



2022



# The **Z**-Advantage Kits



Quality You Expect, Performance You Demand, Value You Deserve.



ZHUZHOU CEMENTED CARBIDE  
CUTTING TOOLS CO., LTD.

## FMA11 P K



### 45 Degree Face Milling Series

- Cutter is PVD coated for superior corrosion and heat resistance.
- 8 Cutting Edges.
- Available in 3 inserts sizes and 2 wipers.

Kit Code	Kit Description	Cutter	Insert	Price (USD)
KIT1-FMA11-01-01	FMA11-2.00"-A0.75"-SN12-04C-GMYBM253	FMA11-2.00"-A0.75"-SN12-04C	SNEG1205ANR-GM YBM253	\$193.74
KIT1-FMA11-01-02	FMA11-2.00"-A0.75"-SN12-04C-GMYBD152	FMA11-2.00"-A0.75"-SN12-04C	SNEG1205ANR-GM YBD152	\$193.74
KIT1-FMA11-01-03	FMA11-2.00"-A0.75"-SN12-04C-GMYBG205	FMA11-2.00"-A0.75"-SN12-04C	SNEG1205ANR-GM YBG205	\$193.74
KIT1-FMA11-02-01	FMA11-2.50"-A0.75"-SN12-06C-GMYBM253	FMA11-2.50"-A0.75"-SN12-06C	SNEG1205ANR-GM YBM253	\$243.09
KIT1-FMA11-02-02	FMA11-2.50"-A0.75"-SN12-06C-GMYBD152	FMA11-2.50"-A0.75"-SN12-06C	SNEG1205ANR-GM YBD152	\$243.09
KIT1-FMA11-02-03	FMA11-2.50"-A0.75"-SN12-06C-GMYBG205	FMA11-2.50"-A0.75"-SN12-06C	SNEG1205ANR-GM YBG205	\$243.09
KIT1-FMA11-03-01	FMA11-3.00"-A1.00"-SN12-07C-GMYBM253	FMA11-3.00"-A1.00"-SN12-07C	SNEG1205ANR-GM YBM253	\$274.87
KIT1-FMA11-03-02	FMA11-3.00"-A1.00"-SN12-07C-GMYBD152	FMA11-3.00"-A1.00"-SN12-07C	SNEG1205ANR-GM YBD152	\$274.87
KIT1-FMA11-03-03	FMA11-3.00"-A1.00"-SN12-07C-GMYBG205	FMA11-3.00"-A1.00"-SN12-07C	SNEG1205ANR-GM YBG205	\$274.87
KIT1-FMA11-04-01	FMA11-4.00"-B1.25"-SN12-07-GMYBM253	FMA11-4.00"-B1.25"-SN12-07	SNEG1205ANR-GM YBM253	\$260.09
KIT1-FMA11-04-02	FMA11-4.00"-B1.25"-SN12-07-GMYBD152	FMA11-4.00"-B1.25"-SN12-07	SNEG1205ANR-GM YBD152	\$260.09
KIT1-FMA11-04-03	FMA11-4.00"-B1.25"-SN12-07-GMYBG205	FMA11-4.00"-B1.25"-SN12-07	SNEG1205ANR-GM YBG205	\$260.09
KIT1-FMA11-05-01	FMA11-3.00"-A1.00"-SN15-07C-GRYBM253	FMA11-3.00"-A1.00"-SN15-07C	SNEG1506ANR-GR YBM253	\$293.22
KIT1-FMA11-05-02	FMA11-3.00"-A1.00"-SN15-07C-GRYBD152	FMA11-3.00"-A1.00"-SN15-07C	SNEG1506ANR-GR YBD152	\$293.22
KIT1-FMA11-05-03	FMA11-3.00"-A1.00"-SN15-07C-GRYBG205	FMA11-3.00"-A1.00"-SN15-07C	SNEG1506ANR-GR YBG205	\$293.22
KIT1-FMA11-06-01	FMA11-4.00"-B1.50"-SN15-09-GRYBM253	FMA11-4.00"-B1.50"-SN15-09	SNEG1506ANR-GR YBM253	\$370.21
KIT1-FMA11-06-02	FMA11-4.00"-B1.50"-SN15-09-GRYBD152	FMA11-4.00"-B1.50"-SN15-09	SNEG1506ANR-GR YBD152	\$370.21
KIT1-FMA11-06-03	FMA11-4.00"-B1.50"-SN15-09-GRYBG205	FMA11-4.00"-B1.50"-SN15-09	SNEG1506ANR-GR YBG205	\$370.21

- Each kit price above includes 1 cutter and 10 inserts, wrench, grease and brochure.

- For more details, please refer to our catalog.

### Recommended cutting parameters

Workpiece material	Hardness HB	Grade	Cutting data			
			V(SFPM)	f(inch/z)	a <sub>pmax</sub> (inch)	
<span style="background-color: #0070C0; color: white; padding: 5px;">P</span>	Low carbon steel Soft steel	≤ 180	YBM253/YBC302/ YBG205/YB9320	880 (720-1200)	0.008 (0.004-0.016)	0.216(SN12) 0.275(SN15) 0.354(SN19)
	High carbon steel Alloy steel	180-280	YBM253/YBC302/ YBG205/YB9320	850 (650-1050)	0.008 (0.004-0.016)	
	Alloy tool steel	280-350	YBM253/YBC302/ YBG205/YB9320	780 (590-1000)	0.008 (0.004-0.016)	
<span style="background-color: #C00000; color: white; padding: 5px;">K</span>	Cast iron	180-250	YBD152	880 (490-980)	0.012(0.004-0.02)	
			YBD252	650 (490-820)	0.016 (0.008-0.024)	

## FMA12 **P** **M** **K**



### 45 Degree Face Milling Series

- High Performance 16 edges.
- Unique 3D edge design.
- Double negative rake angle with helical insert design creates double positive axial angle for reduced cutting tool forces.

Kit Code	Kit Description	Cutter	Insert	Price (USD)
KIT1-FMA12-01-01	FMA12-2.50"-A0.75"-ON08-05-GMYBM253	FMA12-2.50"-A0.75"-ON08-05	ONHU08T624R-GM YBM253	\$248.66
KIT1-FMA12-01-02	FMA12-2.50"-A0.75"-ON08-05-GMYBG205	FMA12-2.50"-A0.75"-ON08-05	ONHU08T624R-GM YBG205	\$248.66
KIT1-FMA12-01-03	FMA12-2.50"-A0.75"-ON08-05-GMYBD152	FMA12-2.50"-A0.75"-ON08-05	ONHU08T624R-GM YBD152	\$248.66
KIT1-FMA12-02-01	FMA12-3.00"-A1.00"-ON08-06-GMYBM253	FMA12-3.00"-A1.00"-ON08-06	ONHU08T624R-GM YBM253	\$269.83
KIT1-FMA12-02-02	FMA12-3.00"-A1.00"-ON08-06-GMYBG205	FMA12-3.00"-A1.00"-ON08-06	ONHU08T624R-GM YBG205	\$269.83
KIT1-FMA12-02-03	FMA12-3.00"-A1.00"-ON08-06-GMYBD152	FMA12-3.00"-A1.00"-ON08-06	ONHU08T624R-GM YBD152	\$269.83
KIT1-FMA12-03-01	FMA12-4.00"-B1.25"-ON08-07-GMYBM253	FMA12-4.00"-B1.25"-ON08-07	ONHU08T624R-GM YBM253	\$300.89
KIT1-FMA12-03-02	FMA12-4.00"-B1.25"-ON08-07-GMYBG205	FMA12-4.00"-B1.25"-ON08-07	ONHU08T624R-GM YBG205	\$300.89
KIT1-FMA12-03-03	FMA12-4.00"-B1.25"-ON08-07-GMYBD152	FMA12-4.00"-B1.25"-ON08-07	ONHU08T624R-GM YBD152	\$300.89

- Each kit price above includes 1 cutter and 10 inserts, wrench, grease and brochure.

- For more details, please refer to our catalog.

### Recommended cutting parameters

	Workpiece material	Hardness HB	Grade	Cutting data		
				Cutting speed (SFPM)	Feed per tooth(in)	$a_{pmax}$ (in)
<b>P</b>	Low carbon steel	≤180	YBM253 YBG205	900(700-1100)	0.008(0.004-0.012)	0.197
	Alloy steel	180-350	YBM253 YBG205	800(600-1000)	0.006(0.004-0.012)	0.197
<b>M</b>	Stainless steel	≤270	YBM253 YBG205	750 (600-950) 500 (360-900)	0.006 (0.004-0.012)	0.197
<b>K</b>	Cast iron	180-260	YBD152	900(500-950)	0.008(0.004-0.012)	0.197

## FMD02 P K



### 67 Degree Face Milling Series

- High Performance 10 edges.
- First choice for face milling cast iron .
- Open chip breaker and large rake angle design, suitable for machines of different power.

Kit Code	Kit Description	Cutter	Insert	Price (USD)
KIT1-FMD02-01-01	FMD02-2.00"-A0.75"-PN11-05-CMYBD152	FMD02-2.00"-A0.75"-PN11-05	PNEG110512R-CM YBD152	\$207.74
KIT1-FMD02-01-02	FMD02-2.00"-A0.75"-PN11-05-PMYBC302	FMD02-2.00"-A0.75"-PN11-05	PNEG110512R-PM YBC302	\$207.74
KIT1-FMD02-02-01	FMD02-2.50"-A0.75"-PN11-06-CMYBD152	FMD02-2.50"-A0.75"-PN11-06	PNEG110512R-CM YBD152	\$228.21
KIT1-FMD02-02-02	FMD02-2.50"-A0.75"-PN11-06-PMYBC302	FMD02-2.50"-A0.75"-PN11-06	PNEG110512R-PM YBC302	\$228.21
KIT1-FMD02-03-01	FMD02-3.00"-A1.00"-PN11-08-CMYBD152	FMD02-3.00"-A1.00"-PN11-08	PNEG110512R-CM YBD152	\$262.10
KIT1-FMD02-03-02	FMD02-3.00"-A1.00"-PN11-09-PMYBC302	FMD02-3.00"-A1.00"-PN11-08	PNEG110512R-PM YBC302	\$262.10
KIT1-FMD02-04-01	FMD02-4.00"-B1.25"-PN11-10-CMYBD152	FMD02-4.00"-B1.25"-PN11-10	PNEG110512R-CM YBD152	\$342.58
KIT1-FMD02-04-02	FMD02-4.00"-B1.25"-PN11-10-PMYBC302	FMD02-4.00"-B1.25"-PN11-10	PNEG110512R-PM YBC302	\$342.58

- Each kit price above includes 1 cutter and 10 inserts, wrench, grease and brochure.
- CM chip breaker is recommended for milling ISO K materials, while PM chip breaker is for ISO P materials.
- For more details, please refer to our catalog.

### Recommended cutting parameters

Workpiece material	Hardness HB	Insert grade	Cutting parameters			
			V(SFPM)	f(in/z)		
				PF	PM	PR
<b>P</b>	Low carbon steel, Soft steel	≤180	900(700-1100)	0.006(0.004-0.008)	0.008(0.004-0.012)	0.012(0.008-0.016)
	High-carbon steel, Alloy steel	180-280	850(650-1000)	0.006(0.004-0.008)	0.008(0.004-0.012)	0.012(0.008-0.016)
	Alloy tool steel	280-350	800(600-950)	0.006(0.004-0.008)	0.008(0.004-0.012)	0.012(0.008-0.016)
<b>K</b>	Cast iron	180-250	900(500-1000)	CF	CM	CR
				0.006(0.004-0.008)	0.008(0.004-0.012)	0.012(0.008-0.016)

## FMP12 P K



### 90 Degree Face Milling Series

- High Performance 6 edges.
- 90° approach angle can be used for shoulder milling, face milling, groove milling, etc.
- Double negative angle tool body combined with unique insert to achieve double positive tool angle, reducing cutting forces.

Kit Code	Kit Description	Cutter	Insert	Price (USD)
KIT2-FMP12-01-01	FMP12-1.00"-XP1.00"-WN06-02C-GMYBM253	FMP12-1.00"-XP1.00"-WN06-02C	WNHU060408PNR-GM YBM253	\$137.65
KIT2-FMP12-01-02	FMP12-1.00"-XP1.00"-WN06-02C-GMYBD152	FMP12-1.00"-XP1.00"-WN06-02C	WNHU060408PNR-GM YBD152	\$137.65
KIT2-FMP12-01-03	FMP12-1.00"-XP1.00"-WN06-02C-GMYBG205	FMP12-1.00"-XP1.00"-WN06-02C	WNHU060408PNR-GM YBG205	\$137.65
KIT2-FMP12-02-01	FMP12-1.25"-XP1.00"-WN06-03C-GMYBM253	FMP12-1.25"-XP1.00"-WN06-03C	WNHU060408PNR-GM YBM253	\$165.88
KIT2-FMP12-02-02	FMP12-1.25"-XP1.00"-WN06-03C-GMYBD152	FMP12-1.25"-XP1.00"-WN06-03C	WNHU060408PNR-GM YBD152	\$165.88
KIT2-FMP12-02-03	FMP12-1.25"-XP1.00"-WN06-03C-GMYBG205	FMP12-1.25"-XP1.00"-WN06-03C	WNHU060408PNR-GM YBG205	\$165.88
KIT2-FMP12-03-01	FMP12-1.50"-XP1.25"-WN06-04C-GMYBM253	FMP12-1.50"-XP1.25"-WN06-04C	WNHU060408PNR-GM YBM253	\$194.20
KIT2-FMP12-03-02	FMP12-1.50"-XP1.25"-WN06-04C-GMYBD152	FMP12-1.50"-XP1.25"-WN06-04C	WNHU060408PNR-GM YBD152	\$194.20
KIT2-FMP12-03-03	FMP12-1.50"-XP1.25"-WN06-04C-GMYBG205	FMP12-1.50"-XP1.25"-WN06-04C	WNHU060408PNR-GM YBG205	\$194.20
KIT1-FMP12-04-01	FMP12-2.00"-A0.75"-WN06-05C-GMYBM253	FMP12-2.00"-A0.75"-WN06-05C	WNHU060408PNR-GM YBM253	\$224.53
KIT1-FMP12-04-02	FMP12-2.00"-A0.75"-WN06-05C-GMYBD152	FMP12-2.00"-A0.75"-WN06-05C	WNHU060408PNR-GM YBD152	\$224.53
KIT1-FMP12-04-03	FMP12-2.00"-A0.75"-WN06-05C-GMYBG205	FMP12-2.00"-A0.75"-WN06-05C	WNHU060408PNR-GM YBG205	\$224.53
KIT1-FMP12-05-01	FMP12-2.50"-A0.75"-WN08-05C-GMYBM253	FMP12-2.50"-A0.75"-WN08-05C	WNHU080608PNR-GM YBM253	\$239.46
KIT1-FMP12-05-02	FMP12-2.50"-A0.75"-WN08-05C-GMYBD152	FMP12-2.50"-A0.75"-WN08-05C	WNHU080608PNR-GM YBD152	\$239.46
KIT1-FMP12-05-03	FMP12-2.50"-A0.75"-WN08-05C-GMYBG205	FMP12-2.50"-A0.75"-WN08-05C	WNHU080608PNR-GM YBG205	\$239.46
KIT1-FMP12-06-01	FMP12-3.00"-A1.00"-WN08-06C-GMYBM253	FMP12-3.00"-A1.00"-WN08-06C	WNHU080608PNR-GM YBM253	\$268.45
KIT1-FMP12-06-02	FMP12-3.00"-A1.00"-WN08-06C-GMYBD152	FMP12-3.00"-A1.00"-WN08-06C	WNHU080608PNR-GM YBD152	\$268.45
KIT1-FMP12-06-03	FMP12-3.00"-A1.00"-WN08-06C-GMYBG205	FMP12-3.00"-A1.00"-WN08-06C	WNHU080608PNR-GM YBG205	\$268.45
KIT1-FMP12-07-01	FMP12-4.00"-B1.25"-WN08-08-GMYBM253	FMP12-4.00"-B1.25"-WN08-08	WNHU080608PNR-GM YBM253	\$358.13
KIT1-FMP12-07-02	FMP12-4.00"-B1.25"-WN08-08-GMYBD152	FMP12-4.00"-B1.25"-WN08-08	WNHU080608PNR-GM YBD152	\$358.13
KIT1-FMP12-07-03	FMP12-4.00"-B1.25"-WN08-08-GMYBG205	FMP12-4.00"-B1.25"-WN08-08	WNHU080608PNR-GM YBG205	\$358.13

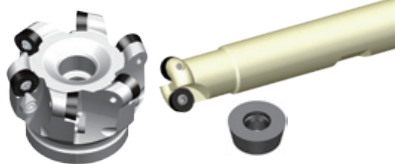
- Each kit price above includes 1 cutter and 10 inserts, wrench, grease and brochure.

- For more details, please refer to our catalog.

### Recommended cutting parameters

	Workpiece material	Hardness HB	Insert grade	Cutting parameters		
				V(SFPM)	f(in/z)	a <sub>pmax</sub> (in)
<b>P</b>	Low-carbon steel, Soft steel	≤180	YBM253/YBG205/ YB9320	900(700-1150)	0.008 (0.004-0.016)	0.224(WN06) 0.303(WN08)
	High-carbon steel, Alloy steel	180-280	YBM253/YBG205/ YB9320	850 (650-1100)	0.008 (0.004-0.016)	
	Alloy tool steel	280-350	YBM253/YBG205/ YB9320	750 (600-1000)	0.008 (0.004-0.016)	
<b>K</b>	Cast iron	180-250	YBD152	900 (500-1000)	0.008 (0.004-0.016)	

## FMR05 P M K



### Button Milling Series

- R-type inserts have stronger cutting edges .
- For face milling and cavity profile milling .

Kit Code	Kit Description	Cutter	Insert	Price (USD)
KIT2-FMR05-01-01	FMR05-0.750"-XP0.75"-RP2-02RPMW06T2YBG205	FMR05-0.750"-XP0.75"-RP2-02	RPMW06T200 YBG205	\$104.04
KIT2-FMR05-02-01	FMR05-1.00"-XP0.75"-RP3-02RPMW09T3YBG205	FMR05-1.00"-XP0.75"-RP3-02	RPMW09T300 YBG205	\$106.53
KIT2-FMR05-03-01	FMR05-1.25"-XP1.00"-RP3-03RPMW09T3YBG205	FMR05-1.25"-XP1.00"-RP3-03	RPMW09T300 YBG205	\$141.82
KIT2-FMR05-04-01	FMR05-1.500"-XP1.25"-RP4-03RPMW1204YBG205	FMR05-1.500"-XP1.25"-RP4-03	RPMW120400 YBG205	\$158.23
KIT1-FMR05-05-01	FMR05-2.00"-A0.75"-RP4-05RPMW1204YBG205	FMR05-2.00"-A0.75"-RP4-05	RPMW120400 YBG205	\$214.70
KIT1-FMR05-06-01	FMR05-2.50"-A0.75"-RP4-06RPMW1204YBG205	FMR05-2.50"-A0.75"-RP4-06	RPMW120400 YBG205	\$278.24
KIT1-FMR05-07-01	FMR05-3.00"-A1.00"-RP4-07RPMW1204YBG205	FMR05-3.00"-A1.00"-RP4-07	RPMW120400 YBG205	\$310.01
KIT1-FMR05-08-01	FMR05-4.00"-B1.50"-RP5-06RPMW1605YBG205	FMR05-4.00"-B1.50"-RP5-06	RPMW160500 YBG205	\$299.85

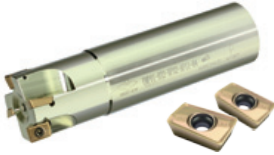
- Each kit price above includes 1 cutter and 10 inserts, wrench, grease and brochure.

- For more details, please refer to our catalog.

### Recommended cutting parameters

Workpiece material	Hardness HB	Insert grade	Cutting parameters		
			V(SFPM)	f(in/z)	
<b>P</b> Low-carbon steel, Soft steel	≤ 180	YBG202 YBG205	900(650-1200)	0.008(0.004-0.018)	
		YBG302	700(600-1000)	0.010(0.006-0.018)	
	180-280	YBG202 YBG205	800(600-1200)	0.008(0.004-0.018)	
		YBG302	650(500-1000)	0.010(0.006-0.018)	
	Alloy tool steel	280-350	YBG202 YBG205	700(550-1100)	0.008(0.004-0.018)
			YBG302	600(500-800)	0.010(0.006-0.018)
<b>M</b> Stainless steel	≤ 270	YBG302	500(300-700)	0.010(0.004-0.018)	
		YBG202	500(350-900)	0.008(0.004-0.018)	
		YBG205			
<b>K</b> Cast iron	180-250	YBG302	700(400-1000)	0.008(0.004-0.018)	

## EMP01 P M N



### Square Shoulder Milling Series

- Multi-function for square shoulder milling, slot milling, ramp milling etc.
- Inserts with newest 3D helical cutting edge for reducing cutting force.

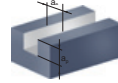
Kit Code	Kit Description	Cutter	Insert	Price (USD)
KIT2-EMP01-01-01	EMP01-0.50"-G0.625"-AP11-01-APMYB9320	EMP01-0.50"-G0.625"-AP11-01	APKT11T308-APM YB9320	\$83.62
KIT2-EMP01-01-02	EMP01-0.50"-G0.625"-AP11-01-ALHYD101	EMP01-0.50"-G0.625"-AP11-01	APKT11T308-ALH YD101	\$83.62
KIT2-EMP01-02-01	EMP01-0.625"-G0.625"-AP11-02-APMYB9320	EMP01-0.625"-G0.625"-AP11-02	APKT11T308-APM YB9320	\$97.02
KIT2-EMP01-02-02	EMP01-0.625"-G0.625"-AP11-03-ALHYD101	EMP01-0.625"-G0.625"-AP11-02	APKT11T308-ALH YD101	\$97.02
KIT2-EMP01-03-01	EMP01-0.75"-G0.75"-AP11-02 (L=6.5)"-APMYB9320	EMP01-0.75"-G0.75"-AP11-02 (L=6.5")	APKT11T308-APM YB9320	\$109.02
KIT2-EMP01-03-02	EMP01-0.75"-G0.75"-AP11-02 (L=6.5)"-ALHYD101	EMP01-0.75"-G0.75"-AP11-02 (L=6.5")	APKT11T308-ALH YD101	\$109.02
KIT2-EMP01-04-01	EMP01-1.00"-G1.00"-AP11-03-APMYB9320	EMP01-1.00"-G1.00"-AP11-03	APKT11T308-APM YB9320	\$109.73
KIT2-EMP01-04-02	EMP01-1.00"-G1.00"-AP11-04-ALHYD101	EMP01-1.00"-G1.00"-AP11-03	APKT11T308-ALH YD101	\$109.73
KIT2-EMP01-05-01	EMP01-1.25"-G1.25"-AP11-04-APMYB9320	EMP01-1.25"-G1.25"-AP11-04	APKT11T308-APM YB9320	\$134.44
KIT2-EMP01-05-02	EMP01-1.25"-G1.25"-AP11-05-ALHYD101	EMP01-1.25"-G1.25"-AP11-04	APKT11T308-ALH YD101	\$134.44
KIT2-EMP01-06-01	EMP01-1.00"-G1.00"-AP16-02(L=7.0)"-APMYB9320	EMP01-1.00"-G1.00"-AP16-02(L=7.0)	APKT160408-APM YB9320	\$119.22
KIT2-EMP01-06-02	EMP01-1.00"-G1.00"-AP16-02(L=7.0)"-ALHYD101	EMP01-1.00"-G1.00"-AP16-02(L=7.0)	APKT160408-ALH YD101	\$119.22
KIT2-EMP01-07-01	EMP01-1.25"-G1.25"-AP16-03(L=7.0)"-APMYB9320	EMP01-1.25"-G1.25"-AP16-03(L=7.0)	APKT160408-APM YB9320	\$138.99
KIT2-EMP01-07-02	EMP01-1.25"-G1.25"-AP16-03(L=7.0)"-ALHYD101	EMP01-1.25"-G1.25"-AP16-03(L=7.0)	APKT160408-ALH YD101	\$138.99
KIT2-EMP01-08-01	EMP01-1.50"-G1.50"-AP16-04(L=7.0)"-APMYB9320	EMP01-1.50"-G1.50"-AP16-04(L=7.0)	APKT160408-APM YB9320	\$151.69
KIT2-EMP01-08-02	EMP01-1.50"-G1.50"-AP16-04(L=7.0)"-ALHYD101	EMP01-1.50"-G1.50"-AP16-04(L=7.0)	APKT160408-ALH YD101	\$151.69
KIT2-EMP01-09-01	EMP01-1.00"-XP1.00"-AP11-03-APMYB9320	EMP01-1.00"-XP1.00"-AP11-03	APKT11T308-APM YB9320	\$113.96
KIT2-EMP01-09-02	EMP01-1.00"-XP1.00"-AP11-03-ALHYD101	EMP01-1.00"-XP1.00"-AP11-03	APKT11T308-ALH YD101	\$113.96
KIT2-EMP01-10-01	EMP01-1.00"-XP1.00"-AP16-02-APMYB9320	EMP01-1.00"-XP1.00"-AP16-02	APKT160408-APM YB9320	\$114.28
KIT2-EMP01-10-02	EMP01-1.00"-XP1.00"-AP16-02-ALHYD101	EMP01-1.00"-XP1.00"-AP16-02	APKT160408-ALH YD101	\$114.28
KIT2-EMP01-11-01	EMP01-1.25"-XP1.25"-AP16-03-APMYB9320	EMP01-1.25"-XP1.25"-AP16-03	APKT160408-APM YB9320	\$135.46
KIT2-EMP01-11-02	EMP01-1.25"-XP1.25"-AP16-03-ALHYD101	EMP01-1.25"-XP1.25"-AP16-03	APKT160408-ALH YD101	\$135.46
KIT2-EMP01-12-01	EMP01-0.75"-XP0.75"-AP11-03-APMYB9320	EMP01-0.75"-XP0.75"-AP11-03	APKT11T308-APM YB9320	\$111.15
KIT2-EMP01-12-02	EMP01-0.75"-XP0.75"-AP11-03-ALHYD101	EMP01-0.75"-XP0.75"-AP11-03	APKT11T308-ALH YD101	\$111.15

- Each kit price above includes 1 cutter and 10 inserts, wrench, grease and brochure.

- For more details, please refer to our catalog.

## 1 Square shoulder milling

Recommended cutting parameters ( Same as page 8 )



## 2 Slot milling

Recommended cutting parameters

(D: Diameter)

	Workpiece material	Hardness HB	Insert grade	Cutting parameters			
				V(SFPM)	f(in/z)		a <sub>e</sub> (inch)
					-APF	-APM	
<b>P</b>	Low-carbon steel, Soft steel	≤ 180	YB9320	600(450-800)	0.004(0.003-0.006)	0.006(0.004-0.01)	D
	High-carbon steel, Alloy steel	180-280	YB9320	550(400-800)	0.004(0.003-0.006)	0.006(0.004-0.01)	D
	Alloy tool steel	280-350	YB9320	500(360-800)	0.004(0.003-0.006)	0.006(0.004-0.01)	D
<b>M</b>	Stainless steel	≤ 270	YB9320	400(260-600)	0.004(0.003-0.006)	0.006(0.004-0.01)	D
<b>N</b>				-ALH			
	Aluminium alloy	----	YD101	1000-	0.008(0.003-0.012)		D
			YD201	1000-	0.008(0.003-0.012)		D

## 3 Ramp milling, helical interpolation milling

Recommended cutting parameters

(D: Diameter)

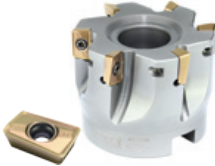


<p><b>Ramp milling</b></p> $L_m = \frac{a_p}{\tan \alpha} \quad (\alpha: \text{Maximum ramp angle})$	APKT Ramp milling, helical interpolation milling (Inserts-11)					
	Diameter ØD(mm)	Ramp milling			Helical interpolation milling	
		Maximum cutting depth a <sub>p</sub> (inch)	Maximum ramp angle α°	Minimum length L <sub>m</sub> (inch)	Minimum diameter ØD <sub>1</sub> (inch)	Maximum pitch(inch)
<p><b>Helical interpolation milling</b></p> $\tan \alpha = \frac{P}{\pi D_1} \quad (\alpha: \text{Helical angle})$	0.62	0.394	10.0	2.232	0.787	0.079
	0.75	0.394	5.0	4.504	1.102	0.079
	1	0.394	4.5	5.000	1.575	0.079
	1.25	0.394	3.0	7.512	2.205	0.079
	1.5	0.394	2.0	11.276	2.756	0.079

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



## EMP02 P M N



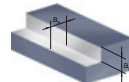
### Square Shoulder Milling Series

- For square shoulder milling, face milling etc.
- Inserts with newest 3D helical cutting edge for reducing cutting force.

Kit Code	Kit Description	Cutter	Insert	Price (USD)
KIT1-EMP02-01-01	EMP02-2.00"-A0.75"-AP11-06-APMYB9320	EMP02-2.00"-A0.75"-AP11-06	APKT11T308-APM YB9320	\$169.02
KIT1-EMP02-01-02	EMP02-2.00"-A0.75"-AP11-06-ALHYD101	EMP02-2.00"-A0.75"-AP11-06	APKT11T308-ALH YD101	\$169.02
KIT1-EMP02-02-01	EMP02-2.50"-A0.75"-AP11-08-APMYB9320	EMP02-2.50"-A0.75"-AP11-08	APKT11T308-APM YB9320	\$195.15
KIT1-EMP02-02-02	EMP02-2.50"-A0.75"-AP11-08-ALHYD101	EMP02-2.50"-A0.75"-AP11-08	APKT11T308-ALH YD101	\$195.15
KIT1-EMP02-03-01	EMP02-3.00"-A1.00"-AP11-08-APMYB9320	EMP02-3.00"-A1.00"-AP11-08	APKT11T308-APM YB9320	\$205.73
KIT1-EMP02-03-02	EMP02-3.00"-A1.00"-AP11-08-ALHYD101	EMP02-3.00"-A1.00"-AP11-08	APKT11T308-ALH YD101	\$205.73
KIT1-EMP02-04-01	EMP02-4.00"-B1.25"-AP11-10-APMYB9320	EMP02-4.00"-B1.25"-AP11-10	APKT11T308-APM YB9320	\$240.32
KIT1-EMP02-04-02	EMP02-4.00"-B1.25"-AP11-10-ALHYD101	EMP02-4.00"-B1.25"-AP11-10	APKT11T308-ALH YD101	\$240.32
KIT1-EMP02-05-01	EMP02-2.00"-A0.75"-AP16-05-APMYB9320	EMP02-2.00"-A0.75"-AP16-05	APKT160408-APM YB9320	\$161.57
KIT1-EMP02-05-02	EMP02-2.00"-A0.75"-AP16-05-ALHYD101	EMP02-2.00"-A0.75"-AP16-05	APKT160408-ALH YD101	\$161.57
KIT1-EMP02-06-01	EMP02-2.50"-A0.75"-AP16-06-APMYB9320	EMP02-2.50"-A0.75"-AP16-06	APKT160408-APM YB9320	\$182.76
KIT1-EMP02-06-02	EMP02-2.50"-A0.75"-AP16-06-ALHYD101	EMP02-2.50"-A0.75"-AP16-06	APKT160408-ALH YD101	\$182.76
KIT1-EMP02-07-01	EMP02-3.00"-A1.00"-AP16-07-APMYB9320	EMP02-3.00"-A1.00"-AP16-07	APKT160408-APM YB9320	\$195.46
KIT1-EMP02-07-02	EMP02-3.00"-A1.00"-AP16-07-ALHYD101	EMP02-3.00"-A1.00"-AP16-07	APKT160408-ALH YD101	\$195.46
KIT1-EMP02-08-01	EMP02-4.00"-B1.25"-AP16-08-APMYB9320	EMP02-4.00"-B1.25"-AP16-08	APKT160408-APM YB9320	\$220.17
KIT1-EMP02-08-02	EMP02-4.00"-B1.25"-AP16-08-ALHYD101	EMP02-4.00"-B1.25"-AP16-08	APKT160408-ALH YD101	\$220.17

- Each kit price above includes 1 cutter and 10 inserts, wrench, grease and brochure.

- For more details, please refer to our catalog.



(D: Diameter)

### Square shoulder milling

#### Recommended cutting parameters

Workpiece material	Hardness HB	Insert grade	Cutting parameters			
			V(SFPM)	f(in/z)		a <sub>s</sub> (inch)
				-APF	-APM	
<b>P</b> Low-carbon steel, Soft steel	≤ 180	YB9320	1000(650-1300)	0.004(0.003-0.008)	0.008(0.004-0.012)	≤ 0.5D
	180-280	YB9320	900(600-1100)	0.004(0.003-0.008)	0.008(0.004-0.012)	≤ 0.5D
	280-350	YB9320	850(500-1100)	0.004(0.003-0.008)	0.008(0.004-0.012)	≤ 0.5D
<b>M</b> Stainless steel	≤ 270	YB9320	650(360-1000)	0.004(0.003-0.008)	0.008(0.004-0.012)	≤ 0.5D
<b>N</b> Aluminium alloy	---	YD101	1000-	-ALH		≤ 0.5D
		YD201	1000-	0.008(0.003-0.016)		≤ 0.5D

## EMP13 P K N



### Square Shoulder Milling Series

- Double negative rake angle tool body in combination with extra thick insert achieves double positive tool angle, which will help reduce cutting resistance and greatly improve impact resistance.
- Properly designed cutting edge with high precision control can achieve high quality 90 degree square shoulder milling.

Kit Code	Kit Description	Cutter	Insert	Price (USD)
KIT2-EMP13-01-01	EMP13-0.75"-XP0.75"-AN11-01C-GMYBM253	EMP13-0.75"-XP0.75"-AN11-01C	ANGX110508PNR-GM YBM253	\$129.51
KIT2-EMP13-01-02	EMP13-0.75"-XP0.75"-AN11-01C-GMYBD152	EMP13-0.75"-XP0.75"-AN11-01C	ANGX110508PNR-GM YBD152	\$129.51
KIT2-EMP13-01-03	EMP13-0.75"-XP0.75"-AN11-01C-GMYBG205	EMP13-0.75"-XP0.75"-AN11-01C	ANGX110508PNR-GM YBG205	\$129.51
KIT2-EMP13-01-04	EMP13-0.75"-XP0.75"-AN11-01C-LH YD101	EMP13-0.75"-XP0.75"-AN11-01C	ANGX110504PNR-LH YD101	\$129.51
KIT2-EMP13-02-01	EMP13-1.00"-G1.00"-AN11-02C-GMYBM253	EMP13-1.00"-G1.00"-AN11-02C	ANGX110508PNR-GM YBM253	\$129.51
KIT2-EMP13-02-02	EMP13-1.00"-G1.00"-AN11-02C-GM YBD152	EMP13-1.00"-G1.00"-AN11-02C	ANGX110508PNR-GM YBD152	\$129.51
KIT2-EMP13-02-03	EMP13-1.00"-G1.00"-AN11-02C-GMYBG205	EMP13-1.00"-G1.00"-AN11-02C	ANGX110508PNR-GM YBG205	\$129.51
KIT2-EMP13-02-04	EMP13-1.00"-G1.00"-AN11-02C-LH YD101	EMP13-1.00"-G1.00"-AN11-02C	ANGX110504PNR-LH YD101	\$129.51
KIT2-EMP13-03-01	EMP13-1.25"-XP1.25"-AN11-03C-GMYBM253	EMP13-1.25"-XP1.25"-AN11-03C	ANGX110508PNR-GM YBM253	\$157.75
KIT2-EMP13-03-02	EMP13-1.25"-XP1.25"-AN11-03C-GMYBD152	EMP13-1.25"-XP1.25"-AN11-03C	ANGX110508PNR-GM YBD152	\$157.75
KIT2-EMP13-03-03	EMP13-1.25"-XP1.25"-AN11-03C-GMYBG205	EMP13-1.25"-XP1.25"-AN11-03C	ANGX110508PNR-GM YBG205	\$157.75
KIT2-EMP13-03-04	EMP13-1.25"-XP1.25"-AN11-03C-LHYD101	EMP13-1.25"-XP1.25"-AN11-03C	ANGX110504PNR-LH YD101	\$157.75
KIT2-EMP13-04-01	EMP13-1.50"-G1.25"-AN11-04C-GMYBM253	EMP13-1.50"-G1.25"-AN11-04C	ANGX110508PNR-GM YBM253	\$207.17
KIT2-EMP13-04-02	EMP13-1.50"-G1.25"-AN11-04C-GMYBD152	EMP13-1.50"-G1.25"-AN11-04C	ANGX110508PNR-GM YBD152	\$207.17
KIT2-EMP13-04-03	EMP13-1.50"-G1.25"-AN11-04C-GMYBG205	EMP13-1.50"-G1.25"-AN11-04C	ANGX110508PNR-GM YBG205	\$207.17
KIT2-EMP13-04-04	EMP13-1.50"-G1.25"-AN11-04C-LHYD101	EMP13-1.50"-G1.25"-AN11-04C	ANGX110504PNR-LH YD101	\$207.17
KIT1-EMP13-05-01	EMP13-2.00"-A0.75"-AN11-06C-GMYBM253	EMP13-2.00"-A0.75"-AN11-06C	ANGX110508PNR-GM YBM253	\$258.69
KIT1-EMP13-05-02	EMP13-2.00"-A0.75"-AN11-06C-GMYBD152	EMP13-2.00"-A0.75"-AN11-06C	ANGX110508PNR-GM YBD152	\$258.69
KIT1-EMP13-05-03	EMP13-2.00"-A0.75"-AN11-06C-GMYBG205	EMP13-2.00"-A0.75"-AN11-06C	ANGX110508PNR-GM YBG205	\$258.69
KIT1-EMP13-05-04	EMP13-2.00"-A0.75"-AN11-06C-LHYD101	EMP13-2.00"-A0.75"-AN11-06C	ANGX110504PNR-LH YD101	\$258.69
KIT1-EMP13-06-01	EMP13-2.50"-A0.75"-AN11-07C-GMYBM253	EMP13-2.50"-A0.75"-AN11-07C	ANGX110508PNR-GM YBM253	\$291.88
KIT1-EMP13-06-02	EMP13-2.50"-A0.75"-AN11-07C-GMYBD152	EMP13-2.50"-A0.75"-AN11-07C	ANGX110508PNR-GM YBD152	\$291.88
KIT1-EMP13-06-03	EMP13-2.50"-A0.75"-AN11-07C-GMYBG205	EMP13-2.50"-A0.75"-AN11-07C	ANGX110508PNR-GM YBG205	\$291.88
KIT1-EMP13-06-04	EMP13-2.50"-A0.75"-AN11-07C-LH YD101	EMP13-2.50"-A0.75"-AN11-07C	ANGX110504PNR-LH YD101	\$291.88
KIT1-EMP13-07-01	EMP13-1.25"-XP1.25"-AN15-02C-GMYBM253	EMP13-1.25"-XP1.25"-AN15-02C	ANGX150608PNR-GM YBM253	\$138.85
KIT1-EMP13-07-02	EMP13-1.25"-XP1.25"-AN15-02C-GMYBD152	EMP13-1.25"-XP1.25"-AN15-02C	ANGX150608PNR-GM YBD152	\$138.85
KIT1-EMP13-07-03	EMP13-1.25"-XP1.25"-AN15-02C-GMYBG205	EMP13-1.25"-XP1.25"-AN15-02C	ANGX150608PNR-GM YBG205	\$138.85
KIT1-EMP13-07-04	EMP13-1.25"-XP1.25"-AN15-02C-LHYD101	EMP13-1.25"-XP1.25"-AN15-02C	ANGX150608PNR-LH YD101	\$138.85
KIT1-EMP13-08-01	EMP13-1.50"-XP1.25"-AN15-03C-GMYBM253	EMP13-1.50"-XP1.25"-AN15-03C	ANGX150608PNR-GM YBM253	\$167.09

Kit Code	Kit Description	Cutter	Insert	Price (USD)
KIT1-EMP13-08-02	EMP13-1.50"-XP1.25"-AN15-03C-GMYBD152	EMP13-1.50"-XP1.25"-AN15-03C	ANGX150608PNR-GM YBD152	\$167.09
KIT1-EMP13-08-03	EMP13-1.50"-XP1.25"-AN15-03C-GMYBG205	EMP13-1.50"-XP1.25"-AN15-03C	ANGX150608PNR-GM YBG205	\$167.09
KIT1-EMP13-08-04	EMP13-1.50"-XP1.25"-AN15-03C-LHYD101	EMP13-1.50"-XP1.25"-AN15-03C	ANGX150608PNR-LH YD101	\$167.09
KIT1-EMP13-09-01	EMP13-2.00"-A0.75"-AN15-04C-GMYBM253	EMP13-2.00"-A0.75"-AN15-04C	ANGX150608PNR-GM YBM253	\$216.51
KIT1-EMP13-09-02	EMP13-2.00"-A0.75"-AN15-04C-GMYBD152	EMP13-2.00"-A0.75"-AN15-04C	ANGX150608PNR-GM YBD152	\$216.51
KIT1-EMP13-09-03	EMP13-2.00"-A0.75"-AN15-04C-GMYBG205	EMP13-2.00"-A0.75"-AN15-04C	ANGX150608PNR-GM YBG205	\$216.51
KIT1-EMP13-09-04	EMP13-2.00"-A0.75"-AN15-04C-LHYD101	EMP13-2.00"-A0.75"-AN15-04C	ANGX150608PNR-LH YD101	\$216.51
KIT1-EMP13-10-01	EMP13-2.50"-A0.75"-AN15-05C-GMYBM253	EMP13-2.50"-A0.75"-AN15-05C	ANGX150608PNR-GM YBM253	\$239.11
KIT1-EMP13-10-02	EMP13-2.50"-A0.75"-AN15-05C-GMYBD152	EMP13-2.50"-A0.75"-AN15-05C	ANGX150608PNR-GM YBD152	\$239.11
KIT1-EMP13-10-03	EMP13-2.50"-A0.75"-AN15-05C-GMYBG205	EMP13-2.50"-A0.75"-AN15-05C	ANGX150608PNR-GM YBG205	\$239.11
KIT1-EMP13-10-04	EMP13-2.50"-A0.75"-AN15-05C-LHYD101	EMP13-2.50"-A0.75"-AN15-05C	ANGX150608PNR-LH YD101	\$239.11
KIT1-EMP13-11-01	EMP13-3.00"-A1.00"-AN15-06-GMYBM253	EMP13-3.00"-A1.00"-AN15-06C	ANGX150608PNR-GM YBM253	\$268.04
KIT1-EMP13-11-02	EMP13-3.00"-A1.00"-AN15-06C-GMYBD152	EMP13-3.00"-A1.00"-AN15-06C	ANGX150608PNR-GM YBD152	\$268.04
KIT1-EMP13-11-03	EMP13-3.00"-A1.00"-AN15-06C-GMYBG205	EMP13-3.00"-A1.00"-AN15-06C	ANGX150608PNR-GM YBG205	\$268.04
KIT1-EMP13-11-04	EMP13-3.00"-A1.00"-AN15-06C-LHYD101	EMP13-3.00"-A1.00"-AN15-06C	ANGX150608PNR-LH YD101	\$268.04
KIT1-EMP13-12-01	EMP13-4.00"-B1.50"-AN15-08-GMYBM253	EMP13-4.00"-B1.50"-AN15-08	ANGX150608PNR-GM YBM253	\$325.93
KIT1-EMP13-12-02	EMP13-4.00"-B1.50"-AN15-08-GMYBD152	EMP13-4.00"-B1.50"-AN15-08	ANGX150608PNR-GM YBD152	\$325.93
KIT1-EMP13-12-03	EMP13-4.00"-B1.50"-AN15-08-GMYBG205	EMP13-4.00"-B1.50"-AN15-08	ANGX150608PNR-GM YBG205	\$325.93
KIT1-EMP13-12-04	EMP13-4.00"-B1.50"-AN15-08-LHYD101	EMP13-4.00"-B1.50"-AN15-08	ANGX150608PNR-LH YD101	\$325.93

- Each kit price above includes 1 cutter and 10 inserts, wrench, grease and brochure.

- For more details, please refer to our catalog.

### Recommended cutting parameters

Workpiece material	Hardness HB	Grade	Cutting data			
			V(SFPM)	f(in/z)	a <sub>pmax</sub> (in)	
<b>P</b>	Low carbon steel	≤ 180	YBM253/YBG205/ YB9320	900(700-1100)	0.01(0.004-0.016)	0.441(AN11) 0.571(AN15)
	Alloy steel	180-350	YBM253/YBG205/ YB9320	800(600-1000)	0.01(0.004-0.016)	
<b>K</b>	Cast iron	180-260	YBD152/YBD252	880(500-1000) 700(400-1000)	0.01(0.004-0.016) 0.08(0.004-0.012)	
<b>N</b>	Aluminium alloy	--	YD101	-LH		
				1000-	0.008(0.003-0.016)	

## XMR01 P M K



### High Feed Milling Series

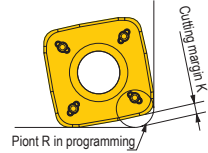
- Two mounting types: Straight shank and shell mill.
- Radial cutting force is reduced effectively to realize cutting with high feed rates.

Kit Code	Kit Description	Cutter	Insert	Price (USD)
KIT2-XMR01-01-01	XMR01-0.75"-G0.75"-SD06-02C-PMYBG205	XMR01-0.75"-G0.75"-SD06-02C	SDMT06T208-PM YBG205	\$105.90
KIT2-XMR01-01-02	XMR01-0.75"-G0.75"-SD06-02C-DMYBG202	XMR01-0.75"-G0.75"-SD06-02C	SDMT06T208-DM YBG202	\$105.90
KIT2-XMR01-02-01	XMR01-1.00"-G1.00"-SD06-03C-PMYBG205	XMR01-1.00"-G1.00"-SD06-03C	SDMT06T208-PM YBG205	\$140.97
KIT2-XMR01-02-02	XMR01-1.00"-G1.00"-SD06-03C-DMYBG202	XMR01-1.00"-G1.00"-SD06-03C	SDMT06T208-DM YBG202	\$140.97
KIT2-XMR01-03-01	XMR01-1.00"-G1.00"-SD09-02C(L=7.00")-DMYBG202	XMR01-1.00"-G1.00"-SD09-02C(L=7.00")	SDMT09T312-DM YBG202	\$124.97
KIT2-XMR01-03-02	XMR01-1.00"-G1.00"-SD09-02C(L=7.00")-PMYBM253	XMR01-1.00"-G1.00"-SD09-02C(L=7.00")	SDMT3(2.5)3-PM YBM253	\$124.97
KIT2-XMR01-04-01	XMR01-1.25"-G1.25"-SD09-03C-DMYBG202	XMR01-1.25"-G1.25"-SD09-03C	SDMT09T312-DM YBG202	\$122.85
KIT2-XMR01-04-02	XMR01-1.25"-G1.25"-SD09-03C-PMYBM253	XMR01-1.25"-G1.25"-SD09-03C	SDMT3(2.5)3-PM YBM253	\$122.85
KIT2-XMR01-05-01	XMR01-1.25"-G1.25"-SD12-02C-DMYBG302	XMR01-1.25"-G1.25"-SD12-02C	SDMT433-DM YBG302	\$113.03
KIT2-XMR01-05-02	XMR01-1.25"-G1.25"-SD12-02C-DMYBG202	XMR01-1.25"-G1.25"-SD12-02C	SDMT433-DM YBG202	\$113.03
KIT2-XMR01-05-03	XMR01-1.25"-G1.25"-SD12-02C-NMYBG212	XMR01-1.25"-G1.25"-SD12-02C	SDMT433-NM YBG212	\$113.03
KIT2-XMR01-06-01	XMR01-1.50"-G1.50"-SD12-03C-DMYBG302	XMR01-1.50"-G1.50"-SD12-03C	SDMT433-DM YBG302	\$134.21
KIT2-XMR01-06-02	XMR01-1.50"-G1.50"-SD12-03C-DMYBG202	XMR01-1.50"-G1.50"-SD12-03C	SDMT433-DM YBG202	\$134.21
KIT2-XMR01-06-03	XMR01-1.50"-G1.50"-SD12-03C-NMYBG212	XMR01-1.50"-G1.50"-SD12-03C	SDMT433-NM YBG212	\$134.21
KIT1-XMR01-07-01	XMR01-2.00"-A0.75"-SD09-04-DMYBG302	XMR01-2.00"-A0.75"-SD09-04	SDMT3(2.5)3-DM YBG302	\$144.81
KIT1-XMR01-07-02	XMR01-2.00"-A0.75"-SD09-04-DMYBG202	XMR01-2.00"-A0.75"-SD09-04	SDMT3(2.5)3-DM YBG202	\$144.81
KIT1-XMR01-07-03	XMR01-2.00"-A0.75"-SD09-04-NMYBG212	XMR01-2.00"-A0.75"-SD09-04	SDMT3(2.5)3-NM YBG212	\$144.81
KIT1-XMR01-08-01	XMR01-2.00"-A0.75"-SD12-05 (L=2.00")-DMYBG302	XMR01-2.00"-A0.75"-SD12-05 (L=2.00")	SDMT433-DM YBG302	\$189.27
KIT1-XMR01-08-02	XMR01-2.00"-A0.75"-SD12-05 (L=2.00")-DMYBG202	XMR01-2.00"-A0.75"-SD12-05 (L=2.00")	SDMT433-DM YBG202	\$189.27
KIT1-XMR01-08-03	XMR01-2.00"-A0.75"-SD12-05 (L=2.00")-NMYBG212	XMR01-2.00"-A0.75"-SD12-05 (L=2.00")	SDMT433-NM YBG212	\$189.27
KIT1-XMR01-09-01	XMR01-2.50"-A1.00"-SD12-05C-DMYBG302	XMR01-2.50"-A1.00"-SD12-05C	SDMT433-DM YBG302	\$165.98
KIT1-XMR01-09-02	XMR01-2.50"-A1.00"-SD12-05C-DMYBG202	XMR01-2.50"-A1.00"-SD12-05C	SDMT433-DM YBG202	\$165.98
KIT1-XMR01-09-03	XMR01-2.50"-A1.00"-SD12-05C-NMYBG212	XMR01-2.50"-A1.00"-SD12-05C	SDMT433-NM YBG212	\$165.98
KIT1-XMR01-10-01	XMR01-3.00"-A1.00"-SD12-07-DMYBG302	XMR01-3.00"-A1.00"-SD12-07	SDMT433-DM YBG302	\$245.76
KIT1-XMR01-10-02	XMR01-3.00"-A1.00"-SD12-07-DMYBG202	XMR01-3.00"-A1.00"-SD12-07	SDMT433-DM YBG202	\$245.76
KIT1-XMR01-10-03	XMR01-3.00"-A1.00"-SD12-07-NMYBG212	XMR01-3.00"-A1.00"-SD12-07	SDMT433-NM YBG212	\$245.76
KIT1-XMR01-11-01	XMR01-4.00"-A1.25"-SD12-09-DMYBG302	XMR01-4.00"-A1.25"-SD12-09	SDMT433-DM YBG302	\$302.23
KIT1-XMR01-11-02	XMR01-4.00"-A1.25"-SD12-09-DMYBG202	XMR01-4.00"-A1.25"-SD12-09	SDMT433-DM YBG202	\$302.23
KIT1-XMR01-11-03	XMR01-4.00"-A1.25"-SD12-09-NMYBG212	XMR01-4.00"-A1.25"-SD12-09	SDMT433-NM YBG212	\$302.23

- Each kit price above includes 1 cutter and 10 inserts, wrench, grease and brochure.
- For more details, please refer to our catalog.

## Approximate R in machining program

Applicable insert	Approximate R(mm)	Cutting margin K(mm)
SDMT06T208-DM-/PM-/NM	1.6	0.5
SDMT09T312-DM-/PM-/NM	2.5	0.87
SDMT120412-DM-/PM-/NM	4.0	0.93
SDMT150520-DM-/PM-/NM	4.0	1.38



## Recommended cutting parameters

Workpiece material	Hardness HB	Insert grade	Cutting speed (SFPM)	Ø0.75/Ø1.00		Ø1.50/ Ø1.25		Ø2.00/2.50		Ø3.00/4.00/5.00/6.00	
				Axial cutting depth	Feed rate per tooth	Axial cutting depth	Feed rate per tooth	Axial cutting depth	Feed rate per tooth	Axial cutting depth	Feed rate per tooth
P	Soft steel Carbon steel	≤HB180 HB180-280	YBG202 550 (400-700)	0.024-0.04	0.032-0.048	0.032-0.048	0.04-0.056	0.043-0.06	0.043-0.06	0.04-0.06	0.04-0.06
			YBM253 YBM351 YBC302 500 (300-650)								
	Alloy steel Alloy tool steel	HB280-350 ≤HB350	YBG202 450 (300-650)	0.016-0.032	0.032-0.048	0.024-0.04	0.04-0.056	0.035-0.051	0.43-0.06	0.032-0.051	0.04-0.06
			YBM253 YBM351 YBC302 400 (260-600)								
	Pre-hardened steel	≤HRC35	YBG202 450 (300-600)	0.016-0.032	0.024-0.04	0.024-0.04	0.032-0.048	0.035-0.051	0.035-0.051	0.032-0.051	0.032-0.051
			YBM253 YBM351 YBC302 400 (260-500)								
M	Stainless steel	≤HB270	YBM253 YBM351 400 (260-500)	0.024-0.04	0.024-0.04	0.032-0.048	0.032-0.048	0.043-0.06	0.035-0.051	0.04-0.06	0.032-0.051
			YBG202 YBG205 400 (260-600)								
K	Common cast iron	Tensile strength ≤350MPa	YBG202 YBG302 500 (300-650)	0.024-0.04	0.04-0.056	0.032-0.048	0.048-0.064	0.043-0.06	0.051-0.067	0.04-0.06	0.048-0.067
			YBG202 YBG302 400 (260-500)								
K	Nodular cast iron	Tensile strength ≤800MPa	YBG202 YBG302 400 (260-500)	0.016-0.032	0.032-0.048	0.024-0.04	0.04-0.056	0.035-0.051	0.043-0.06	0.032-0.051	0.04-0.06
			YBG202 YBG302 400 (260-500)								
S	High-temperature alloy	≤400	YBG212 150(60-200)	0.016-0.031	0.004-0.010	0.02-0.035	0.005-0.016	0.03-0.047	0.006-0.016	0.03-0.05	0.005-0.02

## ZTD03



### 3xD Short Hole Drills.

- High Torque capability bodies. Large flute gullets for free chip evacuation.
- Insert position reduces vibrations for improved hole tolerance and finish.

Kit Code	Kit Description	Cutter	Insert	Price (USD)
KIT2-ZTD03-01-01	ZTD03-0.500"-XP0.75"-SP05-02-PM	ZTD03-0.500"-XP0.75"-SP05-02	SPGT050204-PM YBG205 SPGT050204-PM YBG212	\$226.41
KIT2-ZTD03-01-02	ZTD03-0.500"-XP0.75"-SP05-02-EM	ZTD03-0.500"-XP0.75"-SP05-02	SPGT050204-EM YBG205 SPGT050204-EM YBG212	\$226.41
KIT2-ZTD03-02-01	ZTD03-0.626"-XP0.75"-SP05-02-PM	ZTD03-0.626"-XP0.75"-SP05-02	SPGT050204-PM YBG205 SPGT050204-PM YBG212	\$226.41
KIT2-ZTD03-02-02	ZTD03-0.626"-XP0.75"-SP05-02-EM	ZTD03-0.626"-XP0.75"-SP05-02	SPGT050204-EM YBG205 SPGT050204-EM YBG212	\$226.41
KIT2-ZTD03-03-01	ZTD03-0.75"-XP1.00"-SP06-02-PM	ZTD03-0.75"-XP1.00"-SP06-02	SPGT060204-PM YBG205 SPGT060204-PM YBG212	\$234.23
KIT2-ZTD03-03-02	ZTD03-0.75"-XP1.00"-SP06-02-EM	ZTD03-0.75"-XP1.00"-SP06-02	SPGT060204-EM YBG205 SPGT060204-EM YBG212	\$234.23
KIT2-ZTD03-04-01	ZTD03-0.875"-XP1.00"-SP07-02-PM	ZTD03-0.875"-XP1.00"-SP07-02	SPGT07T308-PM YBG205 SPGT07T308-PM YBG212	\$245.25
KIT2-ZTD03-04-02	ZTD03-0.875"-XP1.00"-SP07-02-EM	ZTD03-0.875"-XP1.00"-SP07-02	SPGT07T308-EM YBG205 SPGT07T308-EM YBG212	\$245.25
KIT2-ZTD03-05-01	ZTD03-1.00"-XP1.00"-SP07-02-PM	ZTD03-1.00"-XP1.00"-SP07-02	SPGT07T308-PM YBG205 SPGT07T308-PM YBG212	\$245.25
KIT2-ZTD03-05-02	ZTD03-1.00"-XP1.00"-SP07-02-EM	ZTD03-1.00"-XP1.00"-SP07-02	SPGT07T308-EM YBG205 SPGT07T308-EM YBG212	\$245.25
KIT2-ZTD03-06-01	ZTD03-1.25"-XP1.25"-SP09-02-PM	ZTD03-1.25"-XP1.25"-SP09-02	SPGT090408-PM YBG205 SPGT090408-PM YBG212	\$290.78
KIT2-ZTD03-06-02	ZTD03-1.25"-XP1.25"-SP09-02-EM	ZTD03-1.25"-XP1.25"-SP09-02	SPGT090408-EM YBG205 SPGT090408-EM YBG212	\$290.78
KIT2-ZTD03-07-01	ZTD03-1.375"-XP1.50"-SP11-02-PM	ZTD03-1.375"-XP1.50"-SP11-02	SPGT110408-PM YBG205 SPGT110408-PM YBG212	\$307.66
KIT2-ZTD03-07-02	ZTD03-1.375"-XP1.50"-SP11-02-EM	ZTD03-1.375"-XP1.50"-SP11-02	SPGT110408-EM YBG205 SPGT110408-EM YBG212	\$307.66
KIT2-ZTD03-08-01	ZTD03-1.500"-XP1.50"-SP11-02-PM	ZTD03-1.500"-XP1.50"-SP11-02	SPGT110408-PM YBG205 SPGT110408-PM YBG212	\$318.54
KIT2-ZTD03-08-02	ZTD03-1.500"-XP1.50"-SP11-02-EM	ZTD03-1.500"-XP1.50"-SP11-02	SPGT110408-EM YBG205 SPGT110408-EM YBG212	\$318.54
KIT2-ZTD03-09-01	ZTD03-1.625"-XP1.50"-SP11-02-PM	ZTD03-1.625"-XP1.50"-SP11-02	SPGT110408-PM YBG205 SPGT110408-PM YBG212	\$353.13
KIT2-ZTD03-09-02	ZTD03-1.625"-XP1.50"-SP11-02-EM	ZTD03-1.625"-XP1.50"-SP11-02	SPGT110408-EM YBG205 SPGT110408-EM YBG212	\$353.13

-Each kit price above includes 1 drill body and 20 inserts, wrench, grease and brochure.

-YBG205 grade is suggested for peripheral insert, while YBG212 is for inner insert.

-PM chip breaker is recommended for machining ISO P&K, EM chip breaker is for ISO M&N.

-For more details, please refer to our catalog.

## ● Recommended cutting parameters for ZTD drills

ISO	Materials	Hardness HB	Diameter Dc(inch)	Feed rate fn(in/r)	Cutting speed Vc (SFPM)
<b>P</b>	Carbon steel	80-200	0.500-0.906 0.938-1.187 1.219-1.500 1.531-1.813 1.875-2.000	0.002-0.004 0.002-0.004 0.002-0.004 0.003-0.004 0.003-0.005	650(550-800)
	Low alloy steel	150-260	0.500-0.906 0.938-1.187 1.219-1.500 1.531-1.813 1.875-2.000	0.002-0.004 0.002-0.005 0.002-0.006 0.003-0.006 0.004-0.008	550(450-700)
	High alloy steel	150-320	0.500-0.906 0.938-1.187 1.219-1.500 1.531-1.813 1.875-2.000	0.002-0.004 0.002-0.005 0.002-0.006 0.003-0.007 0.004-0.009	500(400-600)
	Cast steel	180-250	0.500-0.906 0.938-1.187 1.219-1.500 1.531-1.813 1.875-2.000	0.002-0.003 0.002-0.003 0.002-0.004 0.003-0.004 0.003-0.005	450(400-550)
<b>M</b>	Stainless steel Ferrite Martensite	150-270	0.500-0.906 0.938-1.187 1.219-1.500 1.531-1.813 1.875-2.000	0.002-0.004 0.002-0.005 0.002-0.006 0.003-0.007 0.004-0.009	500(360-750)
	Austenite	150-275	0.500-0.906 0.938-1.187 1.219-1.500 1.531-1.813 1.875-2.000	0.002-0.004 0.002-0.004 0.002-0.005 0.003-0.006 0.004-0.006	450(360-700)
<b>K</b>	Malleable cast iron	150-230	0.500-0.906 0.938-1.187 1.219-1.500 1.531-1.813 1.875-2.000	0.002-0.004 0.002-0.006 0.003-0.006 0.004-0.008 0.005-0.009	500(400-700)
	Gray cast iron	150-220	0.500-0.906 0.938-1.187 1.219-1.500 1.531-1.813 1.875-2.000	0.002-0.004 0.002-0.006 0.003-0.006 0.004-0.008 0.005-0.009	650(550-800)
	Nodular cast iron	160-250	0.500-0.906 0.938-1.187 1.219-1.500 1.531-1.813 1.875-2.000	0.002-0.004 0.002-0.005 0.002-0.006 0.003-0.006 0.004-0.008	500(400-650)
<b>N</b>	Non ferrous metral	60-110	0.500-0.906 0.938-1.187 1.219-1.500 1.531-1.813 1.875-2.000	0.002-0.004 0.002-0.006 0.003-0.006 0.004-0.008 0.005-0.009	1000(800-1150)

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