

HSS



Being the best through innovation



PIPE TAPS

- 惠氏管用螺纹加工 (HSS & HSS-EX)









TAPPING WHITWORTH PIPE THREADS (HSS & HSS-EX)

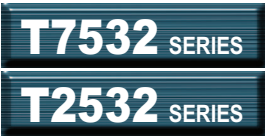
SELECTION GUIDE

管用丝锥 / PIPE TAPS

惠氏管用螺纹加工, HSS & HSS-EX / Tapping Whitworth Pipe threads, HSS & HSS-EX

PIPE 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
T7532 T2532		HSS HSS-EX	PT	GS	PT	JIS II	2.5P	Bright	481
T2518		HSS-EX	SP-PT	GS	PT	JIS II	2.5P	Bright	482
T7552 T2552		HSS HSS-EX	PS	GS	PS	JIS II	3.5P	Bright	483
T2538		HSS-EX	SP-PS	GS	PS	JIS II	3.0P	Bright	484
T7562 T2562		HSS HSS-EX	PF	GS	PF	JIS II	3.5P	Bright	485
T2539		HSS-EX	SP-PF	GS	PF	JIS II	3.0P	Bright	486
T2527		HSS-EX	NPT	GS	NPT	ANSI G	3.0P	Bright	487
T2537		HSS-EX	NPTF	GS	NPTF	ANSI G	3.0P	Bright	488

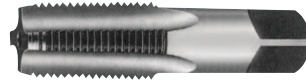
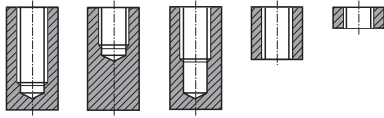


PT 螺纹用锥管丝锥 TAPER PIPE TAPS for PT THREADS

▶ 适用于锥管内部的螺纹加工

▶ Suitable for taper pipe internal threads.
PT : Taper pipe threads (for pressure-tight joints)

Hole type



HSS HSS-EX

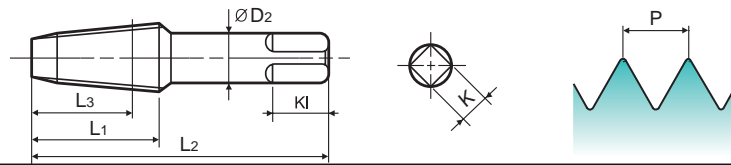
PT

JIS II

2.5P

Bright

▶ Tap Limits : JIS II
▶ Tapping Speeds : P.532



尺寸 SIZE	牙距 TPI	型号 EDP No.		精度 Limit	最大基准直径 Basic Maj. Dia.	全长 Overall Length L2	螺纹长 Thread Length L1	基准长度 Projection Length L3	柄径 Shank Diameter ØD2	方块尺寸 Square Size K	方块长度 Square Length KI	槽数 No. of Flute
		HSS	HSS-EX									
		单位(Unit) : mm										
PT 1/16	-28	T7532022	T2532022	JIS II	7.723	55	19	13	6.5	5	8	4
PT 1/8	-28	T7532202	T2532202	JIS II	9.728	55	19	13	8	6	9	4
PT 1/4	-19	T7532402	T2532402	JIS II	13.157	62	28	21	11	9	12	4
PT 3/8	-19	T7532482	T2532482	JIS II	16.662	65	28	21	14	11	14	4
PT 1/2	-14	T7532562	T2532562	JIS II	20.955	80	35	25	18	14	17	4
PT 3/4	-14	T7532702	T2532702	JIS II	26.441	85	35	25	23	17	20	4
PT 1"	-11	T7532782	T2532782	JIS II	33.249	95	45	32	26	21	24	5
PT 1*1/4	-11	T7532862	T2532862	JIS II	41.910	105	45	32	32	26	30	5
PT 1*1/2	-11	T7532962	T2532962	JIS II	47.803	110	45	32	38	29	32	6
PT 2"	-11	T7532D22	T2532D22	JIS II	59.614	120	50	35	46	35	38	6

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

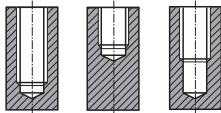
TECHNICAL DATA

PT 螺旋槽PT 螺纹用锥管丝锥
SPIRAL FLUTED TAPER PIPE TAPS for PT THREADS

▶ 适用于锥管内部的螺纹加工

▶ Suitable for process taper pipe internal threads.
 PT : Taper pipe threads (for pressure-tight joints)

Hole type



Material groups

GS

HSS-EX

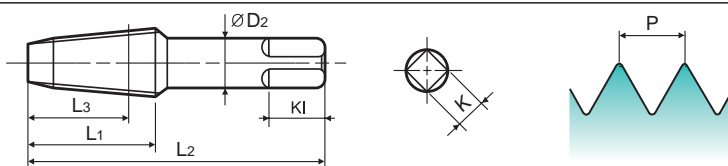
SP-PT

JIS II

2.5P

Bright

▶ Tap Limits : JIS II
 ▶ Tapping Speeds : P.532



单位(Unit) : mm

尺寸	牙距	型号	精度	最大基准直径	全长	螺纹长	基准长度	柄径	方块尺寸	方块长度	槽数
SIZE	TPI	EDP No.	Limit	Basic Maj. Dia.	Overall Length	Thread Length	Projection Length	Shank Diameter	Square Size	Square Length	No. of Flute
					L2	L1	L3	ØD2	K	KI	
PT 1/8 - 28		T2518202	JIS II	9.728	55	19	13	8	6	9	3
PT 1/4 - 19		T2518402	JIS II	13.157	62	28	21	11	9	12	3
PT 3/8 - 19		T2518482	JIS II	16.662	65	28	21	14	11	14	3
PT 1/2 - 14		T2518562	JIS II	20.955	80	35	25	18	14	17	4
PT 3/4 - 14		T2518702	JIS II	26.441	85	35	25	23	17	20	4
PT 1" - 11		T2518782	JIS II	33.249	95	45	32	26	21	24	4

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

◎ : 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
					○					



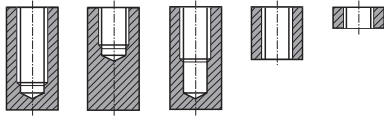
PS 螺纹用直管丝锥

STRAIGHT PIPE TAPS for PS THREADS

▶ 适用于直管内部的螺纹加工

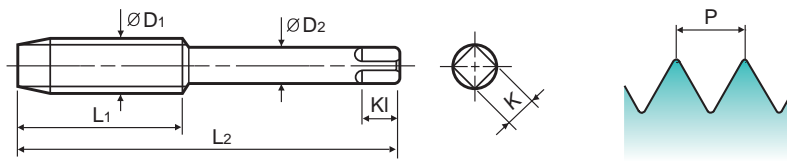
▶ Suitable for process Straight pipe internal threads.
PS : Straight pipe threads (for pressure-tight joints)

Hole type



Material groups: **HSS HSS-EX** **PS** **JIS II** **3.5P** **Bright**

▶ Tap Limits : JIS II
▶ Tapping Speeds : P.532



单位(Unit) : mm

尺寸	牙距	型号		精度	最大基准直径	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
		EDP No.									
SIZE	TPI	HSS	HSS-EX	L2	L1	ØD2	K	KI			
PS 1/8	-28	T7552202	T2552202	JIS II	9.728	55	19	8	6	9	4
PS 1/4	-19	T7552402	T2552402	JIS II	13.157	62	28	11	9	12	4
PS 3/8	-19	T7552482	T2552482	JIS II	16.662	65	28	14	11	14	4
PS 1/2	-14	T7552562	T2552562	JIS II	20.955	80	35	18	14	17	4
PS 3/4	-14	T7552702	T2552702	JIS II	26.441	85	35	23	17	20	4
PS 1"	-11	T7552782	T2552782	JIS II	33.249	95	45	26	21	24	5
PS 1*1/4-	11	T7552862	T2552862	JIS II	41.910	105	45	32	26	30	5
PS 1*1/2-	11	T7552962	T2552962	JIS II	47.803	110	45	38	29	32	6
PS 2"	-11	T7552D22	T2552D22	JIS II	59.614	120	50	46	35	38	6

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 ~ C0.25	Medium Carbon Steel C0.25 ~ C0.45	High Carbon Steel C0.45 ~	Alloy Steel SCM	Hardened Steel HRC25 ~ 45	Stainless Steel SUS	Tool Steel SKD	Cast Steel SC	Cast Iron FC	High Tension Cast Iron 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 Cu	Brass Bs	Brass Casting PB	Aluminum Rolled AL	Aluminum Alloy Casting AC,ADC	Magnesium Casting MC	Zinc Alloy Casting ZDC	Ti Alloy	Ni Alloy	Thermosetting plastic	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

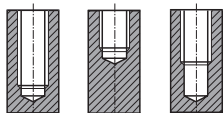
TECHNICAL DATA

PS 螺旋槽PS螺纹用直管丝锥
SPIRAL FLUTED STRAIGHT PIPE TAPS for PS THREADS

▶ 适用于锥管内部的螺纹加工。

▶ Suitable for process Straight pipe internal threads.
 PS : Straight pipe threads (for pressure-tight joints)

Hole type



Material groups

GS

HSS-EX

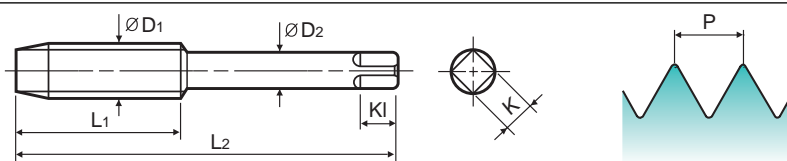
SP-PS

JIS II

3.0P

Bright

▶ Tap Limits : JIS II
 ▶ Tapping Speeds : P.532



单位(Unit) : mm

尺寸	牙距	型号	精度	最大基准直径	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
SIZE	TPI	EDP No.	Limit	Basic Maj. Dia.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	No. of Flute
					L2	L1	ØD2	K	KI	
PS 1/8 - 28		T2538202	JIS II	9.728	55	19	8	6	9	3
PS 1/4 - 19		T2538402	JIS II	13.157	62	28	11	9	12	3
PS 3/8 - 19		T2538482	JIS II	16.662	65	28	14	11	14	3
PS 1/2 - 14		T2538562	JIS II	20.955	80	35	18	14	17	4
PS 3/4 - 14		T2538702	JIS II	26.441	85	35	23	17	20	4
PS 1" - 11		T2538782	JIS II	33.249	95	45	26	21	24	4

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

◎ : 优(Excellent) ○ : 良(Good)

低碳钢 Low Carbon Steel ~ C0.25	中碳钢 Meduim 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
○	○	○	○	○	○	○				○



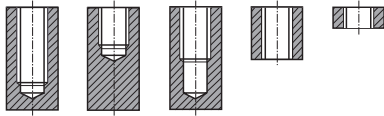
T7562 SERIES
T2562 SERIES

PF PF螺纹用直管丝锥
STRAIGHT PIPE TAPS for PF THREADS

▶ 适用于直管内部的螺纹加工

▶ Suitable for process Straight pipe internal threads.
PF : Straight pipe threads (for mechanical joints)

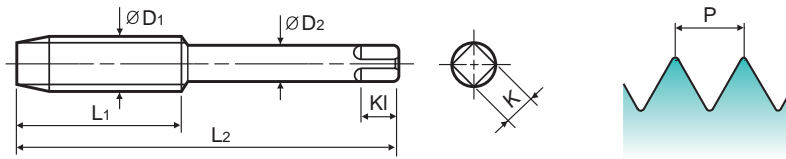
Hole type



Material groups
GS

HSS HSS-EX PF JIS II 3.5P Bright

▶ Tap Limits : JIS II
▶ Tapping Speeds : P.532



单位(Unit) : mm

尺寸 SIZE	牙距 TPI	型号 EDP No.		精度 Limit	最大基准直径 Basic Maj. Dia.	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 KI	槽数 No. of Flute
		HSS	HSS-EX								
PF 1/8	-28	T7562202	T2562202	JIS II	9.728	55	19	8	6	9	4
PF 1/4	-19	T7562402	T2562402	JIS II	13.157	62	28	11	9	12	4
PF 3/8	-19	T7562482	T2562482	JIS II	16.662	65	28	14	11	14	4
PF 1/2	-14	T7562562	T2562562	JIS II	20.955	80	35	18	14	17	4
PF 3/4	-14	T7562702	T2562702	JIS II	26.441	85	35	23	17	20	4
PF 1"	-11	T7562782	T2562782	JIS II	33.249	95	45	26	21	24	4
PF 1*1/4	-11	T7562862	T2562862	JIS II	41.910	105	45	32	26	30	4
PF 1*1/2	-11	T7562962	T2562962	JIS II	47.803	110	45	38	29	32	6
PF 2"	-11	T7562D22	T2562D22	JIS II	59.614	120	50	46	35	38	6

◎ : 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

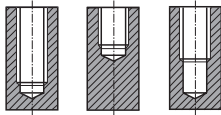
PF 螺旋槽PF 螺纹用直管丝锥

SPIRAL FLUTED STRAIGHT PIPE TAPS for PF THREADS

▶ 适用于直管内部的螺纹加工。

▶ Suitable for process Straight pipe internal threads.
PF : Straight pipe threads (for mechanical joints)

Hole type



Material groups

GS

HSS-EX

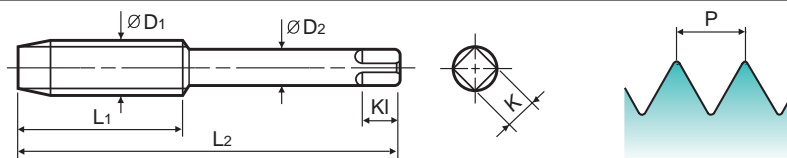
SP-PF

JIS II

3.0P

Bright

▶ Tap Limits : JIS II
▶ Tapping Speeds : P.532



单位(Unit) : mm

尺寸	牙距	型号	精度	最大基准直径	全长	螺纹长	柄径	方块尺寸	方块长度	槽数
SIZE	TPI	EDP No.	Limit	Basic Maj. Dia.	Overall Length L2	Thread Length L1	Shank Diameter ØD2	Square Size K	Square Length K1	No. of Flute
PF 1/8 - 28		T2539202	JIS II	9.728	55	19	8	6	9	3
PF 1/4 - 19		T2539402	JIS II	13.157	62	28	11	9	12	3
PF 3/8 - 19		T2539482	JIS II	16.662	65	28	14	11	14	3
PF 1/2 - 14		T2539562	JIS II	20.955	80	35	18	14	17	4
PF 3/4 - 14		T2539702	JIS II	26.441	85	35	23	17	20	4
PF 1" - 11		T2539782	JIS II	33.249	95	45	26	21	24	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
○	○	○	○	○	○	○			○	



T2527 SERIES

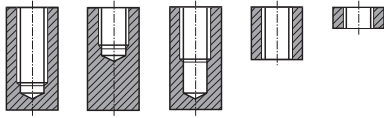
NPT 美制NPT螺纹用锥管丝锥

AMERICAN TAPER PIPE TAPS for NPT THREADS

▶ 适用于锥管内部的螺纹加工。

▶ Suitable for process Taper pipe internal threads.
NPT : American Taper pipe threads (for mechanical joints)

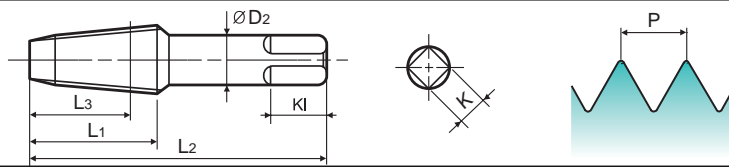
Hole type



Material groups **GS**

HSS-EX NPT ANSI G 3.0P Bright

▶ Tap Limits : ANSI G
▶ Tapping Speeds : P.532



单位(Unit) : mm											
尺寸	牙距	型号	精度	最大基准直径	全长	螺纹长	基准长度	柄径	方块尺寸	方块长度	槽数
SIZE	TPI	EDP No.	Limit	Basic Maj. Dia.	Overall Length	Thread Length	Projection Length	Shank Diameter	Square Size	Square Length	No. of Flute
					L2	L1	L3	ØD2	K	KI	
NPT 1/16 -27		T2527020	ANSI G	7.770	54	17	12.00	8	6	9	4
NPT 1/8 -27		T2527200	ANSI G	10.117	55	19	12.05	8	6	9	4
NPT 1/4 -18		T2527400	ANSI G	13.426	62	28	17.45	11	9	12	4
NPT 3/8 -18		T2527480	ANSI G	16.866	65	28	17.65	14	11	14	4
NPT 1/2 -14		T2527560	ANSI G	20.980	80	35	22.85	18	14	17	4
NPT 3/4 -14		T2527700	ANSI G	26.325	85	35	22.95	23	17	20	4
NPT 1" -11 1/2		T2527780	ANSI G	32.934	95	45	27.40	26	21	24	5

◎ : 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 ~ C0.25	Medium Carbon Steel C0.25 ~ C0.45	High Carbon Steel C0.45 ~	Alloy Steel SCM	Hardened Steel HRC25 ~ 45	Stainless Steel SUS	Tool Steel SKD	Cast Steel SC	Cast Iron FC	High Tension Cast Iron 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 Cu	Brass Bs	Brass Casting PB	Aluminum Rolled AL	Aluminum Alloy Casting AC,ADC	Magnesium Casting MC	Zinc Alloy Casting ZDC	Ti Alloy	Ni Alloy	Thermosetting plastic	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

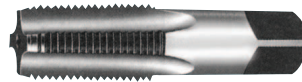
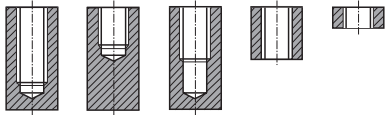
TECHNICAL DATA

NPTF 美制NPTF螺纹用锥管丝锥
AMERICAN TAPER PIPE TAPS for NPTF THREADS

▶ 适用于锥管内部的螺纹加工。

▶ Suitable for process taper pipe internal threads.
 NPTF : American Taper pipe threads (Dry seal)

Hole type



Material groups

GS

HSS-EX

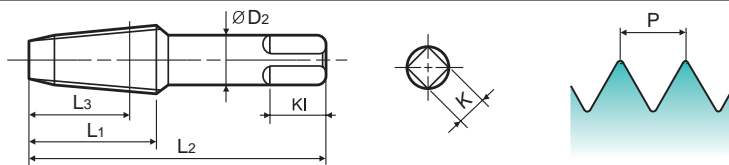
NPTF

ANSI G

3.0P

Bright

▶ Tap Limits : ANSI G
 ▶ Tapping Speeds : P.532



单位(Unit) : mm

尺寸	牙距	型号	精度	最大基准直径	全长	螺纹长	基准长度	柄径	方块尺寸	方块长度	槽数
SIZE	TPI	EDP No.	Limit	Basic Maj. Dia.	Overall Length	Thread Length	Projection Length	Shank Diameter	Square Size	Square Length	No. of Flute
					L2	L1	L3	ØD2	K	KI	
NPTF 1/16 - 27		T2537020	ANSI G	7.770	54	17	12.00	8	6	9	4
NPTF 1/8 - 27		T2537200	ANSI G	10.117	55	19	12.05	8	6	9	4
NPTF 1/4 - 18		T2537400	ANSI G	13.426	62	28	17.45	11	9	12	4
NPTF 3/8 - 18		T2537480	ANSI G	16.866	65	28	17.65	14	11	14	4
NPTF 1/2 - 14		T2537560	ANSI G	20.980	80	35	22.85	18	14	17	4
NPTF 3/4 - 14		T2537700	ANSI G	26.325	85	35	22.95	23	17	20	4
NPTF 1" - 11 1/2		T2537780	ANSI G	32.934	95	45	27.40	26	21	24	5

COMBO TAPS

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THREAD MILLS

TECHNICAL DATA

◎ : 优(Excellent) ○ : 良(Good)

低碳钢 Low Carbon Steel ~ C0.25	中碳钢 Meduim 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
○	○		○	○	○	○				○