



Mingtaishun Carbide Co.,Ltd  
**铭泰顺硬质合金有限公司**



刀具专业制造工厂家，您值得信赖！

## **C**公司简介 **Company Introduction**

铭泰顺硬质合金有限公司公司成立于 2012 年，是一家集生产和销售于一体的高新技术企业。主要产品有硬质合金粉末、圆棒、切削刀具等。

经过多年的发展，公司现已拥有一支自强不息，经验丰富的团队，拥有一流的工艺技术、生产设备和检测仪器，其系列产品受到国内外客户的好评。

公司大力弘扬精益求精、追求卓越的企业文化，秉承客户至上、服务至上的经营理念，力求为客户提供优质、性价比更高的产品。

Mingtaishun Carbide Co.,Ltd was founded in 2012,and is a high-tech enterprise. Mingtaishun specializes in the manufacture and sales of various types of tungsten powder, tungsten round rods and carbide cutting tools.

Mingtaishun has built a self-improvement, rich experience team, and continuously persues advanced technologies, high-level manufacturing equipment and quality testing facilities. Mingtaishun products are popular among customers.

Based on the culture of perfection and excellence, Mingtaishun is sincere and loyal to our customers and partners, and focus on superb quality and excellent service.

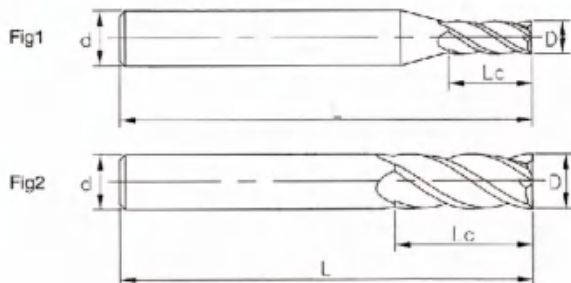
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## 65 度平底 4 刃钨钢铣刀

HRC 65 deg Tungsten Steel 4 Flute Square End Mills



### • 棒料

采用金鹭 GU25UF 料，具有高强度和高韧性

Raw Material: Use Golden Egret GU25UF, high hardness and high toughness.

### • 涂层

AlTiSiN, 纳米技术涂层，硬度高达 4000HV，热稳定性达 1200℃

Coating: Use nano-tech, the hardness and thermal stability are up to 4000HV and 1200℃, respectively.

### • 铣刀直径精度公差

Tolerance of End Mill Diameter

1 < D ≤ 6    -0.010 ~ -0.030  
6 < D ≤ 10   -0.015 ~ -0.040  
10 < D ≤ 20 -0.020 ~ -0.050

### • 刃数

4 刃，刚性高，广泛用于浅槽、侧铣和精加工

Flutes: 4 flutes, high rigidity, widely used in shallow slot, profile milling, and finish machining.

### • 一般切削参数

Cutting Parameters

切削速度  $v_c=130$  (120-180)m/min  
切深  $a_p=1/3D(1/8-1/2D)$   
切宽  $a_e=1/2D(1/4-1D)$   
单刃进给  $f_z=0.15\text{mm}(0.02-0.2)$

按照被加工材料的不同材质和硬度，切削参数做适当的调整。

Please adjust the parameters according to the material and hardness of workpieces.

### • 螺旋角度

35 度，对被加工材料的材质和硬度适应性强，广泛应用于模具和产品加工，有较高的性价比

Helix Angle: 35 deg, high adaptability to the material and hardness of workpieces, widely used to mold and product processing and cost efficient.

工件材料 Workpiece Material

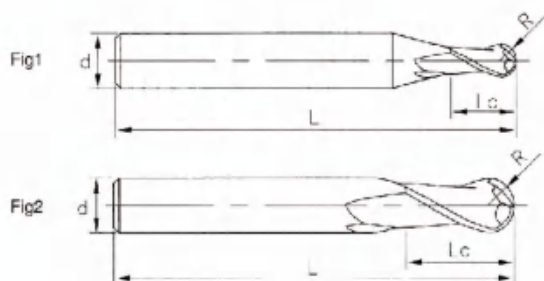
碳钢	合金钢	铸铁	铝合金	铜合金	不锈钢	高硬钢
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y			Y	Y

Y 适合 Suitable

型号 Cat.No	规格 Specifications				刃数 Flutes	图号 Figure No.
	刃径 D	刃长 Lc	柄径 d	总长 L		
MTS-3*8*3*50-4F	3	8	3	50	4	2
MTS-3*12*3*75-4F	3	12	3	75	4	2
MTS-3*12*3*100-4F	3	12	3	100	4	2
MTS-1*3*4*50-4F	1	3	4	50	4	1
MTS-1.5*4*4*50-4F	1.5	4	4	50	4	1
MTS-2*5*4*50-4F	2	5	4	50	4	1
MTS-2.5*7*4*50-4F	2.5	7	4	50	4	1
MTS-3*8*4*50-4F	3	8	4	50	4	1
MTS-3.5*10*4*50-4F	3.5	10	4	50	4	1
MTS-4*10*4*50-4F	4	10	4	50	4	2
MTS-4*20*4*75-4F	4	20	4	75	4	2
MTS-4*25*4*100-4F	4	25	4	100	4	2
MTS-5*13*5*50-4F	5	13	5	50	4	2
MTS-5*20*5*75-4F	5	20	5	75	4	2
MTS-5*25*5*100-4F	5	25	5	100	4	2
MTS-2.5*7*6*50-4F	2.5	7	6	50	4	1
MTS-3*8*6*50-4F	3	8	6	50	4	1
MTS-3.5*10*6*50-4F	3.5	10	6	50	4	1
MTS-4*10*6*50-4F	4	10	6	50	4	1
MTS-4.5*12*6*50-4F	4.5	12	6	50	4	1
MTS-5*13*6*50-4F	5	13	6	50	4	1
MTS-6*15*6*50-4F	6	15	6	50	4	2
MTS-6*20*6*75-4F	6	20	6	75	4	2
MTS-6*30*6*100-4F	6	30	6	100	4	2
MTS-6*40*6*150-4F	6	40	6	150	4	2
MTS-7*18*8*60-4F	7	18	8	60	4	1
MTS-8*20*8*60-4F	8	20	8	60	4	2
MTS-8*25*8*75-4F	8	25	8	75	4	2
MTS-8*35*8*100-4F	8	35	8	100	4	2
MTS-8*50*8*150-4F	8	50	8	150	4	2
MTS-9*23*10*75-4F	9	23	10	75	4	1
MTS-10*25*10*75-4F	10	25	10	75	4	2
MTS-10*40*10*100-4F	10	40	10	100	4	2
MTS-10*50*10*150-4F	10	50	10	150	4	2
MTS-11*28*12*75-4F	11	28	12	75	4	1
MTS-12*30*12*75-4F	12	30	12	75	4	2
MTS-12*45*12*100-4F	12	45	12	100	4	2
MTS-12*55*12*150-4F	12	55	12	150	4	2
MTS-14*35*14*80-4F	14	35	14	80	4	2
MTS-14*45*14*100-4F	14	45	14	100	4	2
MTS-14*60*14*150-4F	14	60	14	150	4	2
MTS-16*45*16*100-4F	16	45	16	100	4	2
MTS-16*60*16*150-4F	16	60	16	150	4	2
MTS-18*45*18*100-4F	18	45	18	100	4	2
MTS-18*60*18*150-4F	18	60	18	150	4	2
MTS-20*45*20*100-4F	20	45	20	100	4	2
MTS-20*60*20*150-4F	20	60	20	150	4	2

## 65 度 2 刃钨钢球头铣刀

HRC 65 deg Tungsten Steel 2 Flute Ball Nose End Mills



螺旋角度  
Helix Angle  
30

HRC  
65

涂层  
Coating  
AlTiSiN



### • 棒料

采用金鹭 GU25UF 料，具有高强度和高韧性

Raw Material: Use Golden Egret GU25UF, high hardness and high toughness.

### • 涂层

AlTiSiN, 纳米技术涂层，硬度高达 4000HV，热稳定性达 1200℃

Coating: Use nano-tech, the hardness and thermal stability are up to 4000HV and 1200℃, respectively.

### • 铣刀直径精度公差

Tolerance of End Mill Diameter

1 < D ≤ 6 -0.010 ~ -0.030  
6 < D ≤ 10 -0.015 ~ -0.040  
10 < D ≤ 20 -0.020 ~ -0.050

### • 产品设计

双刃带设计，有效提高刃带刚性和工件表面光洁度；刃口过中心，有效减少切削阻力；大容量排屑槽，方便顺畅排屑，提高加工效率；二刃设计，广泛应用于沟槽，孔加工

Double-edge design improves rigidity and surface finish effectively. Cutting edge over the center reduces the cutting resistance. High capacity of junk slot benefits chip removal and increases machining efficiency. 2 flutes design is good for chip removal, easy for vertical feed processing, widely used in slot and hole processing.

### • 一般切削参数

Cutting Parameters

切削速度  $v_c=130$  (120-180)m/min

切深  $a_p=1/3D(1/8-1/2D)$

单刃进给  $f_z=0.15\text{mm}(0.02-0.2)$

按照被加工材料的不同材质和硬度，切削参数做适当的调整。

Please adjust the parameters according to the material and hardness of workpieces.

工件材料 Workpiece Material

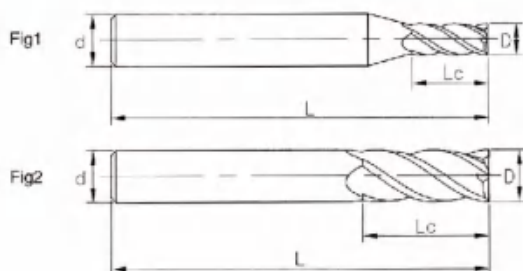
碳钢	合金钢	铸铁	铝合金	铜合金	不锈钢	高硬钢
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y			Y	Y

Y 适合 Suitable

型号 Cat.No	规格 Specifications				刃数 Flutes	图号 Figure No.
	刃半径 R	刃长 Lc	柄径 d	总长 L		
MTS-R1.5*6*3*50-2F	1.5	6	3	50	2	2
MTS-R1.5*6*3*75-2F	1.5	6	3	75	2	2
MTS-R1.5*6*3*100-2F	1.5	6	3	100	2	2
MTS-R0.5*2*4*50-2F	0.5	2	4	50	2	1
MTS-R0.75*3*4*50-2F	0.75	3	4	50	2	1
MTS-R1*4*4*50-2F	1	4	4	50	2	1
MTS-R1.25*5*4*50-2F	1.25	5	4	50	2	1
MTS-R1.5*6*4*50-2F	1.5	6	4	50	2	1
MTS-R1.75*7*4*50-2F	1.75	7	4	50	2	1
MTS-R2*8*4*50-2F	2	8	4	50	2	2
MTS-R2*8*4*75-2F	2	8	4	75	2	2
MTS-R2*8*4*100-2F	2	8	4	100	2	2
MTS-R2.5*10*5*50-2F	2.5	10	5	50	2	2
MTS-R2.5*10*5*75-2F	2.5	10	5	75	2	2
MTS-R2.5*10*5*100-2F	2.5	10	5	100	2	2
MTS-R2.5*10*6*50-2F	2.5	10	6	50	2	1
MTS-R3*12*6*50-2F	3	12	6	50	2	2
MTS-R3*12*6*75-2F	3	12	6	75	2	2
MTS-R3*12*6*100-2F	3	12	6	100	2	2
MTS-R3*12*6*150-2F	3	12	6	150	2	2
MTS-R3.5*16*8*60-2F	3.5	16	8	60	2	1
MTS-R4*16*8*60-2F	4	16	8	60	2	2
MTS-R4*16*8*75-2F	4	16	8	75	2	2
MTS-R4*16*8*100-2F	4	16	8	100	2	2
MTS-R4*20*8*150-2F	4	20	8	150	2	2
MTS-R4.5*18*10*75-2F	4.5	18	10	75	2	1
MTS-R5*20*10*75-2F	5	20	10	75	2	2
MTS-R5*20*10*100-2F	5	20	10	100	2	2
MTS-R5*30*10*150-2F	5	30	10	150	2	2
MTS-R5.5*24*12*75-2F	5.5	24	12	75	2	1
MTS-R6*24*12*75-2F	6	24	12	75	2	2
MTS-R6*24*12*100-2F	6	24	12	100	2	2
MTS-R6*36*12*150-2F	6	36	12	150	2	2
MTS-R7*28*14*100-2F	7	28	14	100	2	2
MTS-R7*40*14*150-2F	7	40	14	150	2	2
MTS-R8*32*16*100-2F	8	32	16	100	2	2
MTS-R8*50*16*150-2F	8	50	16	150	2	2
MTS-R9*36*18*100-2F	9	36	18	100	2	2
MTS-R9*50*18*150-2F	9	50	18	150	2	2
MTS-R10*40*20*100-2F	10	40	20	100	2	2
MTS-R10*50*20*150-2F	10	50	20	150	2	2

## 55 度平底 4 刃钨钢铣刀

HRC 55 deg Tungsten Steel 4 Flute Square End Mills



### • 棒料

采用自贡 ZK30UF 料，具有高硬度和良好的耐磨度

Raw Material: Use Zigong ZK30UF, high hardness and good wear resistance.

### • 涂层

TiSiN, 含硅，具有极高的表面硬度和极高的热阻

Coating: TiSiN, containing silica, very high surface hardness and high thermal resistance.

### • 铣刀直径精度公差

Tolerance of End Mill Diameter

$1 < D \leq 6$  -0.010~ -0.030

$6 < D \leq 10$  -0.015~ -0.040

$10 < D \leq 20$  -0.020~ -0.050

### • 刃数

4 刃，刚性高，广泛用于浅槽、侧铣和精加工

Flutes: 4 flutes, high rigidity, widely used in shallow slot, profile milling, and finish machining.

### • 一般切削参数

Cutting Parameters

切削速度  $v_c=150$  (120-180)m/min

切深  $a_p=1/3D(1/8-1/2D)$

切宽  $a_e=1/2D(1/4-1D)$

单刃进给  $f_z=0.15\text{mm}(0.02-0.2)$

按照被加工材料的不同材质和硬度，切削参数做适当的调整。

Please adjust the parameters according to the material and hardness of workpieces.

### • 螺旋角度

35 度，对被加工材料的材质和硬度适应性强，广泛应用于模具和产品加工，有较高的性价比

Helix Angle: 35 deg, high adaptability to the material and hardness of workpieces, widely used to mold and product processing and cost efficient.

工件材料 Workpiece Material

碳钢	合金钢	铸铁	铝合金	铜合金	不锈钢	高硬钢
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y				Y

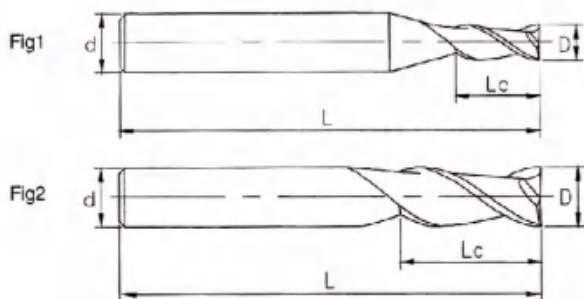
Y 适合 Suitable



型号 Cat.No	规格 Specifications				刃数 Flutes	图号 Figure No.
	刃径 D	刃长 Lc	柄径 d	总长 L		
MTS-3*8*3*50-4F	3	8	3	50	4	2
MTS-3*12*3*75-4F	3	12	3	75	4	2
MTS-3*12*3*100-4F	3	12	3	100	4	2
MTS-1*3*4*50-4F	1	3	4	50	4	1
MTS-1.5*4*4*50-4F	1.5	4	4	50	4	1
MTS-2*5*4*50-4F	2	5	4	50	4	1
MTS-2.5*7*4*50-4F	2.5	7	4	50	4	1
MTS-3*8*4*50-4F	3	8	4	50	4	1
MTS-3.5*10*4*50-4F	3.5	10	4	50	4	1
MTS-4*10*4*50-4F	4	10	4	50	4	2
MTS-4*20*4*75-4F	4	20	4	75	4	2
MTS-4*25*4*100-4F	4	25	4	100	4	2
MTS-5*13*5*50-4F	5	13	5	50	4	2
MTS-5*20*5*75-4F	5	20	5	75	4	2
MTS-5*25*5*100-4F	5	25	5	100	4	2
MTS-2.5*7*6*50-4F	2.5	7	6	50	4	1
MTS-3*8*6*50-4F	3	8	6	50	4	1
MTS-3.5*10*6*50-4F	3.5	10	6	50	4	1
MTS-4*10*6*50-4F	4	10	6	50	4	1
MTS-4.5*12*6*50-4F	4.5	12	6	50	4	1
MTS-5*13*6*50-4F	5	13	6	50	4	1
MTS-6*15*6*50-4F	6	15	6	50	4	2
MTS-6*20*6*75-4F	6	20	6	75	4	2
MTS-6*30*6*100-4F	6	30	6	100	4	2
MTS-6*40*6*150-4F	6	40	6	150	4	2
MTS-7*18*8*60-4F	7	18	8	60	4	1
MTS-8*20*8*60-4F	8	20	8	60	4	2
MTS-8*25*8*75-4F	8	25	8	75	4	2
MTS-8*35*8*100-4F	8	35	8	100	4	2
MTS-8*50*8*150-4F	8	50	8	150	4	2
MTS-9*23*10*75-4F	9	23	10	75	4	1
MTS-10*25*10*75-4F	10	25	10	75	4	2
MTS-10*40*10*100-4F	10	40	10	100	4	2
MTS-10*50*10*150-4F	10	50	10	150	4	2
MTS-11*28*12*75-4F	11	28	12	75	4	1
MTS-12*30*12*75-4F	12	30	12	75	4	2
MTS-12*45*12*100-4F	12	45	12	100	4	2
MTS-12*55*12*150-4F	12	55	12	150	4	2
MTS-14*35*14*80-4F	14	35	14	80	4	2
MTS-14*45*14*100-4F	14	45	14	100	4	2
MTS-14*60*14*150-4F	14	60	14	150	4	2
MTS-16*45*16*100-4F	16	45	16	100	4	2
MTS-16*60*16*150-4F	16	60	16	150	4	2
MTS-18*45*18*100-4F	18	45	18	100	4	2
MTS-18*60*18*150-4F	18	60	18	150	4	2
MTS-20*45*20*100-4F	20	45	20	100	4	2
MTS-20*60*20*150-4F	20	60	20	150	4	2

## 55 度平底 2 刃钨钢铣刀

HRC 55 deg Tungsten Steel 2 Flute Square End Mills



### • 棒料

采用自贡 ZK30UF 料，具有高硬度和良好的耐磨度

Raw Material: Use Zigong ZK30UF, high hardness and good wear resistance.

### • 铣刀直径精度公差

Tolerance of End Mill Diameter

1 < D ≤ 6    -0.010 ~ -0.030  
6 < D ≤ 10   -0.015 ~ -0.040  
10 < D ≤ 20 -0.020 ~ -0.050

### • 一般切削参数

Cutting Parameters

切削速度  $v_c=130$  (120-180)m/min  
切深  $a_p=1/3D(1/8-1/2D)$   
切宽  $a_e=1/2D(1/4-1D)$   
单刃进给  $f_z=0.15\text{mm}(0.02-0.2)$

按照被加工材料的不同材质和硬度，切削参数做适当的调整。

Please adjust the parameters according to the material and hardness of workpieces.

### • 涂层

TiSiN, 含硅，具有极高的表面硬度和极高的热阻

Coating: TiSiN, containing silica, very high surface hardness and high thermal resistance.

### • 刃数

2 刃排削顺畅，纵向进给加工容易，广泛用于切槽和孔加工

Flutes: 2 flutes, good for chip removal, easy for vertical feed processing, widely used in slot and hole processing

### • 螺旋角度

35 度，对被加工材料的材质和硬度适应性强，广泛应用于模具和产品加工，有较高的性价比

Helix Angle: 35 deg, high adaptability to the material and hardness of workpieces, widely used to mold and product processing and cost efficient.

工件材料 Workpiece Material

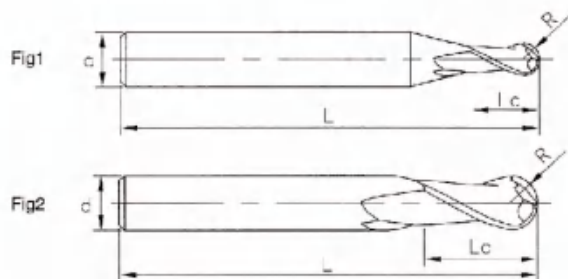
碳钢	合金钢	铸铁	铝合金	铜合金	不锈钢	高硬钢
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y				Y

Y 适合 Suitable

型号 Cat.No	规格 Specifications				刃数 Flutes	图号 Figure No.
	刃径 D	刃长 Lc	柄径 d	总长 L		
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MTS-3*12*3*75-2F	3	12	3	75	2	2
MTS-3*12*3*100-2F	3	12	3	100	2	2
MTS-1*3*4*50-2F	1	3	4	50	2	1
MTS-1.5*4*4*50-2F	1.5	4	4	50	2	1
MTS-2*5*4*50-2F	2	5	4	50	2	1
MTS-2.5*7*4*50-2F	2.5	7	4	50	2	1
MTS-3*8*4*50-2F	3	8	4	50	2	1
MTS-3.5*10*4*50-2F	3.5	10	4	50	2	1
MTS-4*10*4*50-2F	4	10	4	50	2	2
MTS-4*20*4*75-2F	4	20	4	75	2	2
MTS-4*25*4*100-2F	4	25	4	100	2	2
MTS-5*13*5*50-2F	5	13	5	50	2	2
MTS-5*20*5*75-2F	5	20	5	75	2	2
MTS-5*25*5*100-2F	5	25	5	100	2	2
MTS-2.5*7*6*50-2F	2.5	7	6	50	2	1
MTS-3*8*6*50-2F	3	8	6	50	2	1
MTS-3.5*10*6*50-2F	3.5	10	6	50	2	1
MTS-4*10*6*50-2F	4	10	6	50	2	1
MTS-4.5*12*6*50-2F	4.5	12	6	50	2	1
MTS-5*13*6*50-2F	5	13	6	50	2	1
MTS-6*15*6*50-2F	6	15	6	50	2	2
MTS-6*20*6*75-2F	6	20	6	75	2	2
MTS-6*30*6*100-2F	6	30	6	100	2	2
MTS-6*40*6*150-2F	6	40	6	150	2	2
MTS-7*18*8*60-2F	7	18	8	60	2	1
MTS-8*20*8*60-2F	8	20	8	60	2	2
MTS-8*25*8*75-2F	8	25	8	75	2	2
MTS-8*35*8*100-2F	8	35	8	100	2	2
MTS-8*50*8*150-2F	8	50	8	150	2	2
MTS-9*23*10*75-2F	9	23	10	75	2	1
MTS-10*25*10*75-2F	10	25	10	75	2	2
MTS-10*40*10*100-2F	10	40	10	100	2	2
MTS-10*50*10*150-2F	10	50	10	150	2	2
MTS-11*28*12*75-2F	11	28	12	75	2	1
MTS-12*30*12*75-2F	12	30	12	75	2	2
MTS-12*45*12*100-2F	12	45	12	100	2	2
MTS-12*55*12*150-2F	12	55	12	150	2	2
MTS-14*35*14*80-2F	14	35	14	80	2	2
MTS-14*45*14*100-2F	14	45	14	100	2	2
MTS-14*60*14*150-2F	14	60	14	150	2	2
MTS-16*45*16*100-2F	16	45	16	100	2	2
MTS-16*60*16*150-2F	16	60	16	150	2	2
MTS-18*45*18*100-2F	18	45	18	100	2	2
MTS-18*60*18*150-2F	18	60	18	150	2	2
MTS-20*45*20*100-2F	20	45	20	100	2	2
MTS-20*60*20*150-2F	20	60	20	150	2	2

## 55 度 2 刃钨钢球头铣刀

HRC 55 deg Tungsten Steel 2 Flutes Ball Nose End Mills



涂层  
Coating  
TiSiN

HRC  
55

螺旋角度  
Helix Angle  
30



### • 棒料

采用自贡 ZK30UF 料，具有高硬度和良好的耐磨度

Raw Material: Use Zigong ZK30UF, high hardness and good wear resistance.

### • 涂层

TiSiN, 含硅，具有极高的表面硬度和极高的热阻

Coating: TiSiN, containing silica, very high surface hardness and high thermal resistance.

### • 铣刀直径精度公差

Tolerance of End Mill Diameter

$1 < D \leq 6$  -0.010~ -0.030

$6 < D \leq 10$  -0.015~ -0.040

$10 < D \leq 20$  -0.020~ -0.050

### • 产品设计

双刃带设计，有效提高刃带刚性和工件表面光洁度；刃口过中心设计，有效减少切削阻力；大容量排屑槽，方便顺畅排屑，提高加工效率；二刃设计，广泛应用于沟槽，孔加工

Double-edge design improves rigidity and surface finish effectively. Cutting edge over the center reduces the cutting resistance. High capacity of junk slot benefits chip removal and increases machining efficiency. 2 flutes design is good for chip removal, easy for vertical feed processing, widely used in slot, and hole processing.

### • 一般切削参数

Cutting Parameters

切削速度  $v_c=130$  (120-180)m/min

切深  $a_p=1/3D(1/8-1/2D)$

单刃进给  $f_z=0.15\text{mm}(0.02-0.2)$

按照被加工材料的不同材质和硬度，切削参数做适当的调整。

Please adjust the parameters according to the material and hardness of workpieces.

工件材料 Workpiece Material

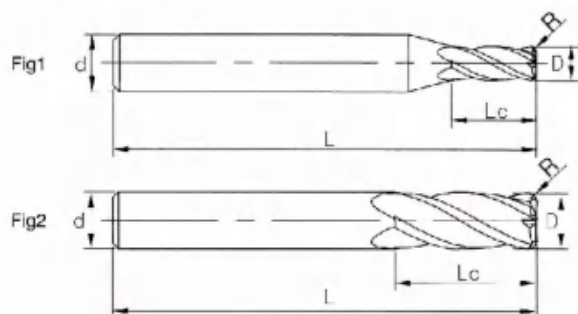
碳钢	合金钢	铸铁	铝合金	铜合金	不锈钢	高硬钢
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y				Y


Y 适合 Suitable

型号 Cat.No	规格 Specifications				刃数 Flutes	图号 Figure No.
	刃半径 R	刃长 Lc	柄径 d	总长 L		
MTS-R1.5*6*3*50-2F	1.5	6	3	50	2	2
MTS-R1.5*6*3*75-2F	1.5	6	3	75	2	2
MTS-R1.5*6*3*100-2F	1.5	6	3	100	2	2
MTS-R0.5*2*4*50-2F	0.5	2	4	50	2	1
MTS-R0.75*3*4*50-2F	0.75	3	4	50	2	1
MTS-R1*4*4*50-2F	1	4	4	50	2	1
MTS-R1.25*5*4*50-2F	1.25	5	4	50	2	1
MTS-R1.5*6*4*50-2F	1.5	6	4	50	2	1
MTS-R1.75*7*4*50-2F	1.75	7	4	50	2	1
MTS-R2*8*4*50-2F	2	8	4	50	2	2
MTS-R2*8*4*75-2F	2	8	4	75	2	2
MTS-R2*8*4*100-2F	2	8	4	100	2	2
MTS-R2.5*10*5*50-2F	2.5	10	5	50	2	2
MTS-R2.5*10*5*75-2F	2.5	10	5	75	2	2
MTS-R2.5*10*5*100-2F	2.5	10	5	100	2	2
MTS-R2.5*10*6*50-2F	2.5	10	6	50	2	1
MTS-R3*12*6*50-2F	3	12	6	50	2	2
MTS-R3*12*6*75-2F	3	12	6	75	2	2
MTS-R3*12*6*100-2F	3	12	6	100	2	2
MTS-R3*12*6*150-2F	3	12	6	150	2	2
MTS-R3.5*16*8*60-2F	3.5	16	8	60	2	1
MTS-R4*16*8*60-2F	4	16	8	60	2	2
MTS-R4*16*8*75-2F	4	16	8	75	2	2
MTS-R4*16*8*100-2F	4	16	8	100	2	2
MTS-R4*20*8*150-2F	4	20	8	150	2	2
MTS-R4.5*18*10*75-2F	4.5	18	10	75	2	1
MTS-R5*20*10*75-2F	5	20	10	75	2	2
MTS-R5*20*10*100-2F	5	20	10	100	2	2
MTS-R5*30*10*150-2F	5	30	10	150	2	2
MTS-R5.5*24*12*75-2F	5.5	24	12	75	2	1
MTS-R6*24*12*75-2F	6	24	12	75	2	2
MTS-R6*24*12*100-2F	6	24	12	100	2	2
MTS-R6*35*12*150-2F	6	36	12	150	2	2
MTS-R7*28*14*100-2F	7	28	14	100	2	2
MTS-R7*40*14*150-2F	7	40	14	150	2	2
MTS-R8*32*16*100-2F	8	32	16	100	2	2
MTS-R8*50*16*150-2F	8	50	16	150	2	2
MTS-R9*36*18*100-2F	9	36	18	100	2	2
MTS-R9*50*18*150-2F	9	50	18	150	2	2
MTS-R10*40*20*100-2F	10	40	20	100	2	2
MTS-R10*50*20*150-2F	10	50	20	150	2	2

## 55 度 4 刃钨钢圆鼻铣刀

HRC 55 deg Tungsten Steel 4 Flutes Corner Radius End Mills



	螺旋角度 Helix Angle 35	HRC 55	涂层 Coating TiSiN
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### • 棒料

采用自贡 ZK30UF 料，具有高硬度和良好的耐磨度

Raw Material: Use Zigong ZK30UF, high hardness and good wear resistance.

### • 铣刀直径精度公差

Tolerance of End Mill Diameter

$1 < D \leq 6$	-0.010~ -0.030
$6 < D \leq 10$	-0.015~ -0.040
$10 < D \leq 20$	-0.020~ -0.050

### • 一般切削参数

Cutting Parameters

切削速度  $v_c=130$  (120-180)m/min

切深  $a_p=1/3D(1/8-1/2D)$

切宽  $a_e=1/2D(1/4-1D)$

单刃进给  $f_z=0.15\text{mm}(0.02-0.2)$

按照被加工材料的不同材质和硬度，切削参数做适当的调整。

Please adjust the parameters according to the material and hardness of workpieces.

### • 涂层

TiSiN, 含硅，具有极高的表面硬度和极高的热阻

Coating: TiSiN, containing silica, very high surface hardness and high thermal resistance.

### • 刃口设计

刃口倒角，不易崩裂，广泛用于高速加工中

Cutting Edge Design: Corner radius, uneasy to cracking, widely used in high speed cutting

### • 螺旋角度

35 度，对被加工材料的材质和硬度适应性强，广泛应用于模具和产品加工，有较高的性价比

Helix Angle: 35 deg, high adaptability to the material and hardness of workpieces, widely used to mold and product processing and cost efficient.

工件材料 Workpiece Material

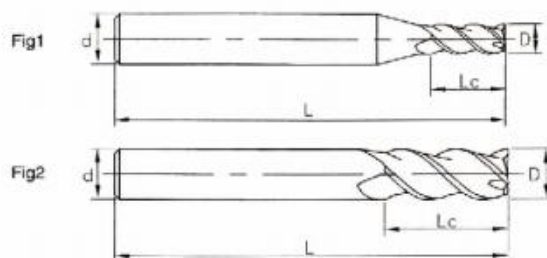
碳钢	合金钢	铸铁	铝合金	铜合金	不锈钢	高硬钢
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y				Y

Y 适合 Suitable

型号 Cat.No	规格 Specifications				刃数 Flutes	图号 Figure No.
	刃径 D	R	柄径 d	总长 L		
MTS-3R0.5*3*50-4F	3	0.5	3	50	4	2
MTS-3R1*3*50-4F	3	1	3	50	4	2
MTS-3R0.5*3*75-4F	3	0.5	3	75	4	2
MTS-3R1*3*75-4F	3	1	3	75	4	2
MTS-3R0.5*3*100-4F	3	0.5	3	100	4	2
MTS-3R1*3*100-4F	3	1	3	100	4	2
MTS-3R0.5*4*50-4F	3	0.5	4	50	4	1
MTS-3R1*4*50-4F	3	1	4	50	4	1
MTS-4R0.5*4*50-4F	4	0.5	4	50	4	2
MTS-4R1*4*50-4F	4	1	4	50	4	2
MTS-4R0.5*4*75-4F	4	0.5	4	75	4	2
MTS-4R1*4*75-4F	4	1	4	75	4	2
MTS-4R0.5*4*100-4F	4	0.5	4	100	4	2
MTS-4R1*4*100-4F	4	1	4	100	4	2
MTS-5R0.5*5*50-4F	5	0.5	5	50	4	2
MTS-5R1*5*50-4F	5	1	5	50	4	2
MTS-5R0.5*6*50-4F	5	0.5	6	50	4	1
MTS-5R1*6*50-4F	5	1	6	50	4	1
MTS-6R0.5*6*50-4F	6	0.5	6	50	4	2
MTS-6R1*6*50-4F	6	1	6	50	4	2
MTS-6R0.5*6*75-4F	6	0.5	6	75	4	2
MTS-6R1*6*75-4F	6	1	6	75	4	2
MTS-6R0.5*6*100-4F	6	0.5	6	100	4	2
MTS-6R1*6*100-4F	6	1	6	100	4	2
MTS-6R0.5*6*150-4F	6	0.5	6	150	4	2
MTS-6R1*6*150-4F	6	1	6	150	4	2
MTS-8R0.5*8*60-4F	8	0.5	8	60	4	2
MTS-8R1*8*60-4F	8	1	8	60	4	2
MTS-8R2*8*60-4F	8	2	8	60	4	2
MTS-8R3*8*60-4F	8	3	8	60	4	2
MTS-8R0.5*8*75-4F	8	0.5	8	75	4	2
MTS-8R1*8*75-4F	8	1	8	75	4	2
MTS-8R0.5*8*100-4F	8	0.5	8	100	4	2
MTS-8R1*8*100-4F	8	1	8	100	4	2
MTS-8R0.5*8*150-4F	8	0.5	8	150	4	2
MTS-8R1*8*150-4F	8	1	8	150	4	2
MTS-10R0.5*10*75-4F	10	0.5	10	75	4	2
MTS-10R1*10*75-4F	10	1	10	75	4	2
MTS-10R0.5*10*100-4F	10	0.5	10	100	4	2
MTS-10R1*10*100-4F	10	1	10	100	4	2
MTS-10R0.5*10*150-4F	10	0.5	10	150	4	2
MTS-10R1*10*150-4F	10	1	10	150	4	2
MTS-12R0.5*12*75-4F	12	0.5	12	75	4	2
MTS-12R1*12*75-4F	12	1	12	75	4	2
MTS-12R0.5*12*100-4F	12	0.5	12	100	4	2
MTS-12R1*12*100-4F	12	1	12	100	4	2
MTS-12R0.5*12*150-4F	12	0.5	12	150	4	2
MTS-12R1*12*150-4F	12	1	12	150	4	2

## 55 度 3 刃铝用铣刀

HRC 55 deg Tungsten Steel 3 Flute End Mills for Aluminum



### • 棒料

采用自贡 ZK30UF 料，具有高硬度和良好的耐磨度

Raw Material: Use Zigong ZK30UF, high hardness and good wear resistance.

### • 刃数

3 刃设计，有效防震，切削稳定

Flutes: 3 flutes, effectively mitigate vibration and stable cutting.

### • 铣刀直径精度公差

Tolerance of End Mill Diameter

$1 < D \leq 6$  -0.010~ -0.030

$6 < D \leq 10$  -0.015~ -0.040

$10 < D \leq 20$  -0.020~ -0.050

### • A型

双后角设计有效去毛刺，用于工件的半精加工和精加工

A Type: Double-edge design provides good smooth finish and is suitable for semi-finish and finish machining.

### • 一般切削参数

Cutting Parameters

切削速度  $v_c=220$  (100-800)m/min

切深  $a_p=1/2D(1/8-3/4D)$

切宽  $a_c=1/2D(1/4-1D)$

单刃进给  $f_z=0.15\text{mm}(0.02-0.2)$

按照被加工材料的不同材质和硬度，切削参数做适当的调整。

Please adjust the parameters according to the material and hardness of workpieces.

### • B型

单后角设计，刀刃锋利，排屑顺畅，切削速度快，广泛应用于工件粗加工中

B Type: Single-edge design, sharp blade, good for chip removal, high cutting speed, widely used in rough machining.

工件材料 Workpiece Material

碳钢	合金钢	铸铁	铝合金	铜合金	不锈钢	高硬钢
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
			Y	Y		

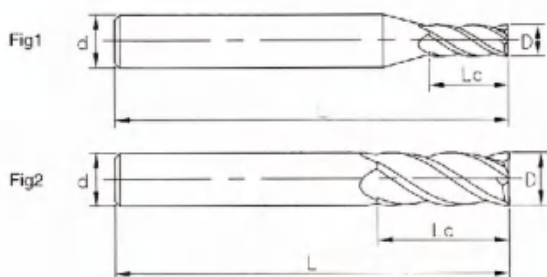
Y 适合 Suitable



型号 Cat.No		规格 Specifications				刃数 Flutes	图号 Figure No.
		刃径 D	刃长 Lc	柄径 d	总长 L		
MTS-3*9*3*50-3FA	MTS-3*9*3*50-3FB	3	9	3	50	3	2
MTS-3*15*3*75-3FA	MTS-3*15*3*75-3FB	3	15	3	75	3	2
MTS-3*15*3*100-3FA	MTS-3*15*3*100-3FB	3	15	3	100	3	2
MTS-1*3*4*50-3FA	MTS-1*3*4*50-3FB	1	3	4	50	3	1
MTS-1.5*5*4*50-3FA	MTS-1.5*5*4*50-3FB	1.5	5	4	50	3	1
MTS-2*6*4*50-3FA	MTS-2*6*4*50-3FB	2	6	4	50	3	1
MTS-2.5*8*4*50-3FA	MTS-2.5*8*4*50-3FB	2.5	8	4	50	3	1
MTS-3*9*4*50-3FA	MTS-3*9*4*50-3FB	3	9	4	50	3	1
MTS-3.5*12*4*50-3FA	MTS-3.5*12*4*50-3FB	3.5	12	4	50	3	1
MTS-4*12*4*50-3FA	MTS-4*12*4*50-3FB	4	12	4	50	3	2
MTS-4*15*4*75-3FA	MTS-4*15*4*75-3FB	4	15	4	75	3	2
MTS-4*20*4*100-3FA	MTS-4*20*4*100-3FB	4	20	5	100	3	2
MTS-5*15*5*50-3FA	MTS-5*15*5*50-3FB	5	15	5	50	3	2
MTS-5*20*5*75-3FA	MTS-5*20*5*75-3FB	5	20	5	75	3	2
MTS-5*25*5*100-3FA	MTS-5*25*5*100-3FB	5	25	6	100	3	2
MTS-2*6*6*50-3FA	MTS-2*6*6*50-3FB	2	6	6	50	3	1
MTS-3*9*6*50-3FA	MTS-3*9*6*50-3FB	3	9	6	50	3	1
MTS-4*12*6*50-3FA	MTS-4*12*6*50-3FB	4	12	6	50	3	1
MTS-5*15*6*50-3FA	MTS-5*15*6*50-3FB	5	15	6	50	3	1
MTS-6*18*6*50-3FA	MTS-6*18*6*50-3FB	6	18	6	50	3	2
MTS-6*25*6*75-3FA	MTS-6*25*6*75-3FB	6	25	6	75	3	2
MTS-6*30*6*100-3FA	MTS-6*30*6*100-3FB	6	30	6	100	3	2
MTS-6*35*6*150-3FA	MTS-6*35*6*150-3FB	6	35	6	150	3	2
MTS-7*21*8*60-3FA	MTS-7*21*8*60-3FB	7	21	8	60	3	1
MTS-8*24*8*60-3FA	MTS-8*24*8*60-3FB	8	24	8	60	3	2
MTS-8*30*8*75-3FA	MTS-8*30*8*75-3FB	8	30	8	75	3	2
MTS-8*40*8*100-3FA	MTS-8*40*8*100-3FB	8	40	8	100	3	2
MTS-8*50*8*150-3FA	MTS-8*50*8*150-3FB	8	50	8	150	3	2
MTS-9*27*10*75-3FA	MTS-9*27*10*75-3FB	9	27	10	75	3	1
MTS-10*30*10*75-3FA	MTS-10*30*10*75-3FB	10	30	10	75	3	2
MTS-10*45*10*100-3FA	MTS-10*45*10*100-3FB	10	45	10	100	3	2
MTS-10*50*10*150-3FA	MTS-10*50*10*150-3FB	10	50	10	150	3	2
MTS-11*33*12*75-3FA	MTS-11*33*12*75-3FB	11	33	12	75	3	1
MTS-12*36*12*75-3FA	MTS-12*36*12*75-3FB	12	36	12	75	3	2
MTS-12*45*100-3FA	MTS-12*45*100-3FB	12	45	12	100	3	2
MTS-12*60*12*150-3FA	MTS-12*60*12*150-3FB	12	60	12	150	3	2
MTS-14*35*14*80-3FA	MTS-14*35*14*80-3FB	14	35	14	80	3	2
MTS-14*45*14*100-3FA	MTS-14*45*14*100-3FB	14	45	14	100	3	2
MTS-14*60*14*150-3FA	MTS-14*60*14*150-3FB	14	60	14	150	3	2
MTS-16*45*16*100-3FA	MTS-16*45*16*100-3FB	16	45	16	100	3	2
MTS-16*60*16*150-3FA	MTS-16*60*16*150-3FB	16	60	16	150	3	2
MTS-18*45*18*100-3FA	MTS-18*45*18*100-3FB	18	45	18	100	3	2
MTS-18*60*18*150-3FA	MTS-18*60*18*150-3FB	18	60	18	150	3	2
MTS-20*45*20*100-3FA	MTS-20*45*20*100-3FB	20	45	20	100	3	2
MTS-20*60*20*150-3FA	MTS-20*60*20*150-3FB	20	60	20	150	3	2

## 45 度平底 4 刃钨钢铣刀

HRC 45 deg Tungsten Steel 4 Flute Square End Mills



### • 棒料

采用高硬度的自贡 YG10X，具有良好的耐磨性和抗腐蚀性

Raw Material: Use Zigong YG10X, high hardness, good wear resistance and corrosion resistance.

### • 涂层

AlTiN 涂层，高铝含量提供了优异的红硬性和抗氧化温度

Coating: AlTiN, high aluminum content provides excellent hot hardness and oxidation resistance.

### • 铣刀直径精度公差

Tolerance of End Mill Diameter

1 < D ≤ 6    -0.010 ~ -0.030  
6 < D ≤ 10   -0.015 ~ -0.040  
10 < D ≤ 20 -0.020 ~ -0.050

### • 刃数

4 刃，刚性高，广泛用于浅槽、侧铣和精加工

Flutes: 4 flutes, high rigidity, widely used in shallow slot, profile milling, and finish machining.

### • 一般切削参数

Cutting Parameters

切削速度  $v_c=220$  (120-180)m/min  
切深  $a_p=1/3D(1/8-1/2D)$   
切宽  $a_c=1/2D(1/4-1D)$   
单刃进给  $f_z=0.15\text{mm}(0.02-0.2)$

按照被加工材料的不同材质和硬度，切削参数做适当的调整。

Please adjust the parameters according to the material and hardness of workpieces.

### • 螺旋角度

35 度，对被加工材料的材质和硬度适应性强，广泛应用于模具和产品加工，有较高的性价比

Helix Angle: 35 deg, high adaptability to the material and hardness of workpieces, widely used to mold and product processing and cost efficient.

工件材料 Workpiece Material

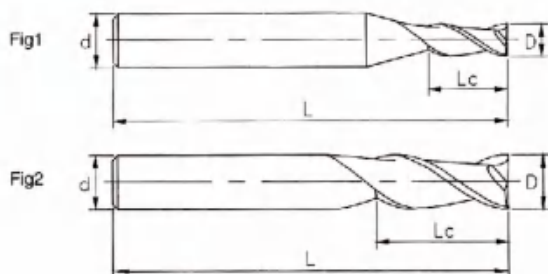
碳钢	合金钢	铸铁	铝合金	铜合金	不锈钢	高硬钢
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y				

Y 适合 Suitable

型号 Cat.No	规格 Specifications				4 刃数 F4lutes4	图号 Figure No.
	刃径 D	刃长 Lc	柄径 d	总长 L		
MTS-3*8*3*50-4F	3	8	3	50	4	2
MTS-3*12*3*75-4F	3	12	3	75	4	2
MTS-3*12*3*100-4F	3	12	3	100	4	2
MTS-1*3*4*50-4F	1	3	4	50	4	1
MTS-1.5*4*4*50-4F	1.5	4	4	50	4	1
MTS-2*5*4*50-4F	2	5	4	50	4	1
MTS-2.5*7*4*50-4F	2.5	7	4	50	4	1
MTS-3*8*4*50-4F	3	8	4	50	4	1
MTS-3.5*10*4*50-4F	3.5	10	4	50	4	1
MTS-4*10*4*50-4F	4	10	4	50	4	2
MTS-4*20*4*75-4F	4	20	4	75	4	2
MTS-4*25*4*100-4F	4	25	4	100	4	2
MTS-5*13*5*50-4F	5	13	5	50	4	2
MTS-5*20*5*75-4F	5	20	5	75	4	2
MTS-5*25*5*100-4F	5	25	5	100	4	2
MTS-2.5*7*6*50-4F	2.5	7	6	50	4	1
MTS-3*8*6*50-4F	3	8	6	50	4	1
MTS-3.5*10*6*50-4F	3.5	10	6	50	4	1
MTS-4*10*6*50-4F	4	10	6	50	4	1
MTS-4.5*12*6*50-4F	4.5	12	6	50	4	1
MTS-5*13*6*50-4F	5	13	6	50	4	1
MTS-6*15*6*50-4F	6	15	6	50	4	2
MTS-6*20*6*75-4F	6	20	6	75	4	2
MTS-6*25*6*100-4F	6	25	6	100	4	2
MTS-6*40*6*150-4F	6	40	6	150	4	2
MTS-7*18*8*60-4F	7	18	8	60	4	1
MTS-8*20*8*60-4F	8	20	8	60	4	2
MTS-8*25*8*75-4F	8	25	8	75	4	2
MTS-8*35*8*100-4F	8	35	8	100	4	2
MTS-8*50*8*150-4F	8	50	8	150	4	2
MTS-9*23*10*75-4F	9	23	10	75	4	1
MTS-10*25*10*75-4F	10	25	10	75	4	2
MTS-10*40*10*100-4F	10	40	10	100	4	2
MTS-10*50*10*150-4F	10	50	10	150	4	2
MTS-11*28*12*75-4F	11	28	12	75	4	1
MTS-12*30*12*75-4F	12	30	12	75	4	2
MTS-12*45*12*100-4F	12	45	12	100	4	2
MTS-12*55*12*150-4F	12	55	12	150	4	2
MTS-14*35*14*80-4F	14	35	14	80	4	2
MTS-14*45*14*100-4F	14	45	14	100	4	2
MTS-14*60*14*150-4F	14	60	14	150	4	2
MTS-16*45*16*100-4F	16	45	16	100	4	2
MTS-16*60*16*150-4F	16	60	16	150	4	2
MTS-18*45*18*100-4F	18	45	18	100	4	2
MTS-18*60*18*150-4F	18	60	18	150	4	2
MTS-20*45*20*100-4F	20	45	20	100	4	2
MTS-20*60*20*150-4F	20	60	20	150	4	2

## 45 度平底 2 刃钨钢铣刀

HRC 45 deg Tungsten Steel 2 Flute Square End Mills



### • 棒料

采用高硬度的自贡 YG10X，具有良好的耐磨性和抗腐蚀性

Raw Material: Use Zigong YG10X, high hardness, good wear resistance and corrosion resistance.

### • 涂层

AlTiN 涂层，高铝含量提供了优异的红硬性和抗氧化温度

Coating: AlTiN, high aluminum content provides excellent hot hardness and oxidation resistance.

### • 铣刀直径精度公差

Tolerance of End Mill Diameter

1 < D ≤ 6 -0.010~ -0.030  
6 < D ≤ 10 -0.015~ -0.040  
10 < D ≤ 20 -0.020~ -0.050

### • 刃数

2 刃排削顺畅，纵向进给加工容易，广泛用于切槽和孔加工

Flutes: 2 flutes, good for chip removal, easy for vertical feed processing, widely used in slot and hole processing

### • 一般切削参数

Cutting Parameters

切削速度  $v_c=130$  (120-180)m/min  
切深  $a_p=1/3D(1/8-1/2D)$   
切宽  $a_c=1/2D(1/4-1D)$   
单刃进给  $f_z=0.15\text{mm}(0.02-0.2)$

按照被加工材料的不同材质和硬度，切削参数做适当的调整。

Please adjust the parameters according to the material and hardness of workpieces.

### • 螺旋角度

35 度，对被加工材料的材质和硬度适应性强，广泛应用于模具和产品加工，有较高的性价比

Helix Angle: 35 deg, high adaptability to the material and hardness of workpieces, widely used to mold and product processing and cost efficient.

工件材料 Workpiece Material

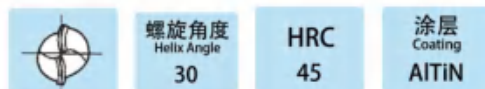
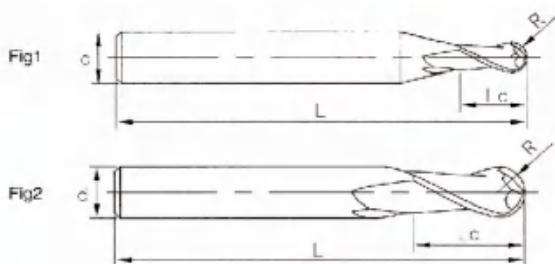
碳钢	合金钢	铸铁	铝合金	铜合金	不锈钢	高硬钢
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y				

Y 适合 Suitable

型号 Cat.No	规格 Specifications				刃数 Flutes	图号 Figure No.
	刃径 D	刃长 Lc	柄径 d	总长 L		
MTS-3*8*3*50-2F	3	8	3	50	2	2
MTS-3*12*3*75-2F	3	12	3	75	2	2
MTS-3*12*3*100-2F	3	12	3	100	2	2
MTS-1*3*4*50-2F	1	3	4	50	2	1
MTS-1.5*4*4*50-2F	1.5	4	4	50	2	1
MTS-2*5*4*50-2F	2	5	4	50	2	1
MTS-2.5*7*4*50-2F	2.5	7	4	50	2	1
MTS-3*8*4*50-2F	3	8	4	50	2	1
MTS-3.5*10*4*50-2F	3.5	10	4	50	2	1
MTS-4*10*4*50-2F	4	10	4	50	2	2
MTS-4*20*4*75-2F	4	20	4	75	2	2
MTS-4*25*4*100-2F	4	25	4	100	2	2
MTS-5*13*5*50-2F	5	13	5	50	2	2
MTS-5*20*5*75-2F	5	20	5	75	2	2
MTS-5*25*5*100-2F	5	25	5	100	2	2
MTS-2.5*7*6*50-2F	2.5	7	6	50	2	1
MTS-3*8*6*50-2F	3	8	6	50	2	1
MTS-3.5*10*6*50-2F	3.5	10	6	50	2	1
MTS-4*10*6*50-2F	4	10	6	50	2	1
MTS-4.5*12*6*50-2F	4.5	12	6	50	2	1
MTS-5*13*6*50-2F	5	13	6	50	2	1
MTS-6*15*6*50-2F	6	15	6	50	2	2
MTS-6*20*6*75-2F	6	20	6	75	2	2
MTS-6*25*6*100-2F	6	25	6	100	2	2
MTS-6*40*6*150-2F	6	40	6	150	2	2
MTS-7*18*8*60-2F	7	18	8	60	2	1
MTS-8*20*8*60-2F	8	20	8	60	2	2
MTS-8*25*8*75-2F	8	25	8	75	2	2
MTS-8*35*8*100-2F	8	35	8	100	2	2
MTS-8*50*8*150-2F	8	50	8	150	2	2
MTS-9*23*10*75-2F	9	23	10	75	2	1
MTS-10*25*10*75-2F	10	25	10	75	2	2
MTS-10*40*10*100-2F	10	40	10	100	2	2
MTS-10*50*10*150-2F	10	50	10	150	2	2
MTS-11*28*12*75-2F	11	28	12	75	2	1
MTS-12*30*12*75-2F	12	30	12	75	2	2
MTS-12*45*12*100-2F	12	45	12	100	2	2
MTS-12*55*12*150-2F	12	55	12	150	2	2
MTS-14*35*14*80-2F	14	35	14	80	2	2
MTS-14*45*14*100-2F	14	45	14	100	2	2
MTS-14*60*14*150-2F	14	60	14	150	2	2
MTS-16*45*16*100-2F	16	45	16	100	2	2
MTS-16*60*16*150-2F	16	60	16	150	2	2
MTS-18*45*18*100-2F	18	45	18	100	2	2
MTS-18*60*18*150-2F	18	60	18	150	2	2
MTS-20*45*20*100-2F	20	45	20	100	2	2
MTS-20*60*20*150-2F	20	60	20	150	2	2

## 45 度 2 刃钨钢球头铣刀

HRC 45 deg Tungsten Steel 2 Flute Ball Nose End Mills



### • 棒料

采用高硬度的自贡 YG10X，具有良好的耐磨性和抗腐蚀性

Raw Material: Use Zigong YG10X, high hardness, good wear resistance and corrosion resistance.

### • 涂层

AlTiN 涂层，高铝含量提供了优异的红硬性和抗氧化温度

Coating: AlTiN, high aluminum content provides excellent hot hardness and oxidation resistance.

### • 铣刀直径精度公差

Tolerance of End Mill Diameter

1 < D ≤ 6    -0.010 ~ -0.030  
6 < D ≤ 10   -0.015 ~ -0.040  
10 < D ≤ 20 -0.020 ~ -0.050

### • 产品设计

双刃带设计，有效提高刃带刚性和工件表面光洁度；刃口过中心设计，有效减少切削阻力；大容量排屑槽，方便顺畅排屑，提高加工效率；二刃设计，广泛应用于沟槽，孔加工

Double-edge design improves rigidity and surface finish effectively. Cutting edge over the center reduces the cutting resistance. High capacity of junk slot benefits chip removal and increases machining efficiency. 2 flutes design is good for chip removal, easy for vertical feed processing, widely used in slot, profile, and hole processing.

### • 一般切削参数

Cutting Parameters

切削速度  $v_c=130$  (120-180)m/min  
切深  $a_p=1/3D(1/8-1/2D)$   
切宽  $a_e=1/2D(1/4-1D)$   
单刃进给  $f_z=0.15\text{mm}(0.02-0.2)$

按照被加工材料的不同材质和硬度，切削参数做适当的调整。

Please adjust the parameters according to the material and hardness of workpieces.

工件材料 Workpiece Material

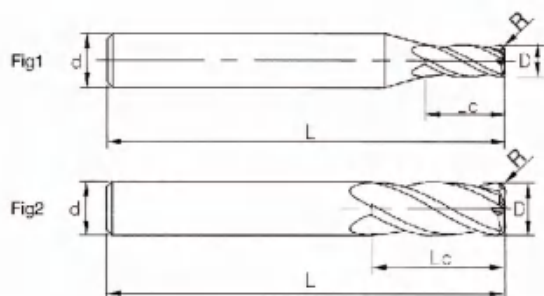
碳钢	合金钢	铸铁	铝合金	铜合金	不锈钢	高硬钢
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y				

Y 适合 Suitable

型号 Cat.No	规格 Specifications				刃数 Flutes	图号 Figure No.
	刃半径 R	刃长 Lc	柄径 d	总长 L		
MTS-R1.5*6*3*50-2F	1.5	6	3	50	2	2
MTS-R1.5*6*3*75-2F	1.5	6	3	75	2	2
MTS-R1.5*6*3*100-2F	1.5	6	3	100	2	2
MTS-R0.5*2*4*50-2F	0.5	2	4	50	2	1
MTS-R0.75*3*4*50-2F	0.75	3	4	50	2	1
MTS-R1*4*4*50-2F	1	4	4	50	2	1
MTS-R1.25*5*4*50-2F	1.25	5	4	50	2	1
MTS-R1.5*6*4*50-2F	1.5	6	4	50	2	1
MTS-R1.75*7*4*50-2F	1.75	7	4	50	2	1
MTS-R2*8*4*50-2F	2	8	4	50	2	2
MTS-R2*8*4*75-2F	2	8	4	75	2	2
MTS-R2*8*4*100-2F	2	8	4	100	2	2
MTS-R2.5*10*5*50-2F	2.5	10	5	50	2	2
MTS-R2.5*10*5*75-2F	2.5	10	5	75	2	2
MTS-R2.5*10*5*100-2F	2.5	10	5	100	2	2
MTS-R2.5*10*6*50-2F	2.5	10	6	50	2	1
MTS-R3*12*6*50-2F	3	12	6	50	2	2
MTS-R3*12*6*75-2F	3	12	6	75	2	2
MTS-R3*12*6*100-2F	3	12	6	100	2	2
MTS-R3*12*6*150-2F	3	12	6	150	2	2
MTS-R3.5*16*8*60-2F	3.5	16	8	60	2	1
MTS-R4*16*8*60-2F	4	16	8	60	2	2
MTS-R4*16*8*75-2F	4	16	8	75	2	2
MTS-R4*16*8*100-2F	4	16	8	100	2	2
MTS-R4*20*8*150-2F	4	20	8	150	2	2
MTS-R4.5*18*10*75-2F	4.5	18	10	75	2	1
MTS-R5*20*10*75-2F	5	20	10	75	2	2
MTS-R5*20*10*100-2F	5	20	10	100	2	2
MTS-R5*30*10*150-2F	5	30	10	150	2	2
MTS-R5.5*24*12*75-2F	5.5	24	12	75	2	1
MTS-R6*24*12*75-2F	6	24	12	75	2	2
MTS-R6*24*12*100-2F	6	24	12	100	2	2
MTS-R6*35*12*150-2F	6	36	12	150	2	2
MTS-R7*28*14*100-2F	7	28	14	100	2	2
MTS-R7*40*14*150-2F	7	40	14	150	2	2
MTS-R8*32*16*100-2F	8	32	16	100	2	2
MTS-R8*50*16*150-2F	8	50	16	150	2	2
MTS-R9*36*18*100-2F	9	36	18	100	2	2
MTS-R9*50*18*150-2F	9	50	18	150	2	2
MTS-R10*40*20*100-2F	10	40	20	100	2	2
MTS-R10*50*20*150-2F	10	50	20	150	2	2

## 45 度 4 刃钨钢圆鼻铣刀

HRC 45 deg Tungsten Steel 4 Flutes Corner Radius End Mills



### • 棒料

采用高硬度的自贡 YG10X，具有良好的耐磨性和抗腐蚀性

Raw Material: Use Zigong YG10X, high hardness, good wear resistance and corrosion resistance.

### • 铣刀直径精度公差

Tolerance of End Mill Diameter

1 < D ≤ 6    -0.010~ -0.030  
6 < D ≤ 10   -0.015~ -0.040  
10 < D ≤ 20 -0.020~ -0.050

### • 一般切削参数

Cutting Parameters

切削速度  $v_c=130$  (120-180)m/min  
切深  $a_p=1/3D(1/8-1/2D)$   
切宽  $a_c=1/2D(1/4-1D)$   
单刃进给  $f_z=0.15\text{mm}(0.02-0.2)$

按照被加工材料的不同材质和硬度，切削参数做适当的调整。

Please adjust the parameters according to the material and hardness of workpieces.

### • 涂层

AlTiN 涂层，高铝含量提供了优异的红硬性和抗氧化温度

Coating: AlTiN, high aluminum content provides excellent hot hardness and oxidation resistance.

### • 刃口设计

刃口倒角，不易崩裂，广泛用于高速加工中

Cutting Edge Design: Corner radius, uneasy to cracking, widely used in high speed cutting

### • 螺旋角度

35 度，对被加工材料的材质和硬度适应性强，广泛应用于模具和产品加工，有较高的性价比

Helix Angle: 35 deg, high adaptability to the material and hardness of workpieces, widely used to mold and product processing and cost efficient.

工件材料 Workpiece Material

碳钢	合金钢	铸铁	铝合金	铜合金	不锈钢	高硬钢
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
Y	Y	Y				

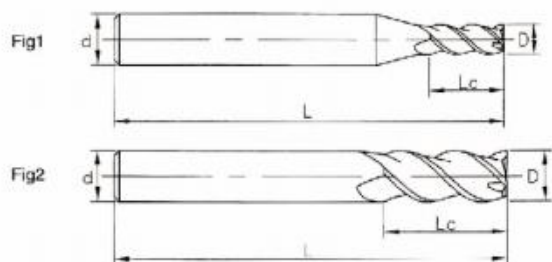
Y 适合 Suitable



型号 Cat.No	规格 Specifications				刃数 Flutes	图号 Figure No.
	刃径 D	R	柄径 d	总长 L		
MTS-3R0.5*3*50-4F	3	0.5	3	50	4	2
MTS-3R1*3*50-4F	3	1	3	50	4	2
MTS-3R0.5*3*75-4F	3	0.5	3	75	4	2
MTS-3R1*3*75-4F	3	1	3	75	4	2
MTS-3R0.5*3*100-4F	3	0.5	3	100	4	2
MTS-3R1*3*100-4F	3	1	3	100	4	2
MTS-3R0.5*4*50-4F	3	0.5	4	50	4	1
MTS-3R1*4*50-4F	3	1	4	50	4	1
MTS-4R0.5*4*50-4F	4	0.5	4	50	4	2
MTS-4R1*4*50-4F	4	1	4	50	4	2
MTS-4R0.5*4*75-4F	4	0.5	4	75	4	2
MTS-4R1*4*75-4F	4	1	4	75	4	2
MTS-4R0.5*4*100-4F	4	0.5	4	100	4	2
MTS-4R1*4*100-4F	4	1	4	100	4	2
MTS-5R0.5*5*50-4F	5	0.5	5	50	4	2
MTS-5R1*5*50-4F	5	1	5	50	4	2
MTS-5R0.5*6*50-4F	5	0.5	6	50	4	1
MTS-5R1*6*50-4F	5	1	6	50	4	1
MTS-6R0.5*6*50-4F	6	0.5	6	50	4	2
MTS-6R1*6*50-4F	6	1	6	50	4	2
MTS-6R0.5*6*75-4F	6	0.5	6	75	4	2
MTS-6R1*6*75-4F	6	1	6	75	4	2
MTS-6R0.5*6*100-4F	6	0.5	6	100	4	2
MTS-6R1*6*100-4F	6	1	6	100	4	2
MTS-6R0.5*6*150-4F	6	0.5	6	150	4	2
MTS-6R1*6*150-4F	6	1	6	150	4	2
MTS-8R0.5*8*60-4F	8	0.5	8	60	4	2
MTS-8R1*8*60-4F	8	1	8	60	4	2
MTS-8R2*8*60-4F	8	2	8	60	4	2
MTS-8R3*8*60-4F	8	3	8	60	4	2
MTS-8R0.5*8*75-4F	8	0.5	8	75	4	2
MTS-8R1*8*75-4F	8	1	8	75	4	2
MTS-8R0.5*8*100-4F	8	0.5	8	100	4	2
MTS-8R1*8*100-4F	8	1	8	100	4	2
MTS-8R0.5*8*150-4F	8	0.5	8	150	4	2
MTS-8R1*8*150-4F	8	1	8	150	4	2
MTS-10R0.5*10*75-4F	10	0.5	10	75	4	2
MTS-10R1*10*75-4F	10	1	10	75	4	2
MTS-10R0.5*10*100-4F	10	0.5	10	100	4	2
MTS-10R1*10*100-4F	10	1	10	100	4	2
MTS-10R0.5*10*150-4F	10	0.5	10	150	4	2
MTS-10R1*10*150-4F	10	1	10	150	4	2
MTS-12R0.5*12*75-4F	12	0.5	12	75	4	2
MTS-12R1*12*75-4F	12	1	12	75	4	2
MTS-12R0.5*12*100-4F	12	0.5	12	100	4	2
MTS-12R1*12*100-4F	12	1	12	100	4	2
MTS-12R0.5*12*150-4F	12	0.5	12	150	4	2
MTS-12R1*12*150-4F	12	1	12	150	4	2

## 45 度 3 刃铝用铣刀

HRC 45 deg Tungsten Steel 3 Flute End Mills for Aluminum



### • 棒料

采用高硬度的自贡 YG10X，具有良好的耐磨性和抗腐蚀性

Raw Material: Use Zigong YG10X, high hardness, good wear resistance and corrosion resistance.

### • 刃数

3 刃设计，有效防震，切削稳定  
Flutes: 3 flutes, effectively mitigate vibration and stable cutting.

### • 铣刀直径精度公差

Tolerance of End Mill Diameter

1 < D ≤ 6    -0.010 ~ -0.030  
6 < D ≤ 10   -0.015 ~ -0.040  
10 < D ≤ 20   -0.020 ~ -0.050

### • A型

双后角设计有效去毛刺，用于工件的半精加工和精加工

A Type: Double-edge design provides good smooth finish and is suitable for semi-finish and finish machining

### • 一般切削参数

Cutting Parameters

切削速度  $v_c=220(100-800)m/min$   
切深  $a_p=1/2D(1/8-3/4D)$   
切宽  $a_c=1/2D(1/4-1D)$   
单刃进给  $f_z=0.15mm(0.02-0.2)$

按照被加工材料的不同材质和硬度，切削参数做适当的调整。

Please adjust the parameters according to the material and hardness of workpieces.

### • B型

单后角设计，刀刃锋利，排屑顺畅，切削速度快，广泛应用于工件粗加工中

B Type: Single-edge design, sharp blade, good for chip removal, high cutting speed, widely used in rough machining.

工件材料 Workpiece Material

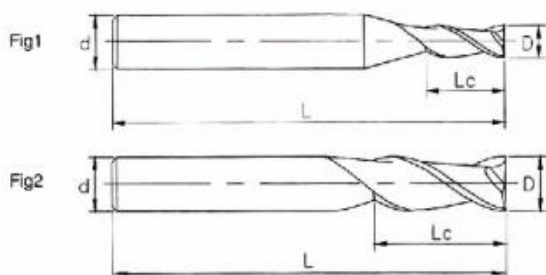
碳钢	合金钢	铸铁	铝合金	铜合金	不锈钢	高硬钢
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
			Y	Y		

Y 适合 Suitable

型号 Cat.No		规格 Specifications				刃数 Flutes	图号 Figure No.
		刃径 D	刃长 Lc	柄径 d	总长 L		
MTS-3*9*3*50-3FA	MTS-3*9*3*50-3FB	3	9	3	50	3	2
MTS-3*15*3*75-3FA	MTS-3*15*3*75-3FB	3	15	3	75	3	2
MTS-3*15*3*100-3FA	MTS-3*15*3*100-3FB	3	15	3	100	3	2
MTS-1*3*4*50-3FA	MTS-1*3*4*50-3FB	1	3	4	50	3	1
MTS-1.5*5*4*50-3FA	MTS-1.5*5*4*50-3FB	1.5	5	4	50	3	1
MTS-2*6*4*50-3FA	MTS-2*6*4*50-3FB	2	6	4	50	3	1
MTS-2.5*8*4*50-3FA	MTS-2.5*8*4*50-3FB	2.5	8	4	50	3	1
MTS-3*9*4*50-3FA	MTS-3*9*4*50-3FB	3	9	4	50	3	1
MTS-3.5*12*4*50-3FA	MTS-3.5*12*4*50-3FB	3.5	12	4	50	3	1
MTS-4*12*4*50-3FA	MTS-4*12*4*50-3FB	4	12	4	50	3	2
MTS-4*15*4*75-3FA	MTS-4*15*4*75-3FB	4	15	4	75	3	2
MTS-4*20*4*100-3FA	MTS-4*20*4*100-3FB	4	20	5	100	3	2
MTS-5*15*5*50-3FA	MTS-5*15*5*50-3FB	5	15	5	50	3	2
MTS-5*20*5*75-3FA	MTS-5*20*5*75-3FB	5	20	5	75	3	2
MTS-5*25*5*100-3FA	MTS-5*25*5*100-3FB	5	25	6	100	3	2
MTS-2*6*6*50-3FA	MTS-2*6*6*50-3FB	2	6	6	50	3	1
MTS-3*9*6*50-3FA	MTS-3*9*6*50-3FB	3	9	6	50	3	1
MTS-4*12*6*50-3FA	MTS-4*12*6*50-3FB	4	12	6	50	3	1
MTS-5*15*6*50-3FA	MTS-5*15*6*50-3FB	5	15	6	50	3	1
MTS-6*18*6*50-3FA	MTS-6*18*6*50-3FB	6	18	6	50	3	2
MTS-6*25*6*75-3FA	MTS-6*25*6*75-3FB	6	25	6	75	3	2
MTS-6*30*6*100-3FA	MTS-6*30*6*100-3FB	6	30	6	100	3	2
MTS-6*35*6*150-3FA	MTS-6*35*6*150-3FB	6	35	6	150	3	2
MTS-7*21*8*60-3FA	MTS-7*21*8*60-3FB	7	21	8	60	3	1
MTS-8*24*8*60-3FA	MTS-8*24*8*60-3FB	8	24	8	60	3	2
MTS-8*30*8*75-3FA	MTS-8*30*8*75-3FB	8	30	8	75	3	2
MTS-8*40*8*100-3FA	MTS-8*40*8*100-3FB	8	40	8	100	3	2
MTS-8*50*8*150-3FA	MTS-8*50*8*150-3FB	8	50	8	150	3	2
MTS-9*27*10*75-3FA	MTS-9*27*10*75-3FB	9	27	10	75	3	1
MTS-10*30*10*75-3FA	MTS-10*30*10*75-3FB	10	30	10	75	3	2
MTS-10*45*10*100-3FA	MTS-10*45*10*100-3FB	10	45	10	100	3	2
MTS-10*50*10*150-3FA	MTS-10*50*10*150-3FB	10	50	10	150	3	2
MTS-11*33*12*75-3FA	MTS-11*33*12*75-3FB	11	33	12	75	3	1
MTS-12*36*12*75-3FA	MTS-12*36*12*75-3FB	12	36	12	75	3	2
MTS-12*45*100-3FA	MTS-12*45*100-3FB	12	45	12	100	3	2
MTS-12*60*12*150-3FA	MTS-12*60*12*150-3FB	12	60	12	150	3	2
MTS-14*35*14*80-3FA	MTS-14*35*14*80-3FB	14	35	14	80	3	2
MTS-14*45*14*100-3FA	MTS-14*45*14*100-3FB	14	45	14	100	3	2
MTS-14*60*14*150-3FA	MTS-14*60*14*150-3FB	14	60	14	150	3	2
MTS-16*45*16*100-3FA	MTS-16*45*16*100-3FB	16	45	16	100	3	2
MTS-16*60*16*150-3FA	MTS-16*60*16*150-3FB	16	60	16	150	3	2
MTS-18*45*18*100-3FA	MTS-18*45*18*100-3FB	18	45	18	100	3	2
MTS-18*60*18*150-3FA	MTS-18*60*18*150-3FB	18	60	18	150	3	2
MTS-20*45*20*100-3FA	MTS-20*45*20*100-3FB	20	45	20	100	3	2
MTS-20*60*20*150-3FA	MTS-20*60*20*150-3FB	20	60	20	150	3	2

## 45 度 2 刃钨钢铝用铣刀

HRC 45 deg Tungsten Steel 2 Flute End Mills



### • 棒料

采用高硬度的自贡 YG10X，具有良好的耐磨性和抗腐蚀性

Raw Material: Use Zigong YG10X, high hardness, good wear resistance and corrosion resistance.

### • 后角设计

双后角设计有效去毛刺，用于工件的半精加工和精加工

Double-edge design provides good smooth finish and is suitable for semi-finish and finish machining

### • 铣刀直径精度公差

Tolerance of End Mill Diameter

1 < D ≤ 6    -0.010 ~ -0.030  
6 < D ≤ 10   -0.015 ~ -0.040  
10 < D ≤ 20 -0.020 ~ -0.050

### • 刃数

2 刃，大容量的排屑槽使排屑顺畅，不易粘刀

2 Flutes: Large capacity of junk slot and smooth chip evacuation.

### • 一般切削参数

Cutting Parameters

切削速度  $v_c=220$  (100-800)m/min

切深  $a_p=1/2D(1/8-3/4D)$

切宽  $a_c=1/2D(1/4-1D)$

单刃进给  $f_z=0.15\text{mm}(0.02-0.2)$

按照被加工材料的不同材质和硬度，切削参数做适当的调整。

Please adjust the parameters according to the material and hardness of workpieces.

### • 刃口设计

刃口过中心，有效减少切削阻力，增加了刀具的刚性

Edge Design: Cutting edge over the center reduces the cutting resistance and increases the rigidity of tools.

工件材料 Workpiece Material

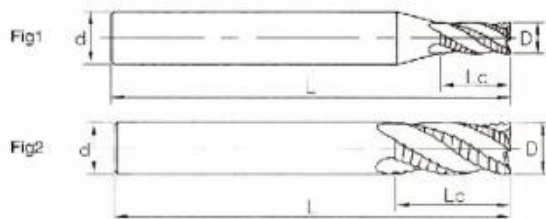
碳钢	合金钢	铸铁	铝合金	铜合金	不锈钢	高硬钢
Carbon Steel	Alloy Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Stainless Steel	Hardened Steel
			Y	Y		

Y 适合 Suitable

型号 Cat.No	规格 Specifications				刃数 Flutes	图号 Figure No.
	刃径 D	刃长 Lc	柄径 d	总长 L		
MTS-3*9*3*50-2F	3	9	3	50	2	2
MTS-3*15*3*75-2F	3	15	3	75	2	2
MTS-3*15*3*100-2F	3	15	3	100	2	2
MTS-1*3*4*50-2F	1	3	4	50	2	1
MTS-1.5*5*4*50-2F	1.5	5	4	50	2	1
MTS-2*6*4*50-2F	2	6	4	50	2	1
MTS-2.5*8*4*50-2F	2.5	8	4	50	2	1
MTS-3*9*4*50-2F	3	9	4	50	2	1
MTS-3.5*12*4*50-2F	3.5	12	4	50	2	1
MTS-4*12*4*50-2F	4	12	4	50	2	2
MTS-4*15*4*75-2F	4	15	4	75	2	2
MTS-4*20*4*100-2F	4	20	5	100	2	2
MTS-5*15*5*50-2F	5	15	5	50	2	2
MTS-5*20*5*75-2F	5	20	5	75	2	2
MTS-5*25*5*100-2F	5	25	6	100	2	2
MTS-2*6*6*50-2F	2	6	6	50	2	1
MTS-3*9*6*50-2F	3	9	6	50	2	1
MTS-4*12*6*50-2F	4	12	6	50	2	1
MTS-5*15*6*50-2F	5	15	6	50	2	1
MTS-6*18*6*50-2F	6	18	6	50	2	2
MTS-6*25*6*75-2F	6	25	6	75	2	2
MTS-6*30*6*100-2F	6	30	6	100	2	2
MTS-6*35*6*150-2F	6	35	6	150	2	2
MTS-7*21*8*60-2F	7	21	8	60	2	1
MTS-8*24*8*60-2F	8	24	8	60	2	2
MTS-8*30*8*75-2F	8	30	8	75	2	2
MTS-8*40*8*100-2F	8	40	8	100	2	2
MTS-8*50*8*150-2F	8	50	8	150	2	2
MTS-9*27*10*75-2F	9	27	10	75	2	1
MTS-10*30*10*75-2F	10	30	10	75	2	2
MTS-10*45*10*100-2F	10	45	10	100	2	2
MTS-10*50*10*150-2F	10	50	10	150	2	2
MTS-11*33*12*75-2F	11	33	12	75	2	1
MTS-12*36*12*75-2F	12	36	12	75	2	2
MTS-12*45*100-2F	12	45	12	100	2	2
MTS-12*60*12*150-2F	12	60	12	150	2	2
MTS-14*35*14*80-2F	14	35	14	80	2	2
MTS-14*45*14*100-2F	14	45	14	100	2	2
MTS-14*60*14*150-2F	14	60	14	150	2	2
MTS-16*45*16*100-2F	16	45	16	100	2	2
MTS-16*60*16*150-2F	16	60	16	150	2	2
MTS-18*45*18*100-2F	18	45	18	100	2	2
MTS-18*60*18*150-2F	18	60	18	150	2	2
MTS-20*45*20*100-2F	20	45	20	100	2	2
MTS-20*60*20*150-2F	20	60	20	150	2	2

## 4 刃钨钢粗皮铣刀

### Tungsten Steel 4 Flute Roughing End Mills



#### • 棒料

45 度采用自贡 YG10X, 55 度采用自贡 ZK30UF

Raw Material: HRC 45 deg tools uses Zigong YG10X, HRC 55 deg uses ZK30UF.

#### • 适应切削材料

压铸钢、普通钢、铸铁、模具钢、镍合金、铝合金、铜合金、45# 钢等

Workpiece Material: Die casting steel, general steel, cast iron, mould steel, nickel alloy, aluminum alloy, copper alloy, 45# steel, etc.

#### • 涂层

库存商品均为不涂层, 可根据客户的需求进行涂层

Coating: Products in stock are uncoated, various coatings available according to your needs.

#### • 产品设计

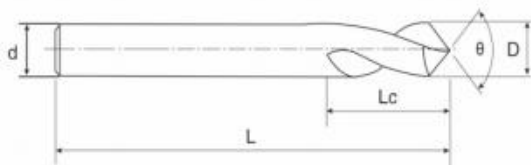
锋利波纹, 35 度螺旋角设计, 提高排屑能力, 广泛应用于工件槽切屑、侧切屑、粗加工中

Product Design: Sharp wave and 35 degree helix angle design improve the chip removal capacity, widely used in slot, profile, rough milling.

型号 Cat.No	规格 Specifications				刃数 Flutes	图号 Figure No.
	刃径 D	刃长 Lc	柄径 d	总长 L		
MTS-6*15*6*50-4F	6	15	6	50	4	2
MTS-8*20*8*60-4F	8	20	8	60	4	2
MTS-10*25*10*75-4F	10	25	10	75	4	2
MTS-10*40*10*100-4F	10	40	10	100	4	2
MTS-12*30*12*75-4F	12	30	12	75	4	2
MTS-12*45*12*100-4F	12	45	12	100	4	2
MTS-14*45*14*100-4F	14	45	14	100	4	2
MTS-16*45*16*100-4F	16	45	16	100	4	2
MTS-18*45*18*100-4F	18	45	18	100	4	2
MTS-20*45*20*100-4F	20	45	20	100	4	2

## 钨钢定点钻

### Tungsten Steel Spotting Drill



#### • 棒料

45度采用自贡YG10X, 55度采用  
自贡ZK30UF

Raw Material: HRC 45 deg tools  
uses Zigong YG10X, HRC 55 deg uses  
ZK30UF.

#### • 适应切削材料

适合切削普通钢, 合金钢, 回火钢,  
铸铁, 铝合金等

Workpiece Material: Suitable for general  
steels, alloy steels, tempered steels, cast  
iron, and aluminum alloy, etc.

#### • 涂层

库存商品均为不涂层, 可根据客户  
的需求进行涂层

Coating: Products in stock are uncoated,  
various coatings available according to  
your needs.

#### • 产品设计

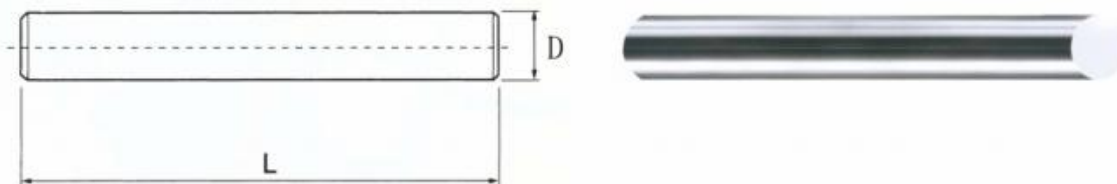
定点、倒角两用型, 中心定位及倒  
角一次性完成, 提高加工的效率

Products Design: Spotting drills can  
perform both centering and chamfering.  
Precise position the holes and chamfer are  
accomplished at one time to improve the  
processing efficiency.

型号 Cat.No	规格 Specifications		型号 Cat.No	规格 Specifications	
	直径 D	总长 L		直径 D	总长 L
MTS-3*50*90°	3	50	MTS-6*75*90°	6	75
MTS-3*75*90°	3	75	MTS-6*100*90°	6	100
MTS-4*50*90°	4	50	MTS-8*60*90°	8	60
MTS-4*75*90°	4	75	MTS-8*75*90°	8	75
MTS-4*100*90°	4	100	MTS-8*100*90°	8	100
MTS-5*50*90°	5	50	MTS-10*75*90°	10	75
MTS-5*75*90°	5	75	MTS-10*100*90°	10	100
MTS-5*100*90°	5	100	MTS-12*75*90°	12	75
MTS-6*50*90°	6	50	MTS-12*100*90°	12	100

## 钨钢精磨圆棒

Tungsten Steel Round Rods



### • 棒料

45 度采用自贡 YG10X, 55 度采用自贡 ZK30UF, 65 度采用金鹭 GU25UF, 材料性能如下表

Raw Material: HRC 45 deg tools uses Zigong YG10X, HRC 55 deg uses ZK30UF. HRC 65 deg uses Jinlu GU25UF. The performances of those are as follows.

材料 Raw Material	密度 g/cm <sup>3</sup> Density	硬度 HRA Hardness	Co 含量 Co Content	晶粒度 μm Grain Size	抗弯强度 N/mm <sup>2</sup> Bending strength
YG10X	14.5	91.5	10	1.0	≥ 2800
ZK30UF	14.3-14.6	92.0	10	0.6	≥ 3000
GU25UF	14.3-14.6	93	12	0.4	≥ 4000

### • 直径精度公差

Tolerance of End Mill Diameter

Every size: 0.000 ~ -0.050

型号 Cat.No	规格 Specifications		型号 Cat.No	规格 Specifications	
	直径 D	总长 L		直径 D	总长 L
MTS-2*100	2	100	MTS-10*100	10	100
MTS-3*100	3	100	MTS-12*100	12	100
MTS-4*100	4	100	MTS-6*150	6	150
MTS-5*100	5	100	MTS-7*150	7	150
MTS-6*100	6	100	MTS-8*150	8	150
MTS-7*100	7	100	MTS-9*150	9	150
MTS-8*100	8	100	MTS-10*150	10	150
MTS-9*100	9	100	MTS-12*150	12	150



## 硬质合金刀垫

Solid Carbide Insert Shims



型号: MW0603  
形状: 桃形  
内切圆: 9.3mm  
厚度: 3.18mm  
小孔: 5.7mm  
大孔: 6.4mm



型号: MW0603  
形状: 桃形  
内切圆: 9.3mm  
厚度: 3.18mm  
小孔: 5.7mm  
大孔: 6.4mm



型号: MW0603  
形状: 桃形  
内切圆: 9.3mm  
厚度: 3.18mm  
小孔: 5.7mm  
大孔: 6.4mm



型号: MW0603  
形状: 桃形  
内切圆: 9.3mm  
厚度: 3.18mm  
小孔: 5.7mm  
大孔: 6.4mm

型号	形状	内切圆直径 mm	厚度 mm	小孔直径 mm	大孔直径 mm
MTS-MT1603	正三角形	9	3.18	5.7	6.4
MTS-MT2204	正三角形	12.5	4.8	7.3	8
MTS-MW0603	桃形	9.3	3.18	5.7	6.4
MTS-MW0804	桃形	12.5	4.76	7.3	8
MTS-MD1504	55度菱形	12.5	4.76	7.3	8
MTS-MD1506	55度菱形	12.5	6.35	7.3	8
MTS-MC0903	菱形	9.3	3.18	5.7	6.4
MTS-MC1204	菱形	12.5	4.76	7.3	8
MTS-MC1604	菱形	15.6	4.76	9.8	10.6
MTS-MV1603	35度菱形	9.3	3.18	5.7	6.4
MTS-MS1204	正方形	12.5	4.76	7.3	8
MTS-STM16	正反通用	9.4	3.18	5	4
MTS-STM16L	反刀	9.4	3.18	5	4
MTS-STM16R	正刀	9.4	3.18	5	4
MTS-STM22L	反刀	12.5	4	7	5.2
MTS-STM22R	正刀	12.5	4	7	5.2

## 切削参数的计算

### The Calculation of Cutting Parameters

符号	描述	公式
n	每分钟转速 n (r/min)	$n = \frac{v_c \cdot 1000}{d \cdot \pi}$
$v_c$	切削速度 $v_c$ (m/min)	$v_c = \frac{d \cdot \pi \cdot n}{1000}$
$f_z$	每齿进给量 $f_z$ (mm/tooth)	$f_z = \frac{V_f}{z \cdot n}$
f	每转进给量 f (mm/r)	$f = f_z \cdot z$
$V_f$	进给速度 $V_f$ (mm/min)	$V_f = f_z \cdot z \cdot n = f \cdot n$
Q	切削切除率 Q (cm <sup>3</sup> /min)	$Q = \frac{a_c \cdot a_p \cdot V_f}{1000}$
$V_{eff}$	铣刀的有效切削速度 $V_{eff}$ (m/min)	$V_{eff} = \frac{d_{eff} \cdot \pi \cdot n}{1000}$
$d_{eff}$	铣刀的有效直径 $d_{eff}$ (mm)	
$a_e$	径向切宽 $a_e$ (mm)	
$a_p$	轴向切深 $a_p$ (mm)	
d	铣刀直径 d (mm)	
z	齿数 z	
$\beta$	刃倾角	

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