

HSS



Being the best through innovation



STRAIGHT FLUTE TAPS

- 铸铁, 低碳钢和黄铜的浅孔加工 (HSS-EX & HSS-PM)

TAPPING SHALLOW HOLES OF CAST IRON, MILD STEELS AND BRASS
(HSS-EX & HSS-PM)






SELECTION GUIDE

直槽丝锥 / STRAIGHT FLUTE TAPS

铸铁, 低碳钢和黄铜的浅孔加工, HSS-EX & HSS-PM

Tapping Shallow Holes of Cast Iron, Mild Steels and Brass. HSS-EX & HSS-PM

STRAIGHT FLUTE TAPS

项目	型号	刀具材质	标准	工件材质	尺寸	丝锥公差	倒角	表面处理	页
EDP No.	MODEL	Tool Material	Standard	Work Material	Dimensions	Tolerance	Chamfer	Surface Treatment	PAGE
T3492 T3491		HSS-EX	M	GS	I-STtin	YH	1.5P / 5.0P	TiN	427
T1402 T1401		HSS-EX	M	VA	I-STsus	YH	1.5P / 5.0P	Homo	428
TM482 TM481		HSS-PM	M	HR	I-STPM	YH	2.5P / 5.0P	Bright	429
T4471 T4461		HSS-EX	M	GG	I-STci	YH	1.5P / 5.0P	Nitrided & Homo	430
T4442 T4432		HSS-EX	W	GG	I-STci	YH	1.5P / 5.0P	Nitrided & Homo	432

YG STRAIGHT FLUTE TAPS

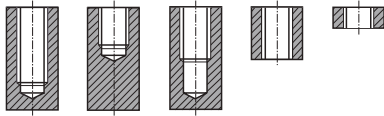
T3492 SERIES
T3491 SERIES

M 直槽丝锥
STRAIGHT FLUTE TAPS

▶ 适用于碳钢和合金钢的盲孔和通孔加工，具有高效，寿命长，能够快速攻丝。

▶ Suitable for tapping Blind & Through holes in Carbon Steels and Alloy Steels. Capable of efficient, long life, high speed tapping.

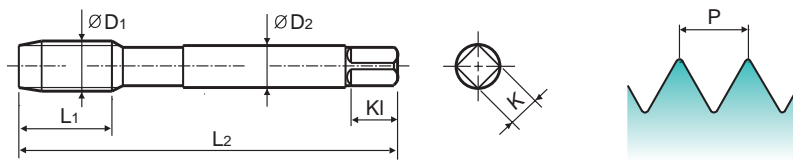
Hole type



Material groups **GS**

HSS-EX **I-STtin** **YH** **1.5P/5.0P** **TiN**

▶ Tap Limits : P.530
▶ up to M7 : Male Center
▶ Tapping Speeds : P.532



单位(Unit) : mm

尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
SIZE	Pitch	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
ØD1	P	1.5P	5.0P		L2	L1	ØD2	K	KI	
M3	× 0.5	T3492202	T3491202	YH2	46	11	4	3.2	6	3
M4	× 0.7	T3492242	T3491242	YH2	52	13	5	4	7	3
M5	× 0.8	T3492282	T3491282	YH2	60	16	5.5	4.5	7	3
M6	× 1	T3492312	T3491312	YH2	62	19	6	4.5	7	3
M8	× 1.25	T3492362	T3491362	YH2	70	22	6.2	5	8	4
M10	× 1.5	T3492423	T3491423	YH3	75	24	7	5.5	8	4
M10	× 1.25	T3492432	T3491432	YH2	75	24	7	5.5	8	4
M12	× 1.75	T3492503	T3491503	YH3	82	29	8.5	6.5	9	4
M12	× 1.5	T3492513	T3491513	YH3	82	29	8.5	6.5	9	4
M12	× 1.25	T3492522	T3491522	YH2	82	29	8.5	6.5	9	4
M12	× 1	T3492532	T3491532	YH2	82	29	8.5	6.5	9	4
M14	× 2	T3492543	T3491543	YH3	88	30	10.5	8	11	4
M14	× 1.5	T3492553	T3491553	YH3	88	30	10.5	8	11	4
M16	× 2	T3492603	T3491603	YH3	95	32	12.5	10	13	4
M16	× 1.5	T3492613	T3491613	YH3	95	32	12.5	10	13	4
M18	× 2.5	T3492653	T3491653	YH3	100	37	14	11	14	4
M18	× 1.5	T3492673	T3491673	YH3	100	37	14	11	14	4
M20	× 2.5	T3492703	T3491703	YH3	105	37	15	12	15	4
M20	× 1.5	T3492723	T3491723	YH3	105	37	15	12	15	4

◎ : 优(Excellent) ○ : 良(Good)

低碳钢	中碳钢	高碳钢	合金钢	硬化钢	不锈钢	工具钢	铸钢	铸铁	高强度铸铁	
Low Carbon Steel	Medium Carbon Steel	High Carbon Steel	Alloy Steel	Hardened Steel	Stainless Steel	Tool Steel	Cast Steel	Cast Iron	High Tension Cast Iron	
~ C0.25	C0.25 ~ C0.45	C0.45 ~	SCM	HRC25 ~ 45	SUS	SKD	SC	FC	FCD	
○	○	○	○	○						
铜	黄铜	铸铜	铝轧	铸铝	铸镁	铸锌	钛合金	镍合金	热固性塑料	热塑性塑料
Copper	Brass	Brass Casting	Aluminum Rolled	Aluminum Alloy Casting	Magnesium Casting	Zinc Alloy Casting	Ti Alloy	Ni Alloy	Thermosetting plastic	thermoplastic
Cu	Bs	PB	AL	AC,ADC	MC	ZDC				
○	○	○	○	○	○	○				

COMBO TAPS

SPIRAL POINT TAPS

SPIRAL FLUTE TAPS

STRAIGHT FLUTE TAPS

LONG SHANK TAPS

FLUTELRSS TAPS

SCREW THREAD INSERT TAPS

HAND TAPS

PIPE TAPS

CARBIDE TAPS

SKS21 HAND TAPS

SKS21 PIPE TAPS

THREAD MILLS

TECHNICAL DATA

Y/G STRAIGHT FLUTE TAPS

T1042 SERIES

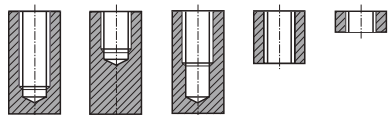
T1041 SERIES

M 不锈钢用直槽丝锥 STRAIGHT FLUTE TAPS for STAINLESS STEELS

▶ 适用于不锈钢，铬钢，铬钼钢和其他逐硬化的具有韧性材料的盲孔和通孔加工。

▶ Suitable for tapping Blind & Through holes in Stainless Steels Chrome Steels, Chrome Molybdenum Steels and other ductile materials with great tendency to work harden.

Hole type



Material groups

VA

HSS-EX

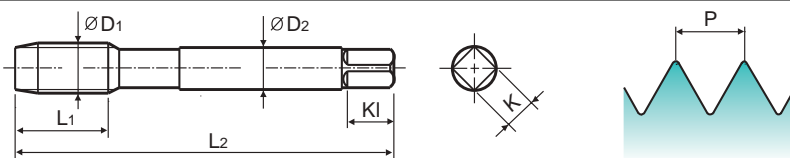
I-STsus

YH

1.5P/5.0P

Homo

- ▶ Tap Limits : P.530
- ▶ up to M7 : Male Center
- ▶ Tapping Speeds : P.532



单位(Unit) : mm

尺寸 SIZE	牙距 Pitch	型号 EDP No.		精度 Limit	全长 Overall Length L2	螺纹长 Thread Length L1	柄径 Shank Diameter ØD2	方块尺寸 Square Size K	方块长度 Square Length K1	槽数 No. of Flute
		1.5P	5.0P							
M3	× 0.5	T1402202	T1401202	YH2	46	11	4	3.2	6	3
M4	× 0.7	T1402242	T1401242	YH2	52	13	5	4	7	3
M5	× 0.8	T1402282	T1401282	YH2	60	16	5.5	4.5	7	3
M6	× 1	T1402312	T1401312	YH2	62	19	6	4.5	7	3
M8	× 1.25	T1402362	T1401362	YH2	70	22	6.2	5	8	3
M10	× 1.5	T1402423	T1401423	YH3	75	24	7	5.5	8	3
M10	× 1.25	T1402432	T1401432	YH2	75	24	7	5.5	8	3
M12	× 1.75	T1402503	T1401503	YH3	82	29	8.5	6.5	9	3
M12	× 1.5	T1402513	T1401513	YH2	82	29	8.5	6.5	9	3
M12	× 1.25	T1402522	T1401522	YH2	82	29	8.5	6.5	9	3
M12	× 1	T1402532	T1401532	YH3	82	29	8.5	6.5	9	3
M14	× 2	T1402543	T1401543	YH3	88	30	10.5	8	11	4
M14	× 1.5	T1402553	T1401553	YH3	88	30	10.5	8	11	4
M16	× 2	T1402603	T1401603	YH3	95	32	12.5	10	13	4
M16	× 1.5	T1402613	T1401613	YH3	95	32	12.5	10	13	4
M18	× 2.5	T1402653	T1401653	YH3	100	37	14	11	14	4
M18	× 1.5	T1402673	T1401673	YH3	100	37	14	11	14	4
M20	× 2.5	T1402703	T1401703	YH3	105	37	15	12	15	4
M20	× 1.5	T1402723	T1401723	YH3	105	37	15	12	15	4
M22	× 2.5	T1402743	T1401743	YH3	115	38	17	13	16	4
M22	× 1.5	T1402763	T1401763	YH3	115	38	17	13	16	4

◎ : 优(Excellent) ○ : 良(Good)

低碳钢 Low Carbon Steel ~ C0.25	中碳钢 Medium Carbon Steel C0.25 ~ C0.45	高碳钢 High Carbon Steel C0.45 ~	合金钢 Alloy Steel SCM	硬化钢 Hardened Steel HRC25 ~ 45	不锈钢 Stainless Steel SUS	工具钢 Tool Steel SKD	铸钢 Cast Steel SC	铸铁 Cast Iron FC	高强度铸铁 High Tension Cast Iron FCD	
◎										
铜 Copper Cu	黄铜 Brass Bs	铸铜 Brass Casting PB	铝轧 Aluminum Rolled AL	铸铝 Aluminum Alloy Casting AC,ADC	铸镁 Magnesium Casting MC	铸锌 Zinc Alloy Casting ZDC	钛合金 Ti Alloy	镍合金 Ni Alloy	热固性塑料 Thermosetting plastic	热塑性塑料 thermoplastic
○										

STRAIGHT FLUTE TAPS

TM482 SERIES

TM481 SERIES

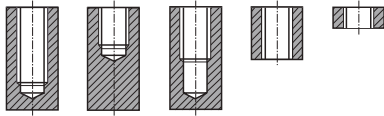
M 难加工材料用直槽丝锥

STRAIGHT FLUTE TAPS for HARD TO MACHINE MATERIALS

▶ 适用于高碳钢, 合金钢, 温钢和模具钢等硬度在HRc35~45的高强硬度钢的盲孔和通孔加工。

▶ Suitable for tapping Blind & Through holes in High Strength Steels with hardness ranging between 35~45 Rockwell (HRc 35~45), such as forgings of high carbon steels and alloy steels, thermal steels and mold steels.

Hole type



Material groups **HR**

HSS-PM

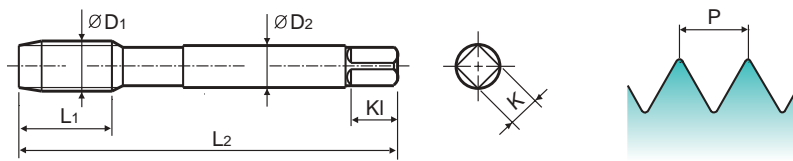
I-STPM

YH

2.5P/5.0P

Bright

▶ Tap Limits : P.530
 ▶ up to M7 : Male Center
 ▶ Tapping Speeds : P.532



单位(Unit) : mm

尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
SIZE	Pitch	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
ØD1	P	2.5P	5.0P		L2	L1	ØD2	K	KI	
M3	× 0.5	TM482202	TM481202	YH2	46	11	4	3.2	6	3
M4	× 0.7	TM482242	TM481242	YH2	52	13	5	4	7	3
M5	× 0.8	TM482282	TM481282	YH2	60	16	5.5	4.5	7	3
M6	× 1	TM482312	TM481312	YH2	62	19	6	4.5	7	3
M8	× 1.25	TM482362	TM481362	YH2	70	22	6.2	5	8	4
M10	× 1.5	TM482423	TM481423	YH3	75	24	7	5.5	8	4
M10	× 1.25	TM482432	TM481432	YH2	75	24	7	5.5	8	4
M12	× 1.75	TM482503	TM481503	YH3	82	29	8.5	6.5	9	4
M12	× 1.5	TM482513	TM481513	YH3	82	29	8.5	6.5	9	4
M12	× 1.25	TM482522	TM481522	YH2	82	29	8.5	6.5	9	4
M12	× 1	TM482532	TM481532	YH2	82	29	8.5	6.5	9	4
M14	× 2	TM482543	TM481543	YH3	88	30	10.5	8	11	4
M14	× 1.5	TM482553	TM481553	YH3	88	30	10.5	8	11	4
M16	× 2	TM482603	TM481603	YH3	95	32	12.5	10	13	4
M16	× 1.5	TM482613	TM481613	YH3	95	32	12.5	10	13	4
M18	× 2.5	TM482653	TM481653	YH3	100	37	14	11	14	4
M18	× 1.5	TM482673	TM481673	YH3	100	37	14	11	14	4
M20	× 2.5	TM482703	TM481703	YH3	105	37	15	12	15	4
M20	× 1.5	TM482723	TM481723	YH3	105	37	15	12	15	4
M22	× 2.5	TM482743	TM481743	YH3	115	38	17	13	16	4
M22	× 1.5	TM482763	TM481763	YH3	115	38	17	13	16	4

◎ : 优(Excellent) ○ : 良(Good)

低碳钢 Low Carbon Steel ~ C0.25	中碳钢 Medium Carbon Steel C0.25 ~ C0.45	高碳钢 High Carbon Steel C0.45 ~	合金钢 Alloy Steel SCM	硬化钢 Hardened Steel HRc25 ~ 45	不锈钢 Stainless Steel SUS	工具钢 Tool Steel SKD	铸钢 Cast Steel SC	铸铁 Cast Iron FC	高强度铸铁 High Tension Cast Iron FCD	
		○		◎		◎			○	
铜 Copper Cu	黄铜 Brass Bs	铸铜 Brass Casting PB	铝轧 Aluminum Rolled AL	铸铝 Aluminum Alloy Casting AC,ADC	铸镁 Magnesium Casting MC	铸锌 Zinc Alloy Casting ZDC	钛合金 Ti Alloy	镍合金 Ni Alloy	热固性塑料 Thermosetting plastic	热塑性塑料 thermoplastic

COMBO TAPS

SPIRAL POINT TAPS

SPIRAL FLUTE TAPS

STRAIGHT FLUTE TAPS

LONG SHANK TAPS

FLUTELRSS TAPS

SCREW THREAD INSERT TAPS

HAND TAPS

PIPE TAPS

CARBIDE TAPS

SKS21 HAND TAPS

SKS21 PIPE TAPS

THREAD MILLS

TECHNICAL DATA

STRAIGHT FLUTE TAPS

T4471 SERIES

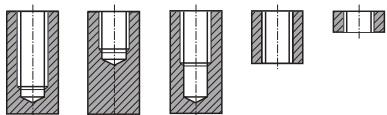
T4461 SERIES

M 铸铁用直槽丝锥 STRAIGHT FLUTE TAPS for CAST IRONS

▶ 适用于灰铸铁, 球状石墨铸铁, 可锻造铸铁及具有同性质的材料的盲孔和通孔的加工。

▶ Suitable for tapping Blind & Through holes in Grey Cast Iron, Nodular Cast Iron, Malleable Cast Iron Brass Casting and other similar materials.

Hole type



Material groups

GG

HSS-EX

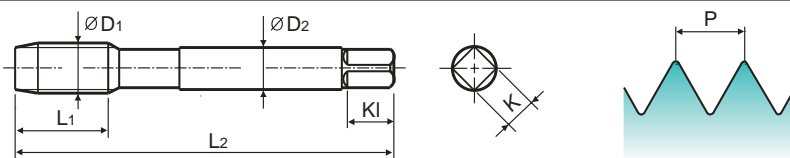
I-STci

YH

1.5P/5.0P

Nitrided & Homo

- ▶ Tap Limits : P.530
- ▶ up to M7 : Male Center
- ▶ Tapping Speeds : P.532



单位(Unit) : mm

尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
SIZE	Pitch	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
ØD1	P	1.5P	5.0P		L2	L1	ØD2	K	K1	
M2 × 0.4		T4471133	T4461133	YH3	40	7.5	3	2.5	5	3
M2.2 × 0.45		T4471153	T4461153	YH3	42	8.5	3	2.5	5	3
M2.3 × 0.4		T4471193	T4461193	YH3	42	8.5	3	2.5	5	3
M2.5 × 0.45		T4471173	T4461173	YH3	44	8.5	3	2.5	5	3
M2.6 × 0.45		T4471493	T4461493	YH3	44	8.5	3	2.5	5	3
M3 × 0.5		T4471203	T4461203	YH3	46	11	4	3.2	6	3
M3.5 × 0.6		T4471223	T4461223	YH3	48	13	4	3.2	6	3
M4 × 0.7		T4471243	T4461243	YH3	52	13	5	4	7	4
M5 × 0.8		T4471283	T4461283	YH3	60	16	5.5	4.5	7	4
M6 × 1		T4471313	T4461313	YH3	62	19	6	4.5	7	4
M8 × 1.25		T4471364	T4461364	YH4	70	22	6.2	5	8	4
M10 × 1.5		T4471424	T4461424	YH4	75	24	7	5.5	8	4
M10 × 1.25		T4471434	T4461434	YH4	75	24	7	5.5	8	4
M12 × 1.75		T4471505	T4461505	YH5	82	29	8.5	6.5	9	4
M12 × 1.5		T4471514	T4461514	YH4	82	29	8.5	6.5	9	4
M12 × 1.25		T4471524	T4461524	YH4	82	29	8.5	6.5	9	4
M12 × 1		T4471533	T4461533	YH3	82	29	8.5	6.5	9	4
M14 × 2		T4471545	T4461545	YH5	88	30	10.5	8	11	4

◎ : 优(Excellent) ○ : 良(Good)

低碳钢	中碳钢	高碳钢	合金钢	硬化钢	不锈钢	工具钢	铸钢	铸铁	高强度铸铁	
Low Carbon Steel	Meduim Carbon Steel	High Carbon Steel	Alloy Steel	Hardened Steel	Stainless Steel	Tool Steel	Cast Steel	Cast Iron	High Tension Cast Iron	
~ C0.25	C0.25 ~ C0.45	C0.45 ~	SCM	HRC25 ~ 45	SUS	SKD	SC	FC	FCD	
								◎	◎	
铜	黄铜	铸铜	铝轧	铸铝	铸镁	铸锌	钛合金	镍合金	热固性塑料	热塑性塑料
Copper	Brass	Brass Casting	Aluminum Rolled	Aluminum Alloy Casting	Magnesium Casting	Zinc Alloy Casting	Ti Alloy	Ni Alloy	Thermosetting plastic	thermoplastic
Cu	Bs	PB	AL	AC,ADC	MC	ZDC				
	○	○								

YG STRAIGHT FLUTE TAPS

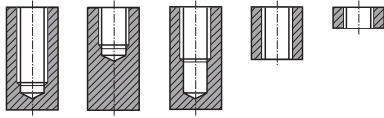
T4471 SERIES
T4461 SERIES

M 铸铁用直槽丝锥
STRAIGHT FLUTE TAPS for CAST IRONS

▶ 适用于灰铸铁, 球状石墨铸铁, 可锻造铸铁及具有同性质的材料的盲孔和通孔的加工。

▶ Suitable for tapping Blind & Through holes in Grey Cast Iron, Nodular Cast Iron, Malleable Cast Iron Brass Casting and other similar materials.

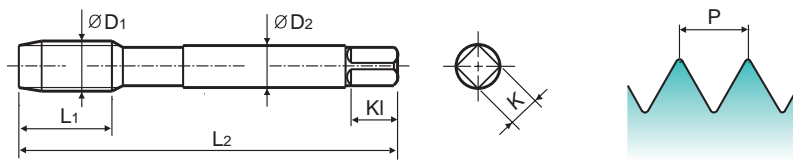
Hole type



Material groups **GG**

HSS-EX I-STci YH 1.5P/5.0P Nitrided & Homo

▶ Tap Limits : P.530
▶ up to M7 : Male Center
▶ Tapping Speeds : P.532



单位(Unit) : mm

尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
SIZE	Pitch	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
ØD1	P	1.5P	5.0P		L2	L1	ØD2	K	KI	
M14 × 1.5		T4471554	T4461554	YH4	88	30	10.5	8	11	4
M16 × 2		T4471605	T4461605	YH5	95	32	12.5	10	13	4
M16 × 1.5		T4471614	T4461614	YH4	95	32	12.5	10	13	4
M18 × 2.5		T4471655	T4461655	YH5	100	37	14	11	14	4
M18 × 1.5		T4471674	T4461674	YH4	100	37	14	11	14	4
M20 × 2.5		T4471705	T4461705	YH5	105	37	15	12	15	4
M20 × 1.5		T4471724	T4461724	YH4	105	37	15	12	15	4
M22 × 2.5		T4471745	T4461745	YH5	115	38	17	13	16	4
M22 × 1.5		T4471764	T4461764	YH4	115	38	17	13	16	4
M24 × 3		T4471785	T4461785	YH5	120	45	19	15	18	4
M24 × 1.5		T4471804	T4461804	YH5	120	45	19	15	18	4
M25 × 1.5		T4471834	T4461834	YH4	125	45	19	15	18	4
M26 × 1.5		T4471854	T4461854	YH4	125	45	20	15	18	4
M27 × 3		T4471865	T4461865	YH5	130	45	20	15	18	4
M27 × 1.5		T4471884	T4461884	YH4	130	45	20	15	18	4
M28 × 1.5		T4471914	T4461914	YH4	130	45	21	17	20	4
M30 × 3.5		T4471946	T4461946	YH6	135	48	23	17	20	4
M30 × 1.5		T4471974	T4461974	YH4	135	45	23	17	20	4

◎ : 优(Excellent) ○ : 良(Good)

低碳钢	中碳钢	高碳钢	合金钢	硬化钢	不锈钢	工具钢	铸钢	铸铁	高强度铸铁	
Low Carbon Steel	Medium Carbon Steel	High Carbon Steel	Alloy Steel	Hardened Steel	Stainless Steel	Tool Steel	Cast Steel	Cast Iron	High Tension Cast Iron	
~ C0.25	C0.25 ~ C0.45	C0.45 ~	SCM	HRC25 ~ 45	SUS	SKD	SC	FC	FCD	
								◎	◎	
铜	黄铜	铸铜	铝轧	铸铝	铸镁	铸锌	钛合金	镍合金	热固性塑料	热塑性塑料
Copper	Brass	Brass Casting	Aluminum Rolled	Aluminum Alloy Casting	Magnesium Casting	Zinc Alloy Casting	Ti Alloy	Ni Alloy	Thermosetting plastic	thermoplastic
Cu	Bs	PB	AL	AC,ADC	MC	ZDC				
	○	○								

COMBO TAPS

SPIRAL POINT TAPS

SPIRAL FLUTE TAPS

STRAIGHT FLUTE TAPS

LONG SHANK TAPS

FLUTELRSS TAPS

SCREW THREAD INSERT TAPS

HAND TAPS

PIPE TAPS

CARBIDE TAPS

SKS21 HAND TAPS

SKS21 PIPE TAPS

THREAD MILLS

TECHNICAL DATA

STRAIGHT FLUTE TAPS

T4442 SERIES

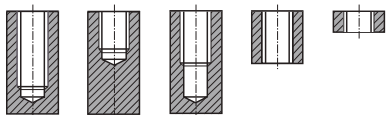
T4432 SERIES

W 铸铁用直槽丝锥 STRAIGHT FLUTE TAPS for CAST IRONS

▶ 适用于灰铸铁, 球状石墨铸铁, 可锻造铸铁及具有同性质的材料的盲孔和通孔的加工。

▶ Suitable for tapping Blind & Through holes in Grey Cast Iron, Nodular Cast Iron, Malleable Cast Iron Brass Casting, and other similar materials.

Hole type



Material groups

GG

HSS-EX

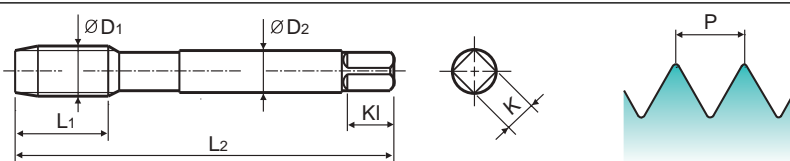
I-STci

YH

1.5P/5.0P

Nitrided & Homo

- ▶ Tap Limits : P.530
- ▶ up to 5/16 : Male Center
- ▶ Tapping Speeds : P.532



单位(Unit) : mm

尺寸	牙距	型号		精度	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
SIZE	TPI	EDP No.		Limit	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
ØD1		1.5P	5.0P		L2	L1	ØD2	K	K1	
W1/8	- 40	T4442203	T4432203	YH3	46	11	4	3.2	6	3
W3/16	- 24	T4442323	T4432323	YH3	60	16	5.5	4.5	7	4
W1/4	- 20	T4442404	T4432404	YH4	62	19	6	4.5	7	4
W5/16	- 18	T4442444	T4432444	YH4	70	22	6.1	5	8	4
W3/8	- 16	T4442484	T4432484	YH4	75	24	7	5.5	8	4
W7/16	- 14	T4442525	T4432525	YH5	80	25	8	6	9	4
W1/2	- 12	T4442565	T4432565	YH5	85	29	9	7	10	4
W9/16	- 12	T4442605	T4432605	YH5	90	30	10.5	8	11	4
W5/8	- 11	T4442645	T4432645	YH5	95	32	12	9	12	4
W3/4	- 10	T4442705	T4432705	YH5	105	37	14	11	14	4
W7/8	- 9	T4442746	T4432746	YH6	115	38	17	13	16	4
W1"	- 8	T4442786	T4432786	YH6	125	45	20	15	18	4

COMBO TAPS

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CARBIDE TAPS

SKS21 HAND TAPS

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THREAD MILLS

TECHNICAL DATA

◎ : 优(Excellent) ○ : 良(Good)

低碳钢 Low Carbon Steel ~ C0.25	中碳钢 Medium Carbon Steel C0.25 ~ C0.45	高碳钢 High Carbon Steel C0.45 ~	合金钢 Alloy Steel SCM	硬化钢 Hardened Steel HRC25 ~ 45	不锈钢 Stainless Steel SUS	工具钢 Tool Steel SKD	铸钢 Cast Steel SC	铸铁 Cast Iron FC	高强度铸铁 High Tension Cast Iron FCD	
								◎	◎	
铜 Copper Cu	黄铜 Brass Bs	铸铜 Brass Casting PB	铝轧 Aluminum Rolled AL	铸铝 Aluminum Alloy Casting AC,ADC	铸镁 Magnesium Casting MC	铸锌 Zinc Alloy Casting ZDC	钛合金 Ti Alloy	镍合金 Ni Alloy	热固性塑料 Thermosetting plastic	热塑性塑料 thermoplastic
	○	○								