

DORMER

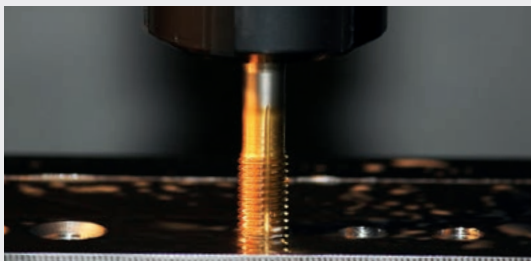
New products

2016.2



FORMING TAPS

4



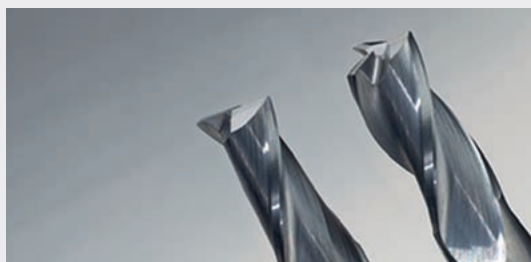
SOLID CARBIDE TAPS

16



SOLID CARBIDE CUTTERS

26



COUNTERSINKS

35



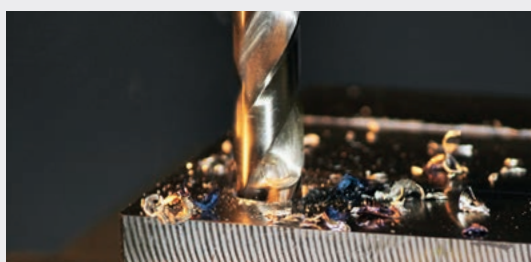
CENTER DRILLS

41



HSS DRILLS

56



FORMING TAPS





INTRODUCTION

Dormer's range of forming taps is a high quality, comprehensive program with designs and thread forms for the majority of applications in all major industry segments. Dormer's forming taps provide dependability and reliability, creating threads that offer both dynamic strength and high dimensional accuracy.

FEATURES AND BENEFITS

- The range has been expanded with thread forms for MF, UNC and UNF. In addition, more variants with oil grooves have been added, as well as through coolant taps and a high performance solid carbide tap.
- High performance and productivity in a wide range of materials
- Produces a stronger thread than cutting taps with increased load bearing capabilities
- Greater accuracy of finished thread
- Lower surface roughness
- Highly stable tool design means less risk of tap breakage and optimum process security

MATERIAL

Manufactured from premium grade

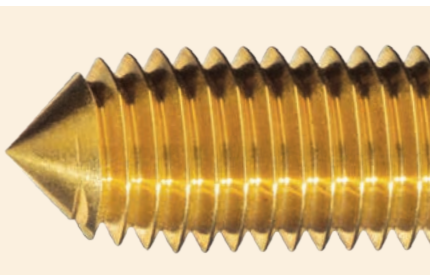
High Speed Cobalt (HSS-E) for:

- Increased hardness and toughness
- Improved strength
- Longer tool life

Solid Carbide for:

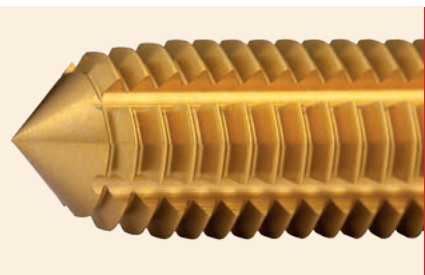
- Extremely high cutting speeds
- Very long tool life

TAP STYLES



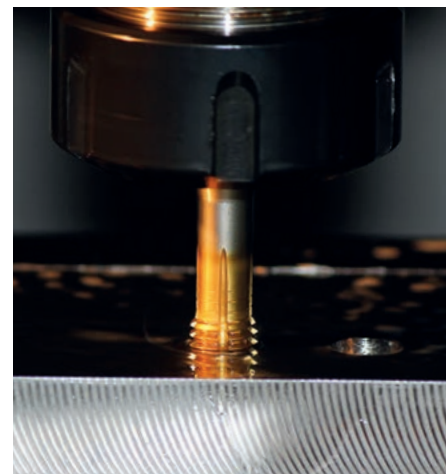
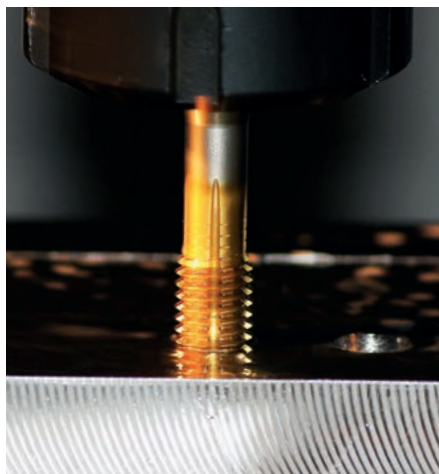
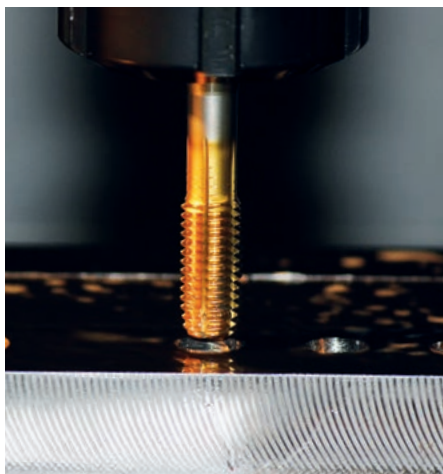
STANDARD

- Threading depths up to 3xD
- First choice for universal use in all ductile materials
- Chamfer form E for blind holes and C for blind and through holes
- TiN coating for longer tool life and suitable for many materials; a bright finish option is also available



OIL GROOVES

- Thread depths up to 3.5xD
- First choice for vertical through hole machining
- Chamfer form C for both blind and through holes
- TiN coating for longer tool life and suitable for many materials



SURFACE TREATMENT

Titanium Nitride (TiN) coating for:

- Universal layer suitable for many materials
- Offers longer tool life due to reduced friction

Titanium Carbon Nitride (TiCN) coating for:

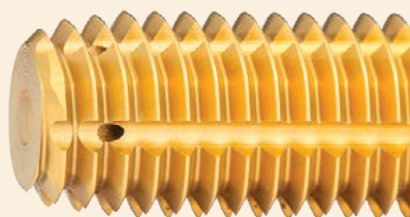
- Alloyed and unalloyed steels
- Highly suited to solid carbide tools
- Wear resistant to abrasive materials

GEOMETRY AND CHAMFER

- Thread profile with optimized polygonal form generates low torque
- Reduces friction and ensures a smooth surface finish on the completed thread
- Improved chamfer geometry for better running-in and even wear behaviour

Available with:

- Chamfer form E for blind holes
- Chamfer form C for blind and through holes


NEW

INTERNAL COOLANT

- Internal coolant with radial outlets and oil grooves for thread depths up to 3.5xD
- First choice for horizontal through and blind hole machining
- Chamfer form C for both blind and through holes
- TiN coating for longer tool life and suitable for many materials


NEW

SOLID CARBIDE

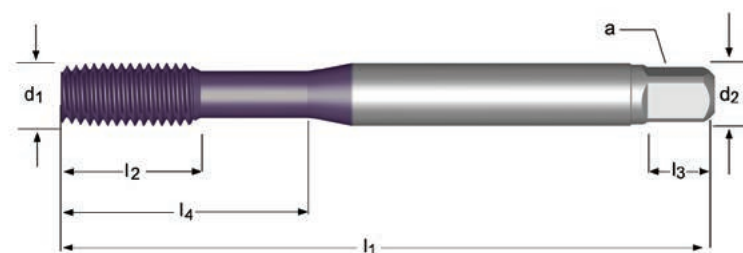
- Thread depths up to 3xD
- First choice for extremely high productivity and very long tool life
- Attractive price/performance ratio for mass-production
- Chamfer form C for blind and through holes
- TiCN coated for high wear resistance to abrasive materials

	M	M	M	M	M	M	M	MF	UNC	UNF	
	DIN 2174	DIN 2174	DIN 2174	DIN 2174	DIN 2174	DIN 2174	DIN 2174	DIN 2174	DIN 2184-1	DIN 2184-1	
	6HX	6HX	6HX	6HX	6HX	6HX	6GX	6GX	6HX	2BX	2BX
	3XD	3XD	3XD	3.5XD	3.5XD	3XD	3XD	3XD	3XD	3.5XD	3.5XD
	HM	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E
	C 2-3.5	C 2-3.5	C 2-3.5	C 2-3.5	C 2-3.5	E 1.5-2	C 2-3.5	E 1.5-2	C 2-3.5	C 2-3.5	C 2-3.5
	TiCN		TiN	TiN	TiN	TiN	TiN	TiN	TiN	TiN	
	T215	E291	E292	E294	E289	E293	E295	E296	E288	E287	E286
	M3 - M10	M1.6 - M16	M1.6 - M16	M3 - M16	M5 - M12	M3 - M16	M3 - M12	M3 - M10	M5 - M12	No.4 - 1/2	No.4 - 1/2
	NEW				NEW	NEW			NEW	NEW	NEW
AMG											ISO
1.1	■60	■30	■55	■55	■55	■55	■55	■55	■55	■55	P1
1.2	■60	■27	■50	■50	■50	■50	■50	■50	■50	■50	P1
1.3	■60	■23	■45	■45	■45	■45	■45	■45	■45	■45	P2
1.4	■40	■20	■40	■40	■40	■40	■40	■40	■40	■40	P3
1.5	■30		●20	●20	●20	●20	●20	●20	●20	●20	P4
1.6											H1
1.7											H3
1.8											H4
2.1	■25		■18	■18	■18	■18	■18	■18	■18	■18	M1
2.2	■25		■15	■15	■15	■15	■15	■15	■15	■15	M3
2.3	■25		●10	●10	●10	●10	●10	●10	●10	●10	M2
2.4	●25										S2
3.1											K1
3.2											K2
3.3											K3
3.4											K4
4.1			■35	■35	■35	■35	■35	■35	■35	■35	S1
4.2											S2
4.3											S3
5.1	■35		■20	■20	■20	■20	■20	■20	■20	■20	S1
5.2	●15		●8	●8	●8	●8	●8	●8	●8	●8	S2
5.3											S3
6.1	●40		●25	●25	●25	●25	●25	●25	●25	●25	N3
6.2											N4
6.3	●80		●40	●40	●40	●40	●40	●40	●40	●40	N3
6.4											N4
7.1	■70	■26	■55	■55	■55	■55	■55	■55	■55	■55	N1
7.2	■80	■38	■55	■55	■55	■55	■55	■55	■55	■55	N1
7.3	■80	●22	■40	■40	■40	■40	■40	■40	■40	■40	N1
7.4			●25	●25	●25	●25	●25	●25	●25	●25	N2
8.1											O
8.2											O
8.3											O
9.1											H
10.1											O

T215 • M Machine Forming Tap

T215	▪	1.1	1.2	1.3	1.4	1.5	2.1	2.2	2.3	5.1	7.1	7.2	7.3
	•	2.4	5.2	6.1	6.3								

T215	M	DIN 2174	6HX		3XD	HM	C 2-3.5			TiCN	
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T215



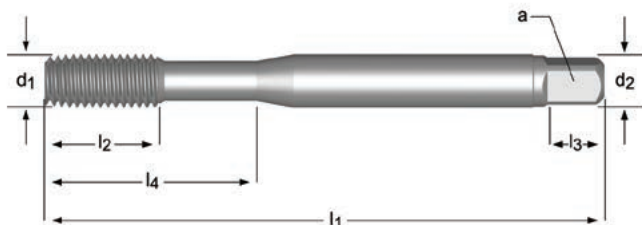
M3 - M10

M	P mm	l_1 mm	l_2 mm	d_2 Ø mm	$\square$ a mm	l_3 mm	z		l_4 mm	T215
3	0.50	56	10	3.5	2.7	6	4	2.8	-	T215M3
4	0.70	63	13	4.5	3.4	6	5	3.7	-	T215M4
5	0.80	70	16	6.0	4.9	8	5	4.6	-	T215M5
6	1.00	80	19	6.0	4.9	8	5	5.5	30	T215M6
8	1.25	90	22	8.0	6.2	9	5	7.4	35	T215M8
10	1.50	100	24	10.0	8.0	11	5	9.3	39	T215M10

- E291** • M Machine Forming Tap
- E292** • M Machine Forming Tap
- E294** • M Machine Forming Tap, Oil Grooves
- E289** • M Machine Forming Tap, Oil Grooves and Internal Coolant

E291	▪	1.1	1.2	1.3	1.4	7.1	7.2					
	•	7.3										
E292; E294; E289	▪	1.1	1.2	1.3	1.4	2.1	2.2	4.1	5.1	7.1	7.2	7.3
	•	1.5	2.3	5.2	6.1	6.3	7.4					

E291	M	DIN 2174	6HX		3XD	HSS-E	C 2-3.5				
E292	M	DIN 2174	6HX		3XD	HSS-E	C 2-3.5			TiN	
E294	M	DIN 2174	6HX		3.5XD	HSS-E	C 2-3.5			TiN	
E289	M	DIN 2174	6HX		3.5XD	HSS-E	C 2-3.5			TiN	



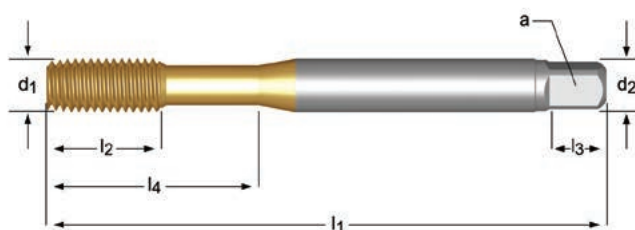
E291	E292	E294	E289
M1.6 - M16	M1.6 - M16	M3 - M16	M5 - M12

M	P mm	l ₁ mm	l ₂ mm	d ₂ Ø mm	a mm	l ₃ mm	z		l ₄ mm	E291	E292	E294	E289
1.6	0.35	40	8	2.5	2.1	5	3	1.4	-	E291M1.6	E292M1.6		
2	0.40	45	6	2.8	2.1	5	3	1.8	11	E291M2	E292M2		
2.5	0.45	50	8	2.8	2.1	5	3	2.3	12.5	E291M2.5	E292M2.5		
3	0.50	56	9	3.5	2.7	6	4	2.8	18	E291M3	E292M3	E294M3	
3.5	0.60	56	11	4.0	3.0	6	4	3.2	20	E291M3.5	E292M3.5		
4	0.70	63	12	4.5	3.4	6	5	3.7	21	E291M4	E292M4	E294M4	
5	0.80	70	13	6.0	4.9	8	5	4.6	25	E291M5	E292M5	E294M5	E289M5
6	1.00	80	15	6.0	4.9	8	5	5.5	30	E291M6	E292M6	E294M6	E289M6
8	1.25	90	18	8.0	6.2	9	5	7.4	35	E291M8	E292M8	E294M8	E289M8
10	1.50	100	20	10.0	8.0	11	5	9.3	39	E291M10	E292M10	E294M10	E289M10
12	1.75	110	23	9.0	7.0	10	5	11.2	-	E291M12	E292M12	E294M12	E289M12
14	2.00	110	25	11.0	9.0	12	6	13.0	-			E294M14	
16	2.00	110	25	12.0	9.0	12	6	15.0	-	E291M16	E292M16	E294M16	

E293 • M Machine Forming Tap

E293	▪	1.1	1.2	1.3	1.4	2.1	2.2	4.1	5.1	7.1	7.2	7.3
	•	1.5	2.3	5.2	6.1	6.3	7.4					

E293	M	DIN 2174	6HX		3XD	HSS-E	E 1.5-2			TiN	
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E293



M3 - M16

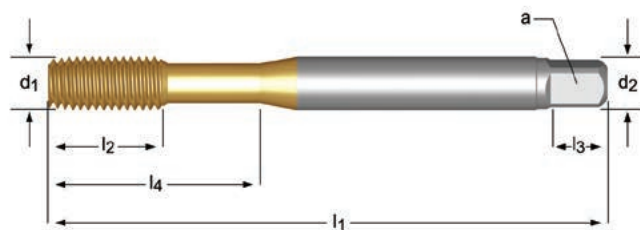
M	P mm	l ₁ mm	l ₂ mm	d ₂ Ø mm	□ a mm	l ₃ mm	z		l ₄ mm	E293
3	0.50	56	9	3.5	2.7	6	4	2.8	18	E293M3
4	0.70	63	12	4.5	3.4	6	5	3.7	21	E293M4
5	0.80	70	13	6.0	4.9	8	5	4.6	25	E293M5
6	1.00	80	15	6.0	4.9	8	5	5.5	30	E293M6
8	1.25	90	18	8.0	6.2	9	5	7.4	35	E293M8
10	1.50	100	20	10.0	8.0	11	5	9.3	39	E293M10
12	1.75	110	23	9.0	7.0	10	5	11.2	-	E293M12
16	2.00	110	25	12.0	9.0	12	6	15.0	-	E293M16

E295 • M Machine Forming Tap

E296 • M Machine Forming Tap

E295; E296	▪	1.1	1.2	1.3	1.4	2.1	2.2	4.1	5.1	7.1	7.2	7.3
	•	1.5	2.3	5.2	6.1	6.3	7.4					

E295	M	DIN 2174	6GX		3XD	HSS-E	C 2-3.5				
E296	M	DIN 2174	6GX		3XD	HSS-E	E 1.5-2				



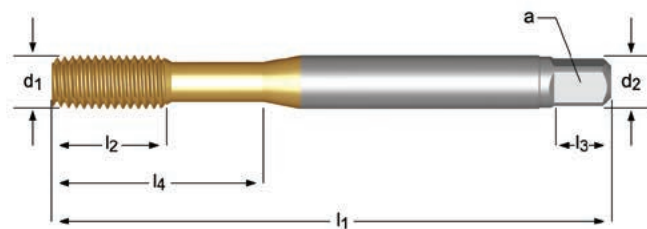
E295	E296
	
M3 - M12	M3 - M10

M	P mm	l ₁ mm	l ₂ mm	d ₂ Ø mm	□ a mm	l ₃ mm	z		l ₄ mm	E295	E296
3	0.50	56	9	3.5	2.7	6	4	2.8	18	E295M3	E296M3
3.5	0.60	56	11	4.0	3.0	6	4	3.2	20	E295M3.5	
4	0.70	63	12	4.5	3.4	6	5	3.7	21	E295M4	E296M4
5	0.80	70	13	6.0	4.9	8	5	4.6	25	E295M5	E296M5
6	1.00	80	15	6.0	4.9	8	5	5.5	30	E295M6	E296M6
8	1.25	90	18	8.0	6.2	9	5	7.4	35	E295M8	E296M8
10	1.50	100	20	10.0	8.0	11	5	9.3	39	E295M10	E296M10
12	1.75	110	23	9.0	7.0	10	5	11.2	-	E295M12	

E288 • MF Machine Forming Tap

E288	▪	1.1	1.2	1.3	1.4	2.1	2.2	4.1	5.1	7.1	7.2	7.3
	•	1.5	2.3	5.2	6.1	6.3	7.4					

E288	MF	DIN 2174	6HX		3XD	HSS-E	C 2-3.5			TiN	
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E288



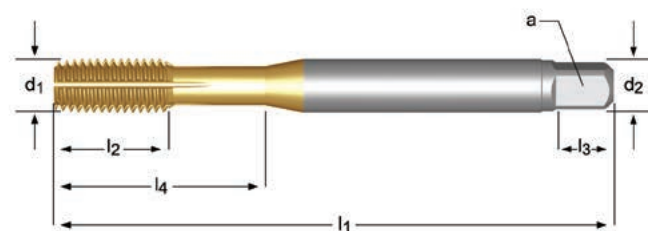
M5 - M12

MF	P mm	l ₁ mm	l ₂ mm	d ₂ Ø mm	□ a mm	l ₃ mm	z		l ₄ mm	E288
5	0.50	70	13	6.0	4.9	8	5	4.8	25	E288M5X.5
6	0.75	80	15	6.0	4.9	8	5	5.7	30	E288M6X.75
8	1.00	90	18	6.0	4.9	8	5	7.5	-	E288M8X1.0
10	1.00	90	20	7.0	5.5	8	5	9.5	-	E288M10X1.0
10	1.25	100	20	7.0	5.5	8	5	9.4	-	E288M10X1.25
12	1.50	100	21	9.0	7.0	10	5	11.3	-	E288M12X1.5

E287 • UNC Machine Forming Tap, Oil Grooves

E287	▪	1.1	1.2	1.3	1.4	2.1	2.2	4.1	5.1	7.1	7.2	7.3
	•	1.5	2.3	5.2	6.1	6.3	7.4					

E287	UNC	DIN 2184-1	2BX		3.5XD	HSS-E	C 2-3.5			TiN	
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E287

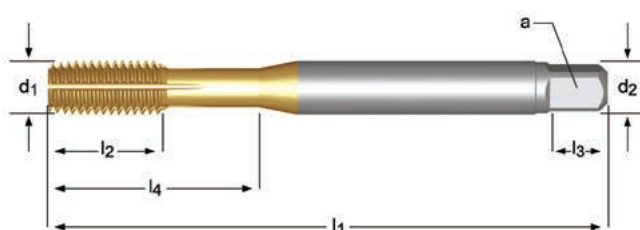

No.4 - 1/2

UNC	TPI	d ₁ nom mm	l ₁ mm	l ₂ mm	d ₂ Ø mm	□ a mm	l ₃ mm	z		l ₄ mm	E287
4	40	2.845	56	9	3.5	2.7	6	4	2.6	18	E2874-40
6	32	3.505	56	11	4.0	3.0	6	4	3.2	20	E2876-32
8	32	4.166	63	12	4.5	3.4	6	5	3.8	21	E2878-32
10	24	4.826	70	13	6.0	4.9	8	5	4.4	25	E28710-24
1/4	20	6.350	80	15	7.0	5.5	8	5	5.8	30	E2871/4
5/16	18	7.938	90	18	8.0	6.2	9	5	7.3	35	E2875/16
3/8	16	9.525	100	20	10.0	8.0	11	5	8.8	39	E2873/8
7/16	14	11.112	100	20	8.0	6.2	9	5	10.3	-	E2877/16
1/2	13	12.700	110	23	9.0	7.0	10	5	11.9	-	E2871/2

E286 • UNF Machine Forming Tap, Oil Grooves

E286	▪	1.1	1.2	1.3	1.4	2.1	2.2	4.1	5.1	7.1	7.2	7.3
	•	1.5	2.3	5.2	6.1	6.3	7.4					

E286	UNF	DIN 2184-1	2BX		3.5XD	HSS-E	C 2-3.5			TiN	
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E286



No.4 - 1/2

UNF	TPI	d ₁ nom mm	l ₁ mm	l ₂ mm	d ₂ Ø mm	□ a mm	l ₃ mm	z		l ₄ mm	E286
4	48	2.845	56	9	3.5	2.7	6	4	2.6	18	E2864-48
6	40	3.505	56	11	4.0	3.0	6	4	3.2	20	E2866-40
8	36	4.166	63	12	4.5	3.4	6	5	3.9	21	E2868-36
10	32	4.826	70	13	6.0	4.9	8	5	4.5	25	E28610-32
1/4	28	6.350	80	15	7.0	5.5	8	5	6.0	30	E2861/4
5/16	24	7.938	90	18	8.0	6.2	9	5	7.5	35	E2865/16
3/8	24	9.525	100	20	10.0	8.0	11	5	9.1	39	E2863/8
7/16	20	11.112	100	20	8.0	6.2	9	5	10.6	-	E2867/16
1/2	20	12.700	100	21	9.0	7.0	10	5	12.1	-	E2861/2

SOLID CARBIDE TAPS





INTRODUCTION

The use of hardened materials in industrial processes is becoming increasingly common, creating a greater need for new and improved cutting tools capable of working in extreme conditions.

Dormer's new range of solid carbide taps is a high performing, comprehensive program designed specifically for machining various types of hardened steel and other difficult materials.

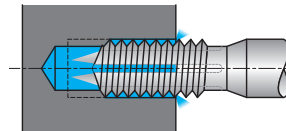
FEATURES AND BENEFITS

- High performance and productivity in a wide range of applications including hardened materials up to 63 HRC
- Ideal for mass production with cutting speeds up to 3 times higher when compared to HSS-E taps
- Fewer tool changes resulting in optimum machine output due to long tool life
- Highly stable tool design means less risk of tap breakage and optimum process security

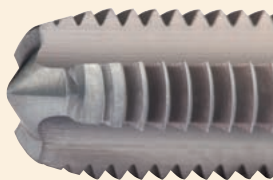
COOLING AND LUBRICATION

Internal coolant with axial coolant outlet:

- Thread depths up to 3xD
- Improved tool life
- Optimum chip evacuation when threading short chipping materials
- Horizontal and vertical blind hole machining



TAP STYLES



NEW

T200

T200

First choice for **hardened steel**
49-55 HRC

- For short-chipping materials
- TiCN coating for high strength and hardness to resist abrasive wear
- Threading depths up to 2xD
- Chamfer form C for blind and through holes



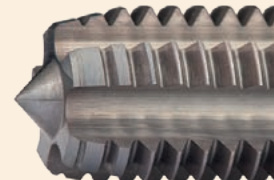
NEW

T201

T201

First choice for **cast iron and aluminium alloys** with >10% silicon content and hardness up to 47 HRC

- For short-chipping materials
- Super-B TiAlN-WC/C coating for improved wear resistance and low friction in tough and abrasive materials
- Internal coolant with axial outlet
- Threading depths up to 2.5xD
- Chamfer form C for blind holes



NEW

T210

T210

First choice for **hardened steel**
55-63 HRC

- For short-chipping materials
- TiCN coating for high strength and hardness to resist abrasive wear
- Threading depths up to 2xD
- Chamfer form C for blind and through holes

MATERIAL

Manufactured from premium grade micro grain Solid Carbide for:

- Long tool life and extremely high tapping speeds
- Threading in hardened material up to 63 HRC
- High wear resistance to abrasive materials

SURFACE TREATMENT

Titanium Carbon Nitride (TiCN) coating for:

- Alloyed and unalloyed steels
- Highly suited to solid carbide tools
- Wear resistant to abrasive materials

Super-B (TiAlN+WC/C) coating for:

- Cast iron and aluminium alloys with high silica content
- Ideal for higher speed and feeds
- Can be used for both wet and dry machining

GEOMETRY AND CHAMFER

The range features a variety of styles including straight flute, spiral flute and a forming tap in order to offer dependable options in numerous applications.

- Improved chamfer geometry for better running-in and even wear behaviour
- Special geometries for specific applications:
 - T205/T206 features a 15° helix angle suited for both short and long-chipping materials
 - T210 with increased number of flutes for better chip breaking and longer chamfer for increased tool life
 - T215 forming tap features a thread profile with optimized polygonal form which generates low torque


NEW
T205

T205

First choice for **ductile iron and aluminium alloys** with >10% silicon content and hardness up to 47 HRC

- For long and short-chipping materials
- Bright finish for better chip flow
- Threading depths up to 2xD
- Chamfer form C for blind holes


NEW
T206

T206

First choice for **ductile iron and aluminium alloys** with >10% silicon content and hardness up to 47 HRC

- For long and short-chipping materials
- Bright finish for better chip flow
- Internal coolant with axial outlet
- Threading depths up to 2.5xD
- Chamfer form C for blind holes


NEW
T215

T215

Forming tap, first choice for **wide range of materials** with hardness up to 36 HRC

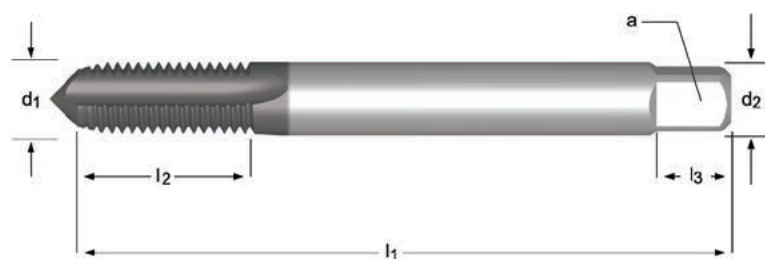
- **Extremely high productivity** and very long tool life in ductile materials
- TiCN coating for high strength and hardness to resist abrasive wear
- Threading depths up to 3xD
- Chamfer form C for blind and through holes

	M	M	M	M	M	M	
	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 2174	
	6H	6HX	6HX	6H	6H	6HX	
	2XD	2.5XD	2XD	2XD	2.5XD	3XD	
	HM	HM	HM	HM	HM	HM	
	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3.5	
	TICN	Super B	TICN			TICN	
	T200	T201	T210	T205	T206	T215	
	M3 - M12	M5 - M16	M3 - M12	M3 - M12	M5 - M12	M3 - M10	
	NEW	NEW	NEW	NEW	NEW	NEW	
AMG							ISO
1.1						■60	P1
1.2						■60	P1
1.3						■60	P2
1.4						■40	P3
1.5						■30	P4
1.6							H1
1.7	■6		●6				H3
1.8	●4		■4				H4
2.1						■25	M1
2.2						■25	M3
2.3						■25	M2
2.4						●25	S2
3.1	●60	■60		●40	●40		K1
3.2	●30	■25		●15	●15		K2
3.3		●38		■25	■25		K3
3.4		●33		■15	■15		K4
4.1							S1
4.2							S2
4.3							S3
5.1						■35	S1
5.2						●15	S2
5.3							S3
6.1						●40	N3
6.2							N4
6.3						●80	N3
6.4	●7	●10					N4
7.1						■70	N1
7.2						■80	N1
7.3		●50		■35	■35	■80	N1
7.4	●60	■40		■30	■30		N2
8.1							O
8.2	●50	●25		●25	●25		O
8.3	●30	●15		●15	●15		O
9.1							H
10.1	●25	■25					O

T200 • M Machine Tap Straight Flute

T200 ■ 1.7
• 1.8 3.1 3.2 6.4 7.4 8.2 8.3 10.1

T200 M DIN 371 ≤ 10 376 ≥ 12 6H 2XD HM C 2-3 TiCN



T200



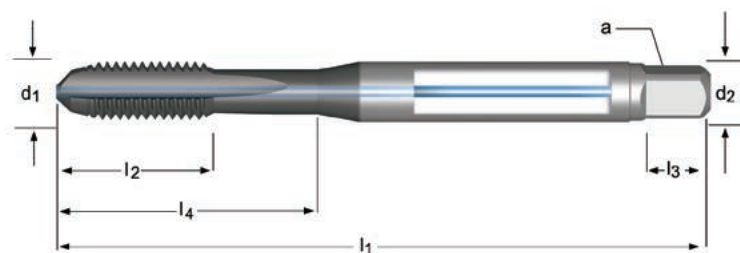
M3 - M12

M	P mm	l_1 mm	l_2 mm	d_2 Ø mm	$\square$ a mm	l_3 mm	z		l_4 mm	T200
3	0.50	56	10	3.5	2.7	6	3	2.6	-	T200M3
4	0.70	63	13	4.5	3.4	6	3	3.4	-	T200M4
5	0.80	70	16	6.0	4.9	8	3	4.3	-	T200M5
6	1.00	80	19	6.0	4.9	8	3	5.1	30	T200M6
8	1.25	90	22	8.0	6.2	9	3	6.9	35	T200M8
10	1.50	100	24	10.0	8.0	11	3	8.7	39	T200M10
12	1.75	110	23	9.0	7.0	10	3	10.4	-	T200M12

T201 • M Machine Tap Straight flute, Internal Coolant

T201	▪	3.1	3.2	7.4	10.1	
	•	3.3	3.4	6.4	7.3	8.2 8.3

T201	M	DIN 371 ≤ 10 376 ≥ 12	6HX	2.5XD	HM	C 2-3			Super B	
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T201


M5 - M16

M	P mm	l ₁ mm	l ₂ mm	d ₂ Ø mm	□ a mm	l ₃ mm	z		l ₄ mm	T201
5	0.80	70	16	6.0	4.9	8	4	4.3	-	T201M5
6	1.00	80	19	6.0	4.9	8	4	5.1	30	T201M6
8	1.25	90	22	8.0	6.2	9	4	6.9	35	T201M8
10	1.50	100	24	10.0	8.0	11	4	8.7	39	T201M10
12	1.75	110	23	9.0	7.0	10	4	10.4	-	T201M12
16	2.00	110	25	12.0	9.0	12	4	14.25	-	T201M16

T210 • M Machine Tap Straight Flute

T210 ■ 1.8
● 1.7

T210

M

DIN
371 ≤ 10
376 ≥ 12

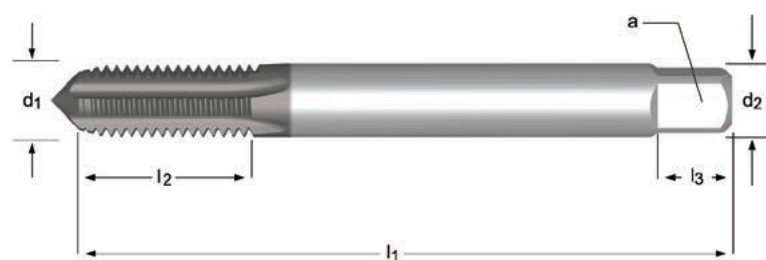
6HX



2XD

HM

C
2-3



T210



M3 - M12

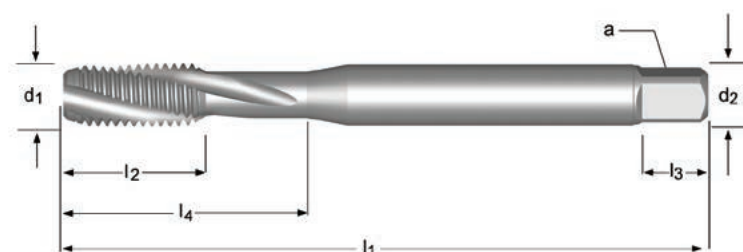
M	P mm	l_1 mm	l_2 mm	d_2 Ø mm	$\square$ a mm	l_3 mm	z		T210
3	0.50	56	8	3.5	2.7	6	4	2.6	T210M3
4	0.70	63	11	4.5	3.4	6	5	3.4	T210M4
5	0.80	70	13.5	6.0	4.9	8	5	4.3	T210M5
6	1.00	80	16.5	6.0	4.9	8	5	5.1	T210M6
8	1.25	90	21.5	8.0	6.2	9	5	6.9	T210M8
10	1.50	100	27	10.0	8.0	11	5	8.7	T210M10
12	1.75	110	32	12.0	9.0	12	6	10.4	T210M12

T205 • M Machine Tap Spiral Flute 15°

T206 • M Machine Tap Spiral Flute 15°, Internal Coolant

T205; T206	▪	3.3	3.4	7.3	7.4
	•	3.1	3.2	8.2	8.3

T205	M	DIN 371≤10 376≥12	6H		2XD	HM	C 2-3				
T206	M	DIN 371≤10 376≥12	6H		2.5XD	HM	C 2-3				



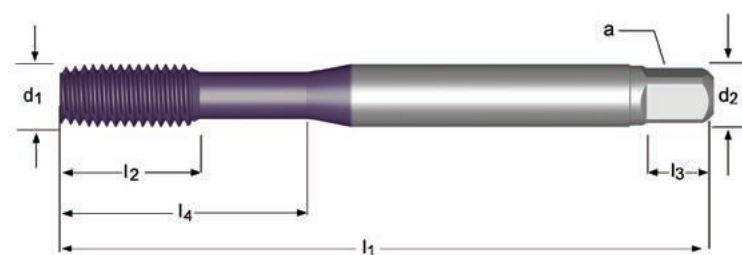
T205	T206
M3 - M12	M5 - M12

M	P mm	l ₁ mm	l ₂ mm	d ₂ Ø mm	□ a mm	l ₃ mm	z		l ₄ mm	T205	T206
3	0.50	56	10	3.5	2.7	6	3	2.6	-	T205M3	
4	0.70	63	13	4.5	3.4	6	3	3.4	-	T205M4	
5	0.80	70	16	6.0	4.9	8	3	4.3	-	T205M5	T206M5
6	1.00	80	19	6.0	4.9	8	3	5.1	30	T205M6	T206M6
8	1.25	90	22	8.0	6.2	9	3	6.9	35	T205M8	T206M8
10	1.50	100	24	10.0	8.0	11	3	8.7	39	T205M10	T206M10
12	1.75	110	23	9.0	7.0	10	3	10.4	-	T205M12	T206M12

T215 • M Machine Forming Tap

T215	▪	1.1	1.2	1.3	1.4	1.5	2.1	2.2	2.3	5.1	7.1	7.2	7.3
	•	2.4	5.2	6.1	6.3								

T215	M	DIN 2174	6HX		3XD	HM	C 2-3.5				
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T215



M3 - M10

M	P mm	l_1 mm	l_2 mm	d_2 Ø mm	$\square$ a mm	l_3 mm	z		l_4 mm	T215
3	0.50	56	10	3.5	2.7	6	4	2.8	-	T215M3
4	0.70	63	13	4.5	3.4	6	5	3.7	-	T215M4
5	0.80	70	16	6.0	4.9	8	5	4.6	-	T215M5
6	1.00	80	19	6.0	4.9	8	5	5.5	30	T215M6
8	1.25	90	22	8.0	6.2	9	5	7.4	35	T215M8
10	1.50	100	24	10.0	8.0	11	5	9.3	39	T215M10

SOLID CARBIDE CUTTERS



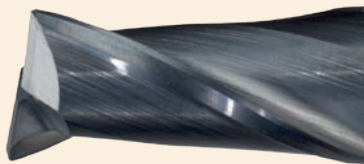


INTRODUCTION

The S8XX series of solid carbide cutters provide proven performance and versatility in a wide range of materials. As such, they will be of particular interest to small/medium sized companies machining a varied range of workpiece materials, across all industry sectors.

FEATURES AND BENEFITS

- Multi-application **high performance** milling across a wide range of materials, including steel, stainless steel, aluminium and cast iron.
- **Reduced tooling costs** - one cutter machines many materials and performs multiple operations.
- Alcrona coating improves workpiece surface finish and **increases tool life**
- **Versatility** - all milling operations are supported: slotting, profiling, roughing, semi-finishing, finishing and plunging.
- Machine tool flexibility – same tool for many materials and operations leads to reduced set-up time and therefore **shorter production time**.
- Design of cutting edge and web promotes fast and **efficient chip evacuation**.



NEW

S822



NEW

S823

CYLINDRICAL LAND

Flat relief combined with cylindrical land on the 2 and 3 flute cutters increases stability during machining. The 4 flute cutters have radial relief.

END TEETH

Reinforcement along the full length of the end teeth considerably increases toughness and therefore reduces chipping on the cutting edge. In turn, this further extends tool life in all operations involving end teeth (plunging, ramping and helical interpolation). The design of the end teeth geometry guarantees smooth and efficient chip evacuation in plunging operations.

RAKE ANGLE

A reduction of the end teeth rake angle and the primary clearance angle increases the strength of the S8XX cutters.



MATERIAL

Manufactured from Micrograin carbide with its excellent combination of hardness and toughness properties. This means that the S8XX cutters are suited to all milling operations, from roughing through to finishing.

SURFACE TREATMENT

The Alcrona (AlCrN) coating is applied to many multi-application cutter ranges for its hot hardness and resistance to wear and oxidation. This contributes to high productivity and a superior surface finish on the workpiece, even on difficult-to-machine materials. The versatile coating lends itself to both roughing and finishing operations, when both wet and dry machining.

WEB

The 4 flute S8XX cutters have an increased conical web design. The modified flute shape promotes effective chip evacuation.

SHANK

Shanks are manufactured to DIN 6535 ground to a h6 tolerance for accurate tool holding

LENGTH

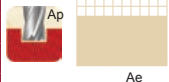
The new cutters add a medium cut length (Dormer standard) option to the existing extra short (DIN 6527 K) and short (DIN 6527 L) cut lengths for S8XX 2 and 3 flute cutters. The 4 flute S8XX cutters are available in extra short (DIN 6527 K) and short (DIN 6527 L) cut lengths.

	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM	
	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
	Z 2	Z 2	Z 2	Z 2	Z 2	Z 3	Z 3	Z 3	Z 3	Z 3	Z 4	Z 4	Z 4	Z 4	
	$\lambda 28^\circ$ $\gamma 9^\circ$	$\lambda 28^\circ$ $\gamma 9^\circ$	$\lambda 28^\circ$ $\gamma 9^\circ$	$\lambda 28^\circ$ $\gamma 9^\circ$	$\lambda 28^\circ$ $\gamma 9^\circ$	$\lambda 28^\circ$ $\gamma 9^\circ$	$\lambda 28^\circ$ $\gamma 9^\circ$	$\lambda 28^\circ$ $\gamma 9^\circ$	$\lambda 28^\circ$ $\gamma 9^\circ$	$\lambda 28^\circ$ $\gamma 9^\circ$	$\lambda 34^\circ$ $\gamma 9^\circ$	$\lambda 34^\circ$ $\gamma 9^\circ$	$\lambda 34^\circ$ $\gamma 9^\circ$	$\lambda 34^\circ$ $\gamma 9^\circ$	
	DIN 6535HA	DIN 6535HB	DIN 6535HA	DIN 6535HB	DIN 6535HA	DIN 6535HA	DIN 6535HB	DIN 6535HA	DIN 6535HB	DIN 6535HA	DIN 6535HA	DIN 6535HB	DIN 6535HA	DIN 6535HB	
											h10	h10	h10	h10	
	S802HA	S802HB	S812HA	S812HB	S822	S803HA	S803HB	S813HA	S813HB	S823	S804HA	S804HB	S814HA	S814HB	
	1.00 - 20.00	1.80 - 20.00	2.00 - 20.00	2.00 - 20.00	2.00 - 20.00	1.00 - 20.00	1.80 - 20.00	2.00 - 20.00	2.00 - 20.00	2.00 - 20.00	2.00 - 25.00	2.00 - 25.00	2.00 - 25.00	2.00 - 25.00	
					NEW					NEW					
AMG															ISO
1.1	■260B	■260B	■210B	■210B	■180B	■260B	■260B	■210B	■210B	■180B	■360B	■360B	■270B	■270B	P1
1.2	■260B	■260B	■210B	■210B	■180B	■260B	■260B	■210B	■210B	■180B	■300B	■300B	■225B	■225B	P1
1.3	■155B	■155B	■125B	■125B	■110B	■155B	■155B	■125B	■125B	■110B	■230B	■230B	■175B	■175B	P2
1.4	■155B	■155B	■125B	■125B	■110B	■155B	■155B	■125B	■125B	■110B	■230B	■230B	■175B	■175B	P3
1.5	■115B	■115B	■90B	■90B	■80B	■115B	■115B	■90B	■90B	■80B	■165B	■165B	■125B	■125B	P4
1.6	■90B	■90B	■75B	■75B	■65B	■90B	■90B	●75B	●75B	●65B	■130B	■130B	●100B	●100B	H1
1.7															H3
1.8															H4
2.1	■105A	■105A	■75A	■75A	■70A	■105A	■105A	■85A	■85A	■70A	■165A	■165A	■125A	■125A	M1
2.2	■70A	■70A	■55A	■55A	■50A	■70A	■70A	●55A	●55A	●50A	■110A	■110A	●85A	●85A	M3
2.3	●70A	●70A	■55A	■55A	■50A	●70A	●70A	●55A	●55A	●50A	●110A	●110A	●85A	●85A	M2
2.4	●50A	●50A				●50A	●50A				●75A	●75A			S2
3.1	■180B	■180B	■145B	■145B	■125B	■180B	■180B	■145B	■145B	■125B	■275B	■275B	■205B	■205B	K1
3.2	■110B	■110B	■85B	■85B	■75B	■110B	■110B	■85B	■85B	■75B	■165B	■165B	■125B	■125B	K2
3.3	■145B	■145B	■115B	■115B	■100B	■145B	■145B	■115B	■115B	■100B	■165B	■165B	■125B	■125B	K3
3.4	■95B	■95B	■75B	■75B	■65B	■95B	■95B	■75B	■75B	■65B	■135B	■135B	■105B	■105B	K4
4.1	●170B	●170B	■140B	■140B	■120B	●170B	●170B	●140B	●140B	●120B	●275B	●275B	●205B	●205B	S1
4.2	●115B	●115B	■90B	■90B	■80B	●115B	●115B	●90B	●90B	●80B	●140B	●140B	●105B	●105B	S2
4.3															S3
5.1	●165B	●165B	■130B	■130B	■115B	●165B	●165B	●130B	●130B	●115B	●275B	●275B	●205B	●205B	S1
5.2	●35A	●35A	■25A	■25A	■25A	●35A	●35A	●25A	●25A	●25A	●55A	●55A	●40A	●40A	S2
5.3															S3
6.1	●320C	●320C	■255C	■255C	■220C	●320C	●320C	●255C	●255C	●220C	●320C	●320C	●255C	●255C	N3
6.2	■320C	■320C	■255C	■255C	■220C	■320C	■320C	■255C	■255C	■220C	■320C	■320C	■255C	■255C	N4
6.3	■320C	■320C	■255C	■255C	■220C	■320C	■320C	■255C	■255C	■220C	■320C	■320C	■255C	■255C	N3
6.4	■40B	■40B	■30C	■30C	■25B	■40B	■40B	■30C	■30C	■25B	■40B	■40B	■32C	■32C	N4
7.1	●800C	●800C	■640C	■640C	■550C	●800C	●800C	●640C	●640C	●550C	●800C	●800C	●640C	●640C	N1
7.2	■800C	■800C	■640C	■640C	■550C	■800C	■800C	■640C	■640C	■550C	■800C	■800C	■640C	■640C	N1
7.3	■480C	■480C	■380C	■380C	■330C	■480C	■480C	■380C	■380C	■330C	●480C	●480C	●380C	●380C	N1
7.4	■240B	■240B	■190B	■190B	■160B	■240B	■240B	■190B	■190B	■160B	●240B	●240B	●190B	●190B	N2
8.1	●320C	●320C	■255C	■255C	■245C	●320C	●320C	●255C	●255C	●245C	●320C	●320C	●255C	●255C	O
8.2	●320C	●320C	■255C	■255C	■245C	●320C	●320C	●255C	●255C	●245C	●320C	●320C	●255C	●255C	O
8.3															O
9.1															H
10.1															O

HM

Z 1	Z 2	Z 3	Z 4	Z >4	Ae (x Ø)	Ap (x Ø)		Ø [mm] fz [mm/Z] ± 25 %													
								Ø	1	2	3	4	5	6	8	10	12	14	16	18	20
								A	0.012	0.024	0.035	0.045	0.055	0.065	0.080	0.093	0.107	0.121	0.134	0.149	0.162
								B	0.016	0.032	0.047	0.061	0.074	0.087	0.107	0.124	0.143	0.162	0.179	0.198	0.216
								C	0.020	0.040	0.058	0.076	0.092	0.108	0.134	0.156	0.179	0.202	0.224	0.248	0.271
								D	0.024	0.048	0.070	0.091	0.111	0.130	0.160	0.187	0.214	0.242	0.268	0.297	0.325
								E	0.028	0.056	0.081	0.106	0.129	0.152	0.187	0.218	0.250	0.283	0.313	0.347	0.379
								F	0.032	0.064	0.093	0.121	0.148	0.173	0.214	0.249	0.286	0.323	0.358	0.396	0.433
								G	0.037	0.071	0.105	0.136	0.166	0.195	0.240	0.280	0.321	0.364	0.403	0.446	0.487
								H	0.041	0.079	0.116	0.152	0.185	0.216	0.267	0.311	0.357	0.404	0.447	0.495	0.541
								A	0.010	0.019	0.028	0.036	0.044	0.052	0.064	0.074	0.085	0.096	0.107	0.118	0.129
								B	0.013	0.025	0.037	0.048	0.059	0.069	0.085	0.099	0.114	0.128	0.142	0.157	0.172
								C	0.016	0.032	0.046	0.060	0.073	0.086	0.106	0.124	0.142	0.161	0.178	0.197	0.215
								D	0.019	0.038	0.055	0.072	0.088	0.103	0.127	0.148	0.170	0.193	0.213	0.236	0.258
								E	0.023	0.044	0.065	0.084	0.103	0.120	0.149	0.173	0.199	0.225	0.249	0.276	0.301
								F	0.026	0.050	0.074	0.096	0.118	0.138	0.170	0.198	0.227	0.257	0.284	0.315	0.344
								G	0.029	0.057	0.083	0.108	0.132	0.155	0.191	0.223	0.256	0.289	0.320	0.354	0.387
								H	0.032	0.063	0.092	0.120	0.147	0.172	0.212	0.247	0.284	0.321	0.356	0.394	0.430
								A	0.007	0.014	0.021	0.027	0.033	0.038	0.047	0.055	0.063	0.071	0.079	0.087	0.095
								B	0.010	0.019	0.027	0.036	0.043	0.051	0.063	0.073	0.084	0.095	0.105	0.116	0.127
								C	0.012	0.023	0.034	0.045	0.054	0.064	0.078	0.091	0.105	0.119	0.132	0.146	0.159
								D	0.014	0.028	0.041	0.053	0.065	0.076	0.094	0.110	0.126	0.143	0.158	0.175	0.191
								E	0.017	0.033	0.048	0.062	0.076	0.089	0.110	0.128	0.147	0.166	0.184	0.204	0.223
								F	0.019	0.037	0.055	0.071	0.087	0.102	0.126	0.146	0.168	0.190	0.210	0.233	0.255
								G	0.021	0.042	0.062	0.080	0.098	0.115	0.141	0.165	0.189	0.214	0.237	0.262	0.286
								H	0.024	0.047	0.068	0.089	0.109	0.127	0.157	0.183	0.210	0.238	0.263	0.291	0.318
								A	0.005	0.010	0.015	0.019	0.024	0.028	0.034	0.040	0.046	0.052	0.058	0.064	0.070
								B	0.007	0.014	0.020	0.026	0.032	0.037	0.046	0.053	0.061	0.069	0.077	0.085	0.093
								C	0.009	0.017	0.025	0.032	0.040	0.046	0.057	0.067	0.077	0.087	0.096	0.106	0.116
								D	0.010	0.020	0.030	0.039	0.048	0.056	0.069	0.080	0.092	0.104	0.115	0.127	0.139
								E	0.012	0.024	0.035	0.045	0.055	0.065	0.080	0.093	0.107	0.121	0.134	0.149	0.162
								F	0.014	0.027	0.040	0.052	0.063	0.074	0.092	0.107	0.122	0.138	0.153	0.170	0.185
								G	0.016	0.031	0.045	0.058	0.071	0.083	0.103	0.120	0.138	0.156	0.173	0.191	0.209
								H	0.017	0.034	0.050	0.065	0.079	0.093	0.114	0.133	0.153	0.173	0.192	0.212	0.232
								A	0.004	0.008	0.011	0.015	0.018	0.021	0.026	0.031	0.035	0.040	0.044	0.049	0.053
								B	0.005	0.010	0.015	0.020	0.024	0.028	0.035	0.041	0.047	0.053	0.059	0.065	0.071
								C	0.007	0.013	0.019	0.025	0.030	0.035	0.044	0.051	0.058	0.066	0.073	0.081	0.089
								D	0.008	0.016	0.023	0.030	0.036	0.043	0.052	0.061	0.070	0.079	0.088	0.097	0.106
								E	0.009	0.018	0.027	0.035	0.042	0.050	0.061	0.071	0.082	0.093	0.103	0.114	0.124
								F	0.011	0.021	0.030	0.040	0.048	0.057	0.070	0.082	0.094	0.106	0.117	0.130	0.142
								G	0.012	0.023	0.034	0.045	0.054	0.064	0.079	0.092	0.105	0.119	0.132	0.146	0.159
								H	0.013	0.026	0.038	0.050	0.061	0.071	0.087	0.102	0.117	0.132	0.146	0.162	0.177

■ Excellent for application ● Good for application

HM																				
Z	Z	Z	Z	Z	Ae	Ap														
1	2	3	4	>4	(x Ø)	(x Ø)	ø [mm] fz [mm/Z] ± 25%													
							Ø	1	2	3	4	5	6	8	10	12	14	16	18	20
							A	0.003	0.006	0.009	0.012	0.014	0.017	0.021	0.024	0.028	0.032	0.035	0.039	0.042
							B	0.004	0.008	0.012	0.016	0.019	0.023	0.028	0.033	0.037	0.042	0.047	0.052	0.057
							C	0.005	0.010	0.015	0.020	0.024	0.028	0.035	0.041	0.047	0.053	0.058	0.065	0.071
							D	0.006	0.012	0.018	0.024	0.029	0.034	0.042	0.049	0.056	0.063	0.070	0.078	0.085
							E	0.007	0.015	0.021	0.028	0.034	0.040	0.049	0.057	0.065	0.074	0.082	0.091	0.099
							F	0.008	0.017	0.024	0.032	0.039	0.045	0.056	0.065	0.075	0.084	0.093	0.103	0.113
							G	0.010	0.019	0.027	0.036	0.043	0.051	0.063	0.073	0.084	0.095	0.105	0.116	0.127
							H	0.011	0.021	0.030	0.040	0.048	0.057	0.070	0.081	0.093	0.106	0.117	0.129	0.141

						A	0.003	0.005	0.007	0.010	0.012	0.014	0.017	0.020	0.022	0.025	0.028	0.031	0.034
						B	0.003	0.007	0.010	0.013	0.015	0.018	0.022	0.026	0.030	0.034	0.037	0.041	0.045
						C	0.004	0.008	0.012	0.016	0.019	0.023	0.028	0.033	0.037	0.042	0.047	0.052	0.057
						D	0.005	0.010	0.015	0.019	0.023	0.027	0.033	0.039	0.045	0.051	0.056	0.062	0.068
						E	0.006	0.012	0.017	0.022	0.027	0.032	0.039	0.046	0.052	0.059	0.065	0.072	0.079
						F	0.007	0.013	0.019	0.025	0.031	0.036	0.045	0.052	0.060	0.068	0.075	0.083	0.090
						G	0.008	0.015	0.022	0.029	0.035	0.041	0.050	0.059	0.067	0.076	0.084	0.093	0.102
						H	0.008	0.017	0.024	0.032	0.039	0.045	0.056	0.065	0.075	0.084	0.093	0.103	0.113

Excellent for application
 Good for application

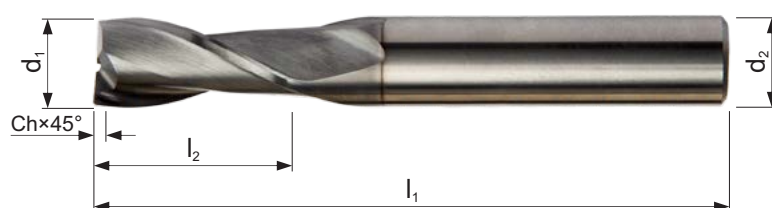
$$n = \frac{V_c \times 1000}{\pi \times d}$$

$$V_f = n \times f_z \times Z$$

S822 • Slot Drill

S822	▪	1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.1	4.2	5.1	5.2	6.1	6.2	6.3
	•	6.4	7.1	7.2	7.3	7.4	8.1	8.2													

S822	HM	Alcrona	DORMER	N					DIN 6535HA												
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S822



2.00 - 20.00

d_1 Ø mm	Ch $\pm 0.03 \times 45^\circ$ mm	d_2 Ø h_6 mm	l_2 mm	l_1 mm	z	S822
2.00	-	6	8	57	2	S8222.0
2.50	0.08	6	12	57	2	S8222.5
3.00	0.08	6	12	57	2	S8223.0
4.00	0.13	6	14	57	2	S8224.0
5.00	0.13	6	16	57	2	S8225.0
6.00	0.13	6	19	57	2	S8226.0
7.00	0.13	8	19	63	2	S8227.0
8.00	0.20	8	19	63	2	S8228.0 ¹⁾
9.00	0.20	10	21	72	2	S8229.0 ¹⁾
10.00	0.20	10	22	72	2	S82210.0 ¹⁾
12.00	0.20	12	25	83	2	S82212.0 ¹⁾
14.00	0.20	14	30	83	2	S82214.0 ¹⁾
16.00	0.20	16	32	92	2	S82216.0 ¹⁾
18.00	0.20	18	32	92	2	S82218.0 ¹⁾
20.00	0.30	20	38	104	2	S82220.0 ¹⁾

1) Ch $\pm 0.05 \times 45^\circ$ mm

S823 • Slot Drill

S823	▪	1.1	1.2	1.3	1.4	1.5	2.1	3.1	3.2	3.3	3.4	6.2	6.3	6.4	7.2	7.3	7.4
	•	1.6	2.2	2.3	4.1	4.2	5.1	5.2	6.1	7.1	8.1	8.2					

S823	HM	Alcrona	DORMER	N		P9			$\lambda 28^\circ$ $\gamma 9^\circ$	
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S823


2.00 - 20.00

d_1 Ø mm	Ch $\pm 0.03 \times 45^\circ$ mm	d_2 Ø _{h6} mm	l_2 mm	l_1 mm	z	S823
2.00	-	6	8	57	3	S8232.0
2.50	0.08	6	12	57	3	S8232.5
3.00	0.08	6	12	57	3	S8233.0
4.00	0.13	6	14	57	3	S8234.0
5.00	0.13	6	16	57	3	S8235.0
6.00	0.13	6	19	57	3	S8236.0
7.00	0.13	8	19	63	3	S8237.0
8.00	0.20	8	19	63	3	S8238.0 ¹⁾
9.00	0.20	10	21	72	3	S8239.0 ¹⁾
10.00	0.20	10	22	72	3	S82310.0 ¹⁾
12.00	0.20	12	25	83	3	S82312.0 ¹⁾
14.00	0.20	14	30	83	3	S82314.0 ¹⁾
16.00	0.20	16	32	92	3	S82316.0 ¹⁾
18.00	0.20	18	32	92	3	S82318.0 ¹⁾
20.00	0.30	20	38	104	3	S82320.0 ¹⁾

1) Ch $\pm 0.05 \times 45^\circ$ mm

COUNTERSINKS



INTRODUCTION

To complement its range of countersinks, Dormer has introduced three new items which incorporate flats on the shank to provide a more positive drive when used in hand held applications.

Flatted shanks prevent the possibility of tools slipping in the chuck and therefore improve the performance of the tool and produce a better quality countersunk hole and surface finish.

MATERIAL

Manufactured from premium quality High Speed Steel (HSS) or High Speed Cobalt (HSS-E):

- Increased **hardness and toughness**
- Improved **cutting edge strength**
- Better **tool life**



SURFACE TREATMENT

Bright Finish (G106 and G107):

Universally suitable for many materials

- Also works well in soft ductile materials which have a tendency to stick to the cutting edges

TiAlN Coated (G506):

Suitable for hard and abrasive materials

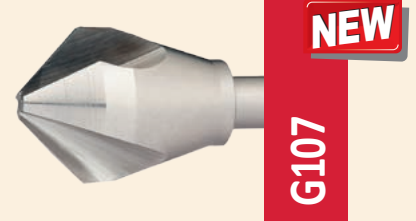
- Ability to withstand high operating temperatures for increased tool life
- Low friction prevents material built-up-edge, improving surface finish

SHANK STYLES



TRI-FLAT SHANK

- Ground flats for positive location in 3-jaw chucks
- Available in bright finish for softer materials and TiAlN coated for harder, abrasive materials
- Both styles also available as a 6 pc set containing following diameters: 6.3, 8.3, 10.4, 12.4, 16.5, 20.5 mm



HEX-SHANK

- Hexagon shank fits directly into cordless drill driver attachments for quick change
- Also compatible with hand held drivers for quick de-burring and chamfering by hand



AMG					ISO
1.1	■30F	■50E	■30F		P1
1.2	■25E	■40E	■25E		P1
1.3	■20D	■30D	■20D		P2
1.4	■15D	●20D	■15D		P3
1.5	■10B	●15B	■10B		P4
1.6	●6A	●10B	●6A		H1
1.7					H3
1.8					H4
2.1	●8C		●8C		M1
2.2	●6B		●6B		M3
2.3	●4A		●4A		M2
2.4					S2
3.1	●25F	■45F	●25F		K1
3.2	●15D	■35D	●15D		K2
3.3	●12C	■30C	●12C		K3
3.4	●8C	■30C	●8C		K4
4.1	■12C	●20C	■12C		S1
4.2	■10A	●15A	■10A		S2
4.3	■8A	●10A	■8A		S3
5.1	■12C	●20C	■12C		S1
5.2	■6B	●10B	■6B		S2
5.3	■4A	●6A	■4A		S3
6.1	■25D	●40D	■25D		N3
6.2	■20F	●30F	■20F		N4
6.3	■25F	●40F	■25F		N3
6.4	●10D	●15D	●10D		N4
7.1	●30G	■50G	●30G		N1
7.2	●25F	■40F	●25F		N1
7.3	●20F	■30F	●20F		N1
7.4	●10F	■15F	●10F		N2
8.1	●30G	●50G	●30G		O
8.2	●20G	●30G	●20G		O
8.3					O
9.1					H
10.1					O

$$n = \frac{V_c \times 1000}{\pi \times D}$$

$$V_f = n \times f_n$$

	Ø mm									
	6	8	10	16	20	25	32	40	60	80
A	0.03	0.04	0.05	0.06	0.08	0.09	0.10	0.12	0.14	0.16
B	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.16	0.18	0.20
C	0.05	0.06	0.08	0.10	0.12	0.14	0.16	0.18	0.20	0.22
D	0.06	0.08	0.10	0.12	0.15	0.18	0.20	0.22	0.25	0.28
E	0.08	0.10	0.12	0.15	0.18	0.20	0.25	0.27	0.30	0.32
F	0.09	0.11	0.13	0.16	0.19	0.21	0.26	0.29	0.33	0.36
G	0.10	0.12	0.15	0.18	0.20	0.22	0.28	0.32	0.36	0.40
	mm/REV									

G106 • Countersink with Tri-Flat shank - 90°

G506 • Countersink with Tri-Flat shank - 90°

G106	▪	1.1	1.1	1.2	1.3	1.4	1.5	4.1	4.2	4.3	5.1	5.2	5.3	6.1	6.2	6.3		
	•	1.1	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4	6.4	7.1	7.2	7.3	7.4	8.1	8.2	
G506	▪	1.1	1.1	1.2	1.3	3.1	3.2	3.3	3.4	7.1	7.2	7.3	7.4					
	•	1.1	1.4	1.5	1.6	4.1	4.2	4.3	5.1	5.2	5.3	6.1	6.2	6.3	6.4	8.1	8.2	

G106	HSS		DIN 335C				90°	
G506	HSS	TiAIN	DIN 335C				90°	



G106	G506
	
6.30 - 50.00	6.30 - 50.00

max d mm	min d mm	l ₁ mm	d ₂ Øh ₉ mm	z	G106	G506
6.3	1.5	45	5	3	G1066.3	G5066.3
8.3	2.0	50	6	3	G1068.3	G5068.3
10.4	2.5	50	6	3	G10610.4	G50610.4
12.4	2.8	56	8	3	G10612.4	G50612.4
16.5	3.2	60	10	3	G10616.5	G50616.5
20.5	3.5	63	10	3	G10620.5	G50620.5
25.0	3.8	67	10	3	G10625.0	G50625.0
31.0	4.2	71	12	3	G10631.0	G50631.0
34.0	4.5	103	16	3	G10634.0	G50634.0
37.0	4.5	118	16	3	G10637.0	G50637.0
40.0	4.5	118	16	3	G10640.0	G50640.0
50.0	5.0	126	16	3	G10650.0	G50650.0

G107 • Countersink with hexagonal shank - 90°

G107	▪	1.1	1.2	1.3	1.4	1.5	4.1	4.2	4.3	5.1	5.2	5.3	6.1	6.2	6.3	
	•	1.6	2.1	2.2	2.3	3.1	3.2	3.3	3.4	6.4	7.1	7.2	7.3	7.4	8.1	8.2

G107 HSS-E      



G107



6.30 - 20.50

max d mm	min d mm	l ₁ mm	d ₂ Ø A/F mm	DIN 74	z	G107
6.3	1.5	50	1/4"	M2-M3	3	G1076.3
8.3	2.0	50	1/4"	M4	3	G1078.3
10.4	2.5	50	1/4"	M5	3	G10710.4
12.4	2.8	50	1/4"	M6	3	G10712.4
16.5	3.2	50	1/4"	M8	3	G10716.5
20.5	3.5	50	1/4"	M10	3	G10720.5

G236 • Countersink set

A=Styles in Set, B=No. in Set, C=Diameters in Set



Set

Nr.	A	B	C	G236
4	G106	6	6.30 mm, 8.30 mm, 10.40 mm, 12.40 mm, 16.50 mm, 20.50 mm	G2364
5	G506	6	6.30 mm, 8.30 mm, 10.40 mm, 12.40 mm, 16.50 mm, 20.50 mm	G2365

CENTER DRILLS



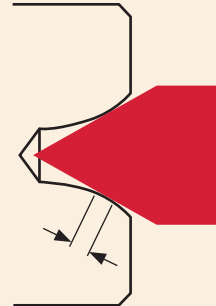
INTRODUCTION

To complement its existing range of Center Drills, Dormer has introduced several new designs to further expand its coverage of potential customers applications. These include HSS-E for tougher materials and environments, flatted shank for improved clamping, long series for increased reach and solid carbide for hard and abrasive materials.

With a full range of sizes available, this makes Dormer a good choice for all your center drilling requirements.

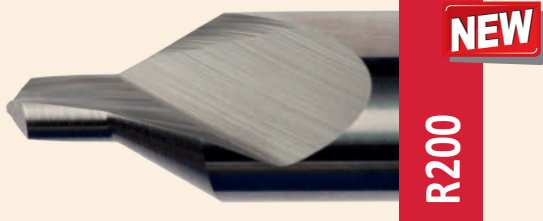
FEATURES AND BENEFITS

- Increased wear resistance and tool life
- Manufactured with flatted shank for use in custom centering heads used for machining the ends of shafts
- Radius form increases cross sectional strength and therefore **reduces the risk of breakage**



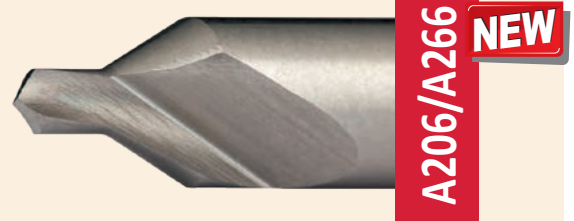
Contact area is below the face of the shaft and therefore protected against possible damage

CENTER DRILL STYLES



SOLID CARBIDE

- Premium grade carbide for improved tool life when centre drilling hard and abrasive materials
- More rigid operation for higher accuracy and surface quality



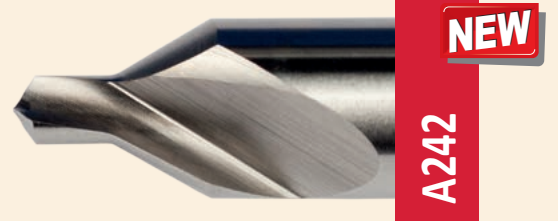
HSS-E USED FOR TOUGHER MATERIALS & STAINLESS STEELS

- HSS-E with 8% cobalt content for increased hot hardness, resulting in increased wear resistance and tool life
- A266 with TiAlN coating provides further improved abrasion resistance and increased tool life



HSS-E SHANK WITH FLAT

- A238 with radius form to produce protected centers in the end of shafts
- Can be used with chamfer units



HSS-E LONG SERIES

- Longer overall length for increased reach

	HM	HSS	HSS	HSS-E	HSS-E	HSS	HSS	HSS	HSS-E	HSS-E	HSS-E	
	DIN 333A	DIN 333A	DIN 333A	DIN 333A	DIN 333A	DIN 333R	DORMER	BS 328	DIN 333A	DIN 333R	DORMER	
	1XD	1XD	1XD	1XD	1XD	1XD	1XD	1XD	1XD	1XD	1XD	
	118°	118°	118°	118°	118°	118°	122°	120°	118°	118°	118°	
			TiN		TiAlN							
	R200	A200	A205	A206	A266	A210	A201	A225	A237	A238	A242	A296
	1.00 - 5.00	0.50 - 12.50	1.00 - 5.00	1.00 - 5.00	1.00 - 5.00	0.50 - 10.00	0.63 - 6.00	3/64 - 5/16	1.60 - 10.00	1.60 - 8.00	1.00 - 5.00	Set
	NEW			NEW	NEW				NEW	NEW	NEW	
AMG												ISO
1.1	■50H	■35I	■42I	■42I	■42I	■35I	■35I	■35I	■35I	■35I	■35I	P1
1.2	■48H	■30I	■36I	■36I	■36I	■30I	■30I	■30I	■30I	■30I	■30I	P1
1.3	■45F	■25G	■30G	■30G	■30G	■25G	■25G	■25G	■25G	■25G	■25G	P2
1.4	■40E	■20F	■24F	■24F	■24F	■20F	■20F	■20F	■20F	■20F	■20F	P3
1.5	■30D	●13E	●16E	●16E	●16E	●13E	●13E	●13E	●13E	●13E	●13E	P4
1.6	■10C	●9D	●11D	●11D	●11D	●9D	●9D	●9D	●9D	●9D	●9D	H1
1.7												H3
1.8												H4
2.1		●15E	●18E	●18E	●18E	●15E	●15E	●15E	●15E	●15E	●15E	M1
2.2		●8G	●10G	●10G	●10G	●8G	●8G	●8G	●8G	●8G	●8G	M2
2.3		●10C	●12C	●12C	●12C	●10C	●10C	●10C	●10C	●10C	●10C	M3
2.4												S2
3.1	■40H	■30I	■36I	■36I	■36I	■30I	■30I	■30I	■30I	■30I	■30I	K1
3.2	■35E	■24F	■29F	■29F	■29F	■24F	■24F	■24F	■24F	■24F	■24F	K2
3.3	■30D	●20E	●24E	●24E	●24E	●20E	●20E	●20E	●20E	●20E	●20E	K3
3.4	■30D	●14E	●17E	●17E	●17E	●14E	●14E	●14E	●14E	●14E	●14E	K4
4.1		●24F	●29F	●29F	●29F	●24F	●24F	●24F	●24F	●24F	●24F	S1
4.2		●13D	●16D	●16D	●16D	●13D	●13D	●13D	●13D	●13D	●13D	S2
4.3		●7B	●8B	●8B	●8B	●7B	●7B	●7B	●7B	●7B	●7B	S3
5.1		●10G	●12G	●12G	●12G	●10G	●10G	●10G	●10G	●10G	●10G	S1
5.2		●5E	●6E	●6E	●6E	●5E	●5E	●5E	●5E	●5E	●5E	S2
5.3		●4A	●5A	●5A	●5A	●4A	●4A	●4A	●4A	●4A	●4A	S3
6.1	■110F	●35G	●42G	●42G	●42G	●35G	●35G	●35G	●35G	●35G	●35G	N3
6.2	■100H	●33I	●40I	●40I	●40I	●33I	●33I	●33I	●33I	●33I	●33I	N4
6.3	■90G	●27H	●32H	●32H	●32H	●27H	●27H	●27H	●27H	●27H	●27H	N3
6.4	■75F	●16G	●19G	●19G	●19G	●16G	●16G	●16G	●16G	●16G	●16G	N4
7.1	■120I	●33J	●40J	●40J	●40J	●33J	●33J	●33J	●33J	●33J	●33J	N1
7.2	■110H	●30I	●36I	●36I	●36I	●30I	●30I	●30I	●30I	●30I	●30I	N1
7.3	■100G	●27H	●32H	●32H	●32H	●27H	●27H	●27H	●27H	●27H	●27H	N1
7.4	■90G	●22H	●26H	●26H	●26H	●22H	●22H	●22H	●22H	●22H	●22H	N2
8.1		●30J	●36J	●36J	●36J	●30J	●30J	●30J	●30J	●30J	●30J	O
8.2		●28H	●34H	●34H	●34H	●28H	●28H	●28H	●28H	●28H	●28H	O
8.3		●14F	●17F	●17F	●17F	●14F	●14F	●14F	●14F	●14F	●14F	O
9.1		●3B	●4B	●4B	●4B	●3B	●3B	●3B	●3B	●3B	●3B	H
10.1												O



 Fn	HM HSS HSS-E								
Ø(D)	1mm	2mm	3mm	4mm	5mm	6mm	8mm	10mm	12mm
A	0.012	0.023	0.029	0.032	0.036	0.042	0.054	0.062	0.069
B	0.014	0.028	0.037	0.041	0.046	0.053	0.067	0.080	0.090
C	0.015	0.032	0.044	0.050	0.056	0.064	0.080	0.098	0.110
D	0.016	0.038	0.053	0.060	0.068	0.078	0.098	0.119	0.130
E	0.017	0.043	0.062	0.071	0.080	0.092	0.115	0.140	0.150
F	0.018	0.050	0.073	0.084	0.095	0.109	0.138	0.165	0.178
G	0.019	0.056	0.084	0.096	0.109	0.126	0.160	0.190	0.205
H	0.020	0.066	0.102	0.116	0.130	0.150	0.190	0.228	0.243
I	0.021	0.076	0.119	0.134	0.150	0.173	0.220	0.265	0.280
J	0.024	0.084	0.135	0.152	0.170	0.197	0.250	0.298	0.315
	mm/N ± 25%								

$$n = \frac{V_c \times 1000}{\pi \times D}$$

$$V_f = n \times f_n$$

R200 • Centre Drill - 60°

R200 ■ 1.1 1.2 1.3 1.4 1.5 1.6 3.1 3.2 3.3 3.4 6.1 6.2 6.3 6.4 7.1 7.2 7.3 7.4

R200

HM



DIN
333A



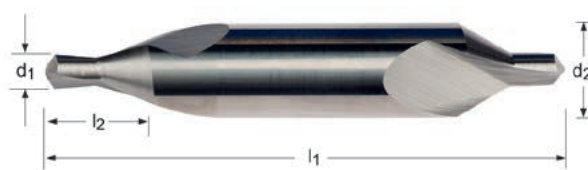
1XD



118°



60°



R200



1.00 - 5.00

d_1 Ø mm	d_1 decimal Inch	l_2 max/min mm	l_1 mm	d_2 Ø mm	R200
1.00	0.0394	1.7 - 1.3	31	3.15	R2001.0X3.15
1.25	0.0492	2.0 - 1.6	31	3.15	R2001.25X3.15
1.60	0.0630	2.6 - 2.0	35	4.00	R2001.6X4.0
2.00	0.0787	3.1 - 2.5	40	5.00	R2002.0X5.0
2.50	0.0984	3.8 - 3.1	45	6.30	R2002.5X6.3
3.15	0.1240	4.6 - 3.9	50	8.00	R2003.15X8.0
4.00	0.1575	5.9 - 5.0	55	10.00	R2004.0X10.0
5.00	0.1969	7.2 - 6.3	63	12.50	R2005.0X12.5

A210 • Centre Drill

Radius Form

A210	▪	1.1	1.2	1.3	1.4	3.1	3.2															
	•	1.5	1.6	2.1	2.2	2.3	3.3	3.4	4.1	4.2	4.3	5.1	5.2	5.3	6.1	6.2	6.3	6.4	7.1	7.2	7.3	
		7.4	8.1	8.2	8.3	9.1																

A210 HSS



DIN
333R



1XD



A210



0.50 - 10.00

d_1 Ø mm	d_1 decimal Inch	l_2 max/min mm	l_1 mm	r max/min mm	d_2 Ø mm	A210
0.50	0.0197	2.6 - 2.3	25.0	2.50 - 2.00	3.15	A210.5X3.15 ¹⁾
0.80	0.0315	2.9 - 2.6	25.0	3.15 - 2.50	3.15	A210.8X3.15 ¹⁾
1.00	0.0394	3.3 - 3.0	31.0	3.65 - 2.90	3.15	A2101.0X3.15
1.25	0.0492	3.6 - 3.3	31.0	3.95 - 3.15	3.15	A2101.25X3.15
1.60	0.0630	4.7 - 4.2	35.0	5.00 - 4.00	4.00	A2101.6X4.0
2.00	0.0787	5.4 - 5.0	40.0	6.25 - 5.00	5.00	A2102.0X5.0
2.50	0.0984	6.8 - 6.3	45.0	7.88 - 6.30	6.30	A2102.5X6.3
3.15	0.1240	8.5 - 8.0	50.0	10.00 - 8.00	8.00	A2103.15X8.0
4.00	0.1575	10.6 - 10.0	55.0	12.50 - 10.00	10.00	A2104.0X10.0
5.00	0.1969	13.1 - 12.5	63.0	15.63 - 12.50	12.50	A2105.0X12.5
6.30	0.2480	16.6 - 16.0	71.0	20.00 - 16.00	16.00	A2106.3X16.0
8.00	0.3150	20.7 - 20.0	80.0	25.00 - 20.00	20.00	A2108.0X20.0
10.00	0.3937	25.7 - 25.0	100.0	31.25 - 25.00	25.00	A21010.0X25.0

1) Single Ended Only

A201 • Centre Drill - 60°

A201	▪	1.1	1.2	1.3	1.4	3.1	3.2																
	•	1.5	1.6	2.1	2.2	2.3	3.3	3.4	4.1	4.2	4.3	5.1	5.2	5.3	6.1	6.2	6.3	6.4	7.1	7.2	7.3		
		7.4	8.1	8.2	8.3	9.1																	

A201

HSS



1XD



A201



0.63 - 6.00

d ₁ Ø mm	d ₁ decimal Inch	l ₂ max/min mm	l ₁ mm	d ₂ Ø mm	A201
0.63	0.0248	1.2 - 0.9	20	3.15	A201.63X3.15 ¹⁾
0.75	0.0295	1.3 - 1.0	35	3.50	A201.75X3.5
1.00	0.0394	2.1 - 1.5	35	4.00	A2011.0X4.0
1.50	0.0591	2.8 - 2.0	40	5.00	A2011.5X5.0
1.60	0.0630	2.4 - 2.0	40	5.00	A2011.6X5.0
2.00	0.0787	4.0 - 3.0	45	6.00	A2012.0X6.0
2.00	0.0787	2.9 - 2.5	45	6.30	A2012.0X6.3
2.50	0.0984	4.5 - 3.5	50	8.00	A2012.5X8.0
3.00	0.1181	4.4 - 3.9	50	8.00	A2013.0X8.0
3.00	0.1181	5.0 - 4.0	56	10.00	A2013.0X10.0
3.15	0.1240	4.4 - 3.9	56	10.00	A2013.15X10.0
4.00	0.1575	6.2 - 5.0	66	12.00	A2014.0X12.0
5.00	0.1969	7.7 - 6.5	78	14.00	A2015.0X14.0
6.00	0.2362	9.2 - 8.0	90	18.00	A2016.0X18.0

1) Single Ended Only

A225 • Centre Drill - 60°

A225	▪	1.1	1.2	1.3	1.4	3.1	3.2																
	•	1.5	1.6	2.1	2.2	2.3	3.3	3.4	4.1	4.2	4.3	5.1	5.2	5.3	6.1	6.2	6.3	6.4	7.1	7.2	7.3		
		7.4	8.1	8.2	8.3	9.1																	

A225	HSS		BS 328								A296 52
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A225


3/64 - 5/16

Nr.	d_1 Ø Inch	d_1 decimal Inch	l_2 max/min Inch	l_1 Inch	d_2 Ø Inch	A225
BS1	3/64	0.0469	5/64 - 1/16	1.1/2	1/8	A225BS1
BS2	1/16	0.0625	3/32 - 5/64	1.3/4	3/16	A225BS2
BS3	3/32	0.0938	5/32 - 1/8	2"	1/4	A225BS3
BS4	1/8	0.1250	3/16 - 5/32	2.1/4	5/16	A225BS4
BS5	3/16	0.1875	9/32 - 1/4	2.1/2	7/16	A225BS5
BS5A	7/32	0.2188	5/16 - 9/32	2.3/4	1/2	A225BS5A
BS6	1/4	0.2500	3/8 - 5/16	3"	5/8	A225BS6
BS7	5/16	0.3125	15/32 - 13/32	3.1/2	3/4	A225BS7

A237 • Centre Drill - 60°

Flat Shank

A237	▪	1.1	1.2	1.3	1.4	3.1	3.2														
	•	1.5	1.6	2.1	2.2	2.3	3.3	3.4	4.1	4.2	4.3	5.1	5.2	5.3	6.1	6.2	6.3	6.4	7.1	7.2	7.3
		7.4	8.1	8.2	8.3	9.1															

A237

HSS-E



DIN
333A



1XD



A237



1.60 - 10.00

d ₁ Ø mm	d ₁ decimal Inch	l ₂ max/min mm	l ₁ mm	d ₂ Ø mm	d ₄ max/min mm	A237
1.60	0.0630	2.6 - 2.0	35	4.00	3.25 - 3.15	A2371.6X4.0
2.00	0.0787	3.1 - 2.5	40	5.00	4.20 - 4.10	A2372.0X5.0
2.50	0.0984	3.8 - 3.1	45	6.30	5.35 - 5.25	A2372.5X6.3
3.15	0.1240	4.6 - 3.9	50	8.00	6.95 - 6.85	A2373.15X8.0
4.00	0.1575	5.9 - 5.0	55	10.00	8.40 - 8.30	A2374.0X10.0
5.00	0.1969	7.2 - 6.3	63	12.50	10.95 - 10.85	A2375.0X12.5
6.30	0.2480	8.9 - 8.0	71	16.00	14.00 - 13.90	A2376.3X16.0
8.00	0.3150	11.1 - 10.1	80	20.00	17.90 - 17.80	A2378.0X20.0
10.00	0.3937	13.8 - 12.8	100	25.00	22.50 - 22.40	A23710.0X25.0

A238 • Centre Drill

Radius Form and Flat Shank

A238	▪	1.1	1.2	1.3	1.4	3.1	3.2															
	•	1.5	1.6	2.1	2.2	2.3	3.3	3.4	4.1	4.2	4.3	5.1	5.2	5.3	6.1	6.2	6.3	6.4	7.1	7.2	7.3	
		7.4	8.1	8.2	8.3	9.1																

A238

HSS-E

DIN 333R

1XD

118°



d_1 Ø mm	d_1 decimal Inch	l_2 max/min mm	l_1 mm	r max/min mm	d_2 Ø mm	d_4 max/min mm	A238
1.60	0.0630	4.7 - 4.2	35	5.00 - 4.00	4.00	3.25 - 3.15	A2381.6X4.0
2.00	0.0787	5.4 - 5.0	40	6.25 - 5.00	5.00	4.20 - 4.10	A2382.0X5.0
2.50	0.0984	6.8 - 6.3	45	7.88 - 6.30	6.30	5.35 - 5.25	A2382.5X6.3
3.15	0.1240	8.5 - 8.0	50	10.00 - 8.00	8.00	6.95 - 6.85	A2383.15X8.0
4.00	0.1575	10.6 - 10.0	55	12.50 - 10.00	10.00	8.40 - 8.30	A2384.0X10.0
5.00	0.1969	13.1 - 12.5	63	15.63 - 12.50	12.50	10.95 - 10.85	A2385.0X12.5
6.30	0.2480	16.6 - 16.0	71	20.00 - 16.00	16.00	14.00 - 13.90	A2386.3X16.0
8.00	0.3150	20.7 - 20.0	80	25.00 - 20.00	20.00	17.90 - 17.80	A2388.0X20.0

A242 • Centre Drill - 60°

A242	▪	1.1	1.2	1.3	1.4	3.1	3.2																
	•	1.5	1.6	2.1	2.2	2.3	3.3	3.4	4.1	4.2	4.3	5.1	5.2	5.3	6.1	6.2	6.3	6.4	7.1	7.2	7.3		
		7.4	8.1	8.2	8.3	9.1																	

A242

HSS-E



1XD



A242



1.00 - 5.00

d ₁ Ø mm	d ₁ decimal Inch	l ₂ max/min mm	l ₁ mm	d ₂ Ø mm	A242
1.00	0.0394	1.7 - 1.3	100	4.00	A2421.0X4.0
1.50	0.0591	2.6 - 2.0	100	5.00	A2421.5X5.0
2.00	0.0787	3.1 - 2.5	100	6.00	A2422.0X6.0
2.50	0.0984	3.8 - 3.1	100	8.00	A2422.5X8.0
3.00	0.1181	4.6 - 3.9	100	8.00	A2423.0X8.0
3.00	0.1181	4.6 - 3.9	100	10.00	A2423.0X10.0
4.00	0.1575	5.9 - 5.0	100	10.00	A2424.0X10.0
4.00	0.1575	5.9 - 5.0	100	12.00	A2424.0X12.0
5.00	0.1969	7.2 - 6.3	100	12.00	A2425.0X12.0

A296 • Centre Drill Set

A296200 - 118° point DIN333A,
A296225 - 120° point BS328.
A=Styles in Set, B=No. in Set, C=Diameters in Set



				A296
Nr	A	B	C	
200	A200	5	1.00 mm, 2.00 mm, 2.50 mm, 3.15 mm, 4.00 mm	A296200
225	A225	5	BS1, BS2, BS3, BS4, BS5	A296225

HSS DRILLS





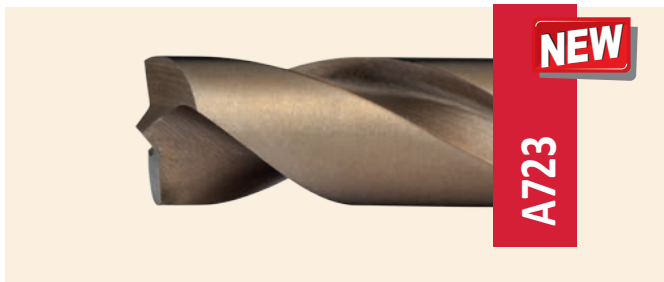
INTRODUCTION

Dormer's Spot Weld drills are a range of cobalt drills specifically designed for drilling out spot welds to release steel panels and sheets. They are available in a number of standard sizes to suit common spot welds found in the automotive and trailer repair industry. Manufactured from a premium substrate and to high quality standard to deliver consistent reliable performance.

MATERIAL

Premium High Speed Cobalt (HSS-E)

- Manufactured from M42 to provide high hot hardness
- Retains a **sharp cutting edge under extreme conditions**
- Bronze surface finish identifies cobalt material



GEOMETRY

Special Lip and Spur Point

- Provides positive centering
- Sharp outer-corners cut the softer material around the spot weld

Strong Web

- Provides strength for **improved penetration in tough conditions**

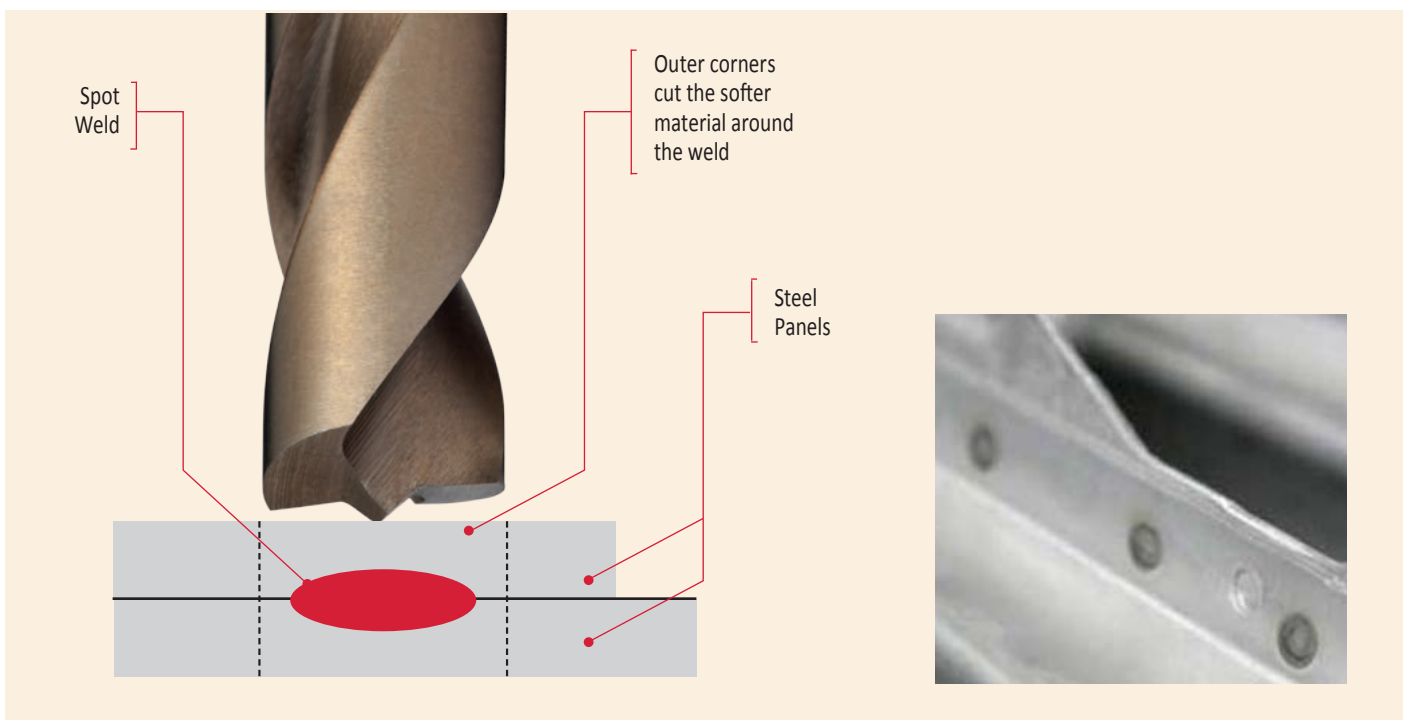
Short Flute

- Provides **rigidity for hand held drilling** of thin panels and sheet

No Body Clearance

- Increases stability during drilling and breakthrough to give a **superior quality hole**

APPLICATION EXAMPLE



INTRODUCTION

Dormer's Sheet Metal drills are a range of high speed steels drills specifically designed for drilling thin sheet steel and panels

- Manufactured from a premium substrate and to high quality standards for **consistent and reliable performance**
- They are available in a number of standard sizes to suit common rivets, screws and bolts
- Double ended version (A119) also available to help reduce inventory and **increase economy**

MATERIAL

Premium High Speed Steel (HSS)

- Manufactured from M2 to provide good hardness
- Retains a sharp cutting edge under extreme conditions
- Steam tempered to improve performance and reduce chance of built-up-edge

**NEW****A123**

GEOMETRY

Standard 120 degree Point

- Provides easy penetration in hand held applications

Special Web

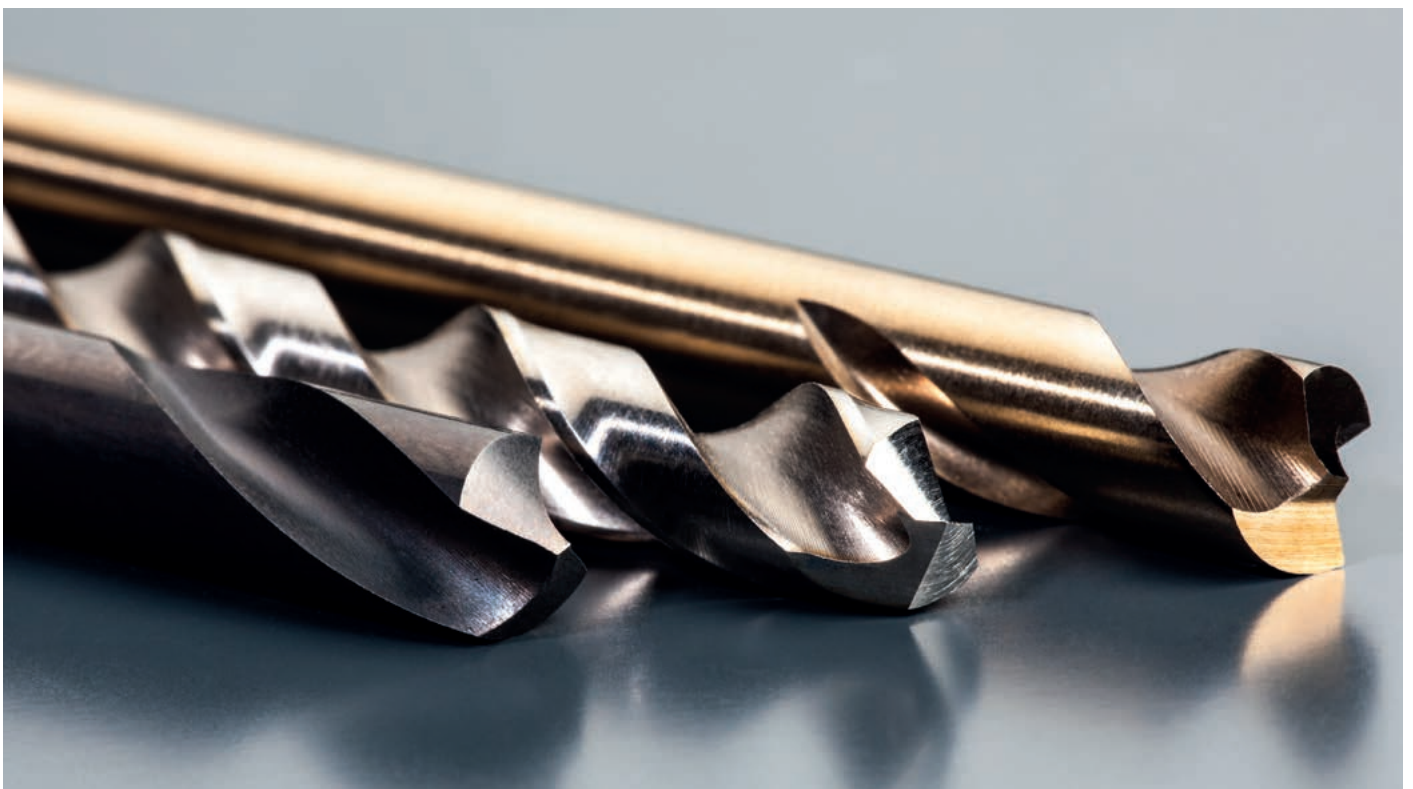
- A thin web at the point provides **excellent self centering properties**

Short Flute

- Provides **rigidity for hand held drilling** of thin panels and sheet

No Body Clearance

- Increases stability during drilling and breakthrough to give a **superior quality hole**



	HSS-E	HSS-E	HSS	HSS			
	DIN 338	DORMER	DIN 1897	DIN 1897			
	6XD	1XD	1.25XD	1.5XD			
	130°		120°	120°			
	VA	N	N	N			
	A147	A723	A119	A123	A087	A089	A188
	0.30 - 15.0	6.00 - 8.00	3.30 - 5.10	3/32 - 1/4	Set	Set	Set
	NEW	NEW	NEW	NEW	NEW	NEW	NEW
AMG							ISO
1.1	●35I	■35D	■35C	■35E			P1
1.2	●30I	■30D	■27C	■30E			P1
1.3	●25G	●25C	●23C	■27C			P2
1.4	●20F	●20C	●20C	●21C			P3
1.5	●13E		●8C	●14C			P4
1.6	●9D		●7A	●10B			H1
1.7							H3
1.8							H4
2.1	■15E		●15A	●16C			M1
2.2	■9G		●7C	●9D			M3
2.3	■10D		●10A	●10B			M2
2.4	●7B						S2
3.1	●30H						K1
3.2	●24F						K2
3.3	●20E						K3
3.4	●14E						K4
4.1	■25G		●27A	●27C			S1
4.2	■16E		●12A	●12B			S2
4.3	●7B		●7A	●7A			S3
5.1	■12G		●9A	●13D			S1
5.2	●7G		●4C	●8C			S2
5.3	●6E		●3C	●4A			S3
6.1	●33G		●27A	■27D			N3
6.2	●35I		●33C	■33E			N4
6.3	●31H		●27C	■27D			N3
6.4	●16G		●16C	■16D			N4
7.1	●33J		●33C	■33E			N1
7.2	●30I		●30C	■30E			N1
7.3	●27H		●30C	●30D			N1
7.4	●24F		●25C	●25D			N2
8.1	●30J		●30I	●30F			O
8.2	●28H		●35C	●35E			O
8.3	●14F			●17D			O
9.1	●3B			●12A			H
10.1							O

 Fn	HSS HSS-E									
Ø(D)	1mm	2mm	3mm	4mm	5mm	6mm	8mm	10mm	12mm	15mm
A	0.012	0.023	0.029	0.032	0.036	0.042	0.054	0.062	0.069	0.082
B	0.014	0.028	0.037	0.041	0.046	0.053	0.067	0.080	0.090	0.103
C	0.015	0.032	0.044	0.050	0.056	0.064	0.080	0.098	0.110	0.125
D	0.016	0.038	0.053	0.060	0.068	0.078	0.098	0.119	0.130	0.149
E	0.017	0.043	0.062	0.071	0.080	0.092	0.115	0.140	0.150	0.173
F	0.018	0.050	0.073	0.084	0.095	0.109	0.138	0.165	0.178	0.202
G	0.019	0.056	0.084	0.096	0.109	0.126	0.160	0.190	0.205	0.231
H	0.020	0.066	0.102	0.116	0.130	0.150	0.190	0.228	0.243	0.271
I	0.021	0.076	0.119	0.134	0.150	0.173	0.220	0.265	0.280	0.310
J	0.024	0.084	0.135	0.152	0.170	0.197	0.250	0.298	0.315	0.349

$$n = \frac{V_c \times 1000}{\pi \times D}$$

$$V_f = n \times f_n$$

A147 • Jobber Drill

A147	▪	2.1	2.2	2.3	4.1	4.2	5.1															
	•	1.1	1.2	1.3	1.4	1.5	1.6	2.4	3.1	3.2	3.3	3.4	4.3	5.2	5.3	6.1	6.2	6.3	6.4	7.1	7.2	
		7.3	7.4	8.1	8.2	8.3	9.1															

A147 HSS-E DIN 338 6XD 130° VA



A147



0.30 - 15.0

d_1 $\varnothing h_8$ Inch	d_1 $\varnothing h_8$ mm	d_1 decimal Inch	l_2 mm	l_1 mm	A147
	0.30	0.0118	3	19	A147.3
	0.40	0.0157	5	20	A147.4
	0.50	0.0197	6	22	A147.5
	0.60	0.0236	7	24	A147.6
	0.70	0.0276	9	28	A147.7
	0.80	0.0315	10	30	A147.8
	0.90	0.0354	11	32	A147.9
	1.00	0.0394	12	34	A1471.0
	1.10	0.0433	14	36	A1471.1
	1.20	0.0472	16	38	A1471.2
	1.30	0.0512	16	38	A1471.3
	1.40	0.0551	18	40	A1471.4
	1.50	0.0591	18	40	A1471.5
1/16	1.59	0.0626	20	43	A1471/16
	1.60	0.0630	20	43	A1471.6
	1.70	0.0669	20	43	A1471.7
	1.80	0.0709	22	46	A1471.8
	1.90	0.0748	22	46	A1471.9
	2.00	0.0787	24	49	A1472.0
	2.10	0.0827	24	49	A1472.1
	2.20	0.0866	27	53	A1472.2
	2.30	0.0906	27	53	A1472.3
3/32	2.38	0.0937	30	57	A1473/32
	2.40	0.0945	30	57	A1472.4
	2.50	0.0984	30	57	A1472.5
	2.60	0.1024	30	57	A1472.6
	2.70	0.1063	33	61	A1472.7
	2.80	0.1102	33	61	A1472.8
	2.90	0.1142	33	61	A1472.9
	3.00	0.1181	33	61	A1473.0
	3.10	0.1220	36	65	A1473.1
	3.18	0.1252	36	65	A1471/8
	3.20	0.1260	36	65	A1473.2
	3.30	0.1299	36	65	A1473.3
	3.40	0.1339	39	70	A1473.4
	3.50	0.1378	39	70	A1473.5
	3.60	0.1417	39	70	A1473.6
	3.70	0.1457	39	70	A1473.7

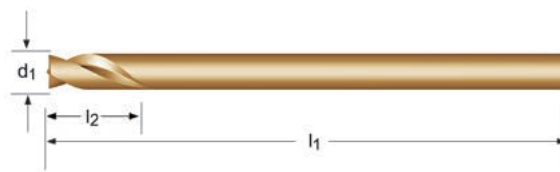
d_1 $\varnothing h_8$ Inch	d_1 $\varnothing h_8$ mm	d_1 decimal Inch	l_2 mm	l_1 mm	A147
5/32	3.80	0.1496	43	75	A1473.8
	3.90	0.1535	43	75	A1473.9
	3.97	0.1563	43	75	A1475/32
	4.00	0.1575	43	75	A1474.0
	4.10	0.1614	43	75	A1474.1
	4.20	0.1654	43	75	A1474.2
	4.30	0.1693	47	80	A1474.3
	4.40	0.1732	47	80	A1474.4
3/16	4.50	0.1772	47	80	A1474.5
	4.60	0.1811	47	80	A1474.6
	4.70	0.1850	47	80	A1474.7
	4.76	0.1874	52	86	A1473/16
	4.80	0.1890	52	86	A1474.8
	4.90	0.1929	52	86	A1474.9
	5.00	0.1969	52	86	A1475.0
	5.10	0.2008	52	86	A1475.1
	5.20	0.2047	52	86	A1475.2
	5.30	0.2087	52	86	A1475.3
	5.40	0.2126	57	93	A1475.4
	5.50	0.2165	57	93	A1475.5
	5.60	0.2205	57	93	A1475.6
	5.70	0.2244	57	93	A1475.7
	5.80	0.2283	57	93	A1475.8
	5.90	0.2323	57	93	A1475.9
	6.00	0.2362	57	93	A1476.0
	6.10	0.2402	63	101	A1476.1
	6.20	0.2441	63	101	A1476.2
	6.30	0.2480	63	101	A1476.3
	6.35	0.2500	63	101	A1471/4
	6.40	0.2520	63	101	A1476.4
	6.50	0.2559	63	101	A1476.5
	6.60	0.2598	63	101	A1476.6
	6.70	0.2638	63	101	A1476.7
	6.80	0.2677	69	109	A1476.8
	6.90	0.2717	69	109	A1476.9
	7.00	0.2756	69	109	A1477.0
	7.10	0.2795	69	109	A1477.1
	7.20	0.2835	69	109	A1477.2
	7.30	0.2874	69	109	A1477.3
	7.40	0.2913	69	109	A1477.4
	7.50	0.2953	69	109	A1477.5
	7.60	0.2992	75	117	A1477.6
	7.70	0.3031	75	117	A1477.7
	7.80	0.3071	75	117	A1477.8
	7.90	0.3110	75	117	A1477.9
	8.00	0.3150	75	117	A1478.0
	8.10	0.3189	75	117	A1478.1
	8.20	0.3228	75	117	A1478.2
	8.30	0.3268	75	117	A1478.3
	8.40	0.3307	75	117	A1478.4
	8.50	0.3346	75	117	A1478.5
	8.60	0.3386	81	125	A1478.6
	8.70	0.3425	81	125	A1478.7
	8.80	0.3465	81	125	A1478.8
	8.90	0.3504	81	125	A1478.9
	9.00	0.3543	81	125	A1479.0
	9.10	0.3583	81	125	A1479.1
	9.20	0.3622	81	125	A1479.2
	9.30	0.3661	81	125	A1479.3
	9.40	0.3701	81	125	A1479.4
	9.50	0.3740	81	125	A1479.5
	9.60	0.3780	87	133	A1479.6
	9.70	0.3819	87	133	A1479.7
	9.80	0.3858	87	133	A1479.8
	9.90	0.3898	87	133	A1479.9
	10.00	0.3937	87	133	A14710.0
	10.20	0.4016	87	133	A14710.2
	10.50	0.4134	87	133	A14710.5

d_1 $\varnothing h_8$ Inch	d_1 $\varnothing h_8$ mm	d_1 decimal Inch	l_2 mm	l_1 mm	A147
	11.00	0.4331	94	142	A14711.0
	11.20	0.4409	94	142	A14711.2
	11.50	0.4528	94	142	A14711.5
	12.00	0.4724	101	151	A14712.0
	12.50	0.4921	101	151	A14712.5
	13.00	0.5118	101	151	A14713.0
	13.50	0.5315	108	160	A14713.5
	14.00	0.5512	108	160	A14714.0
	14.50	0.5709	114	169	A14714.5
	15.00	0.5906	114	169	A14715.0

A723 • Spot Weld Drill

A723	▪	1.1	1.2
	•	1.3	1.4

A723 HSS-E DORMER 1XD Bronze N



A723



6.00 - 8.00

d_1 $\varnothing h_8$ mm	d_1 decimal Inch	l_2 mm	l_1 mm	A723
6.00	0.2362	18	66	A7236.0X66
6.00	0.2362	18	93	A7236.0X93
8.00	0.3150	24	79	A7238.0X79
8.00	0.3150	24	117	

A119 • Stub Drill - Double Ended

Sheet Metal Drill

A119	▪	1.1	1.2																				
	•	1.3	1.4	1.5	1.6	2.1	2.2	2.3	4.1	4.2	4.3	5.1	5.2	5.3	6.1	6.2	6.3	6.4	7.1	7.2	7.3		
		7.4	8.1	8.2																			

A119

HSS

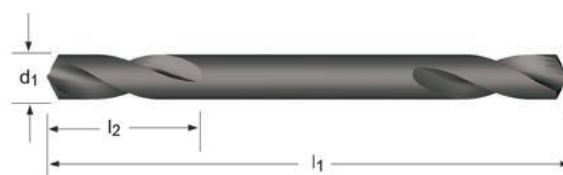
DIN 1897

1.25XD

120°

ST

N



A119



3.30 - 5.10

d_1 $\varnothing h_8$ mm	d_1 decimal Inch	l_2 mm	l_1 mm	A119
3.30	0.1299	11	49	A1193.3
3.60	0.1417	12	52	A1193.6
4.10	0.1614	14	55	A1194.1
4.20	0.1654	14	55	A1194.2
4.90	0.1929	17	62	A1194.9
5.10	0.2008	17	62	A1195.1

A123 • Stub Drill

Sheet Metal Drill. Overall Length to DIN 1897

A123	▪	1.1	1.2	1.3	6.1	6.2	6.3	6.4	7.1	7.2										
	•	1.4	1.5	1.6	2.1	2.2	2.3	4.1	4.2	4.3	5.1	5.2	5.3	7.3	7.4	8.1	8.2	8.3	9.1	

A123

HSS

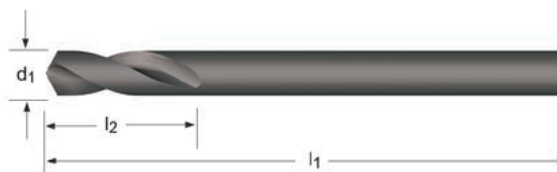
DIN 1897

1.5XD

120°

ST

N



A123



3/32 - 1/4

d_1 Øh ₈ Inch	d_1 Øh ₈ mm	d_1 decimal Inch	l_2 mm	l_1 mm	A123
3/32	2.38	0.0937	14	43	A1233/32S
	2.50	0.0984	14	43	A1232.5S
1/8	3.00	0.1181	16	46	A1233.0S
	3.18	0.1252	18	49	A1231/8S
	3.20	0.1260	18	49	A1233.2S
	3.30	0.1299	18	49	A1233.3S
	3.50	0.1378	18	52	A1233.5S
	3.70	0.1457	18	52	A1233.7S
5/32	3.97	0.1563	18	55	A1235/32S
	4.00	0.1575	18	55	A1234.0S
	4.10	0.1614	18	55	A1234.1S
	4.20	0.1654	18	55	A1234.2S
	4.50	0.1772	18	58	A1234.5S
3/16	4.76	0.1874	18	62	A1233/16S
	4.80	0.1890	18	62	A1234.8S
	4.90	0.1929	18	62	A1234.9S
	5.00	0.1969	18	62	A1235.0S
	5.50	0.2165	18	66	A1235.5S
	5.56	0.2189	18	66	A1237/32S
7/32	6.00	0.2362	18	66	A1236.0S
	6.35	0.2500	19	70	A1231/4S

A087 • Compact Drill Set

A=Styles in Set, B=No. in Set, C=Diameters in Set

With A002 TiN coated jobber drills for general purpose drilling in a wide range of materials.



Nr.	A	B	C	A087
201	A002	19	1.0 mm - 10.0 mm x 0.5 mm	A087201

A089 • Jobber Drill Set

A=Styles in Set, B=No. in Set, C=Diameters in Set

With A002 TiN coated jobber drills for general purpose drilling in a wide range of materials.



A089



Set

Nr.	A	B	C	A089
10	A002	5	A0024.0, A0025.0, A0026.0, A0028.0, A00210.0	A08910

A188 • Jobber Drill Set

A=Styles in Set, B=No. in Set, C=Diameters in Set

With A108 HSS quick spiral jobber drills for stainless steel



A188



Set

Nr.	A	B	C	A188
201	A108	19	1.0 mm - 10.0 mm x 0.5 mm	A188201
204	A108	25	1.0 mm - 13.0 mm x 0.5 mm	A188204

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As a professional you can judge the quality of work by just looking at the chip. Our chip is a clean and uncomplicated shape that in itself tells a story. It is a clear and consistent signal and that's why we use it as a symbol for being **simply reliable**.

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