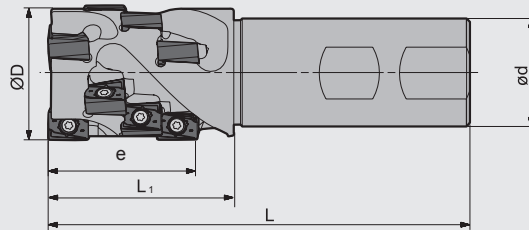
Kr:90°



EMP13 P M K N S



Weldon shank



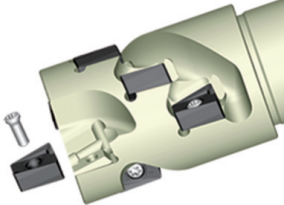


Specification of tools

Type	Stock	Basic dimensions(mm)					Number of teeth Z	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	AN□X11□□□□-GM/LH	I60M3X9	WT09IS	
Ø40-Ø50	AN□X15□□□□-GM/LH	I60M4X12	WT15IS	

Tools code key
B24-B25

Grade selection guide
B19-B23

Technical data
B234-B240

