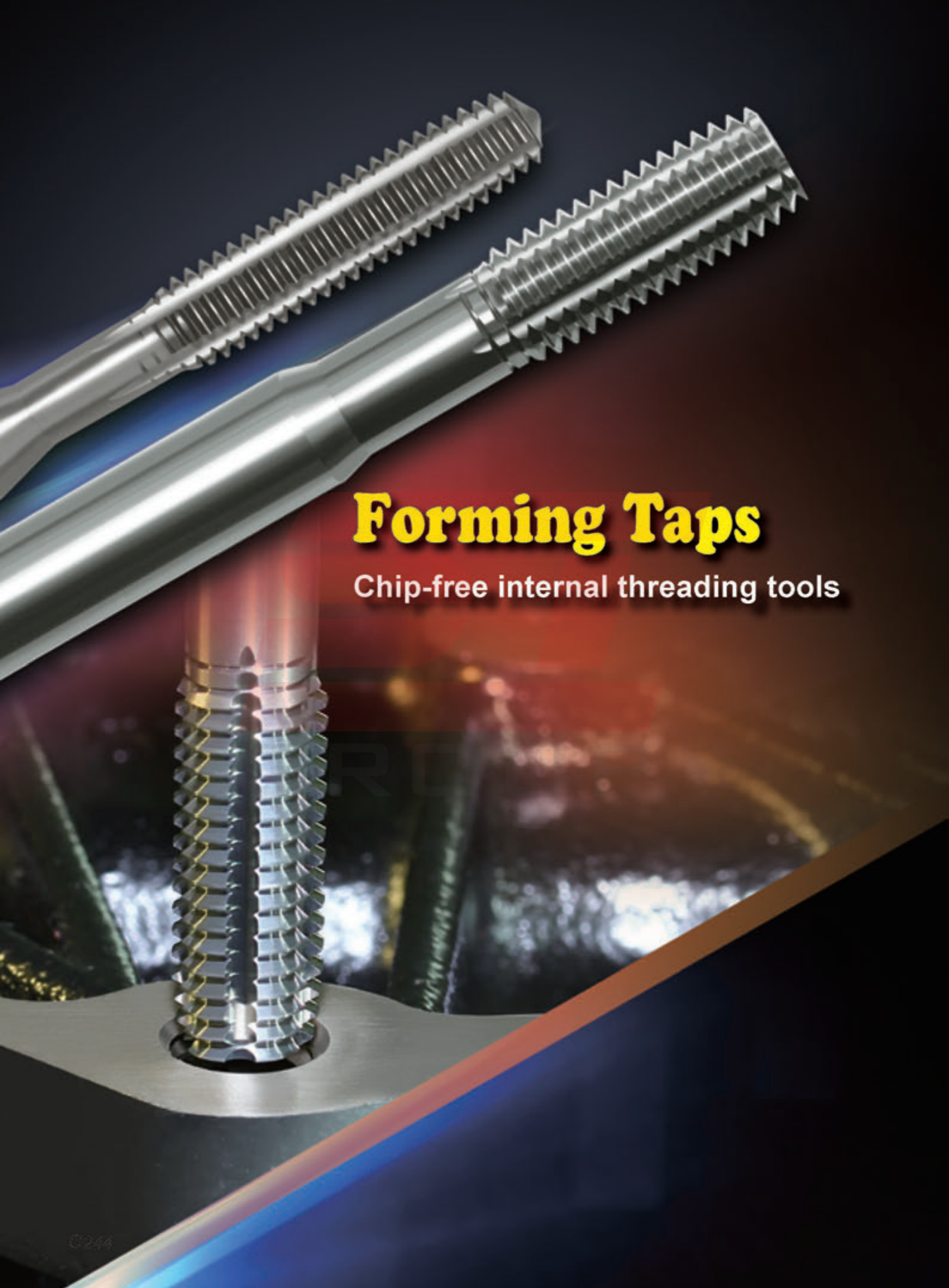

Forming Taps
Chip-free internal threading tools

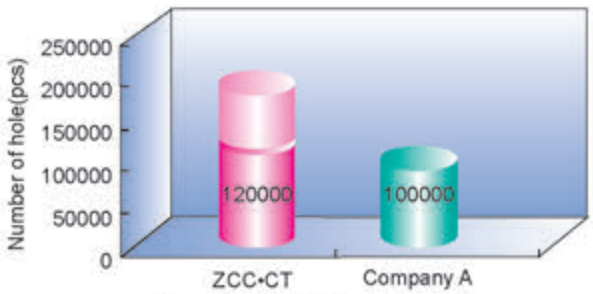
- Super micro grain cemented carbide with good toughness and abrasion resistance has long tool life.
- With particularly section-sharp design has good rigidity and strength.
- Thanks to the special technique treatment on cutting edge surface, ensuring good threading machining quality and high dimensional accuracy.

It is apply for high efficiency through-hole and blind-hole machining of high tensility material such as mild steel, stainless steel, Al alloys and cast Al alloy, etc.

Application case

Workpiece: Auto engine shell
Workpiece material: Al alloy (HB90~120)
Tool type: 4222ACS-M10×1.25-6H
Cutting parameters: n=1300r/min
F=1625mm/min
h=29mm, through hole or blind hole machining
Machining tool: Horizontal machining center
Cooling style: Emulsified liquid cooling

Comparison of hole number



ZCC•CT: 120000 holes (still usable)
Company A: 100000 holes (failure)

How to choose the right solid carbide threading tools

Shape

Product name

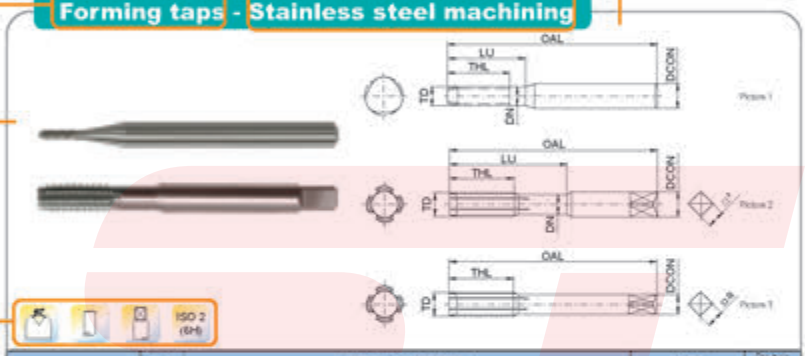
Product category

Solid carbide threading cutter

Application

Size

Forming taps - Stainless steel machining



Type	Cooling mode	Basic dimension(mm) TCP	TD	P	DCON	DN	OAL	THL	LU	a°a	Thread profile	Sketch	Number of teeth	Grade KTG402	YK40F	Pre-hole diameter d
4122M-M1*0.25-6H	External coolant	3P	M1	0.25	3		40	5			60°	Picture 1	4	●	○	0.9
4122MS-M1*0.25-6H		2P	M1	0.25	3		40	5			60°	Picture 1	4	●	○	0.9
4122M-M1.2*0.25-6H		3P	M1.2	0.25	3		40	5			60°	Picture 1	4	●	○	1.1
4122MS-M1.2*0.25-6H		2P	M1.2	0.25	3		40	5			60°	Picture 1	4	●	○	1.1
4122M-M1.6*0.35-6H		3P	M1.6	0.35	3	1.1	40	5	11		60°	Picture 1	4	●	○	1.47
4122MS-M1.6*0.35-6H		2P	M1.6	0.35	3	1.1	40	5	11		60°	Picture 1	4	●	○	1.47
4122M-M2*0.4-6H		3P	M2	0.4	3	1.5	45	6	12		60°	Picture 1	4	●	○	1.85
4122MS-M2*0.4-6H		2P	M2	0.4	3	1.5	45	6	12		60°	Picture 1	4	●	○	1.85
4122M-M2.5*0.45-6H		3P	M2.5	0.45	3	1.9	50	6	14		60°	Picture 1	4	●	○	2.33
4122MS-M2.5*0.45-6H		2P	M2.5	0.45	3	1.9	50	6	14		60°	Picture 1	4	●	○	2.33
4222M-M3*0.5-6H		3P	M3	0.5	3.5	2.3	56	6	18	2.7	60°	Picture 2	4	●	○	2.8
4222MS-M3*0.5-6H		2P														
4222M-MM*0.5-6H		3P	M4	0.5	4.5	3.1	63	8	21	3.4	60°	Picture 2	4	●	○	3.8
4222MS-MM*0.5-6H		2P														
4222M-MM*0.7-6H		3P	M4	0.7	4.5	3.1	63	8	21	3.4	60°	Picture 2	4	●	○	3.7
4222MS-MM*0.7-6H		2P														
4222M-M5*0.5-6H		3P	M5	0.5	6	4.3	70	10	25	4.9	60°	Picture 2	4	●	○	4.8
4222MS-M5*0.5-6H		2P														

● Stock available ○ Make-to-order

Applicable material table ○Very suitable ○Suitable

Grade	Workpiece material: Mild steel HB≤180	Carbon steel, Alloy steel	Pre-hardened steel, Hardened steel ~40HRC	~50HRC	~60HRC	Stainless steel	Cast iron	Nodular cast iron	Aluminum alloy	Copper alloy	Heat resistant alloy
KTG402	○					○					
YK40F	○					○			○		

Code key C249 | Cutting parameters C264 | Technical information C265-C270 | Non-standard customization C271

Applicable workpiece material range

Thread profile angle, shank type, precision class

Specification
Type, basic dimensions, number of tooth and grade.

Code key, cutting parameter, technical information, Non-standard customization

HOLEMAKING TOOLS C

Threading tools

Threading tools overview

Name	Type	Shape	Diameter range	Workpiece material							Page	
				P		M	K	N	S	H		
				Mild steel	Common steel	Stainless steel	Cast iron	Aluminum alloy	Heat resistant alloy	High hardness steel	Specification	Cutting parameters
Forming taps	4122A		M1~M2.5					◎			C250	C264
	4222A		M3~M16					◎			C250-C251	C186
	4122M		M1~M2.5	◎		◎		○			C252	C186
	4222M		M3~M16	◎		◎		○			C252-C253	C186
Helical-flute cutting taps	4201C		M3~M16				◎				C254-C255	C186
	4201A							◎			C258-C259	C186
Straight-flute cutting taps	4202C		M3~M16				◎				C256-C257	C186
	4202A							◎			C260-C261	C186
Threading end mills	4111		M3~M20	○	◎		○	○			C263	C186

◎ Very suitable ○ Suitable

Icons information

Shank type

- Straight shank
- Square straight shank as per din10

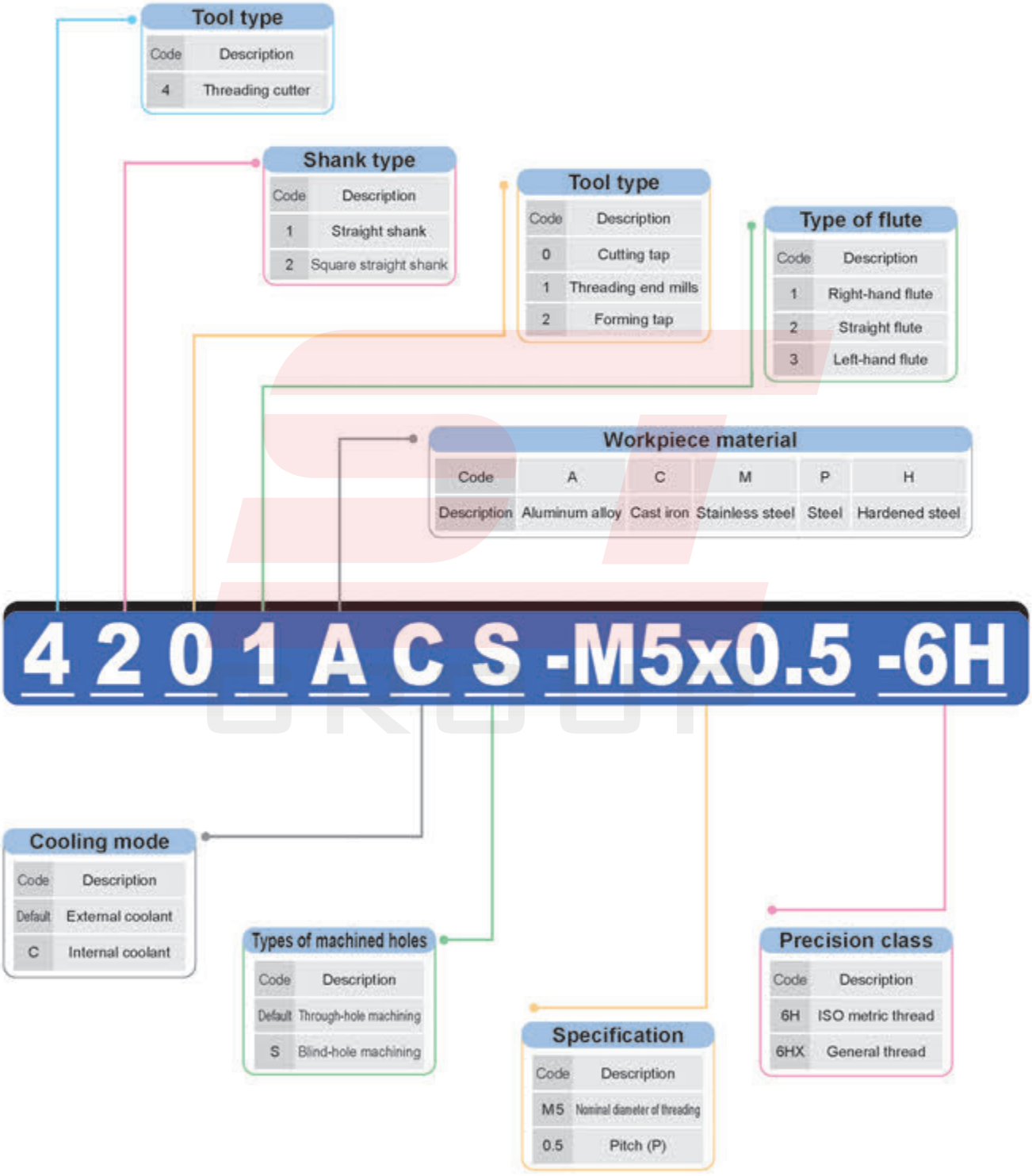
Thread profile angle of tap

- 60° shown

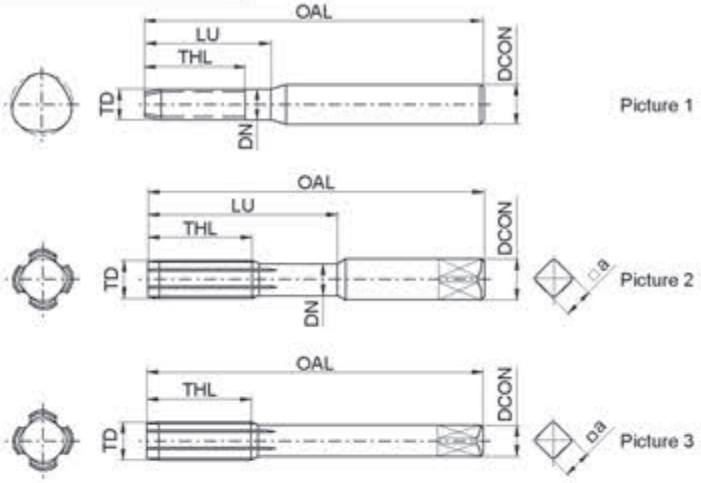
Precision class of screw thread

- ISO 2 (6H) — Precision class of screw thread
- (6HX) — Precision class of screw thread

Threading tools code key



Forming taps - Al alloys machining



Type	Cooling mode	Basic dimension(mm)												Recommended grade	Pre-hole diameter
		TCP	TD	P	DCON	DN	OAL	THL	LU	a*a	Thread profile	Geometry	Number of teeth	YK40F	d
4122A-M1*0.25-6H	External coolant	3P	M1	0.25	3		40	5			60°	Picture 1	3	●	0.9
4122AS-M1*0.25-6H		1.5P	M1	0.25	3		40	5			60°	Picture 1	3	●	0.9
4122A-M1.2*0.25-6H		3P	M1.2	0.25	3		40	5			60°	Picture 1	3	●	1.1
4122AS-M1.2*0.25-6H		1.5P	M1.2	0.25	3		40	5			60°	Picture 1	3	●	1.1
4122A-M1.6*0.35-6H		3P	M1.6	0.35	3	1.1	40	5	11		60°	Picture 1	3	●	1.47
4122AS-M1.6*0.35-6H		1.5P	M1.6	0.35	3	1.1	40	5	11		60°	Picture 1	3	●	1.47
4122A-M2*0.4-6H		3P	M2	0.4	3	1.5	45	6	12		60°	Picture 1	3	●	1.85
4122AS-M2*0.4-6H		1.5P	M2	0.4	3	1.5	45	6	12		60°	Picture 1	3	●	1.85
4122A-M2.5*0.45-6H		3P	M2.5	0.45	3	1.9	50	6	14		60°	Picture 1	3	●	2.33
4122AS-M2.5*0.45-6H		1.5P	M2.5	0.45	3	1.9	50	6	14		60°	Picture 1	3	●	2.33
4222A-M3*0.5-6H		3P	M3	0.5	3.5	2.3	56	6	18	2.7	60°	Picture 2	4	●	2.8
4222AS-M3*0.5-6H		1.5P													
4222A-M4*0.5-6H		3P	M4	0.5	4.5	3.1	63	8	21	3.4	60°	Picture 2	4	●	3.8
4222AS-M4*0.5-6H		1.5P													
4222A-M4*0.7-6H		3P	M4	0.7	4.5	3.1	63	8	21	3.4	60°	Picture 2	4	●	3.7
4222AS-M4*0.7-6H		1.5P													
4222A-M5*0.5-6H		3P	M5	0.5	6	4.3	70	10	25	4.9	60°	Picture 2	4	●	4.8
4222AS-M5*0.5-6H		1.5P													
4222A-M5*0.8-6H		3P	M5	0.8	6	4	70	10	25	4.9	60°	Picture 2	4	●	4.65
4222AS-M5*0.8-6H		1.5P													
4222A-M6*0.75-6H		3P	M6	0.75	6	5	80	12	30	4.9	60°	Picture 2	4	●	5.7
4222AS-M6*0.75-6H		1.5P													
4222A-M6*1-6H		3P	M6	1	6	4.7	80	12	30	4.9	60°	Picture 2	4	●	5.6
4222AS-M6*1-6H		1.5P													
4222A-M7*1-6H		3P	M7	1	7	5.7	80	14	30	5.5	60°	Picture 2	4	●	6.6
4222AS-M7*1-6H		1.5P													

● Stock available ○ Make-to-order

Type	Cooling mode	Basic dimension(mm)												Recommended grade	Pre-hole diameter
		TCP	TD	P	DCON	DN	OAL	THL	LU	a*a	Thread profile	Geometry	Number of teeth	YK40F	d
4222A-M8*1-6H	External coolant	3P	M8	1	8	6.7	90	16	35	6.2	60°	Picture 2	4	●	7.6
4222AS-M8*1-6H		1.5P													
4222A-M8*1.25-6H		3P	M8	1.25	8	6.4	90	16	35	6.2	60°	Picture 2	4	●	7.45
4222AS-M8*1.25-6H		1.5P													
4222A-M10*1-6H		3P	M10	1	10	8.7	100	20	39	8	60°	Picture 2	5	●	9.6
4222AS-M10*1-6H		1.5P													
4222A-M10*1.25-6H		3P	M10	1.25	10	8.4	100	20	39	8	60°	Picture 2	5	●	9.45
4222AS-M10*1.25-6H		1.5P													
4222A-M10*1.5-6H		3P	M10	1.5	10	8.1	100	20	39	8	60°	Picture 2	5	●	9.35
4222AS-M10*1.5-6H		1.5P													
4222AC-M10*1.5-6H		3P													
4222ACS-M10*1.5-6H		1.5P													
4222A-M12*1.25-6H		3P	M12	1.25	9		110	24		7	60°	Picture 3	5	●	11.45
4222AS-M12*1.25-6H		1.5P													
4222A-M12*1.5-6H		3P	M12	1.5	9		110	24		7	60°	Picture 3	5	●	11.35
4222AS-M12*1.5-6H		1.5P													
4222A-M12*1.75-6H		3P	M12	1.75	9		110	24		7	60°	Picture 3	5	●	11.25
4222AS-M12*1.75-6H		1.5P													
4222AC-M12*1.75-6H		3P													
4222ACS-M12*1.75-6H		1.5P													
4222A-M14*1.5-6H		3P	M14	1.5	11		110	26		9	60°	Picture 3	6	●	13.35
4222AS-M14*1.5-6H		1.5P													
4222A-M14*2-6H		3P	M14	2	11		110	26		9	60°	Picture 3	6	●	13.1
4222AS-M14*2-6H		1.5P													
4222A-M16*1.5-6H		3P	M16	1.5	12		110	27		9	60°	Picture 3	6	●	15.35
4222AS-M16*1.5-6H		1.5P													
4222A-M16*2-6H		3P	M16	2	12		110	27		9	60°	Picture 3	6	●	15.1
4222AS-M16*2-6H		1.5P													
4222AC-M16*2-6H		3P													
4222ACS-M16*2-6H		1.5P													

● Stock available ○ Make-to-order

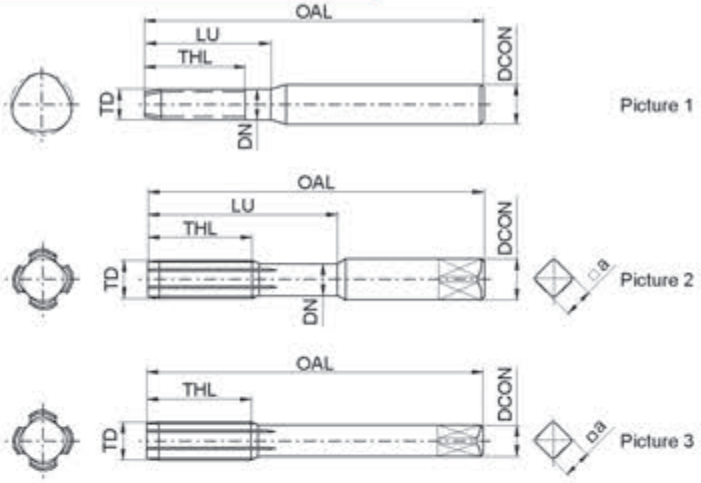
Applicable material table

○Very suitable ○Suitable

Grade	Workpiece material										
	Mild steel HB≤180	Carbon steel, Alloy steel	Pre-hardened steel, Hardened steel			Stainless steel	Cast iron	Nodular cast iron	Aluminum alloy	Copper alloy	Heat resistant alloy
			~40HRC	~50HRC	~60HRC						
YK40F									○		

Code key C249 Cutting parameters C264 Technical information C265-C270 Non-standard customization C271

Forming taps - Stainless steel machining



Type	Cooling mode	Basic dimension(mm)											Recommended grade		Pre-hole diameter
		TCP	TD	P	DCON	DN	OAL	THL	LU	a*a	Thread profile	Geometry	Number of teeth	KTG402	YK40F	d
4122M-M1*0.25-6H	External coolant	3P	M1	0.25	3		40	5			60°	Picture 1	4	●	○	0.9
4122MS-M1*0.25-6H		2P	M1	0.25	3		40	5			60°	Picture 1	4	●	○	0.9
4122M-M1.2*0.25-6H		3P	M1.2	0.25	3		40	5			60°	Picture 1	4	●	○	1.1
4122MS-M1.2*0.25-6H		2P	M1.2	0.25	3		40	5			60°	Picture 1	4	●	○	1.1
4122M-M1.6*0.35-6H		3P	M1.6	0.35	3	1.1	40	5	11		60°	Picture 1	4	●	○	1.47
4122MS-M1.6*0.35-6H		2P	M1.6	0.35	3	1.1	40	5	11		60°	Picture 1	4	●	○	1.47
4122M-M2*0.4-6H		3P	M2	0.4	3	1.5	45	6	12		60°	Picture 1	4	●	○	1.85
4122MS-M2*0.4-6H		2P	M2	0.4	3	1.5	45	6	12		60°	Picture 1	4	●	○	1.85
4122M-M2.5*0.45-6H		3P	M2.5	0.45	3	1.9	50	6	14		60°	Picture 1	4	●	○	2.33
4122MS-M2.5*0.45-6H		2P	M2.5	0.45	3	1.9	50	6	14		60°	Picture 1	4	●	○	2.33
4222M-M3*0.5-6H		3P	M3	0.5	3.5	2.3	56	6	18	2.7	60°	Picture 2	4	●	○	2.8
4222MS-M3*0.5-6H		2P														
4222M-M4*0.5-6H		3P	M4	0.5	4.5	3.1	63	8	21	3.4	60°	Picture 2	4	●	○	3.8
4222MS-M4*0.5-6H		2P														
4222M-M4*0.7-6H		3P	M4	0.7	4.5	3.1	63	8	21	3.4	60°	Picture 2	4	●	○	3.7
4222MS-M4*0.7-6H		2P														
4222M-M5*0.5-6H		3P	M5	0.5	6	4.3	70	10	25	4.9	60°	Picture 2	4	●	○	4.8
4222MS-M5*0.5-6H		2P														
4222M-M5*0.8-6H		3P	M5	0.8	6	4	70	10	25	4.9	60°	Picture 2	4	●	○	4.65
4222MS-M5*0.8-6H		2P														
4222M-M6*0.75-6H		3P	M6	0.75	6	5	80	12	30	4.9	60°	Picture 2	4	●	○	5.7
4222MS-M6*0.75-6H		2P														
4222M-M6*1-6H		3P	M6	1	6	4.7	80	12	30	4.9	60°	Picture 2	4	●	○	5.6
4222MS-M6*1-6H		2P														
4222M-M7*1-6H		3P	M7	1	7	5.7	80	14	30	5.5	60°	Picture 2	4	●	○	6.6
4222MS-M7*1-6H		2P														

● Stock available ○ Make-to-order

Forming taps - Stainless steel machining

Type	Cooling mode	Basic dimension(mm)											Recommended grade		Pre-hole diameter
		TCP	TD	P	DCON	DN	OAL	THL	LU	a*a	Thread profile	Geometry	Number of teeth	KTG402	YK40F	d
4222M-M8*1-6H	External coolant	3P	M8	1	8	6.7	90	16	35	6.2	60°	Picture 2	4	●	○	7.6
4222MS-M8*1-6H		2P														
4222M-M8*1.25-6H		3P	M8	1.25	8	6.4	90	16	35	6.2	60°	Picture 2	4	●	○	7.45
4222MS-M8*1.25-6H		2P														
4222M-M10*1-6H		3P	M10	1	10	8.7	100	20	39	8	60°	Picture 2	5	●	○	9.6
4222MS-M10*1-6H		2P														
4222M-M10*1.25-6H		3P	M10	1.25	10	8.4	100	20	39	8	60°	Picture 2	5	●	○	9.45
4222MS-M10*1.25-6H		2P														
4222M-M10*1.5-6H		3P	M10	1.5	10	8.1	100	20	39	8	60°	Picture 2	5	●	○	9.35
4222MS-M10*1.5-6H		2P														
4222MC-M10*1.5-6H	Internal coolant	3P														
4222MCS-M10*1.5-6H		2P														
4222M-M12*1.25-6H	External coolant	3P	M12	1.25	9		110	24		7	60°	Picture 3	5	●	○	11.45
4222MS-M12*1.25-6H		2P														
4222M-M12*1.5-6H		3P	M12	1.5	9		110	24		7	60°	Picture 3	5	●	○	11.35
4222MS-M12*1.5-6H		2P														
4222M-M12*1.75-6H		3P	M12	1.75	9		110	24		7	60°	Picture 3	5	●	○	11.25
4222MS-M12*1.75-6H		2P														
4222MC-M12*1.75-6H	Internal coolant	3P														
4222MCS-M12*1.75-6H		2P														
4222M-M14*1.5-6H	External coolant	3P	M14	1.5	11		110	26		9	60°	Picture 3	6	●	○	13.35
4222MS-M14*1.5-6H		2P														
4222M-M14*2-6H		3P	M14	2	11		110	26		9	60°	Picture 3	6	●	○	13.1
4222MS-M14*2-6H		2P														
4222M-M16*1.5-6H		3P	M16	1.5	12		110	27		9	60°	Picture 3	6	●	○	15.35
4222MS-M16*1.5-6H		2P														
4222M-M16*2-6H		3P	M16	2	12		110	27		9	60°	Picture 3	6	●	○	15.1
4222MS-M16*2-6H		2P														
4222MC-M16*2-6H	Internal coolant	3P														
4222MCS-M16*2-6H		2P														

● Stock available ○ Make-to-order

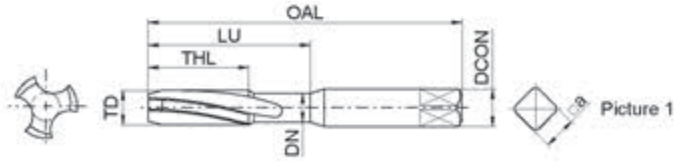
Applicable material table

○Very suitable ○Suitable

Grade	Workpiece material										
	Mild steel HB≤180	Carbon steel, Alloy steel	Pre-hardened steel, Hardened steel			Stainless steel	Cast iron	Nodular cast iron	Aluminum alloy	Copper alloy	Heat resistant alloy
			~40HRC	~50HRC	~60HRC						
KTG402	○					○					
YK40F	○					○			○		

Code key C249 Cutting parameters C264 Technical information C265-C270 Non-standard customization C271

Helical-flute cutting taps - Cast iron machining



Type	Basic dimension(mm)											Recommended grade	Pre-hole diameter
	TCP	TD	P	DCON	DN	OAL	THL	LU	a°a	Thread profile	Geometry	Number of teeth	YK40F	d
4201C-M3*0.5-6H	3P	M3	0.5	3.5	2.3	56	11	18	2.7	60°	Picture 1	3	●	2.5
4201C-M3*0.5-6HX	3P													
4201CS-M3*0.5-6H	1.5P													
4201CS-M3*0.5-6HX	1.5P													
4201C-M4*0.7-6H	3P	M4	0.7	4.5	3.1	63	13	21	3.4	60°	Picture 1	3	●	3.3
4201C-M4*0.7-6HX	3P													
4201CS-M4*0.7-6H	1.5P													
4201CS-M4*0.7-6HX	1.5P													
4201C-M5*0.8-6H	3P	M5	0.8	6	4	70	16	25	4.9	60°	Picture 1	3	●	4.2
4201C-M5*0.8-6HX	3P													
4201CS-M5*0.8-6H	1.5P													
4201CS-M5*0.8-6HX	1.5P													
4201C-M6*0.75-6H	3P	M6	0.75	6	5	80	19	30	4.9	60°	Picture 1	3	●	5.25
4201C-M6*0.75-6HX	3P													
4201CS-M6*0.75-6H	1.5P													
4201CS-M6*0.75-6HX	1.5P													
4201C-M6*1-6H	3P	M6	1	6	4.7	80	19	30	4.9	60°	Picture 1	3	●	5
4201CC-M6*1-6H	3P													
4201C-M6*1-6HX	3P													
4201CS-M6*1-6H	1.5P													
4201CCS-M6*1-6H	1.5P													
4201CS-M6*1-6HX	1.5P													
4201C-M7*1-6H	3P	M7	1	7	5.7	80	19	30	5.5	60°	Picture 1	3	●	6
4201CS-M7*1-6H	1.5P													
4201C-M8*1-6H	3P	M8	1	8	6.7	90	20	35	6.2	60°	Picture 1	3	●	7
4201CS-M8*1-6H	1.5P													
4201C-M8*1.25-6H	3P	M8	1.25	8	6.4	90	22	35	6.2	60°	Picture 1	3	●	6.75
4201CC-M8*1.25-6H	3P													
4201C-M8*1.25-6HX	3P													
4201CS-M8*1.25-6H	1.5P													
4201CCS-M8*1.25-6H	1.5P													
4201CS-M8*1.25-6HX	1.5P													

● Stock available ○ Make-to-order

Helical-flute cutting taps - Cast iron machining

Type	Basic dimension(mm)											Recommended grade	Pre-hole diameter
	TCP	TD	P	DCON	DN	OAL	THL	LU	a*a	Thread profile	Geometry	Number of teeth	YK40F	d
4201C-M10*1-6H	3P	M10	1	10	8.7	100	20	39	8	60°	Picture 1	4	●	9
4201CS-M10*1-6H	1.5P													
4201C-M10*1.25-6H	3P	M10	1.25	10	8.4	100	24	39	8	60°	Picture 1	4	●	8.75
4201CS-M10*1.25-6H	1.5P													
4201C-M10*1.5-6H	3P	M10	1.5	10	8.1	100	24	39	8	60°	Picture 1	4	●	8.5
4201CC-M10*1.5-6H	3P													
4201C-M10*1.5-6HX	3P													
4201CS-M10*1.5-6H	1.5P													
4201CCS-M10*1.5-6H	1.5P													
4201CS-M10*1.5-6HX	1.5P													
4201C-M12*1.25-6H	3P	M12	1.25	9		110	29		7	60°	Picture 2	4	●	10.75
4201CS-M12*1.25-6H	1.5P													
4201C-M12*1.5-6H	3P	M12	1.5	9		110	29		7	60°	Picture 2	4	●	10.5
4201CS-M12*1.5-6H	1.5P													
4201C-M12*1.75-6H	3P	M12	1.75	9		110	29		7	60°	Picture 2	4	●	10.25
4201CC-M12*1.75-6H	3P													
4201C-M12*1.75-6HX	3P													
4201CS-M12*1.75-6H	1.5P													
4201CCS-M12*1.75-6H	1.5P													
4201CS-M12*1.75-6HX	1.5P													
4201C-M14*1.5-6H	3P	M14	1.5	11		110	30		9	60°	Picture 2	4	●	12.5
4201CS-M14*1.5-6H	1.5P													
4201C-M14*2-6H	3P	M14	2	11		110	30		9	60°	Picture 2	4	●	12
4201CS-M14*2-6H	1.5P													
4201C-M16*1.5-6H	3P	M16	1.5	12		110	32		9	60°	Picture 2	4	●	14.5
4201CS-M16*1.5-6H	1.5P													
4201C-M16*2-6H	3P	M16	2	12		110	32		9	60°	Picture 2	4	●	14
4201C-M16*2-6HX	3P													
4201CS-M16*2-6H	1.5P													
4201CS-M16*2-6HX	1.5P													

● Stock available ○ Make-to-order

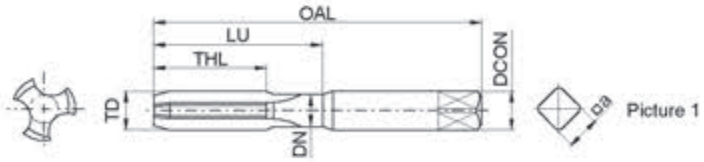
Applicable material table

○Very suitable ○Suitable

Grade	Workpiece material										
	Mild steel HB≤180	Carbon steel, Alloy steel	Pre-hardened steel, Hardened steel			Stainless steel	Cast iron	Nodular cast iron	Aluminum alloy	Copper alloy	Heat resistant alloy
			~40HRC	~50HRC	~60HRC						
YK40F							○	○			

Code key C249 Cutting parameters C264 Technical information C265-C270 Non-standard customization C271

Straight-flute cutting taps - Cast iron machining



Picture 1

Picture 2

Type	Basic dimension(mm)											Recommended grade	Pre-hole diameter
	TCP	TD	P	DCON	DN	OAL	THL	LU	a*a	Thread profile	Geometry	Number of teeth	YK40F	d
4202C-M3*0.5-6H	3P	M3	0.5	3.5	2.3	56	11	18	2.7	60°	Picture 1	3	●	2.5
4202C-M3*0.5-6HX	3P													
4202CS-M3*0.5-6H	1.5P													
4202CS-M3*0.5-6HX	1.5P													
4202C-M4*0.7-6H	3P	M4	0.7	4.5	3.1	63	13	21	3.4	60°	Picture 1	3	●	3.3
4202C-M4*0.7-6HX	3P													
4202CS-M4*0.7-6H	1.5P													
4202CS-M4*0.7-6HX	1.5P													
4202C-M5*0.8-6H	3P	M5	0.8	6	4	70	16	25	4.9	60°	Picture 1	3	●	4.2
4202C-M5*0.8-6HX	3P													
4202CS-M5*0.8-6H	1.5P													
4202CS-M5*0.8-6HX	1.5P													
4202C-M6*0.75-6H	3P	M6	0.75	6	5	80	19	30	4.9	60°	Picture 1	3	●	5.25
4202C-M6*0.75-6HX	3P													
4202CS-M6*0.75-6H	1.5P													
4202CS-M6*0.75-6HX	1.5P													
4202C-M6*1-6H	3P	M6	1	6	4.7	80	19	30	4.9	60°	Picture 1	3	●	5
4202CC-M6*1-6H	3P													
4202C-M6*1-6HX	3P													
4202CS-M6*1-6H	1.5P													
4202CCS-M6*1-6H	1.5P													
4202CS-M6*1-6HX	1.5P													
4202C-M7*1-6H	3P	M7	1	7	5.7	80	19	30	5.5	60°	Picture 1	3	●	6
4202CS-M7*1-6H	1.5P													
4202C-M8*1-6H	3P	M8	1	8	6.7	90	20	35	6.2	60°	Picture 1	3	●	7
4202CS-M8*1-6H	1.5P													
4202C-M8*1.25-6H	3P	M8	1.25	8	6.4	90	22	35	6.2	60°	Picture 1	3	●	6.75
4202CC-M8*1.25-6H	3P													
4202C-M8*1.25-6HX	3P													
4202CS-M8*1.25-6H	1.5P													
4202CCS-M8*1.25-6H	1.5P													
4202CS-M8*1.25-6HX	1.5P													

● Stock available ○ Make-to-order

Straight-flute cutting taps - Cast iron machining

Type	Basic dimension(mm)											Recommended grade	Pre-hole diameter
	TCP	TD	P	DCON	DN	OAL	THL	LU	a*a	Thread profile	Geometry	Number of teeth	YK40F	d
4202C-M10*1-6H	3P	M10	1	10	8.7	100	20	39	8	60°	Picture 1	4	●	9
4202CS-M10*1-6H	1.5P													
4202C-M10*1.25-6H	3P	M10	1.25	10	8.4	100	24	39	8	60°	Picture 1	4	●	8.75
4202CS-M10*1.25-6H	1.5P													
4202C-M10*1.5-6H	3P	M10	1.5	10	8.1	100	24	39	8	60°	Picture 1	4	●	8.5
4202CC-M10*1.5-6H	3P													
4202C-M10*1.5-6HX	3P													
4202CS-M10*1.5-6H	1.5P													
4202CCS-M10*1.5-6H	1.5P													
4202CS-M10*1.5-6HX	1.5P													
4202C-M12*1.25-6H	3P	M12	1.25	9		110	29		7	60°	Picture 2	4	●	10.75
4202CS-M12*1.25-6H	1.5P													
4202C-M12*1.5-6H	3P	M12	1.5	9		110	29		7	60°	Picture 2	4	●	10.5
4202CS-M12*1.5-6H	1.5P													
4202C-M12*1.75-6H	3P	M12	1.75	9		110	29		7	60°	Picture 2	4	●	10.25
4202CC-M12*1.75-6H	3P													
4202C-M12*1.75-6HX	3P													
4202CS-M12*1.75-6H	1.5P													
4202CCS-M12*1.75-6H	1.5P													
4202CS-M12*1.75-6HX	1.5P													
4202C-M14*1.5-6H	3P	M14	1.5	11		110	30		9	60°	Picture 2	4	●	12.5
4202CS-M14*1.5-6H	1.5P													
4202C-M14*2-6H	3P	M14	2	11		110	30		9	60°	Picture 2	4	●	12
4202CS-M14*2-6H	1.5P													
4202C-M16*1.5-6H	3P	M16	1.5	12		110	32		9	60°	Picture 2	4	●	14.5
4202CS-M16*1.5-6H	1.5P													
4202C-M16*2-6H	3P	M16	2	12		110	32		9	60°	Picture 2	4	●	14
4202C-M16*2-6HX	3P													
4202CS-M16*2-6H	1.5P													
4202CS-M16*2-6HX	1.5P													

● Stock available ○ Make-to-order

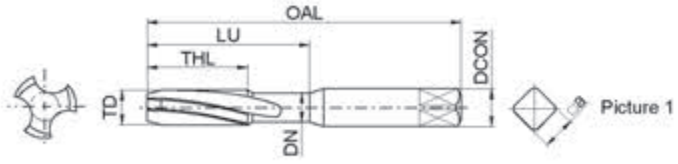
Applicable material table

○Very suitable ○Suitable

Grade	Workpiece material										
	Mild steel HB≤180	Carbon steel, Alloy steel	Pre-hardened steel, Hardened steel			Stainless steel	Cast iron	Nodular cast iron	Aluminum alloy	Copper alloy	Heat resistant alloy
			~40HRC	~50HRC	~60HRC						
YK40F							○	○			

Code key C249 Cutting parameters C264 Technical information C265-C270 Non-standard customization C271

Helical-flute cutting taps - Al alloys machining



Type	Basic dimension(mm)											Recommended grade	Pre-hole diameter
	TCP	TD	P	DCON	DN	OAL	THL	LU	a°a	Thread profile	Geometry	Number of teeth	YK40F	d
4201A-M3*0.5-6H	3P	M3	0.5	3.5	2.3	56	11	18	2.7	60°	Picture 1	3	●	2.5
4201A-M3*0.5-6HX	3P													
4201AS-M3*0.5-6H	1.5P													
4201AS-M3*0.5-6HX	1.5P													
4201A-M4*0.7-6H	3P	M4	0.7	4.5	3.1	63	13	21	3.4	60°	Picture 1	3	●	3.3
4201A-M4*0.7-6HX	3P													
4201AS-M4*0.7-6H	1.5P													
4201AS-M4*0.7-6HX	1.5P													
4201A-M5*0.8-6H	3P	M5	0.8	6	4	70	16	25	4.9	60°	Picture 1	3	●	4.2
4201A-M5*0.8-6HX	3P													
4201AS-M5*0.8-6H	1.5P													
4201AS-M5*0.8-6HX	1.5P													
4201A-M6*0.75-6H	3P	M6	0.75	6	5	80	19	30	4.9	60°	Picture 1	3	●	5.25
4201A-M6*0.75-6HX	3P													
4201AS-M6*0.75-6H	1.5P													
4201AS-M6*0.75-6HX	1.5P													
4201A-M6*1-6H	3P	M6	1	6	4.7	80	19	30	4.9	60°	Picture 1	3	●	5
4201AC-M6*1-6H	3P													
4201A-M6*1-6HX	3P													
4201AS-M6*1-6H	1.5P													
4201ACS-M6*1-6H	1.5P													
4201AS-M6*1-6HX	1.5P													
4201A-M7*1-6H	3P	M7	1	7	5.7	80	19	30	5.5	60°	Picture 1	3	●	6
4201AS-M7*1-6H	1.5P													
4201A-M8*1-6H	3P	M8	1	8	6.7	90	20	35	6.2	60°	Picture 1	3	●	7
4201AS-M8*1-6H	1.5P													

● Stock available ○ Make-to-order

Helical-flute cutting taps - Al alloys machining

Type	Basic dimension(mm)											Recommended grade	Pre-hole diameter
	TCP	TD	P	DCON	DN	OAL	THL	LU	a*a	Thread profile	Geometry	Number of teeth	YK40F	d
4201A-M8*1.25-6H	3P	M8	1.25	8	6.4	90	22	35	6.2	60°	Picture 1	3	●	6.75
4201AC-M8*1.25-6H	3P													
4201A-M8*1.25-6HX	3P													
4201AS-M8*1.25-6H	1.5P													
4201ACS-M8*1.25-6H	1.5P													
4201AS-M8*1.25-6HX	1.5P													
4201A-M10*1-6H	3P	M10	1	10	8.7	100	20	39	8	60°	Picture 1	4	●	9
4201AS-M10*1-6H	1.5P													
4201A-M10*1.25-6H	3P	M10	1.25	10	8.4	100	24	39	8	60°	Picture 1	4	●	8.75
4201AS-M10*1.25-6H	1.5P													
4201A-M10*1.5-6H	3P	M10	1.5	10	8.1	100	24	39	8	60°	Picture 1	4	●	8.5
4201AC-M10*1.5-6H	3P													
4201A-M10*1.5-6HX	3P													
4201AS-M10*1.5-6H	1.5P													
4201ACS-M10*1.5-6H	1.5P													
4201AS-M10*1.5-6HX	1.5P													
4201A-M12*1.25-6H	3P	M12	1.25	9		110	29		7	60°	Picture 2	4	●	10.75
4201AS-M12*1.25-6H	1.5P													
4201A-M12*1.5-6H	3P	M12	1.5	9		110	29		7	60°	Picture 2	4	●	10.5
4201AS-M12*1.5-6H	1.5P													
4201A-M12*1.75-6H	3P	M12	1.75	9		110	29		7	60°	Picture 2	4	●	10.25
4201AC-M12*1.75-6H	3P													
4201A-M12*1.75-6HX	3P													
4201AS-M12*1.75-6H	1.5P													
4201ACS-M12*1.75-6H	1.5P													
4201AS-M12*1.75-6HX	1.5P													
4201A-M14*1.5-6H	3P	M14	1.5	11		110	30		9	60°	Picture 2	4	●	12.5
4201AS-M14*1.5-6H	1.5P													
4201A-M14*2-6H	3P	M14	2	11		110	30		9	60°	Picture 2	4	●	12
4201AS-M14*2-6H	1.5P													
4201A-M16*1.5-6H	3P	M16	1.5	12		110	32		9	60°	Picture 2	4	●	14.5
4201AS-M16*1.5-6H	1.5P													
4201A-M16*2-6H	3P	M16	2	12		110	32		9	60°	Picture 2	4	●	14
4201A-M16*2-6HX	3P													
4201AS-M16*2-6H	1.5P													
4201AS-M16*2-6HX	1.5P													

● Stock available ○ Make-to-order

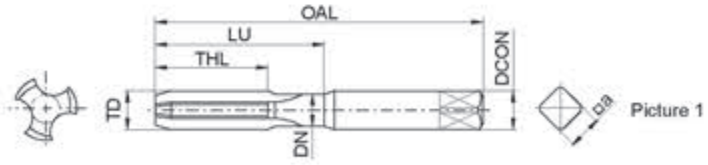
Applicable material table

○Very suitable ○Suitable

Grade	Workpiece material										
	Mild steel HB≤180	Carbon steel, Alloy steel	Pre-hardened steel, Hardened steel			Stainless steel	Cast iron	Nodular cast iron	Aluminum alloy	Copper alloy	Heat resistant alloy
			~40HRC	~50HRC	~60HRC						
YK40F									○		

Code key C249 Cutting parameters C264 Technical information C265-C270 Non-standard customization C271

Straight-flute cutting taps - Al alloys machining



Picture 1

Picture 2

Type	Basic dimension(mm)											Recommended grade	Pre-hole diameter
	TCP	TD	P	DCON	DN	OAL	THL	LU	a*a	Thread profile	Geometry	Number of teeth	YK40F	d
4202A-M3*0.5-6H	3P	M3	0.5	3.5	2.3	56	11	18	2.7	60°	Picture 1	3	●	2.5
4202A-M3*0.5-6HX	3P													
4202AS-M3*0.5-6H	1.5P													
4202AS-M3*0.5-6HX	1.5P													
4202A-M4*0.7-6H	3P	M4	0.7	4.5	3.1	63	13	21	3.4	60°	Picture 1	3	●	3.3
4202A-M4*0.7-6HX	3P													
4202AS-M4*0.7-6H	1.5P													
4202AS-M4*0.7-6HX	1.5P													
4202A-M5*0.8-6H	3P	M5	0.8	6	4	70	16	25	4.9	60°	Picture 1	3	●	4.2
4202A-M5*0.8-6HX	3P													
4202AS-M5*0.8-6H	1.5P													
4202AS-M5*0.8-6HX	1.5P													
4202A-M6*0.75-6H	3P	M6	0.75	6	5	80	19	30	4.9	60°	Picture 1	3	●	5.25
4202A-M6*0.75-6HX	3P													
4202AS-M6*0.75-6H	1.5P													
4202AS-M6*0.75-6HX	1.5P													
4202A-M6*1-6H	3P	M6	1	6	4.7	80	19	30	4.9	60°	Picture 1	3	●	5
4202AC-M6*1-6H	3P													
4202A-M6*1-6HX	3P													
4202AS-M6*1-6H	1.5P													
4202ACS-M6*1-6H	1.5P													
4202AS-M6*1-6HX	1.5P													
4202A-M7*1-6H	3P	M7	1	7	5.7	80	19	30	5.5	60°	Picture 1	3	●	6
4202AS-M7*1-6H	1.5P													
4202A-M8*1-6H	3P	M8	1	8	6.7	90	20	35	6.2	60°	Picture 1	3	●	7
4202AS-M8*1-6H	1.5P													

● Stock available ○ Make-to-order

Straight-flute cutting taps - Al alloys machining

Type	Basic dimension(mm)											Recommended grade	Pre-hole diameter
	TCP	TD	P	DCON	DN	OAL	THL	LU	a*a	Thread profile	Geometry	Number of teeth	YK40F	d
4202A-M8*1.25-6H	3P	M8	1.25	8	6.4	90	22	35	6.2	60°	Picture 1	3	●	6.75
4202AC-M8*1.25-6H	3P													
4202A-M8*1.25-6HX	3P													
4202AS-M8*1.25-6H	1.5P													
4202ACS-M8*1.25-6H	1.5P													
4202AS-M8*1.25-6HX	1.5P													
4202A-M10*1-6H	3P	M10	1	10	8.7	100	20	39	8	60°	Picture 1	4	●	9
4202AS-M10*1-6H	1.5P													
4202A-M10*1.25-6H	3P	M10	1.25	10	8.4	100	24	39	8	60°	Picture 1	4	●	8.75
4202AS-M10*1.25-6H	1.5P													
4202A-M10*1.5-6H	3P	M10	1.5	10	8.1	100	24	39	8	60°	Picture 1	4	●	8.5
4202AC-M10*1.5-6H	3P													
4202A-M10*1.5-6HX	3P													
4202AS-M10*1.5-6H	1.5P													
4202ACS-M10*1.5-6H	1.5P													
4202AS-M10*1.5-6HX	1.5P													
4202A-M12*1.25-6H	3P	M12	1.25	9		110	29		7	60°	Picture 2	4	●	10.75
4202AS-M12*1.25-6H	1.5P													
4202A-M12*1.5-6H	3P	M12	1.5	9		110	29		7	60°	Picture 2	4	●	10.5
4202AS-M12*1.5-6H	1.5P													
4202A-M12*1.75-6H	3P	M12	1.75	9		110	29		7	60°	Picture 2	4	●	10.25
4202AC-M12*1.75-6H	3P													
4202A-M12*1.75-6HX	3P													
4202AS-M12*1.75-6H	1.5P													
4202ACS-M12*1.75-6H	1.5P													
4202AS-M12*1.75-6HX	1.5P													
4202A-M14*1.5-6H	3P	M14	1.5	11		110	30		9	60°	Picture 2	4	●	12.5
4202AS-M14*1.5-6H	1.5P													
4202A-M14*2-6H	3P	M14	2	11		110	30		9	60°	Picture 2	4	●	12
4202AS-M14*2-6H	1.5P													
4202A-M16*1.5-6H	3P	M16	1.5	12		110	32		9	60°	Picture 2	4	●	14.5
4202AS-M16*1.5-6H	1.5P													
4202A-M16*2-6H	3P	M16	2	12		110	32		9	60°	Picture 2	4	●	14
4202A-M16*2-6HX	3P													
4202AS-M16*2-6H	1.5P													
4202AS-M16*2-6HX	1.5P													

● Stock available ○ Make-to-order

Applicable material table

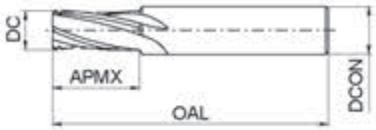
○Very suitable ○Suitable

Grade	Workpiece material										
	Mild steel HB≤180	Carbon steel, Alloy steel	Pre-hardened steel, Hardened steel			Stainless steel	Cast iron	Nodular cast iron	Aluminum alloy	Copper alloy	Heat resistant alloy
			~40HRC	~50HRC	~60HRC						
YK40F									○		

Code key C249 Cutting parameters C264 Technical information C265-C270 Non-standard customization C271


Newly upgraded !
Solid carbide
Thread mills

Thread mills



Type	Basic dimension(mm)							Recommended grade		Pre-hole diameter
	D	DC	P	DCON	OAL	APMX	Number of teeth	KTG4015	YK40F	d
4111-M3*0.5	M3	2.35	0.5	4	50	6	3	●	○	2.5
4111-M4*0.7	M4	3.15	0.7	4	50	8	3	●	○	3.3
4111-M5*0.5	M5	4.3	0.5	6	50	10	3	●	○	4.5
4111-M5*0.8	M5	4	0.8	6	50	10	3	●	○	4.2
4111-M6*0.75	M6	5	0.75	6	60	12	4	●	○	5.25
4111-M6*1	M6	4.75	1	6	60	12	4	●	○	5
4111-M8*1	M8	6.65	1	8	60	16	4	●	○	7
4111-M8*1.25	M8	6.45	1.25	8	60	16	4	●	○	6.75
4111-M10*1	M10	8.55	1	10	75	20	4	●	○	9
4111-M10*1.5	M10	8.1	1.5	10	75	20	4	●	○	8.5
4111-M12*1.25	M12	10.25	1.25	12	75	24	4	●	○	10.75
4111-M12*1.75	M12	9.75	1.75	12	75	24	4	●	○	10.25
4111-M14*1	M14	12.35	1	14	75	20	4	●	○	13
4111-M14*1.5	M14	11.9	1.5	14	75	28	4	●	○	12.5
4111-M14*2	M14	11.4	2	14	75	28	4	●	○	12
4111-M16*2	M16	13.3	2	16	90	32	6	●	○	14
4111-M18*1	M18	16.15	1	18	90	20	6	●	○	17
4111-M18*2.5	M18	14.75	2.5	18	90	36	6	●	○	15.5
4111-M20*2	M20	17.1	2	18	100	40	6	●	○	18
4111-M20*2.5	M20	16.65	2.5	18	100	40	6	●	○	17.5

● Stock available ○ Make-to-order

Applicable material table

○Very suitable ○Suitable

Grade	Workpiece material										
	Mild steel HB≤180	Carbon steel, Alloy steel	Pre-hardened steel, Hardened steel			Stainless steel	Cast iron	Nodular cast iron	Aluminum alloy	Copper alloy	Heat resistant alloy
			~40HRC	~50HRC	~60HRC						
KTG4015	○	○	○				○	○			
YK40F							○		○	○	

Code key C249 Cutting parameters C264 Technical information C265-C270 Non-standard customization C272

Forming tap

Workpiece material	Cutting speed (m/min)
Stainless steel / Mild steel	5~20
Aluminium alloy	20~50
Cast aluminium alloy(Si＜10%)	15~40

Cutting tap

Workpiece material	Cutting speed (m/min)
Grey cast iron	15~30
Nodular cast iron	10~20
Aluminium alloy	20~50
Cast aluminium alloy (Si < 10%)	20~45
Cast aluminium alloy (Si ≥ 10%)	15~40

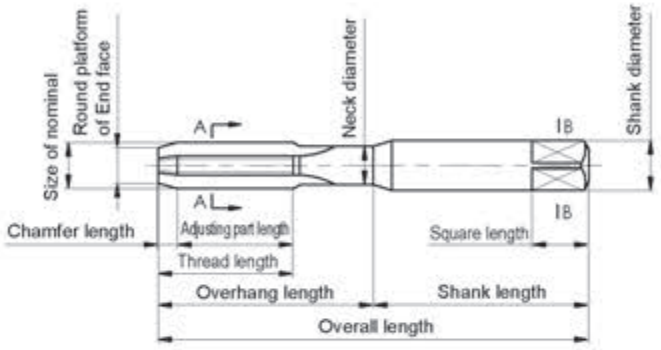
Thread mills

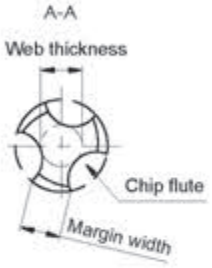
Workpiece material	Cutting speed (m/min)		Feed rate (mm/z)	
	Uncoated	Coated	D≤8	D>8
Alloy steel、Common steel	20~60	40~120	0.02~0.05	0.04~0.12
Aluminium alloy	100~250	---	0.05~0.2	

Note:
The tool entering feed is less than 70% of threading feed. It is in direct proportion to the diameter of the tap. The above cut parameters are suitable for thread cutters with helical flute. Please reduce feed rate and cutting speed by 20% ~ 40% if it is straight-flute tools.

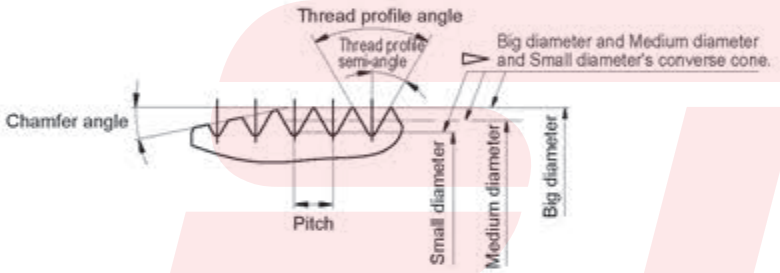
Tap

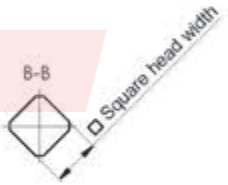
Parts terminology of cutting taps



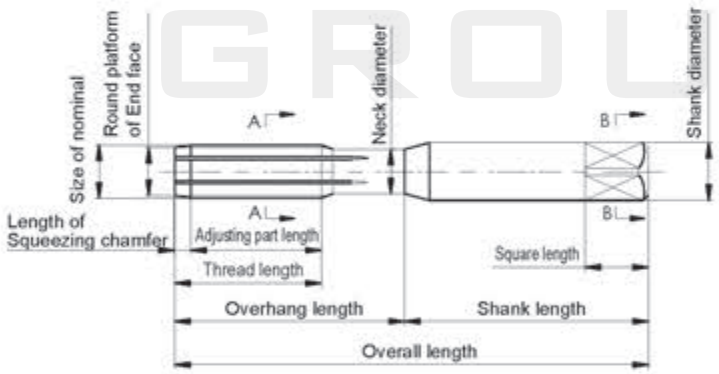


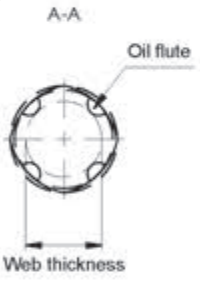
Magnifying fig of chamfer and thread profile



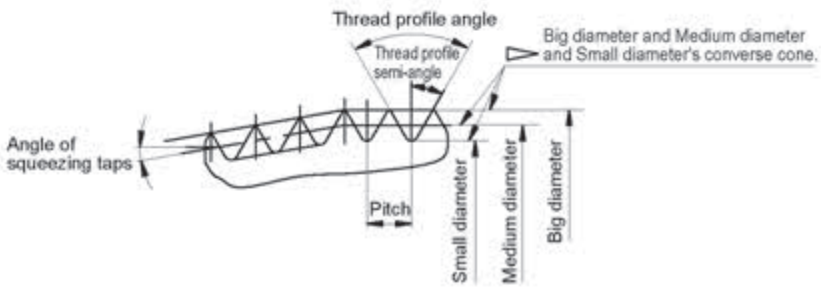


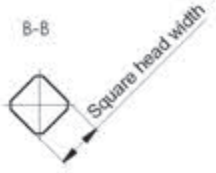
Parts terminology of forming taps



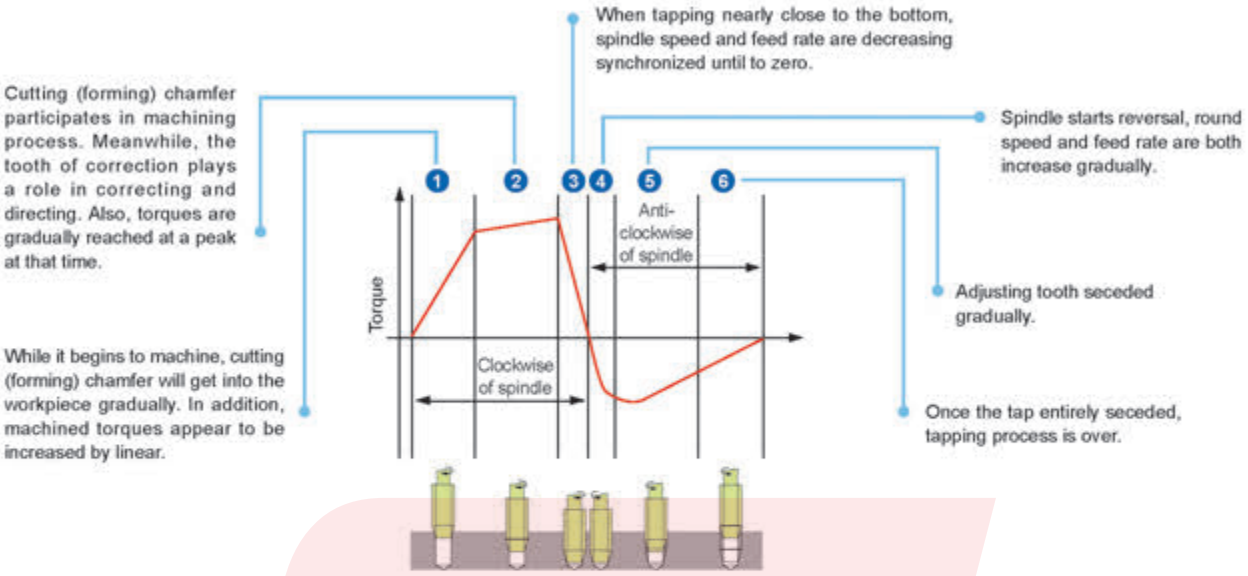


Magnifying fig of squeezing chamfer and guided threads

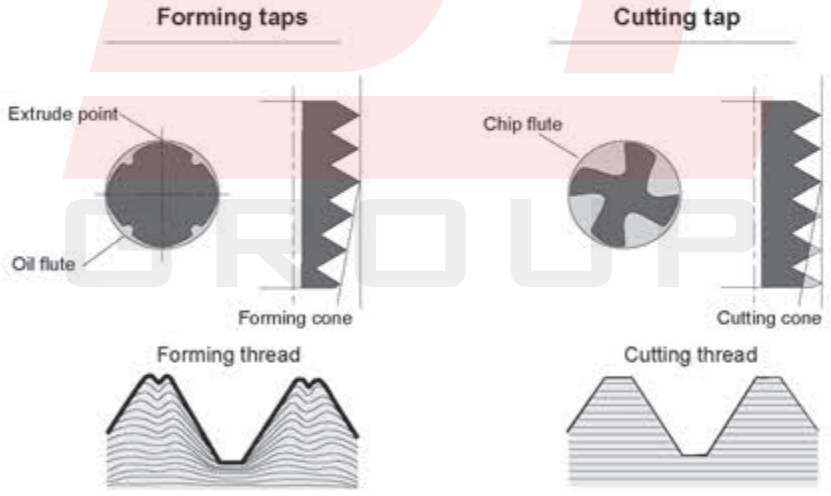




Process of tapping and tapping torques



Comparison of forming taps and cutting taps



Tapping types of cutting taps

Due to different machines, tapping types of cutting taps can be broadly divided into flexible tapping and rigid tapping. Due to different pre-hole, it can also be divided into through-hole tapping and blind-hole tapping.

Rigid tapping: Machine tool has good precision , the spindle feed rate is consistent with the tap pitch. Used general chunks.

Flexible tapping: Machine tool has poor precision, the spindle feed rate cannot be strictly in accordance with the pitch. Compensating floating chucks should be used to compensate the error between the tapping feed and the tap pitch, so that the tap can feed in accordance with the pitch.

Through-hole tapping: chip removal along the direction of tapping feed, so that the chip clogging and scratching and squeezing on the machined surface caused by chips can be reduced and the accuracy of thread processing can be improved.

Bind-hole tapping: chips removal along the direction of tap shank. Increase of cutting force, which is caused by chips blocked in the groove, can be prevented.

Features and applications of tap flute

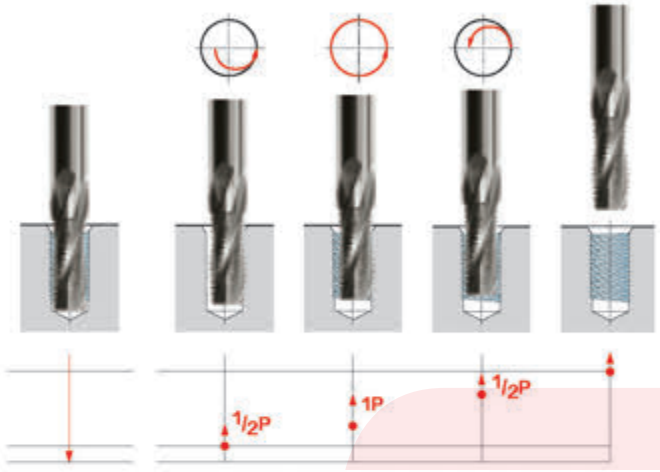
Classification	Advantages	Disadvantages	Recommend applications
Straight-flute taps 	• general performance is good • high cutting edge strength • easy to regrind	• large cutting torque by machining • bad chip-breaking and chip removal ability • cannot tapping to the bottom of blind holes	• for machining of high hardness material • material generating powdered chips • material easy to cause abrasion • tap shot through and blind hole
Helical-flute taps 	• small cutting torque by machining • better chip-breaking and chip removal ability • available for tapping to the bottom of blind holes • penetrate to pre-hole easily	• bad cutting edge strength • easily fall in tooth when seceding	• tap long through and blind hole • material generating long curling chips • the hole with axial slot on inner wall
Forming taps 	• no chips • high precision of internal thread • high tool strength • available for tapping to the bottom of blind holes	• only for machining of specific material • high requirement of pre-hole • high requirement of lubrication liquid	• for soft materials with good toughness and ductility • tap through and blind hole

The common problems in tapping

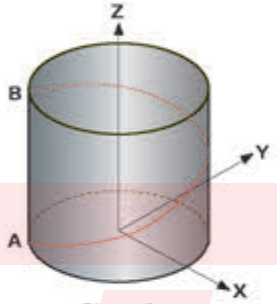
Common problems	Reasons	Solutions
Too large Internal thread	Wrong tap type selection	Selecting right tap according to work materials and requirement
	Pre-hole is too large	Select appropriate prehole drills
	Pre-hole is off center	Improve prehole quality
		Change to floated tapping method
	Axial feed not equable	Mechanical feed
		Use flexible tapping
	Build-up edge	Regrinding in time or change taps
		Adopt coated taps
		Fully lubricated
	Extremely high cutting speed	Lower cutting speed
	Insufficient lubrication or cooling	Check lubricating oil density
		Increase cooling liquid pressure and volume
	Wrong selection of tap tolerance level	Select taps with right tolerance
Too small internal thread	Wrong selection of tap tolerance level	Select taps with right tolerance
	Wrong tapping	Avoid taps bear higher axial stress in the process of tapping
	The rigidity of machine tool spindle is too well	Adopt axial floated chuck
Thread disorderly buckle	When starts tapping, force too much press on right helical taps	Decrease pressure when starts tapping
	When starts tapping, force too small press on left helical taps	increase pressure when starts tapping
	Unmatched of machine tool feed and thread pitch	Change to floated tapping
Unsmooth on internal thread surface	Wrong selection of taps	Selecting right tap according to work materials and requirement
	Too high Cutting speed	Lower cutting speed
	Insufficient cooling	Use right cooling liquid and enough volume or select taps with inner coolant
	Obstructed chip removal	Select helical flute taps
	Too small pre-hole diameter	Adjust pre-hole drill
	Build-up edge	Adopt coated taps
		Fully lubricated
Tap breakage	Too small pre-hole	Adjust pre-hole drill
	Torque is too large when tapping	Increase length of cutting chamfer
		Increase cutting edge
	Tap touch hole bottom	Check the depth of pre-hole
		Adopt floated tapping
	Pre-hole chamfer is too small, pre-hole location or angle error	Check pre-hole
		adopt floated tapping
	Cutting speed is too high	Lower cutting speed
		Select helical flute taps

Thread mills

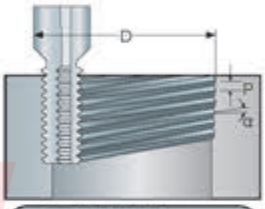
Thread mills (graphic demonstration)



Thread milling is composed of tool rotation and helical interpolate mill of machine tool. In a circle interpolation process, required threads are machined by using the geometry shape of tool and moving axially with a pitch.



Picture A



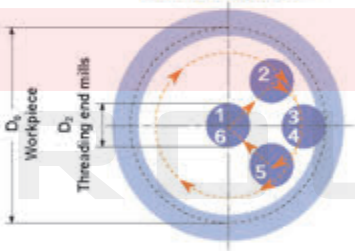
α: Helical angle
D: Large-diameter
p: Pitch

Picture B

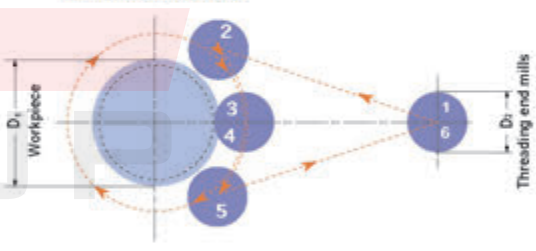
Arc entering method

Thread milling can use arc entering method and radial entering method.
Arc entering: placidly entering and out leads to almost no cutting traces or vibration, so that it is particularly suitable for materials difficult to be machined and precise threading.

Internal thread



External thread



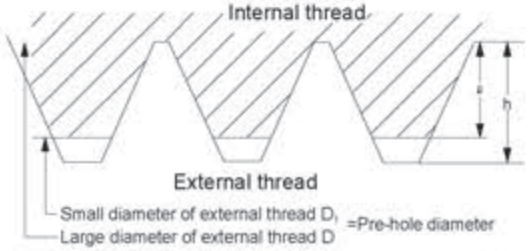
1-2 rapid positioning
2-3 entering by arc feed and interpolating along the Z axis at the same time
3-4 360 °full circle cutting interpolation and axial moving of one pitch
4-5 cutting-out by arc feed and interpolating along the Z axis at the same time
5-6 quick return

Thread overlap ratio

The thread overlap ratio is the ratio of effective chimeric height of external thread and internal thread and the height of standard tooth. It must be considered before machining of internal thread pre-hole.

$$\text{Thread overlap ratio} = \frac{\text{Reference dimension of large diameter of external thread} - \text{pre-hole diameter}}{2*(\text{height of standard tooth type})} \times 100\%$$

While external thread appears to be standardized tooth



a=1/2×(D-D1)
h=height of standard tooth of external thread
chimerism ratio=a/h×100%

The solutions of common problems in thread milling

	Common problems	Reasons	Solutions
Thread milling cutter	Roughness on internal thread milling cutter surface	Too long overhang	Decrease the length of overhang
		Select wrong type	Select appropriate tool(e.g. tool with helix flute)
		Poor chip removal	Select helix flute tap
			Adopt inner cooling
		Too large cutting force	Decrease cutting force
		Unreasonable cutting parameter	Adjust cutting parameter
	Severe tool wear	Unreasonable cutting parameter	Lower cutting speed
			Increase the feed rate per tooth
		Unreasonable machining mode	Adopt down milling
			Adopt Arc cut-in milling.
		Uncoated tools/inappropriate coated	Adopt Coated tool/ instead coat
		Too large overhang	Decrease length of overhang
	Falling on cutting edge	Unreasonable cutting parameter	Decrease the feed rate per tooth
		Unreasonable machining mode	Adopt down milling
			Adopt Arc cut-in milling
		Uncoated tools/inappropriate coated	Adopt Coated tool/instead coat
		Too large overhang	Decrease length of overhang
	Thread is taper	Unreasonable cutting parameter	Decrease the feed rate per tooth
		Unreasonable machining mode	Adopt up milling
		Too large overhang	Decrease length of overhang
		Too large cutting force	Decrease cutting force

Company name:

Fax:

Tel:

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ZCC-CT

Huanghe Southern Road, Tianyuan Zone, Zhuzhou, Hunan province

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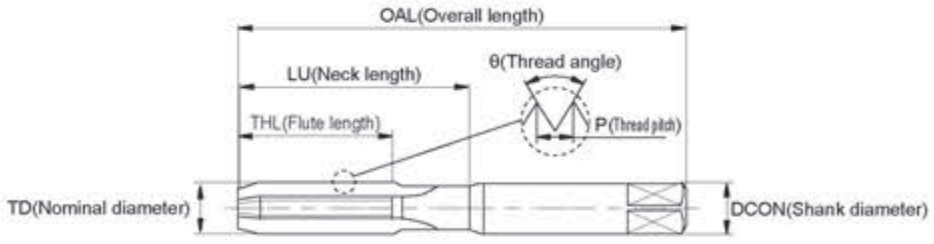
Zip code: 412007 E-mail:zccct@zccct.com

Workpiece materials			Hole Form			
Grey cast iron			Through hole		Blind hole	
Ductile Iron						
Aluminum alloy						
Silicon Aluminum Alloy(Si≤10%)						
Silicon Aluminum Alloy(Si>10%)			Bottom hole diameter			
Stainless Stee			Bottom hole depth			
Soft steel			Thread form			
Hardened steel (HRC48-63)			Threading precision			
Other materials	Workpiece material grade		Tapping depth			
			Threading rotation speed			
	Hardness		Tapping form			
			Rigid tapping		Flexible tapping	
Tool Information (attachment)						
Shank form			Chip pocket form			
Square shank			Straight flute			
Round shank			Right handed flute		Left handed flute	
Coolant form			Coating			
External coolant			Coated			
Internal coolant			Non-Coated			

Unit: mm ; Check mark for copy to fill the form: √



Applying tools: Cutting tap _____ Thread forming tap _____

Nominal diameter TD=_____ Shank diameter DCON=_____ Thread pitch P=_____ Thread angle θ=_____

Overall length OAL=_____ Flute length THL=_____ Neck length LU=_____

Note:

Order Quantity: PCS Expected delivery date:

Quotation: Confirmation:

Date:

Company name:

Fax:

Tel:

E-MAIL:

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Huanghe Southern Road, Tianyuan Zone, Zhuzhou. Hunan province

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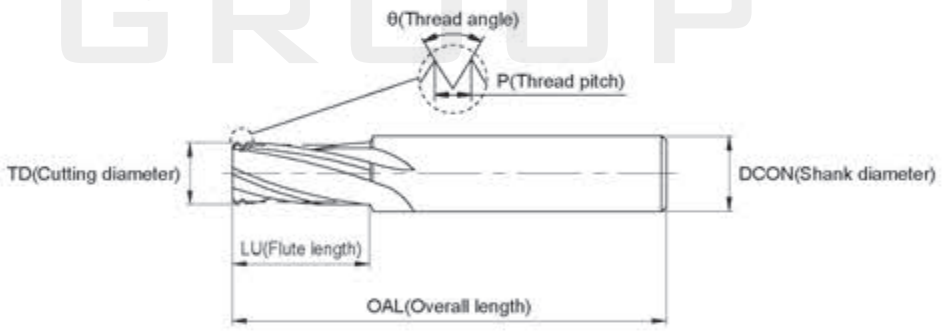
Workpiece materials			Hole Form			
Grey cast iron			Through hole		Blind hole	
Ductile Iron						
Aluminum alloy						
Silicon Aluminum Alloy(Si≤10%)						
Silicon Aluminum Alloy(Si>10%)			Bottom hole diameter			
Stainless Stee			Bottom hole depth			
Soft steel			Thread form			
Ordinary steel			Threading precision			
Other materials	Workpiece material grade		Tapping depth			
			Threading rotation speed			
	Hardness		Thread form			
			External threading		Internal threading	
Tool Information (attachment)						
Chip pocket	Right handed flute		Left handed flute		Straight flute	
Coating	Coated		Non-Coated			
Coolant type	External coolant		Internal coolant			

Unit: mm ;

Check mark for copy to fill the form: ✓



Thread specification=_____ Cutting diameter TD=_____ Shank diameter DCON=_____ Thread angle θ=_____

Overall length OAL=_____ Flute length LU=_____ Thread pitch P=_____

Note:

Order Quantity: PCS Expected delivery date:

Quotation: Confirmation:

Date: