



# Shark Line

Material specific application taps

# 2018



SHARK LINE



### INTRODUCTION

Our material specific application-based range of DIN Shark Taps offer high **performance** and **process security**. This range has been expanded with two new tap designs for blind hole threading up to 3xD in stainless steels and steels.

### FEATURES AND BENEFITS

- **COLOR RING CODING**

The color ring on the tool shank identifies suitability for specific materials and enables **quick and easy tool selection**.



- **ADVANCED GEOMETRY**

Significant reduction in axial forces and torque compared to conventional taps. This ensures **problem-free threading** of 3xD blind holes in stainless steels and steels with tensile strength up to 1200 N/mm<sup>2</sup>.

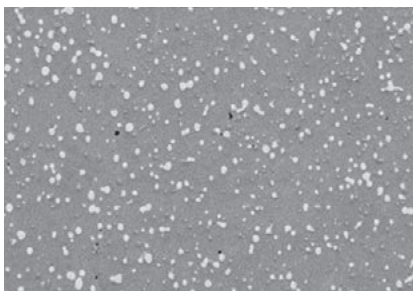
- **EDGE TREATMENT (Red, Yellow, Blue Shark)**

Spiral flute taps incorporate a special edge treatment to increase strength and reduce the chance of micro-chipping on the cutting edges. This considerably improves **performance and tool life**.

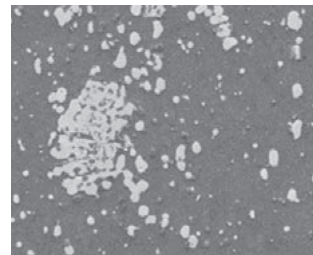


### MATERIAL

Shark taps are manufactured from a unique powder metallurgy tool steel different from any other HSS-E-PM. This provides an unbeatable combination of toughness and edge strength, allowing the taps to perform at higher cutting temperatures while offering excellent performance and longer tool life.



Unique HSS-E-PM material used for **SHARK TAPS**  
(note the evenly dispersed grain structure)



Traditional HSS-E (M35)  
material

### GEOMETRY AND CHAMFER



The new E412 & E414 taps feature a 48° spiral flute with constant rake angle and are back tapered. This supports:

- Threading up to 3xD
- Low torque
- Excellent threads at both high and low speeds
- Superior surface finish
- Process security



**STRUCTURAL, PLAIN CARBON & LOW ALLOY STEELS****YELLOW SHARK**

- **SURFACE TREATMENT**

Hard chrome plating (Cr) with an additional edge treatment prevents built up edge when tapping in materials prone to sticking to the cutting edges.

- **FLUTE GEOMETRY**

Available in spiral point for through holes and spiral flute (40° angle) for blind holes. Special flute geometry on Yellow Shark spiral flute taps prevents nest formation of chips, reducing the risk of re-cutting chips on reversal.

- **THREAD FORMS**

Metric and Metric Fine

- **PRODUCT CODES**

E297, E298, E299, E300

**YELLOW SHARK****3xD NEW**

- **SURFACE TREATMENT**

TiAlN-Top coating with an additional edge treatment.

- **FLUTE GEOMETRY**

Spiral flute angle of 48° facilitates smooth and fast chip evacuation, making it suitable for threading deep blind holes (3xD). The increased thread relief also enables higher cutting speeds in high strength steels.

- **CUTTING GEOMETRY**

The special 3-radii profile with a constant rake angle all along the flute length leads to a better control of cutting properties and prevents nest formation of chips.

- **BACK TAPERED**

Back taper further facilitates chip evacuation, reducing chipping on the last threads of the taps and also reducing torque when the tap reverses.

- **TOOL HOLDING recommendation**

When using 48° spiral flute Yellow Shark taps, it is recommended to use a tool holder with minimal float or soft start.

- **THREAD FORMS**

Metric

- **PRODUCT CODE**

E412



### STAINLESS STEELS

BLUE SHARK



- **SURFACE TREATMENT**

Steam-tempered or Super-B (TiAlN + WC/C) coated with an additional edge treatment.

- **FLUTE GEOMETRY**

Available in spiral point for through holes and spiral flute (40° angle) for blind holes.

- **BACK TAPERED**

Back taper on spiral flute taps further facilitates chip evacuation, reducing chipping on the last threads of the taps and also reducing torque when the tap reverses.

- **THREAD FORMS**

Metric, Metric Fine and G(BSP)

- **PRODUCT CODES**

E238, E239, E240, E241, E382, E383, E384

BLUE SHARK

**3xD NEW**



- **SURFACE TREATMENT**

Super-B (TiAlN + WC/C) coating with an additional edge treatment.

- **FLUTE GEOMETRY**

Spiral flute angle of 48° facilitates smooth and fast chip evacuation, making it suitable for threading deep blind holes (3xD). The increased thread relief ensures process security when tapping resilient materials such as stainless steel.

- **CUTTING GEOMETRY**

The special 3-radii profile with a constant rake angle all along the flute length leads to a better control of cutting properties and prevents nest formation of chips.

- **BACK TAPERED**

Back taper further facilitates chip evacuation, reducing chipping on the last threads of the taps and also reducing torque when the tap reverses.

- **TOOL HOLDING recommendation**

When using 48° spiral flute Blue Shark taps, it is recommended to use a tool holder with minimal float or soft start.

- **THREAD FORMS**

Metric

- **PRODUCT CODE**

E414

**SHARK LINE****ALLOY STEELS****RED SHARK****• SURFACE TREATMENT**

Bright or TiAlN-Top coated with an additional edge treatment.

**• FLUTE GEOMETRY**

Available in spiral point for through holes and spiral flute (45° angle) for blind holes. Special flute geometry on the spiral flute taps prevents nest formation of chips.

**• BACK TAPERED**

Back taper on spiral flute taps further facilitates chip evacuation, reducing chipping on the last threads of the taps and also reducing torque when the tap reverses.

**• CUTTING GEOMETRY (Spiral Flute Taps)**

The special 3-radii profile with a constant rake angle all along the flute length leads to better control of cutting properties and prevents nest formation of chips.

**• TOOL HOLDING Recommendation**

When using spiral flute Red Shark taps, it is recommended to use a tool holder with minimal float or soft start.

**• THREAD FORMS**

Metric

**• PRODUCT CODES**

E255, E256, E260, E261

# SHARK

## MATERIAL SPECIFIC APPLICATION TAPS



### NON-FERROUS MATERIALS

#### GREEN SHARK



- **SURFACE TREATMENT**  
Bright or Super-B (TiAlN + WC/C) coated with an additional edge treatment.
- **FLUTE GEOMETRY**  
Available in spiral point for through holes and spiral flute (35° angle) for blind holes.
- **CUTTING GEOMETRY**  
The special 3-radii profile with a constant rake angle all along the flute length leads to a better control of cutting properties and prevents nest formation of chips.
- **THREAD FORMS**  
Metric
- **PRODUCT CODES**  
E471, E472, E473, E474

### CAST IRONS

#### WHITE SHARK



- **SURFACE TREATMENT**  
Steam-tempered or TiAlN-Top coated.
- **FLUTE GEOMETRY**  
Straight flute design gives excellent performance when threading both through and blind holes in short chipping materials.
- **THREAD FORMS**  
Metric
- **PRODUCT CODES**  
E201, E252, E390



	M	M	M	M	M	M	M	M	M	M	M	M	M	M
	DIN 371	DIN 376	DIN 371<10 376>12	DIN 371<10 376>12	DIN 371<10 376>12	DIN 371<10 376>12	DIN 371<10 376>12	DIN 371<10 376>12	DIN 371<10 376>12	DIN 371<10 376>12	DIN 371<10 376>12	DIN 371<10 376>12	DIN 371<10 376>12	DIN 371<10 376>12
	6HX	6HX	6HX	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H
	2XD	2XD	2XD	2.5XD	2.5XD	2.5XD	2.5XD	2.5XD	2.5XD	2.5XD	2.5XD	2XD	3XD	2.5XD
	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM
	C 2-3	C 2-3	C 2-3	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	C 2-3	C 2-3	C 2-3
	SHARK LINE	SHARK LINE	SHARK LINE	SHARK LINE	SHARK LINE	SHARK LINE	SHARK LINE	SHARK LINE	SHARK LINE	SHARK LINE	SHARK LINE	SHARK LINE	SHARK LINE	
	E201	E252	E390	E297	E255	E256	E240	E241	E471	E472	E298	E412	E260	
	M3 - M10	M8 - M24	M3 - M20	M3 - M30	M3 - M20	M3 - M20	M3 - M30	M3 - M20	M3 - M20	M3 - M20	M3 - M30	M3 - M30	M3 - M20	
												<b>NEW</b>		
	10	10	10	11	12	12	13	13	14	14	15	16	17	
AMG														ISO
1.1				■25					●25		■25	■50		P 1
1.2				■22					●22		■22	■50		P 1
1.3				■18					●18		■18	■35		P 2
1.4				●16	■16	■30			●16		●16	■30	■16	P 3
1.5				●10	●7	■17	●7		●10		●10	■16	●7	P 4
1.6					●4	●11							●4	H 1
1.7														H 3
1.8														H 4
2.1							■8	■14				●14		M 1
2.2							■7	■10				●10		M 3
2.3							■5	■6				●6		M 2
2.4														S 2
3.1	■15	■15	■30											K 1
3.2	■8	■8	■25											K 2
3.3	■15	■15	■35											K 3
3.4	●8	●8	●25											K 4
4.1														S 1
4.2					●2	●3							●2	S 2
4.3														S 3
5.1														S 1
5.2					●2	●3							●2	S 2
5.3														S 3
6.1				■12					●12		■12			N 3
6.2	●20	●20	●30	●30				■30	■45	●30				N 4
6.3				■20				■20	●35	■20				N 3
6.4	●5	●5	●5											N 4
7.1									■16	●35		●16		N 1
7.2									■35	■45		●16		N 1
7.3									■20	■30		●35		N 1
7.4	●15	●15	●20						●15	■20		●35		N 2
8.1									■25	●30				O
8.2	■10	■10	■15											O
8.3														O
9.1														H
10.1														O

	M	M	M	M	M	M	MF	MF	MF	MF	G		
	DIN 3714/10 3763/12	DIN 3714/10 3763/12	DIN 3714/10 3763/12	DIN 3714/10 3763/12	DIN 3714/10 3763/12	DIN 3714/10 3763/12	DIN 374	DIN 374	DIN 374	DIN 374	DIN 5156		
	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	Normal		
	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM		
	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	B 3.5-5	B 3.5-5	C 2-3	C 2-3	C 2-3		
	SHARK LINE	SHARK LINE	SHARK LINE	SHARK LINE	SHARK LINE	SHARK LINE	SHARK LINE	SHARK LINE	SHARK LINE	SHARK LINE	SHARK LINE		
	E261	E238	E239	E414	E473	E474	E299	E384	E300	E383	E382	L114	
	M3 - M20	M3 - M30	M3 - M20	M3 - M20	M3 - M20	M3 - M20	M4 - M30	M6 - M20	M4 - M30	M6 - M20	1/8 - 1"	Set	
				<b>NEW</b>									
	17	18	18	19	20	20	21	22	23	24	25	26	
<b>AMG</b>													<b>ISO</b>
1.1					●25		■25		■25				P 1
1.2			●22		●22	●40	■22		■22				P 1
1.3			●18	●32	●18	●32	■18		■18				P 2
1.4	■35		●16	●27			●16		●16				P 3
1.5	■20	●7	●10	●13			●10	●7	●10	●7	●7		P 4
1.6	●11												H 1
1.7													H 3
1.8													H 4
2.1		■8	■14	■16				■8		■8	■8		M 1
2.2		■7	■10	■12				■7		■7	■7		M 3
2.3		■5	■6	■8				■5		■5	■5		M 2
2.4				■6									S 2
3.1													K 1
3.2													K 2
3.3													K 3
3.4													K 4
4.1													S 1
4.2	●3												S 2
4.3													S 3
5.1													S 1
5.2	●3												S 2
5.3													S 3
6.1					●12		■12		■12				N 3
6.2					■30	■45	●30		●30				N 4
6.3					■20	●35	■20		■20				N 3
6.4													N 4
7.1					■16	●35							N 1
7.2					■35	■45							N 1
7.3					■20	■30							N 1
7.4					●15	■20							N 2
8.1					■25	●30							O
8.2													O
8.3													O
9.1													H
10.1													O

# E201

# E252

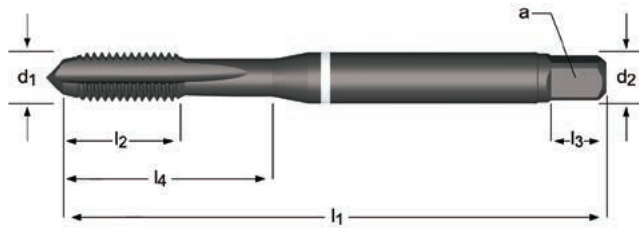
• M Machine Tap Straight Flute, White Shark

Supplied in HSS-E until new stock available

# E390

E201; E252; E390	▪	3.1	3.2	3.3	8.2
	•	3.4	6.2	6.4	7.4

E201	M	DIN 371	6HX		2XD	HSS-E PM	C 2-3			ST	
E252	M	DIN 376	6HX		2XD	HSS-E PM	C 2-3			ST	
E390	M	DIN 371 ≤ 10 376 > 12	6HX		2XD	HSS-E PM	C 2-3			TiAIN	



M	P mm	l <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> ∅ mm	a mm	l <sub>3</sub> mm	z		l <sub>4</sub> mm	E201	E252	E390
3	0.50	56	9	3.5	2.7	6	3	2.5	18	E201M3		E390M3
4	0.70	63	12	4.5	3.4	6	4	3.3	21	E201M4		E390M4
5	0.80	70	13	6.0	4.9	8	4	4.2	25	E201M5		E390M5
6	1.00	80	15	6.0	4.9	8	4	5.0	30	E201M6		E390M6
8	1.25	90	18	6.0	4.9	8	4	6.8			E252M8	
8	1.25	90	18	8.0	6.2	9	4	6.8	35	E201M8		E390M8
10	1.50	100	20	10.0	8.0	11	4	8.5	39	E201M10		E390M10
10	1.50	100	20	7.0	5.5	8	4	8.5			E252M10	
12	1.75	110	23	9.0	7.0	10	4	10.3			E252M12	E390M12
14	2.00	110	25	11.0	9.0	12	4	12.0			E252M14	
16	2.00	110	25	12.0	9.0	12	4	14.0			E252M16	E390M16
18	2.50	125	30	14.0	11.0	14	4	15.5			E252M18	
20	2.50	140	30	16.0	12.0	15	4	17.5			E252M20	E390M20
22	2.50	140	34	18.0	14.5	17	4	19.5			E252M22	
24	3.00	160	38	18.0	14.5	17	4	21.0			E252M24	

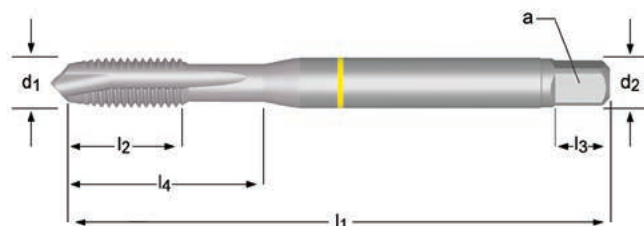
# E297

- M Machine Tap Spiral Point, Yellow Shark

- E297
- 1.1 1.2 1.3 6.1 6.3
  - 1.4 1.5 6.2

E297

- M**
- DIN  
371 ≤ 10  
376 ≥ 12
- 6H**
- 
- 2.5XD**
- HSS-E  
PM**
- B  
3.5-5**
- 
- 
- Cr**
- 



M	P mm	l <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> ∅ mm	∟ a mm	l <sub>3</sub> mm	z		l <sub>4</sub> mm	E297
3	0.50	56	9	3.5	2.7	6	3	2.5	18	E297M3
4	0.70	63	12	4.5	3.4	6	3	3.3	21	E297M4
5	0.80	70	13	6.0	4.9	8	3	4.2	25	E297M5
6	1.00	80	15	6.0	4.9	8	3	5.0	30	E297M6
8	1.25	90	18	8.0	6.2	9	3	6.8	35	E297M8
10	1.50	100	20	10.0	8.0	11	3	8.5	39	E297M10
12	1.75	110	23	9.0	7.0	10	3	10.3	-	E297M12
14	2.00	110	25	11.0	9.0	12	3	12.0	-	E297M14
16	2.00	110	25	12.0	9.0	12	3	14.0	-	E297M16
18	2.50	125	30	14.0	11.0	14	3	15.5	-	E297M18
20	2.50	140	30	16.0	12.0	15	3	17.5	-	E297M20
22	2.50	140	34	18.0	14.5	17	4	19.5	-	E297M22
24	3.00	160	38	18.0	14.5	17	4	21.0	-	E297M24
27	3.00	160	38	20.0	16.0	19	4	24.0	-	E297M27
30	3.50	180	45	22.0	18.0	21	4	26.5	-	E297M30

# E255

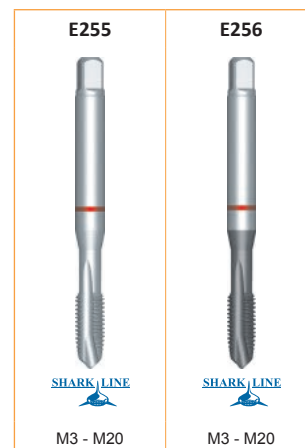
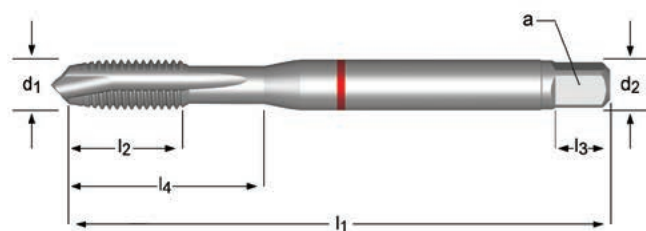
# E256

• M Machine Tap Spiral Point, Red Shark

Supplied in HSS-E until new stock available

E255	▪	1.4			
	•	1.5	1.6	4.2	5.2
E256	▪	1.4	1.5		
	•	1.6	4.2	5.2	

E255	M	DIN 371 ≤ 10 376 ≥ 12	6H		2.5XD	HSS-E PM	B 3.5-5				
E256	M	DIN 371 ≤ 10 376 ≥ 12	6H		2.5XD	HSS-E PM	B 3.5-5			TiAlN Top	



M	P mm	l <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> ∅ mm	□ a mm	l <sub>3</sub> mm	z		l <sub>4</sub> mm	E255	E256
3	0.50	56	9	3.5	2.7	6	3	2.5	18	E255M3	E256M3
4	0.70	63	12	4.5	3.4	6	3	3.3	21	E255M4	E256M4
5	0.80	70	13	6.0	4.9	8	3	4.2	25	E255M5	E256M5
6	1.00	80	15	6.0	4.9	8	3	5.0	30	E255M6	E256M6
8	1.25	90	18	8.0	6.2	9	3	6.8	35	E255M8	E256M8
10	1.50	100	20	10.0	8.0	11	3	8.5	39	E255M10	E256M10
12	1.75	110	23	9.0	7.0	10	3	10.3	-	E255M12	E256M12
14	2.00	110	25	11.0	9.0	12	3	12.0	-	E255M14	
16	2.00	110	25	12.0	9.0	12	3	14.0	-	E255M16	E256M16
20	2.50	140	30	16.0	12.0	15	4	17.5	-	E255M20	E256M20

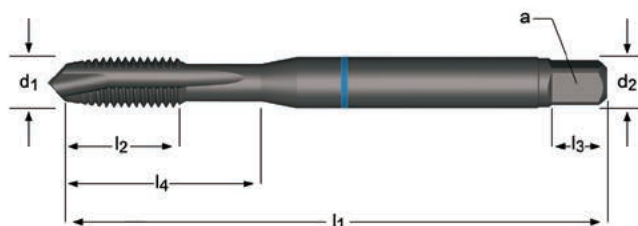
# E240

• M Machine Tap Spiral Point, Blue Shark

# E241

E240	▪	2.1	2.2	2.3	
	•	1.5			
E241	▪	2.1	2.2	2.3	
	•	1.2	1.3	1.4	1.5

E240	M	DIN 371≤10 376≥12	6H		2.5XD	HSS-E PM	B 3.5-5			ST	L114 334
E241	M	DIN 371≤10 376≥12	6H		2.5XD	HSS-E PM	B 3.5-5			Super B	



M	P mm	l <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> ∅ mm	□ a mm	l <sub>3</sub> mm	z		l <sub>4</sub> mm	E240	E241
3	0.50	56	9	3.5	2.7	6	3	2.5	18	E240M3	E241M3
4	0.70	63	12	4.5	3.4	6	3	3.3	21	E240M4	E241M4
5	0.80	70	13	6.0	4.9	8	3	4.2	25	E240M5	E241M5
6	1.00	80	15	6.0	4.9	8	3	5.0	30	E240M6	E241M6
8	1.25	90	18	8.0	6.2	9	3	6.8	35	E240M8	E241M8
10	1.50	100	20	10.0	8.0	11	3	8.5	39	E240M10	E241M10
12	1.75	110	23	9.0	7.0	10	4	10.3	-	E240M12	E241M12
14	2.00	110	25	11.0	9.0	12	4	12.0	-	E240M14	E241M14
16	2.00	110	25	12.0	9.0	12	4	14.0	-	E240M16	E241M16
18	2.50	125	30	14.0	11.0	14	4	15.5	-	E240M18	E241M18
20	2.50	140	30	16.0	12.0	15	4	17.5	-	E240M20	E241M20
22	2.50	140	34	18.0	14.5	17	4	19.5	-	E240M22	
24	3.00	160	38	18.0	14.5	17	4	21.0	-	E240M24	
27	3.00	160	38	20.0	16.0	19	4	24.0	-	E240M27	
30	3.50	180	45	22.0	18.0	21	4	26.5	-	E240M30	

# E471

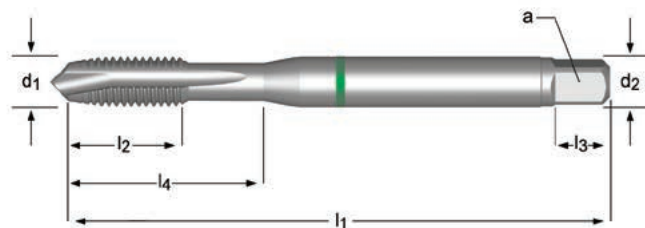
• M Machine Tap Spiral Point, Green Shark

Supplied in HSS-E until new stock available

# E472

E471	▪	6.2	6.3	7.1	7.2	7.3	8.1
	•	1.1	1.2	1.3	6.1	7.4	
E472	▪	6.2	7.2	7.3	7.4		
	•	1.2	1.3	6.3	7.1	8.1	

E471	<b>M</b>	DIN 371≤10 376≥12	6H		2.5XD	HSS-E PM	B 3.5-5				
E472	<b>M</b>	DIN 371≤10 376≥12	6H		2.5XD	HSS-E PM	B 3.5-5			Super B	



M	P mm	l <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> ∅ mm	a mm	l <sub>3</sub> mm	z		l <sub>4</sub> mm	E471	E472
3	0.50	56	9	3.5	2.7	6	2	2.5	18	E471M3	E472M3
4	0.70	63	12	4.5	3.4	6	2	3.3	21	E471M4	E472M4
5	0.80	70	13	6.0	4.9	8	2	4.2	25	E471M5	E472M5
6	1.00	80	15	6.0	4.9	8	3	5.0	30	E471M6	E472M6
8	1.25	90	18	8.0	6.2	9	3	6.8	35	E471M8	E472M8
10	1.50	100	20	10.0	8.0	11	3	8.5	39	E471M10	E472M10
12	1.75	110	23	9.0	7.0	10	3	10.3	-	E471M12	E472M12
16	2.00	110	25	12.0	9.0	12	4	14.0	-	E471M16	E472M16
20	2.50	140	30	16.0	12.0	15	4	17.5	-	E471M20	E472M20

# E298

• M Machine Tap Spiral Flute 40°, Yellow Shark

- E298
- 1.1 1.2 1.3 6.1 6.3
  - 1.4 1.5 6.2

E298

**M**

DIN  
371≤10  
376≥12

**6H**

**2XD**

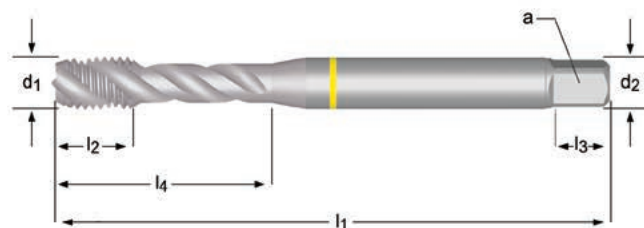
**HSS-E  
PM**

**C  
2-3**

**λ40°**

Cr

L114  
334



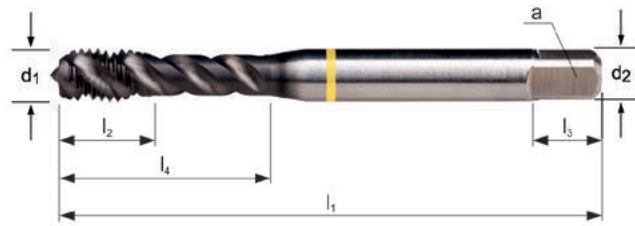
M	P mm	l <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> ∅ mm	□ a mm	l <sub>3</sub> mm	z		l <sub>4</sub> mm	E298
3	0.50	56	6	3.5	2.7	6	3	2.5	18	E298M3
4	0.70	63	7	4.5	3.4	6	3	3.3	21	E298M4
5	0.80	70	8	6.0	4.9	8	3	4.2	25	E298M5
6	1.00	80	10	6.0	4.9	8	3	5.0	30	E298M6
8	1.25	90	13	8.0	6.2	9	3	6.8	35	E298M8
10	1.50	100	15	10.0	8.0	11	3	8.5	39	E298M10
12	1.75	110	18	9.0	7.0	10	3	10.3	-	E298M12
14	2.00	110	20	11.0	9.0	12	3	12.0	-	E298M14
16	2.00	110	20	12.0	9.0	12	4	14.0	-	E298M16
18	2.50	125	25	14.0	11.0	14	4	15.5	-	E298M18
20	2.50	140	25	16.0	12.0	15	4	17.5	-	E298M20
22	2.50	140	25	18.0	14.5	17	4	19.5	-	E298M22
24	3.00	160	30	18.0	14.5	17	4	21.0	-	E298M24
27	3.00	160	30	20.0	16.0	19	4	24.0	-	E298M27
30	3.50	160	36	22.0	18.0	21	4	26.5	-	E298M30



# E412 • M Machine Tap Spiral Flute 48°, Back Tapered, Yellow Shark

- E412 ■ 1.1 1.2 1.3 1.4 1.5  
 • 2.1 2.2 2.3 7.1 7.2 7.3 7.4

E412 **M** **DIN 371≤10 376>12** **6H** **3XD** **HSS-E PM** **C 2-3** **λ48°** **TiAlN Top**



M	P mm	l <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> ∅ mm	a mm	l <sub>3</sub> mm	z		l <sub>4</sub> mm	E412
3	0.50	56	6	3.5	2.7	6	3	2.5	18	E412M3
4	0.70	63	7	4.5	3.4	6	3	3.3	21	E412M4
5	0.80	70	8	6.0	4.9	8	3	4.2	25	E412M5
6	1.00	80	10	6.0	4.9	8	3	5.0	30	E412M6
8	1.25	90	13	8.0	6.2	9	3	6.8	35	E412M8
10	1.50	100	15	10.0	8.0	11	3	8.5	39	E412M10
12	1.75	110	18	9.0	7.0	10	3	10.3	-	E412M12
14	2.00	110	20	11.0	9.0	12	3	12.0	-	E412M14
16	2.00	110	20	12.0	9.0	12	4	14.0	-	E412M16
20	2.50	140	25	16.0	12.0	15	4	17.5	-	E412M20
22	2.50	140	25	18.0	14.5	17	4	19.5	-	E412M22
24	3.00	160	30	18.0	14.5	17	4	21.0	-	E412M24
27	3.00	160	30	20.0	16.0	19	4	24.0	-	E412M27
30	3.50	180	36	22.0	18.0	21	4	26.5	-	E412M30

# E260

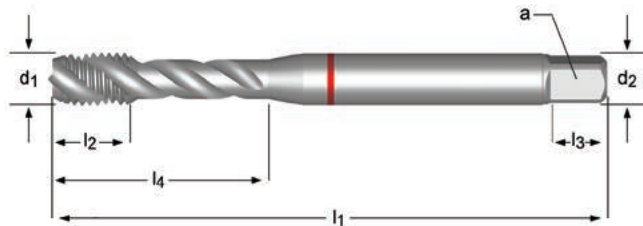
# E261

• M Machine Tap Spiral Flute 45°, Back Tapered, Red Shark

Supplied in HSS-E until new stock available

E260	▪	1.4				
	•	1.5	1.6	4.2	5.2	
E261	▪	1.4	1.5			
	•	1.6	4.2	5.2		

E260	M	DIN 371≤10 376≥12	6H		2.5XD	HSS-E PM	C 2-3	 λ45°			
E261	M	DIN 371≤10 376≥12	6H		2.5XD	HSS-E PM	C 2-3	 λ45°			TiAlN Top



M	P mm	l <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> ∅ mm	a mm	l <sub>3</sub> mm	z		l <sub>4</sub> mm	E260	E261
3	0.50	56	6	3.5	2.7	6	3	2.5	18	E260M3	E261M3
4	0.70	63	7	4.5	3.4	6	3	3.3	21	E260M4	E261M4
5	0.80	70	8	6.0	4.9	8	3	4.2	25	E260M5	E261M5
6	1.00	80	10	6.0	4.9	8	3	5.0	30	E260M6	E261M6
8	1.25	90	12	8.0	6.2	9	3	6.8	35	E260M8	E261M8
10	1.50	100	15	10.0	8.0	11	3	8.5	39	E260M10	E261M10
12	1.75	110	16	9.0	7.0	10	3	10.3	-	E260M12	E261M12
14	2.00	110	20	11.0	9.0	12	3	12.0	-	E260M14	
16	2.00	110	20	12.0	9.0	12	4	14.0	-	E260M16	E261M16
20	2.50	140	25	16.0	12.0	15	4	17.5	-	E260M20	E261M20

# E238

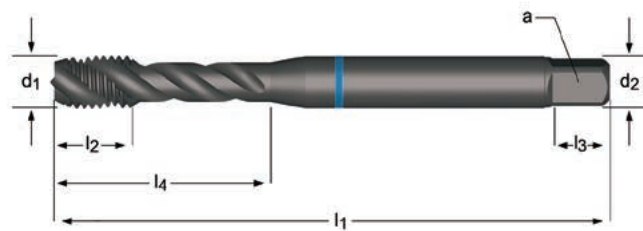
• M Machine Tap Spiral Flute 40°, Back Tapered, Blue Shark

Supplied in HSS-E until new stock available

# E239

E238	▪	2.1	2.2	2.3	
	•	1.5			
E239	▪	2.1	2.2	2.3	
	•	1.2	1.3	1.4	1.5

E238	M	DIN 371≤10 376≥12	6H	2.5XD	HSS-E PM	C 2-3	λ40°	ST	L114 334
E239	M	DIN 371≤10 376≥12	6H	2.5XD	HSS-E PM	C 2-3	λ40°	Super B	



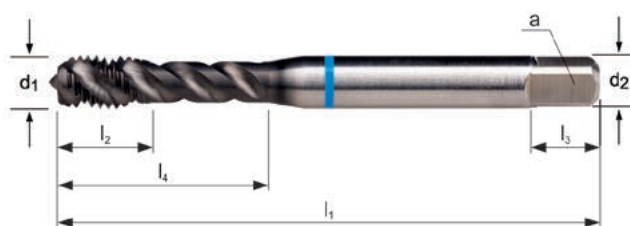
M	P	l <sub>1</sub>	l <sub>2</sub>	d <sub>2</sub>	□	l <sub>3</sub>	z	↔	l <sub>4</sub>	E238	E239
	mm	mm	mm	mm	a	mm		mm	mm		
3	0.50	56	6	3.5	2.7	6	3	2.5	18	E238M3	E239M3
4	0.70	63	7	4.5	3.4	6	3	3.3	21	E238M4	E239M4
5	0.80	70	8	6.0	4.9	8	3	4.2	25	E238M5	E239M5
6	1.00	80	10	6.0	4.9	8	3	5.0	30	E238M6	E239M6
8	1.25	90	13	8.0	6.2	9	3	6.8	33	E238M8	E239M8
10	1.50	100	15	10.0	8.0	11	3	8.5	39	E238M10	E239M10
12	1.75	110	18	9.0	7.0	10	4	10.3	-	E238M12	E239M12
14	2.00	110	20	11.0	9.0	12	4	12.0	-	E238M14	E239M14
16	2.00	110	20	12.0	9.0	12	4	14.0	-	E238M16	E239M16
18	2.50	125	25	14.0	11.0	14	4	15.5	-	E238M18	
20	2.50	140	25	16.0	12.0	15	4	17.5	-	E238M20	E239M20
22	2.50	140	25	18.0	14.5	17	4	19.8	-	E238M22	
24	3.00	160	30	18.0	14.5	17	4	21.0	-	E238M24	
27	3.00	160	30	20.0	16.0	19	4	24.0	-	E238M27	
30	3.50	180	36	22.0	18.0	21	4	26.5	-	E238M30	

# E414

- M Machine Tap Spiral Flute 48°, Back Tapered, Blue Shark

E414 ■ 2.1 2.2 2.3 2.4  
 • 1.3 1.4 1.5

E414 **M** **DIN 371 ≤ 10**  
**376 ≥ 12** **6H** **3XD** **HSS-E PM** **C 2-3** **λ 48°** **Super B**



M	P mm	l <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> ∅ mm	a mm	l <sub>3</sub> mm	z		l <sub>4</sub> mm	E414
3	0.50	56	6	3.5	2.7	6	3	2.5	18	E414M3
4	0.70	63	7	4.5	3.4	6	3	3.3	21	E414M4
5	0.80	70	8	6.0	4.9	8	3	4.2	25	E414M5
6	1.00	80	10	6.0	4.9	8	3	5.0	30	E414M6
8	1.25	90	13	8.0	6.2	9	3	6.8	35	E414M8
10	1.50	100	15	10.0	8.0	11	3	8.5	39	E414M10
12	1.75	110	18	9.0	7.0	10	3	10.3	-	E414M12
14	2.00	110	20	11.0	9.0	12	3	12.0	-	E414M14
16	2.00	110	20	12.0	9.0	12	4	14.0	-	E414M16
20	2.50	140	25	16.0	12.0	15	4	17.5	-	E414M20

# E473

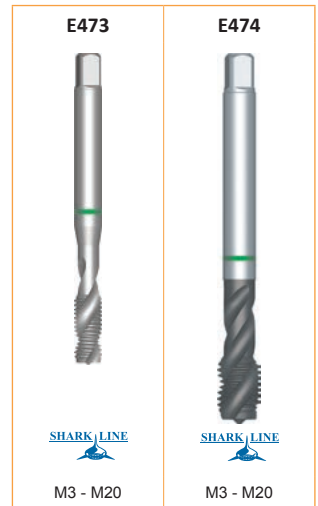
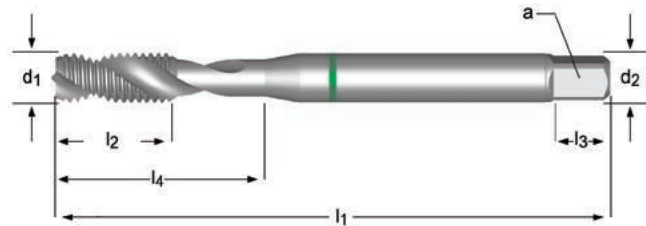
• M Machine Tap Spiral Flute 35°, Green Shark

Supplied in HSS-E until new stock available

# E474

E473	▪	6.2	6.3	7.1	7.2	7.3	8.1
	•	1.1	1.2	1.3	6.1	7.4	
E474	▪	6.2	7.2	7.3	7.4		
	•	1.2	1.3	6.3	7.1	8.1	

E473	M	DIN 371≤10 376≥12	6H		2.5XD	HSS-E PM	C 2-3	 λ 35°		
E474	M	DIN 371≤10 376≥12	6H		2.5XD	HSS-E PM	C 2-3	 λ 35°	 Super B	



M	P mm	l <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> ∅ mm	a mm	l <sub>3</sub> mm	z		l <sub>4</sub> mm	E473	E474
3	0.50	56	9	3.5	2.7	6	2	2.5	18	E473M3	E474M3
4	0.70	63	12	4.5	3.4	6	2	3.3	21	E473M4	E474M4
5	0.80	70	13	6.0	4.9	8	2	4.2	25	E473M5	E474M5
6	1.00	80	15	6.0	4.9	8	2	5.0	30	E473M6	E474M6
8	1.25	90	18	8.0	6.2	9	2	6.8	35	E473M8	E474M8
10	1.50	100	20	10.0	8.0	11	2	8.5	39	E473M10	E474M10
12	1.75	110	23	9.0	7.0	10	3	10.3	-	E473M12	E474M12
16	2.00	110	25	12.0	9.0	12	3	14.0	-	E473M16	E474M16
20	2.50	140	30	16.0	12.0	15	3	17.5	-	E473M20	E474M20

# E299

- MF Machine Tap Spiral Point, Yellow Shark

- E299
- 1.1 1.2 1.3 6.1 6.3
  - 1.4 1.5 6.2

E299

MF

DIN  
374

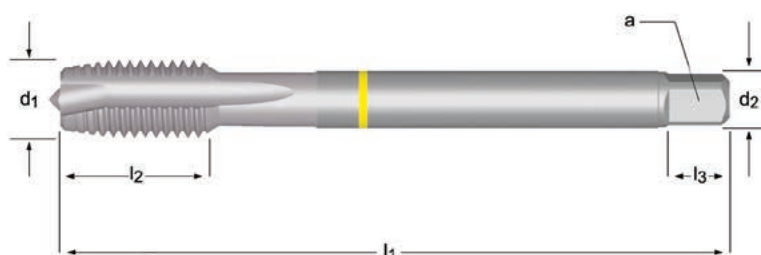
6H

2.5XD

HSS-E  
PM

B  
3.5-5

Cr

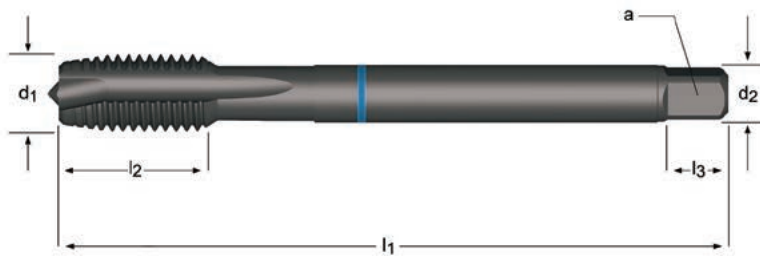


MF	P mm	l <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> ∅ mm	∠ a mm	l <sub>3</sub> mm	z		E299
4	0.50	63	12	2.8	2.1	5	3	3.5	E299M4X.5
5	0.50	70	13	3.5	2.7	6	3	4.5	E299M5X.5
6	0.75	80	15	4.5	3.4	6	3	5.3	E299M6X.75
8	0.75	80	15	6.0	4.9	8	3	7.3	E299M8X.75
8	1.00	90	18	6.0	4.9	8	3	7.0	E299M8X1.0
10	0.75	90	20	7.0	5.5	8	3	9.3	E299M10X.75
10	1.00	90	20	7.0	5.5	8	3	9.0	E299M10X1.0
10	1.25	100	20	7.0	5.5	8	3	8.8	E299M10X1.25
12	1.00	100	21	9.0	7.0	10	4	11.0	E299M12X1.0
12	1.25	100	21	9.0	7.0	10	4	10.8	E299M12X1.25
12	1.50	110	21	9.0	7.0	10	4	10.5	E299M12X1.5
14	1.00	100	21	11.0	9.0	12	4	13.0	E299M14X1.0
14	1.25	100	21	11.0	9.0	12	4	12.8	E299M14X1.25
14	1.50	100	21	11.0	9.0	12	4	12.5	E299M14X1.5
16	1.00	100	21	12.0	9.0	12	4	15.0	E299M16X1.0
16	1.50	100	21	12.0	9.0	12	4	14.5	E299M16X1.5
18	1.00	110	24	14.0	11.0	14	4	17.0	E299M18X1.0
18	1.50	110	24	14.0	11.0	14	4	16.5	E299M18X1.5
20	1.50	125	24	16.0	12.0	15	4	18.5	E299M20X1.5
22	1.50	125	25	18.0	14.5	17	4	20.5	E299M22X1.5
24	1.50	140	28	18.0	14.5	17	4	22.5	E299M24X1.5
24	2.00	140	28	18.0	14.5	17	4	22.0	E299M24X2.0
27	2.00	140	28	20.0	16.0	19	4	25.0	E299M27X2.0
30	2.00	150	28	22.0	18.0	21	4	28.0	E299M30X2.0

# E384 • MF Machine Tap Spiral Point, Blue Shark

E384 ■ 2.1 2.2 2.3  
 • 1.5

E384 MF DIN 374 6H 2.5XD HSS-E PM B 3.5-5 ST



MF	P mm	$l_1$ mm	$l_2$ mm	$d_2$ Ø mm	□ a mm	$l_3$ mm	z		E384
6	0.75	80	15	4.5	3.4	6	3	5.3	E384M6X.75
8	1.00	90	18	6.0	4.9	8	3	7.0	E384M8X1.0
10	1.00	90	20	7.0	5.5	8	3	9.0	E384M10X1.0
10	1.25	100	20	7.0	5.5	8	3	8.8	E384M10X1.25
12	1.00	100	21	9.0	7.0	10	4	11.0	E384M12X1.0
12	1.25	100	21	9.0	7.0	10	4	10.8	E384M12X1.25
12	1.50	100	21	9.0	7.0	10	4	10.5	E384M12X1.5
14	1.50	100	21	11.0	9.0	12	4	12.5	E384M14X1.5
16	1.50	100	21	12.0	9.0	12	5	14.5	E384M16X1.5
18	1.50	110	24	14.0	11.0	14	5	16.5	E384M18X1.5
20	1.50	125	24	16.0	12.0	15	5	18.5	E384M20X1.5

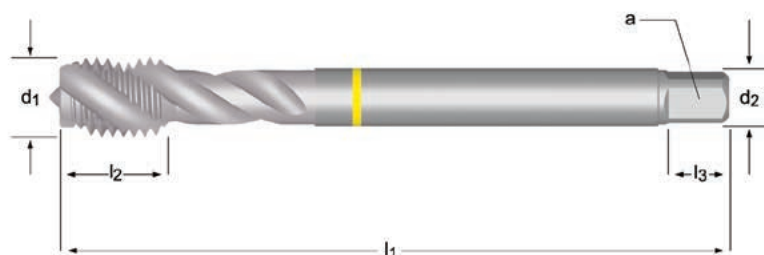
# E300

- MF Machine Tap Spiral Flute 40°, Yellow Shark

- E300
- 1.1 1.2 1.3 6.1 6.3
  - 1.4 1.5 6.2

E300

- MF
- DIN 374
- 6H
- 
- HSS-E PM
- C 2-3
- $\lambda 40^\circ$
- 



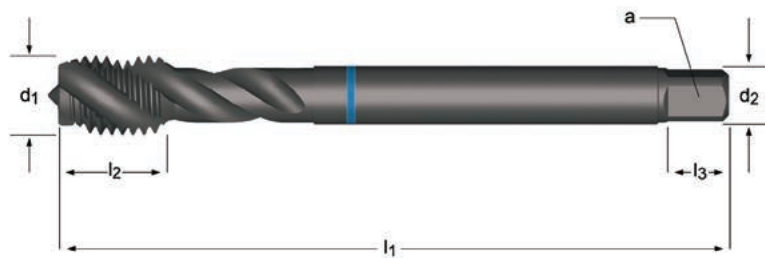
MF	P mm	$l_1$ mm	$l_2$ mm	$d_2$ Ø mm	$\square$ a mm	$l_3$ mm	z		E300
4	0.50	63	6.5	2.8	2.1	5	3	3.5	E300M4X.5
5	0.50	70	7.5	3.5	2.7	6	3	4.5	E300M5X.5
6	0.75	80	10	4.5	3.4	6	3	5.3	E300M6X.75
8	0.75	80	13	6.0	4.9	8	3	7.3	E300M8X.75
8	1.00	90	13	6.0	4.9	8	3	7.0	E300M8X1.0
10	0.75	90	13	7.0	5.5	8	3	9.3	E300M10X.75
10	1.00	90	12	7.0	5.5	8	3	9.0	E300M10X1.0
10	1.25	100	15	7.0	5.5	8	3	8.8	E300M10X1.25
12	1.00	100	15	9.0	7.0	10	4	11.0	E300M12X1.0
12	1.25	100	13	9.0	7.0	10	4	10.8	E300M12X1.25
12	1.50	100	13	9.0	7.0	10	4	10.5	E300M12X1.5
14	1.00	100	15	11.0	9.0	12	4	13.0	E300M14X1.0
14	1.25	100	15	11.0	9.0	12	4	12.8	E300M14X1.25
14	1.50	100	15	11.0	9.0	12	4	12.5	E300M14X1.5
16	1.00	100	15	12.0	9.0	12	5	15.0	E300M16X1.0
16	1.50	100	15	12.0	9.0	12	5	14.5	E300M16X1.5
18	1.00	110	17	14.0	11.0	14	5	17.0	E300M18X1.0
18	1.50	110	17	14.0	11.0	14	5	16.5	E300M18X1.5
20	1.50	125	17	16.0	12.0	15	5	18.5	E300M20X1.5
22	1.50	125	17	18.0	14.5	17	5	20.5	E300M22X1.5
24	1.50	140	20	18.0	14.5	17	5	22.5	E300M24X1.5
24	2.00	140	20	18.0	14.5	17	5	22.0	E300M24X2.0
27	2.00	140	20	20.0	16.0	19	5	25.0	E300M27X2.0
30	2.00	150	20	22.0	18.0	21	5	28.0	E300M30X2.0



# E383 • MF Machine Tap Spiral Flute 40°, Blue Shark

E383 ■ 2.1 2.2 2.3  
 • 1.5

E383 MF DIN 374 6H 2XD HSS-E PM C 2-3 λ40° ST

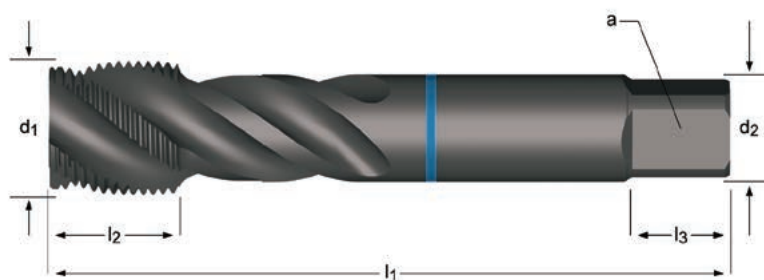


MF	P mm	l <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> ∅ mm	∠ a mm	l <sub>3</sub> mm	z		E383
6	0.75	80	10	4.5	3.4	6	3	5.3	E383M6X.75
8	1.00	90	13	6.0	4.9	8	3	7.0	E383M8X1.0
10	1.00	90	12	7.0	5.5	8	3	9.0	E383M10X1.0
10	1.25	100	15	7.0	5.5	8	3	8.8	E383M10X1.25
12	1.00	100	13	9.0	7.0	10	4	11.0	E383M12X1.0
12	1.25	100	13	9.0	7.0	10	4	10.8	E383M12X1.25
12	1.50	100	13	9.0	7.0	10	4	10.5	E383M12X1.5
14	1.50	100	21	11.0	9.0	12	4	12.5	E383M14X1.5
16	1.50	100	21	12.0	9.0	12	5	14.5	E383M16X1.5
18	1.50	110	24	14.0	11.0	14	5	16.5	E383M18X1.5
20	1.50	125	24	16.0	12.0	15	5	18.5	E383M20X1.5

# E382 • G(BSP) Machine Tap Spiral Flute 40°, Blue Shark

E382 ■ 2.1 2.2 2.3  
 • 1.5

E382 **G** **DIN 5156** Normal **2XD** **HSS-E PM** **C 2-3**  $\lambda 40^\circ$  **ST**







G(BSP)	TPI	d <sub>1</sub> nom mm	l <sub>1</sub> mm	l <sub>2</sub> mm	d <sub>2</sub> ∅ mm	▣ a mm	l <sub>3</sub> mm	z		E382
1/8	28	9.73	90	12	7.0	5.5	8	3	8.8	E3821/8
1/4	19	13.16	100	15	11.0	9.0	12	4	11.8	E3821/4
3/8	19	16.66	100	15	12.0	9.0	12	4	15.25	E3823/8
1/2	14	20.96	125	24	16.0	12.0	15	4	19.0	E3821/2
3/4	14	26.44	140	20	20.0	16.0	19	4	24.5	E3823/4
1"	11	33.25	160	24	25.0	20.0	23	4	30.75	E3821

# L114 • DIN Tap-Drill Set

A= Styles in Set, B= No. in Set, M= Tap diameters in Set, D= Drill diameters in Set

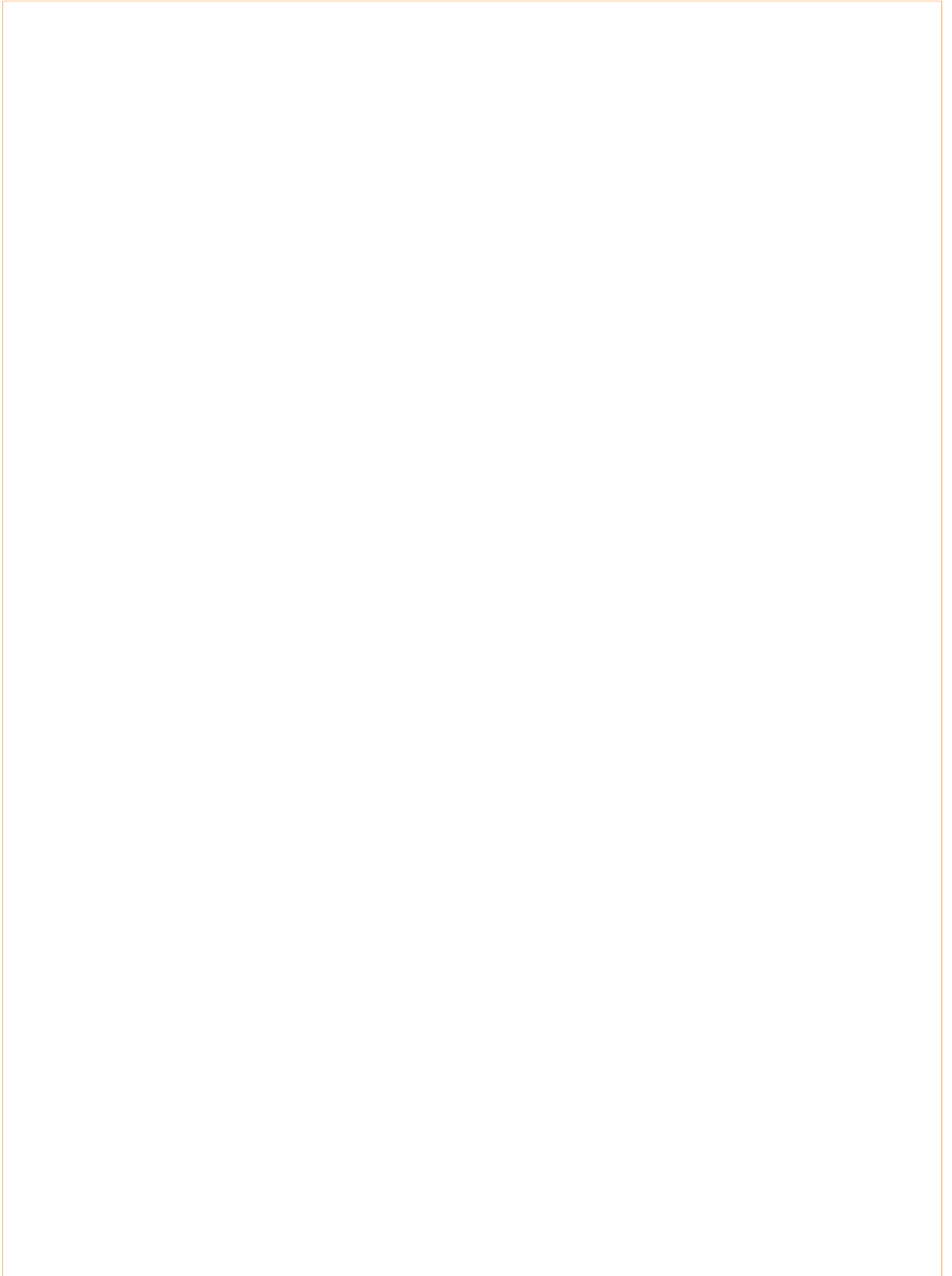


Set	A	B	M	D	L114
Nr.301	EP006H + A002	14	EP00M3, EP00M4, EP00M5, EP00M6, EP00M8, EP00M10, EP00M12	A0022.5, A0023.3, A0024.2, A0025.0, A0026.8, A0028.5, A00210.2	L114301
Nr.302	EX006H + A002	14	EX00M3, EX00M4, EX00M5, EX00M6, EX00M8, EX00M10, EX00M12	A0022.5, A0023.3, A0024.2, A0025.0, A0026.8, A0028.5, A00210.2	L114302
Nr.303	E297 + A002 	14	E297M3, E297M4, E297M5, E297M6, E297M8, E297M10, E297M12	A0022.5, A0023.3, A0024.2, A0025.0, A0026.8, A0028.5, A00210.2	L114303
Nr.304	E298 + A002 	14	E298M3, E298M4, E298M5, E298M6, E298M8, E298M10, E298M12	A0022.5, A0023.3, A0024.2, A0025.0, A0026.8, A0028.5, A00210.2	L114304
Nr.305	E238 + A108 	14	E238M3, E238M4, E238M5, E238M6, E238M8, E238M10, E238M12	A1082.5, A1083.3, A1084.2, A1085.0, A1086.8, A1088.5, A10810.2	L114305
Nr.306	E240 + A108 	14	E240M3, E240M4, E240M5, E240M6, E240M8, E240M10, E240M12	A1082.5, A1083.3, A1084.2, A1085.0, A1086.8, A1088.5, A10810.2	L114306

# M200 • Cutting Oil



		M200
<b>A</b>		
1/4 Ltr. 12x	1 BLUE	M2000.25NR.1BLUE
1/4 Ltr. 12x	2 RED	M2000.25NR.2RED
1/4 Ltr. 12x	3 GREEN	M2000.25NR.3GREEN
1 Ltr.	1 BLUE	M2001.0NR.1BLUE
1 Ltr.	2 RED	M2001.0NR.2RED
1 Ltr.	3 GREEN	M2001.0NR.3GREEN
5 Ltr.	1 BLUE	M2005.0NR.1BLUE
5 Ltr.	2 RED	M2005.0NR.2RED
5 Ltr.	3 GREEN	M2005.0NR.3GREEN
20 Ltr.	1 BLUE	M20020.0NR.1BLUE



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