

**GROUP 085 PRODUCTION TAPS**

**SWISS+TECH HSS-E 'Black Ring' Taps**

**MULTI APPLICATION**

The unique general purpose properties of these taps guarantee high productivity by reducing the amount of time spent changing taps for different materials and at the same time reducing the number of taps required by the machine shop. Swiss+Tech 'Black Ring' machine taps with their wide range of applications are the result of years of experience in metal cutting. Responsible for our developments were the following demands from our main customers:

- Increase of a tap's versatility.
- Reducing the confusing type variety.
- Reducing the storage costs for the tools.
- Reducing the tool changing times.

For general tapping applications. For production tapping of specific materials a specialist tap may be more suitable. Manufactured to **DIN 371/376**.

**DIN 371/6**

**Suitable for the following Material Groups**

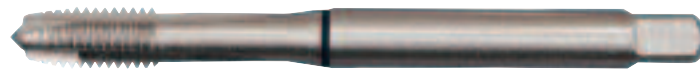
Group	Materials Colour defines similar machineability	Hardness		Tensile Strength N/mm <sup>2</sup>	Tapping Speed M/min
		Brinell HB	Rockwell HRC		
1.1	Mild Steel	<130	-	<400	10 - 15
1.2	Case Hardening & Structural Steel	<200	-	<700	10 - 15
1.3	Medium Carbon Steel	<260	<26	<850	5 - 10
1.4	Low Alloy Steel	<260	<26	<850	4 - 8
2.1	Free Machining Stainless	<230	<20	<800	2 - 5
2.2	Medium Strength Austenitic Stainless	<260	<26	<850	2 - 5
7.1	Unalloyed Aluminium Zinc - Magnesium	-	-	<150	15 - 20
7.2	Aluminium Alloy less than 5% Si	-	-	150 - 300	15 - 20
7.3	Aluminium Alloy 5% to 10% Si	<230	<20	<800	5 - 10

**Spiral Point/Gun Nose - HSS-E Bright Finish**

For through holes. Taper lead to **DIN form B**. Tapping tolerance to **6H**.

**SPIRAL POINT FOR THROUGH HOLES**

**HSS-E**



**ISO Metric**

Size - Pitch (mm)	Shank Dia. (d2)	A/F Square	Overall Length		Weight each	Order Code <b>SWT-185</b>	Price/1 TB
			(I1)	(I2)			
M3 x 0.50	3.5	2.7	56	2.5	5g	<b>-8509X</b>	<b>959.00</b>
M4 x 0.70	4.5	3.4	63	3.3	8g	<b>-8515X</b>	<b>994.00</b>
M5 x 0.80	6.0	4.9	70	4.2	14g	<b>-8518X</b>	<b>1037.00</b>
M6 x 1.00	6.0	4.9	80	5.0	18g	<b>-8521X</b>	<b>1061.00</b>
M8 x 1.25	8.0	6.2	90	6.8	33g	<b>-8527X</b>	<b>1175.00</b>
M10 x 1.50	10.0	8.0	100	8.5	56g	<b>-8530X</b>	<b>1440.00</b>
M12 x 1.75	9.0	7.0	110	10.2	61g	<b>-8533X</b>	<b>1814.00</b>
M16 x 2.00	12.0	9.0	110	14.0	100g	<b>-8539X</b>	<b>2564.00</b>
M20 x 2.50	16.0	12.0	140	17.5	210g	<b>-8542X</b>	<b>3551.00</b>

**METRIC**

**HSS-E 'Black Ring' M3 - M8 Spiral Point/Gun Nose 5 Piece Tap Set**

'Black Ring' machine taps for general tapping applications suitable for steels, low alloy steels, stainless steels and non-ferrous materials. Manufactured to **DIN371/376**. Tapping tolerance to **6H**.

**5 PIECES**

**Spiral Point/Gun Nose - HSS-E Bright Finish**

For through holes. Taper lead to **DIN form B**.

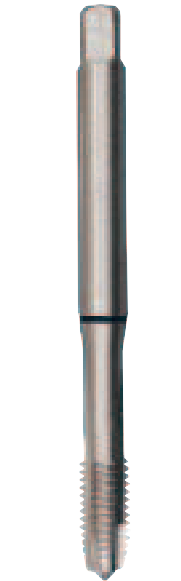
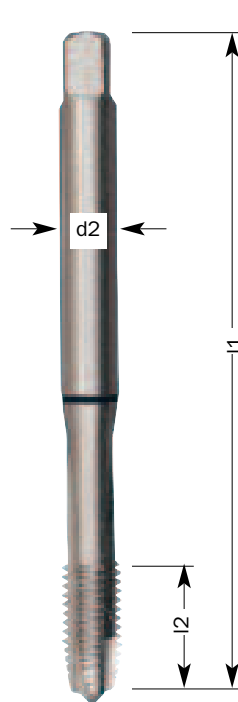
**Contents:**

Pitch sizes	Thread length
M3 x 0.5mm	2.5mm
M4 x 0.7mm	3.3mm
M5 x 0.8mm	4.2mm
M6 x 1.0mm	5.0mm
M8 x 1.25mm	6.8mm

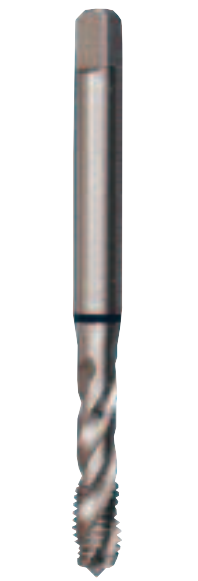


Number of Pieces	Order Code <b>SWT-185</b>	Price/1 TB
5	<b>-9900X</b>	<b>5023.00</b>

The tool geometry (with up to 138 parameters) has been developed and optimised during long-term tests in co operation with users for the different sections of structural steel, aluminum casting, machining steel, VA steels, heat-resistant steels and tool steels. Selected hard coatings increase the range of applications. The objective of developing Swiss+Tech's 'Black Ring' Taps was the realisation of narrower tolerances and more efficient cutting times for the thread production.



*Spiral point 'Eminent' chamfer form B through holes all round*  
**ISO 2 (6H)**



*RH spiral flutes 40° 'Supra Extra' chamfer form C blind holes <1,5 d all round*  
**ISO 2 (6H)**

**Spiral Flute**

For blind holes. Taper lead to **DIN form C**. Tapping tolerance to **6H**.

**SPIRAL FLUTE FOR BLIND HOLES**

**HSS-E**



**ISO Metric**

Size - Pitch (mm)	Shank Dia. (d2)	A/F Square	Overall Length		Weight each	Order Code <b>SWT-185</b>	Price/1 TB
			(I1)	(I2)			
M3 x 0.50	3.5	2.7	56	2.5	5g	<b>-8559X</b>	<b>1028.00</b>
M4 x 0.70	4.5	3.4	63	3.3	8g	<b>-8565X</b>	<b>1041.00</b>
M5 x 0.80	6.0	4.9	70	4.2	14g	<b>-8568X</b>	<b>1080.00</b>
M6 x 1.00	6.0	4.9	80	5.0	17g	<b>-8571X</b>	<b>1092.00</b>
M8 x 1.25	8.0	6.2	90	6.8	31g	<b>-8577X</b>	<b>1285.00</b>
M10 x 1.50	10.0	8.0	100	8.5	53g	<b>-8580X</b>	<b>1237.00</b>
M12 x 1.75	9.0	7.0	110	10.2	57g	<b>-8583X</b>	<b>1991.00</b>
M16 x 2.00	12.0	9.0	110	14.0	91g	<b>-8589X</b>	<b>2708.00</b>
M20 x 2.50	16.0	12.0	140	17.5	195g	<b>-8592X</b>	<b>4076.00</b>

**METRIC**

**HSS-E 'Black Ring' M3 - M8 Spiral Flute 5 Piece Tap Set**

'Black Ring' machine taps for general tapping applications suitable for steels, low alloy steels, stainless steels and non-ferrous materials. Manufactured to **DIN371/376**. Tapping tolerance to **6H**.

**5 PIECES**

**Spiral Flute - HSS-E Bright Finish**

For blind holes. Taper lead to **DIN form C**.

**Contents:**

Pitch sizes	Thread length
M3 x 0.5mm	2.5mm
M4 x 0.7mm	3.3mm
M5 x 0.8mm	4.2mm
M6 x 1.0mm	5.0mm
M8 x 1.25mm	6.8mm



Number of Pieces	Order Code <b>SWT-185</b>	Price/1 TB
5	<b>-9910X</b>	<b>5303.00</b>

**CUTTING TOOLS**

**SWISS+TECH HSS 'Yellow Ring' Taps**



Manufactured to DIN 371/376

**Suitable for the following Material Groups**

Group	Materials	Brinell Hardness HB	Tensile Strength N/mm <sup>2</sup>	Tapping Speed M/min
1.1	Mild soft steel & free machining non-alloy low carbon steel	up to 130	up to 400	10 - 20
1.2	Non-alloy case hardening, structural & low to medium carbon steel	up to 200	up to 700	10 - 15
1.3	Non-alloy, plain and medium carbon steel and castings	up to 260	up to 850	5 - 10

**Spiral Point/Gun Nose - HSS-EV Oxidised Finish**  
For through holes.  
Taper lead to **DIN form B**. (3.5 x P to 5.5 x P).  
Tapping tolerance to **6H**.



**ISO Metric Coarse**

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code <b>SWT-185</b>	Price/1 <b>TB</b>
M2.0 x 0.40	45.0	8.0	2.8	2.1	4g	-0003Y	1082.00
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	-0009Y	927.00
M4.0 x 0.70	63.0	13.0	4.5	3.4	8g	-0015Y	927.00
M5.0 x 0.80	70.0	15.0	6.0	4.9	13g	-0018Y	979.00
M6.0 x 1.00	80.0	17.0	6.0	4.9	17g	-0021Y	1030.00
M8.0 x 1.25	90.0	20.0	8.0	6.0	32g	-0027Y	1133.00
M10.0 x 1.50	100.0	22.0	10.0	8.0	55g	-0030Y	1391.00
M12.0 x 1.75	110.0	24.0	9.0	7.0	61g	-0033Y	1751.00
M16.0 x 2.00	110.0	27.0	12.0	9.0	108g	-0039Y	2472.00

**BSP - British Standard Pipe DIN 5156**



Size - Pitch	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code <b>SWT-185</b>	Price/1 <b>TB</b>
1/8" x 28	90.0	20.0	7.0	5.5	16g	-0902Y	1700.00
1/4" x 19	100.0	22.0	11.0	9.0	48g	-0904Y	2318.00
3/8" x 19	100.0	22.0	12.0	9.0	69g	-0906Y	2678.00

**HSS 'Red Ring' Taps**

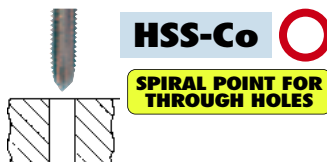
Manufactured to DIN 371/376



**Suitable for the following Material Groups**

Group	Materials	Brinell Hardness HB	Tensile Strength N/mm <sup>2</sup>	Tapping Speed M/min
1.4	Generally low to medium alloy steel and castings	up to 260	up to 850	5 - 10
1.5	Medium to high alloy steel tool steel and steel castings	up to 340	up to 1200	4 - 8

**Spiral Point/Gun Nose - HSS-Co Bright Finish**  
For through holes.  
Taper lead to **DIN form B**. (3.5 x P to 5.5 x P).  
Tapping tolerance to **6HX**.

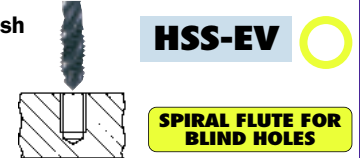


**ISO Metric Coarse**

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code <b>SWT-185</b>	Price/1 <b>TB</b>
M2.0 x 0.40	45.0	8.0	2.8	2.1	4g	-1003R	1400.00
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	-1009R	927.00
M4.0 x 0.70	63.0	13.0	4.5	3.4	8g	-1015R	927.00
M5.0 x 0.80	70.0	15.0	6.0	4.9	13g	-1018R	927.00
M6.0 x 1.00	80.0	17.0	6.0	4.9	17g	-1021R	1030.00
M8.0 x 1.25	90.0	20.0	8.0	6.2	32g	-1027R	1133.00
M10.0 x 1.50	100.0	22.0	10.0	8.0	58g	-1030R	1391.00
M12.0 x 1.75	110.0	24.0	9.0	7.0	61g	-1033R	1751.00
M16.0 x 2.00	110.0	27.0	12.0	9.0	108g	-1039R	2472.00

Group	Materials	Brinell Hardness HB	Tensile Strength N/mm <sup>2</sup>	Tapping Speed M/min
1.4	Generally low to medium alloy steel and castings	up to 260	up to 850	4 - 9
2.1	Soft & generally easy to machine ferritic, martensitic stainless steel & castings	up to 230	up to 880	4 - 6
6.3	Brass (beta - short chip) & soft bronze	-	up to 500	15 - 20

**Spiral Flute - HSS-EV Oxidised Finish**  
For blind holes.  
Taper lead to **DIN form C** (3 x P).  
Tapping tolerance: Spiral flute to **6H**.



**ISO Metric Coarse**

Helix angle 40°. Tapping depth **2.5 x D**.

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code <b>SWT-185</b>	Price/1 <b>TB</b>
M2.0 x 0.40	45.0	8.0	2.8	2.1	5g	-0503Y	1288.00
M3.0 x 0.50	56.0	6.0	3.5	2.7	5g	-0509Y	1133.00
M3.5 x 0.60	56.0	7.0	4.0	3.0	6g	-0512Y	1400.00
M4.0 x 0.70	63.0	7.0	4.5	3.4	8g	-0515Y	1030.00
M5.0 x 0.80	70.0	8.0	6.0	4.9	13g	-0518Y	1082.00
M6.0 x 1.00	80.0	10.0	6.0	4.9	16g	-0521Y	1030.00
M8.0 x 1.25	90.0	13.0	8.0	6.2	30g	-0527Y	1288.00
M10.0 x 1.50	100.0	15.0	10.0	8.0	45g	-0530Y	1648.00
M12.0 x 1.75	110.0	18.0	9.0	7.0	56g	-0533Y	1957.00
M16.0 x 2.00	110.0	20.0	12.0	9.0	95g	-0539Y	2678.00

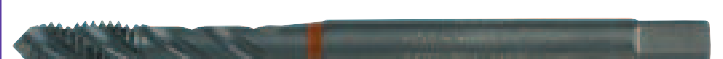
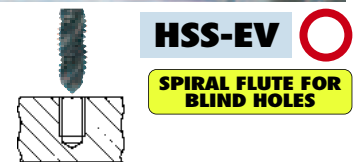
**BSP - British Standard Pipe Bright Finish DIN 5156**



Size - Pitch	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code <b>SWT-185</b>	Price/1 <b>TB</b>
1/8" x 28	90.0	20.0	7.0	5.5	16g	-0932Y	1803.00
1/4" x 19	100.0	22.0	11.0	9.0	48g	-0934Y	2524.00
3/8" x 19	100.0	22.0	12.0	9.0	69g	-0936Y	3039.00
1/2" x 14	125.0	25.0	16.0	12.0	152g	-0938Y	3863.00
3/4" x 14	140.0	28.0	20.0	16.0	305g	-0942Y	6232.00



**Spiral Flute - HSS-EV Oxidised Finish**  
For blind holes.  
Taper lead to **DIN form C** (3 x P).  
Tapping tolerance: spiral flute to **6H**.



**ISO Metric Coarse**

Helix angle 40°. Tapping depth **2.5 x D**.

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code <b>SWT-185</b>	Price/1 <b>TB</b>
M2.0 x 0.40	45.0	3.0	2.8	2.1	5g	-1503R	1950.00
M3.0 x 0.50	56.0	6.0	3.5	2.7	5g	-1509R	1133.00
M4.0 x 0.70	63.0	7.0	4.5	3.4	8g	-1515R	979.00
M5.0 x 0.80	70.0	8.0	6.0	4.9	13g	-1518R	1082.00
M6.0 x 1.00	80.0	10.0	6.0	4.9	16g	-1521R	1030.00
M8.0 x 1.25	90.0	13.0	8.0	6.2	30g	-1527R	1288.00
M10.0 x 1.50	100.0	15.0	10.0	8.0	45g	-1530R	1648.00
M12.0 x 1.75	110.0	18.0	9.0	7.0	56g	-1533R	1957.00
M16.0 x 2.00	110.0	20.0	12.0	9.0	95g	-1539R	2627.00

**GROUP 085 PRODUCTION TAPS**

**SWISS+TECH HSS 'Blue Ring' Taps**

Manufactured to **DIN 371/376**

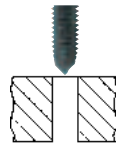
Suitable for the following Material Groups

Group	Materials	Brinell Hardness HB	Tensile Strength N/mm <sup>2</sup>	Tapping Speed M/min
2.1	Soft and generally easy to machine ferritic & martensitic stainless steel and castings	up to 230	up to 800	4 - 6
2.2	Medium strength & reasonable to machine austenitic stainless steel and castings	up to 290	up to 1000	4 - 6
2.3	Hard & generally difficult to machine ferritic & austenitic stainless steel & castings	up to 340	up to 1200	3 - 6

**Note:** Fluteless taps may also be used on stainless steel. See 'Green Ring' **FLUTELESS** on page 128.

**Spiral Point/Gun Nose - HSS-EV Oxidised Finish**

For through holes. Taper lead to **DIN form B** (3.5 x P to 5.5 x P). Tapping tolerance to **6HX**.



**HSS-EV**

**SPIRAL POINT FOR THROUGH HOLES**



**ISO Metric Coarse**

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code <b>SWT-185</b>	Price/1 <b>TB</b>
M2.0 x 0.40	45.0	8.0	2.8	2.1	4g	<b>-2003B</b>	<b>1082.00</b>
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	<b>-2009B</b>	<b>927.00</b>
M4.0 x 0.70	63.0	13.0	4.5	3.4	8g	<b>-2015B</b>	<b>927.00</b>
M5.0 x 0.80	70.0	15.0	6.0	4.9	13g	<b>-2018B</b>	<b>979.00</b>
M6.0 x 1.00	80.0	17.0	6.0	4.9	17g	<b>-2021B</b>	<b>1082.00</b>
M8.0 x 1.25	90.0	20.0	8.0	6.0	32g	<b>-2027B</b>	<b>1133.00</b>
M10.0 x 1.50	100.0	22.0	10.0	8.0	55g	<b>-2030B</b>	<b>1391.00</b>
M12.0 x 1.75	110.0	24.0	9.0	7.0	61g	<b>-2033B</b>	<b>1751.00</b>
M16.0 x 2.00	110.0	27.0	12.0	9.0	108g	<b>-2039B</b>	<b>2472.00</b>

**HSS 'White Ring' Taps**

Manufactured to **DIN 371/376**

Suitable for the following Material Groups

Group	Materials	Brinell Hardness HB	Tensile Strength N/mm <sup>2</sup>	Tapping Speed M/min
3.1	Grey cast iron Hardness soft to medium	up to 130	up to 400	8 - 12
3.2	Grey cast iron Hardness medium to hard	up to 200	up to 700	4 - 6

**Straight Flute - HSS-EV Nitride Finish**

For through holes. Taper lead to **DIN form D** (taper) (3.5 x P to 5 x P). Tapping tolerance to **6HX**.

**STRAIGHT FLUTE FOR THROUGH HOLES**

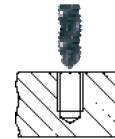
**METRIC COARSE**



**ISO Metric Coarse**

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code <b>SWT-185</b>	Price/1 <b>TB</b>
M2.0 x 0.40	45.0	8.0	2.8	2.1	14g	<b>-3503W</b>	<b>1950.00</b>
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	<b>-3509W</b>	<b>1650.00</b>
M4.0 x 0.70	63.0	13.0	4.5	3.4	8g	<b>-3515W</b>	<b>1750.00</b>
M5.0 x 0.80	70.0	16.0	6.0	4.9	13g	<b>-3518W</b>	<b>1850.00</b>
M6.0 x 1.00	80.0	17.0	6.0	4.9	17g	<b>-3521W</b>	<b>1950.00</b>
M8.0 x 1.25	90.0	22.0	8.0	6.2	32g	<b>-3527W</b>	<b>2100.00</b>
M10.0 x 1.50	100.0	24.0	10.0	8.0	55g	<b>-3530W</b>	<b>2400.00</b>
M12.0 x 1.75	110.0	29.0	9.0	7.0	61g	<b>-3533W</b>	<b>2750.00</b>

**Spiral Flute (BLT) - HSS-EV Oxidised Finish**  
For deep blind holes. Taper lead to **DIN form C** (2 x P to 3 x P). Tapping tolerance to **6H**.



**DIN 371/6**

**SPIRAL FLUTE FOR BLIND HOLES**

**HSS-EV**



**'Biteless Taper' ISO Metric Coarse**

Helix angle 45°

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code <b>SWT-185</b>	Price/1 <b>TB</b>
M2.0 x 0.40	45.0	8.0	2.8	2.1	5g	<b>-2503B</b>	<b>2266.00</b>
M3.0 x 0.50	56.0	6.0	3.5	2.7	5g	<b>-2509B</b>	<b>979.00</b>
M4.0 x 0.70	63.0	7.0	4.5	3.4	8g	<b>-2515B</b>	<b>979.00</b>
M5.0 x 0.80	70.0	8.0	6.0	4.9	13g	<b>-2518B</b>	<b>1030.00</b>
M6.0 x 1.00	80.0	11.0	6.0	4.9	16g	<b>-2521B</b>	<b>1030.00</b>
M8.0 x 1.25	90.0	13.0	8.0	6.2	30g	<b>-2527B</b>	<b>1236.00</b>
M10.0 x 1.50	100.0	15.0	10.0	8.0	45g	<b>-2530B</b>	<b>1185.00</b>
M12.0 x 1.75	110.0	18.0	9.0	7.0	56g	<b>-2533B</b>	<b>1906.00</b>
M16.0 x 2.00	110.0	20.0	12.0	9.0	95g	<b>-2539B</b>	<b>2627.00</b>

**Spiral Flute (BLF) - HSS-EV Oxidised Finish**

For shorter blind holes. Taper lead to **DIN form C** (3 x P). Tapping tolerance to **6H**.

**'Biteless Flat' ISO Metric Coarse**

Helix angle 45°

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code <b>SWT-185</b>	Price/1 <b>TB</b>
M3.0 x 0.50	56.0	6.0	3.5	2.7	5g	<b>-3009B</b>	<b>1999.00</b>
M4.0 x 0.70	63.0	7.0	4.5	3.4	8g	<b>-3015B</b>	<b>2100.00</b>
M5.0 x 0.80	70.0	8.0	6.0	4.9	13g	<b>-3018B</b>	<b>2200.00</b>
M6.0 x 1.00	80.0	11.0	6.0	4.9	16g	<b>-3021B</b>	<b>2300.00</b>
M8.0 x 1.25	90.0	13.0	8.0	6.2	30g	<b>-3027B</b>	<b>2400.00</b>
M10.0 x 1.50	100.0	15.0	10.0	8.0	45g	<b>-3030B</b>	<b>2750.00</b>
M12.0 x 1.75	110.0	18.0	9.0	7.0	56g	<b>-3033B</b>	<b>2850.00</b>
M16.0 x 2.00	110.0	20.0	12.0	9.0	95g	<b>-3039B</b>	<b>3250.00</b>

**HSS-EV**

Group	Materials	Brinell Hardness HB	Tensile Strength N/mm <sup>2</sup>	Tapping Speed M/min
3.3	Malleable and nodular irons Hardness soft to medium	up to 220	up to 850	4 - 6
3.4	Malleable and nodular irons Hardness medium to hard	up to 300	up to 700	4 - 6

**Straight Flute - HSS-EV Nitride Finish**

For blind holes. Plug/bottoming lead to **DIN form C** (2 x P to 3 x P). Tapping tolerance to **6HX**.

**STRAIGHT FLUTE FOR BLIND HOLES**

**METRIC COARSE**



**ISO Metric Coarse**

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code <b>SWT-185</b>	Price/1 <b>TB</b>
M2.0 x 0.40	45.0	8.0	2.8	2.1	4g	<b>-4003W</b>	<b>1950.00</b>
M2.5 x 0.45	50.0	9.0	2.8	2.1	4g	<b>-4006W</b>	<b>1550.00</b>
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	<b>-4009W</b>	<b>1650.00</b>
M4.0 x 0.70	63.0	13.0	4.5	3.4	8g	<b>-4015W</b>	<b>1750.00</b>
M5.0 x 0.80	70.0	16.0	6.0	4.9	13g	<b>-4018W</b>	<b>1850.00</b>
M6.0 x 1.00	80.0	19.0	6.0	4.9	17g	<b>-4021W</b>	<b>1950.00</b>
M8.0 x 1.25	90.0	22.0	8.0	6.2	32g	<b>-4027W</b>	<b>2100.00</b>
M10.0 x 1.50	100.0	24.0	10.0	8.0	58g	<b>-4030W</b>	<b>2500.00</b>
M12.0 x 1.75	110.0	29.0	9.0	7.0	61g	<b>-4033W</b>	<b>2750.00</b>
M14.0 x 2.00	110.0	30.0	11.0	9.0	78g	<b>-4036W</b>	<b>2950.00</b>
M16.0 x 2.00	110.0	32.0	12.0	9.0	108g	<b>-4039W</b>	<b>3100.00</b>

**CUTTING TOOLS**

**SWISS+TECH** **HSS 'Purple Ring' Taps**



Suitable for the following Material Groups

Group	Materials	Brinell Hardness HB	Tensile Strength N/mm <sup>2</sup>	Tapping Speed M/min
4.1	Titanium alloy (also pure nickel)	-		3 - 9

**Right Hand Cutting - Left Hand Spiral Flute - HSS-PM Nitride Finish**

For through holes. Left hand spiral. Taper lead to **DIN form D** (3.5 x P to 5 x P). Tapping tolerance to **6HX**.

**LEFT HAND SPIRAL FLUTE FOR THROUGH HOLES**

**METRIC COARSE**



**ISO Metric Coarse** Helix angle 15°.

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code <b>SWT-185</b>	Price/1 <b>TB</b>
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	<b>-4509P</b>	<b>1650.00</b>
M4.0 x 0.70	63.0	13.0	4.5	3.4	8g	<b>-4515P</b>	<b>1750.00</b>
M5.0 x 0.80	70.0	16.0	6.0	4.9	14g	<b>-4518P</b>	<b>1850.00</b>
M6.0 x 1.00	80.0	19.0	6.0	4.9	17g	<b>-4521P</b>	<b>1950.00</b>
M8.0 x 1.25	90.0	22.0	8.0	6.2	32g	<b>-4527P</b>	<b>2100.00</b>
M10.0 x 1.50	100.0	24.0	10.0	8.0	55g	<b>-4530P</b>	<b>2300.00</b>
M12.0 x 1.75	110.0	29.0	9.0	7.0	63g	<b>-4533P</b>	<b>3100.00</b>
M16.0 x 2.00	110.0	32.0	12.0	9.0	111g	<b>-4539P</b>	<b>4100.00</b>

**HSS 'Orange Ring' Taps**

Suitable for the following Material Groups

Group	Materials	Brinell Hardness HB	Tensile Strength N/mm <sup>2</sup>	Tapping Speed M/min
4.3	Titanium alloys of a hard and very hard to machine nature	-	up to 1250	3 - 6
5.1	Heat resistant super alloys including iron based high temperature alloys	-	up to 500	6 - 6

**Spiral Point/Gun Nose - HSS-PM Nitride & Oxide Finish**

For through holes. Taper lead to **DIN form B** (3.5 x P to 5.5 x P). Tapping tolerance to **6HX**.

**SPIRAL POINT FOR THROUGH HOLES**

**METRIC COARSE**



**ISO Metric Coarse**

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code <b>SWT-185</b>	Price/1 <b>TB</b>
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	<b>-5509N</b>	<b>1494.00</b>
M4.0 x 0.70	63.0	13.0	4.5	3.4	8g	<b>-5515N</b>	<b>1494.00</b>
M5.0 x 0.80	70.0	16.0	6.0	4.9	13g	<b>-5518N</b>	<b>1597.00</b>
M6.0 x 1.00	80.0	19.0	6.0	4.9	17g	<b>-5521N</b>	<b>1597.00</b>
M8.0 x 1.25	90.0	22.0	8.0	6.2	32g	<b>-5527N</b>	<b>1906.00</b>
M10.0 x 1.50	100.0	24.0	10.0	8.0	55g	<b>-5530N</b>	<b>2472.00</b>
M12.0 x 1.75	110.0	29.0	9.0	7.0	61g	<b>-5533N</b>	<b>2936.00</b>
M16.0 x 2.00	110.0	32.0	12.0	9.0	108g	<b>-5539N</b>	<b>4172.00</b>

**HSS-PM**

Group	Materials	Brinell Hardness HB	Tensile Strength N/mm <sup>2</sup>	Tapping Speed M/min
4.2	Titanium alloy medium and hard to machine	-	up to 900	6 - 9
4.3	Titanium alloys of a hard and very hard to machine nature	-	up to 1200	6 - 9

**Spiral Flute - HSS-PM Nitride Finish**  
For blind holes. Taper lead to **DIN form B** (3 x P). Tapping tolerance to **6HX**.

**SPIRAL FLUTE FOR BLIND HOLES**

**METRIC COARSE**



**ISO Metric Coarse** Helix angle 15°. Tapping depth 2.5 x D.

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code <b>SWT-185</b>	Price/1 <b>TB</b>
M3.0 x 0.50	56.0	5.0	3.5	2.7	5g	<b>-5009P</b>	<b>1339.00</b>
M4.0 x 0.70	63.0	7.0	4.5	3.4	8g	<b>-5015P</b>	<b>1500.00</b>
M5.0 x 0.80	70.0	9.0	6.0	4.9	14g	<b>-5018P</b>	<b>1600.00</b>
M6.0 x 1.00	80.0	11.0	6.0	4.9	17g	<b>-5021P</b>	<b>1700.00</b>
M8.0 x 1.25	90.0	12.0	8.0	6.2	32g	<b>-5027P</b>	<b>1800.00</b>
M10.0 x 1.50	100.0	13.0	10.0	8.0	55g	<b>-5030P</b>	<b>1900.00</b>
M12.0 x 1.75	110.0	15.0	9.0	7.0	63g	<b>-5033P</b>	<b>2524.00</b>

**HSS-PM**

Group	Materials	Brinell Hardness HB	Tensile Strength N/mm <sup>2</sup>	Tapping Speed M/min
5.2	Heat resistant super alloys, cobalt or nickel based medium to hard to machine	-	up to 900	3 - 6
5.3	Heat resistant super alloys, cobalt or nickel based hard to very hard to machine	-	up to 1200	3 - 6

**Spiral Flute - HSS-PM Nitride & Oxide Finish**

For blind holes. Taper lead to **DIN form C**. This tap has the special chamfer lead of (3 x P). Tapping tolerance: spiral flute to **6H**.

**SPIRAL FLUTE FOR BLIND HOLES**

**METRIC COARSE**



**ISO Metric Coarse** Helix angle 40°. Tapping depth 2.5 x D.

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code <b>SWT-185</b>	Price/1 <b>TB</b>
M3.0 x 0.50	56.0	5.0	3.5	2.7	5g	<b>-6009N</b>	<b>1500.00</b>
M4.0 x 0.70	63.0	7.0	4.5	3.4	9g	<b>-6015N</b>	<b>1391.00</b>
M5.0 x 0.80	70.0	9.0	6.0	4.9	13g	<b>-6018N</b>	<b>1442.00</b>
M6.0 x 1.00	80.0	11.0	6.0	4.9	16g	<b>-6021N</b>	<b>1442.00</b>
M8.0 x 1.25	90.0	12.0	8.0	6.2	30g	<b>-6027N</b>	<b>1751.00</b>
M10.0 x 1.50	100.0	13.0	10.0	8.0	51g	<b>-6030N</b>	<b>2060.00</b>
M12.0 x 1.75	110.0	15.0	9.0	7.0	56g	<b>-6033N</b>	<b>2627.00</b>
M14.0 x 2.00	110.0	18.0	11.0	9.0	63g	<b>-6036N</b>	<b>3605.00</b>
M16.0 x 2.00	110.0	18.0	12.0	9.0	95g	<b>-6039N</b>	<b>3708.00</b>

**GROUP 085 PRODUCTION TAPS**

**SWISS+TECH HSS 'Green Ring' Taps**

Manufactured to **DIN 371/376**

Suitable for the following Material Groups

Group	Materials	Brinell Hardness HB	Tensile Strength N/mm <sup>2</sup>	Tapping Speed M/min
7.1	Unalloyed aluminium, magnesium and zinc	-	up to 150	20 - 30
7.2	Aluminium alloy less than 5% silicon magnesium & zinc alloys (long chip)	-	up to 1200	20 - 30

**Spiral Point/Gun Nose - HSS-EV Nitride Finish**

For through holes. Taper lead to **DIN form B**

(3.5 x P to 5.5 x P).

Tapping tolerance to **6HX**.

**SPIRAL POINT FOR THROUGH HOLES**

**METRIC COARSE**



**HSS-EV**

Group	Materials	Brinell Hardness HB	Tensile Strength N/mm <sup>2</sup>	Tapping Speed M/min
7.3	Aluminium alloy 5% to 10% silicon	-	up to 500	15 - 20
7.4	Aluminium alloy 5% to 10% silicon	-	up to 500	15 - 20

**Spiral Flute - HSS-EV Nitride Finish**

For blind holes. Taper lead to **DIN form C**

(2 x P to 3 x P). Tapping tolerance to **6H**.

**SPIRAL FLUTE FOR BLIND HOLES**

**METRIC COARSE**



**CUTTING TOOLS**

**ISO Metric Coarse**

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code <b>SWT-185</b>	Price/1 <b>TB</b>
M2.0 x 0.40	45.0	8.0	2.8	2.1	4g	<b>-6503G</b>	<b>927.00</b>
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	<b>-6509G</b>	<b>721.00</b>
M4.0 x 0.70	63.0	13.0	4.5	3.4	8g	<b>-6515G</b>	<b>721.00</b>
M5.0 x 0.80	70.0	16.0	6.0	4.9	13g	<b>-6518G</b>	<b>773.00</b>
M6.0 x 1.00	80.0	19.0	6.0	4.9	17g	<b>-6521G</b>	<b>773.00</b>
M8.0 x 1.25	90.0	22.0	8.0	6.2	32g	<b>-6527G</b>	<b>927.00</b>
M10.0 x 1.50	100.0	24.0	10.0	8.0	58g	<b>-6530G</b>	<b>1100.00</b>
M12.0 x 1.75	110.0	29.0	9.0	7.0	61g	<b>-6533G</b>	<b>2100.00</b>

**ISO Metric Coarse** Helix angle 45°. Tapping depth 2.5 x D.

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code <b>SWT-185</b>	Price/1 <b>TB</b>
M2.0 x 0.40	45.0	8.0	2.8	2.1	5g	<b>-7003G</b>	<b>927.00</b>
M2.5 x 0.45	50.0	9.0	2.8	2.1	5g	<b>-7006G</b>	<b>979.00</b>
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	<b>-7009G</b>	<b>773.00</b>
M3.5 x 0.60	56.0	13.0	4.0	3.0	6g	<b>-7012G</b>	<b>824.00</b>
M4.0 x 0.70	63.0	13.0	4.5	3.4	8g	<b>-7015G</b>	<b>773.00</b>
M5.0 x 0.80	70.0	16.0	6.0	4.9	13g	<b>-7018G</b>	<b>824.00</b>
M6.0 x 1.00	80.0	19.0	6.0	4.9	16g	<b>-7021G</b>	<b>876.00</b>
M7.0 x 1.00	80.0	19.0	7.0	5.5	19g	<b>-7024G</b>	<b>1650.00</b>
M8.0 x 1.25	90.0	22.0	8.0	6.2	30g	<b>-7027G</b>	<b>1045.00</b>
M10.0 x 1.50	100.0	24.0	10.0	8.0	45g	<b>-7030G</b>	<b>1223.00</b>
M12.0 x 1.75	110.0	29.0	9.0	7.0	56g	<b>-7033G</b>	<b>1590.00</b>
M14.0 x 2.00	110.0	30.0	11.0	9.0	83g	<b>-7036G</b>	<b>3172.00</b>
M16.0 x 2.00	110.0	32.0	12.0	9.0	95g	<b>-7039G</b>	<b>4500.00</b>

**HSS 'Green Ring' Fluteless Taps**

Lubrication grooves are a feature of all taps of M3.0 and over. Manufactured to **DIN 371/376**.

**HSS-EV FLUTELESS**

Suitable for the following Material Groups

Group	Materials	Brinell Hardness HB	Tensile Strength N/mm <sup>2</sup>	Tapping Speed M/min
6.1	Copper	-	up to 500	8 - 12
6.2	Brass (alpha - long chip)	-	up to 800	15 - 20

**Fluteless - HSS-EV Bright Finish**

For through and blind holes.

Taper lead to **DIN form B**

(3.5 x P to 5.5 x P). Tapping tolerance to **6H**.

**FLUTELESS FOR THROUGH AND BLIND HOLES**

**METRIC COARSE**



**Fluteless - HSS-EV (TiN Coated)**

For through and blind holes.

Taper lead to **DIN form B**

(3.5 x P to 5.5 x P). Tapping tolerance to **6H**.

**FLUTELESS FOR THROUGH AND BLIND HOLES**

**METRIC COARSE**



**ISO Metric Coarse**

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code <b>SWT-185</b>	Price/1 <b>TB</b>
M2.0 x 0.40	45.0	8.0	2.8	2.1	4g	<b>-7503G</b>	<b>1300.00</b>
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	<b>-7509G</b>	<b>1531.00</b>
M4.0 x 0.70	63.0	13.0	4.5	3.4	8g	<b>-7515G</b>	<b>1695.00</b>
M5.0 x 0.80	70.0	15.0	6.0	4.9	13g	<b>-7518G</b>	<b>1003.00</b>
M6.0 x 1.00	80.0	17.0	6.0	4.9	17g	<b>-7521G</b>	<b>1022.00</b>
M8.0 x 1.25	90.0	20.0	8.0	6.2	32g	<b>-7527G</b>	<b>1282.00</b>
M10.0 x 1.50	100.0	22.0	10.0	8.0	58g	<b>-7530G</b>	<b>3200.00</b>
M12.0 x 1.75	110.0	24.0	9.0	7.0	61g	<b>-7533G</b>	<b>3500.00</b>

**ISO Metric Coarse**

Size - Pitch (mm)	Overall Length	Thread Length	Shank Dia.	A/F Square	Weight each	Order Code <b>SWT-185</b>	Price/1 <b>TB</b>
M2.0 x 0.40	45.0	8.0	2.8	2.1	4g	<b>-8003G</b>	<b>2999.00</b>
M3.0 x 0.50	56.0	11.0	3.5	2.7	5g	<b>-8009G</b>	<b>1348.00</b>
M4.0 x 0.70	63.0	13.0	4.5	3.4	8g	<b>-8015G</b>	<b>1480.00</b>
M5.0 x 0.80	70.0	15.0	6.0	4.9	13g	<b>-8018G</b>	<b>1934.00</b>
M6.0 x 1.00	80.0	17.0	6.0	4.9	17g	<b>-8021G</b>	<b>1953.00</b>
M8.0 x 1.25	90.0	20.0	8.0	6.2	32g	<b>-8027G</b>	<b>2575.00</b>
M10.0 x 1.50	100.0	22.0	10.0	8.0	58g	<b>-8030G</b>	<b>3063.00</b>
M12.0 x 1.75	110.0	24.0	9.0	7.0	61g	<b>-8033G</b>	<b>4205.00</b>