



High Performance Cutting Tools



Forbes & Company Limited





ALL PRODUCT CATALOGUE



Forbes & Company Limited

HISTORY

Forbes & Company Limited is one of the oldest companies of world that is still in business. The company traces its origin to the year 1767 when John Forbes of Scotland started his business in India.

Over the years, the management of the company moved from the Forbes Family to the Campbells to the Tata Group and now finally to the well-known Shapoorji Pallonji Group; leaders in infrastructure, construction and real estate businesses, amongst many others. For more details about Shapoorji Pallonji & Co.Ltd. please visit: www.shapoorji.in

Forbes & Company Limited has three main businesses, namely Engineering, Shipping and Transaction Management Solutions. Many of these businesses have joint ventures with world leaders and are present throughout India and in many other countries across the globe.

Forbes & Company Limited have a tradition of excellence and total customer delight as its singular aim. Engineering Division of Forbes began its journey with the manufacturing of Spring Lock Washers and expanded its capabilities to manufacture a range of precision cutting tools under the brand name of Totem.





High Performance Cutting Tools



Forbes & Company Limited

VISION

To be a Market Leader by empowering customers with Innovation Solutions in Precision Cutting Tools and Industrial Automation through world class practices.

MISSION

To inculcate innovation led organizational culture to be a front runner in the field of technology

- To add value to the customers' business while adhering to our core values of QDP: Quality, Price, Delivery & the 5C's: Convenience, Comfort, Care, Commitment and Customer Delight.
- To develop a strong in house Research & Development skillset to enhance the quality of solutions
- To establish the cost leadership through world class manufacturing and operational excellence
- To be accountable towards the interest of all stakeholders, environment & society at large through all our actions and decisions.

RAVI PREM

COO - Engg. Solution Group



QUALITY POLICY

We commit ourselves for customer delight by delivering innovative products and solutions through continual improvement of business processes by active participation of our employees

We remain committed towards environment and statutory compliances.

A handwritten signature in black ink, appearing to read "Ravi Prem", is positioned above the printed name.

RAVI PREM

COO - Engg. Solution Group

HSS-E/HSS



High Performance Cutting Tools



HIGH SPEED STEEL TAPS

HSS-E



High Performance Cutting Tools



SPIRAL POINT MACHINE TAPS

SPIRAL POINTED TAP - SA SERIES



SPIRAL POINT is also known as 'gun nose' or 'bull nose' or chipdriver. These taps are dimensionally the same as a hand tap, second lead, but have the cutting face ground back relative to the axis of the tap, for the lead portion.

This gives the flute a better cutting action, requiring less power, and pushes the cut material forward, allowing free flow of coolant along the flutes to the cutting edge.

The flutes are not ground as deeply as for hand taps, giving the tap greater strength. It can therefore be run at higher speeds. Spiral point taps are ideal for machine tapping of through holes, or blind holes where there is enough clearance beyond the threaded portion to accommodate the swarf.



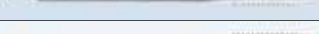
Advantages :

- Thread Chamfer is of 4.5 threads & cutting load is distributed
- Shallow flute depth, hence stronger tap
- Chip clogging is eliminated as the tap pushes the chip forward and thus enhancing tool life.

SELECTION GUIDE










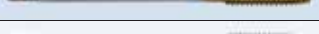


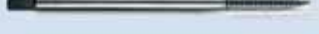
SPIRAL POINT TAPS

SERIES		THREAD FORM	BLANK STANDARD	APPLICATION	CHAMFER	COATING	PAGE
SA1		M	DIN371/ DIN376	General Steel	B/4-4.5P	Bright	9
SA3		M	DIN371/ DIN376	General Steel	B/4-4.5P	TiN	10
SA4		M	DIN371/ DIN376	General Steel	B/4-4.5P	TiAIN	11
SAF3		M	DIN371/ DIN376	Forged Steel	B/4-4.5P	TiN	12
SAF5		M	DIN371/ DIN376	Forged Steel	B/4-4.5P	TiCN	13
SA1		MF	DIN374	General Steel	B/4-4.5P	Bright	14
SA3		MF	DIN374	General Steel	B/4-4.5P	TiN	15
SA4		MF	DIN374	General Steel	B/4-4.5P	TiAIN	16
SA1		UNC	DIN371/ DIN376	General Steel	B/4-4.5P	Bright	17
SA3		UNC	DIN371/ DIN376	General Steel	B/4-4.5P	TiN	18
SA4		UNC	DIN371/ DIN376	General Steel	B/4-4.5P	TiAIN	19
SA1		UNF	DIN374	General Steel	B/4-4.5P	Bright	20
SA3		UNF	DIN374	General Steel	B/4-4.5P	TiN	21
SA4		UNF	DIN374	General Steel	B/4-4.5P	TiAIN	22

SELECTION GUIDE



SPIRAL POINT TAPS

SERIES		THREAD FORM	BLANK STANDARD	APPLICATION	CHAMFER	COATING	PAGE
SA1		M	ISO	General Steel	B/4-4.5P	Bright	23
SA3		M	ISO	General Steel	B/4-4.5P	TiN	24
SA4		M	ISO	General Steel	B/4-4.5P	TiAlN	25
SAF3		M	ISO	Forged Steel	B/4-4.5P	TiN	26
SAF5		M	ISO	Forged Steel	B/4-4.5P	TiCN	27
SAS4		M	ISO	Stainless Steel	B/4-4.5P	TiAlN	28
SAS5		M	ISO	Stainless Steel	B/4-4.5P	TiCN	29
SA1		MF	ISO	General Steel	B/4-4.5P	Bright	30
SA3		MF	ISO	General Steel	B/4-4.5P	TiN	31
SA4		MF	ISO	General Steel	B/4-4.5P	TiAlN	32
SAF3		MF	ISO	Forged Steel	B/4-4.5P	TiN	33
SAF5		MF	ISO	Forged Steel	B/4-4.5P	TiCN	34
SA1L		M/MF	ISO Long Shank	General Steel	B/4-4.5P	Bright	35
SA3L		M/MF	ISO Long Shank	General Steel	B/4-4.5P	TiN	36
SA1		UNC	ISO	General Steel	B/4-4.5P	Bright	37
SA3		UNC	ISO	General Steel	B/4-4.5P	TiN	38
SA1		UNF	ISO	General Steel	B/4-4.5P	Bright	39
SA3		UNF	ISO	General Steel	B/4-4.5P	TiN	40

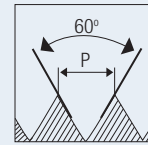


Spiral Point Machine Taps

SA1 Series



Metric coarse threads



HOLE TYPE



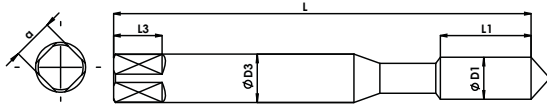
HSS-E

DIN
371/376

6HX

8/4-4.5P

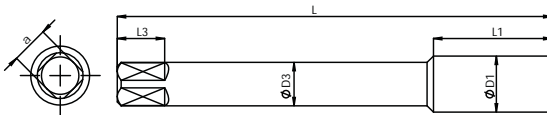
BF



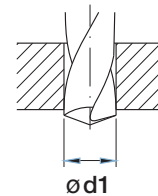
Reinforced Shank DIN371 (M3 - M10)



P0-P1



Reduced Shank DIN376 (M12 - M20)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0203112	56	11	3.5	2.7	6	2.5
M 3.5	0.6	FAB0203113	56	12	4	3	6	2.9
M 4	0.7	FAB0203114	63	13	4.5	3.4	6	3.3
M 5	0.8	FAB0203115	70	16	6	4.9	7	4.2
M 6	1	FAB0203116	80	19	6	4.9	7	5
M 8	1.25	FAB0203118	90	22	8	6.2	9	6.8
M 10	1.5	FAB0203119	100	24	10	8	11	8.5
M 12	1.75	FAB0203120	110	28	9	7	10	10.3
M 14	2	FAB0203121	110	30	11	9	12	12
M 16	2	FAB0203122	110	32	12	9	12	14
M 18	2.5	FAB0204201	125	34	14	11	14	15.5
M 20	2.5	FAB0204202	140	34	16	12	15	17.5

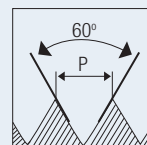


Spiral Point Machine Taps

SA3 Series

M

Metric coarse threads



HOLE TYPE



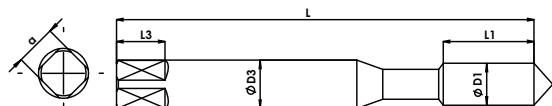
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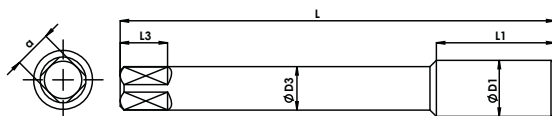
6HX

B/4-4.5P

TiN



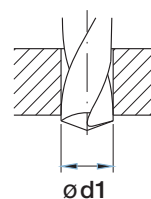
Reinforced Shank DIN371 (M3 - M10)



Reduced Shank DIN376 (M12 - M20)

P0-P2

K1-K2



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0203123	56	11	3.5	2.7	6	2.5
M 3.5	0.6	FAB0203124	56	12	4	3	6	2.9
M 4	0.7	FAB0203125	63	13	4.5	3.4	6	3.3
M 5	0.8	FAB0203126	70	16	6	4.9	7	4.2
M 6	1	FAB0203127	80	19	6	4.9	7	5
M 8	1.25	FAB0203129	90	22	8	6.2	9	6.8
M 10	1.5	FAB0203130	100	24	10	8	11	8.5
M 12	1.75	FAB0203131	110	28	9	7	10	10.3
M 14	2	FAB0203132	110	30	11	9	12	12
M 16	2	FAB0203133	110	32	12	9	12	14
M 18	2.5	FAB0204203	125	34	14	11	14	15.5
M 20	2.5	FAB0204204	140	34	16	12	15	17.5

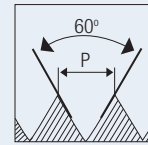


Spiral Point Machine Taps

SA4 Series



Metric coarse threads



HOLE TYPE



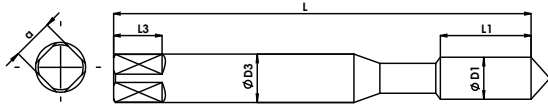
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DIN
371/376

6HX

B/4-4.5P

TiAIN

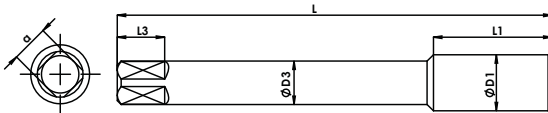


Reinforced Shank DIN371 (M 3 - M 10)

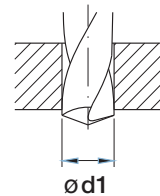


P0-P2

K1-K3



Reduced Shank DIN376 (M 12 - M 20)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0204205	56	11	3.5	2.7	6	2.5
M 3.5	0.6	FAB0204206	56	12	4	3	6	2.9
M 4	0.7	FAB0204207	63	13	4.5	3.4	6	3.3
M 5	0.8	FAB0204208	70	16	6	4.9	7	4.2
M 6	1	FAB0204209	80	19	6	4.9	7	5
M 8	1.25	FAB0204210	90	22	8	6.2	9	6.8
M 10	1.5	FAB0204211	100	24	10	8	11	8.5
M 12	1.75	FAB0204212	110	28	9	7	10	10.3
M 14	2	FAB0204213	110	30	11	9	12	12
M 16	2	FAB0204214	110	32	12	9	12	14
M 18	2.5	FAB0204215	125	34	14	11	14	15.5
M 20	2.5	FAB0204216	140	34	16	12	15	17.5

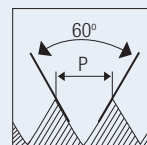


Spiral Point Machine Taps

SAF3 Series

M

Metric coarse threads



HOLE TYPE



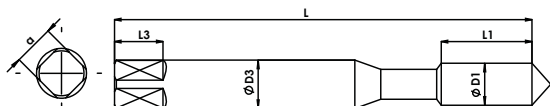
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DIN
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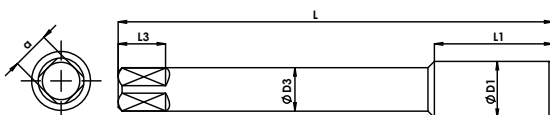
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B/4-4.5P

TiN

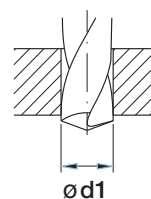


Reinforced Shank DIN371 (M 3 - M 10)



Reduced Shank DIN376 (M 12 - M 20)

P2-P3



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
Ø D1	p		L	L1	Ø D3	a	L3	Ø d1
M 3	0.5	FAB0204217	56	11	3.5	2.7	6	2.5
M 3.5	0.6	FAB0204218	56	12	4	3	6	2.9
M 4	0.7	FAB0204219	63	13	4.5	3.4	6	3.3
M 5	0.8	FAB0204220	70	16	6	4.9	7	4.2
M 6	1	FAB0204221	80	19	6	4.9	7	5
M 8	1.25	FAB0204222	90	22	8	6.2	9	6.8
M 10	1.5	FAB0204223	100	24	10	8	11	8.5
M 12	1.75	FAB0204224	110	28	9	7	10	10.3
M 14	2	FAB0204225	110	30	11	9	12	12
M 16	2	FAB0204226	110	32	12	9	12	14
M 18	2.5	FAB0204227	125	34	14	11	14	15.5
M 20	2.5	FAB0204228	140	34	16	12	15	17.5

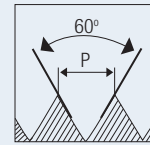


Spiral Point Machine Taps

SAF5 Series



Metric coarse threads



HOLE TYPE



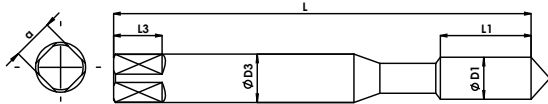
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DIN
371/376

6HX

B/4-4.5P

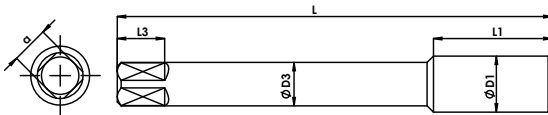
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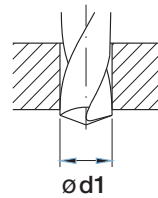
Reinforced Shank DIN371 (M 3 - M 10)



P2-P4



Reduced Shank DIN376 (M 12 - M 20)



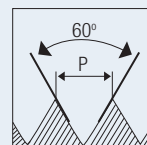
Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0204229	56	11	3.5	2.7	6	2.5
M 3.5	0.6	FAB0204230	56	12	4	3	6	2.9
M 4	0.7	FAB0204231	63	13	4.5	3.4	6	3.3
M 5	0.8	FAB0204232	70	16	6	4.9	7	4.2
M 6	1	FAB0204233	80	19	6	4.9	7	5
M 8	1.25	FAB0204234	90	22	8	6.2	9	6.8
M 10	1.5	FAB0204235	100	24	10	8	11	8.5
M 12	1.75	FAB0204236	110	28	9	7	10	10.3
M 14	2	FAB0204237	110	30	11	9	12	12
M 16	2	FAB0204238	110	32	12	9	12	14
M 18	2.5	FAB0204239	125	34	14	11	14	15.5
M 20	2.5	FAB0204240	140	34	16	12	15	17.5



MF

Metric fine threads



HOLE TYPE



HSS-E

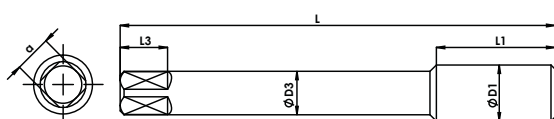
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6HX

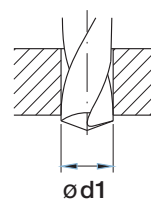
B/4-4.5P

BF

P0-P1



Male Centre (M6 - M10)
Female Centre (M12 - M20)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 6	0.75	FAB0204241	80	14	4.5	3.4	6	5.2
M 8	1	FAB0204242	90	18	6	4.9	7	7
M 10	1.25	FAB0204243	100	22	7	5.5	8	8.8
M 10	1	FAB0204244	90	18	7	5.5	8	9
M 12	1.5	FAB0204245	100	22	9	7	10	10.5
M 12	1.25	FAB0204246	100	22	9	7	10	10.8
M 14	1.5	FAB0204247	100	22	11	9	12	12.5
M 14	1.25	FAB0204248	100	22	11	9	12	12.8
M 16	1.5	FAB0204249	100	22	12	11	12	14.5
M 18	1.5	FAB0204250	110	25	14	12	14	16.5
M 20	1.5	FAB0204251	125	25	16	14.5	15	18.5

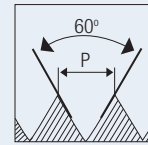


Spiral Point Machine Taps

SA3 Series

MF

Metric fine threads



HOLE TYPE



HSS-E

DIN
374

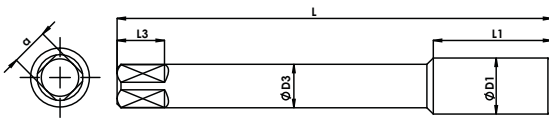
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B/4-4.5P

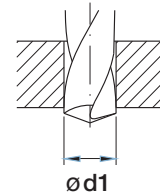
TiN

P0-P2

K1-K2



Male Centre (M6 - M10)
Female Centre (M12 - M20)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 6	0.75	FAB0204252	80	13	4.5	3.4	6	5.2
M 8	1	FAB0204253	90	17	6	4.9	7	7
M 10	1.25	FAB0204254	100	22	7	5.5	8	8.8
M 10	1	FAB0204255	90	18	7	5.5	8	9
M 12	1.5	FAB0204256	100	22	9	7	10	10.5
M 12	1.25	FAB0204257	100	22	9	7	10	10.8
M 14	1.5	FAB0204258	100	22	11	9	12	12.5
M 14	1.25	FAB0204259	100	22	11	9	12	12.8
M 16	1.5	FAB0204260	100	22	12	11	12	14.5
M 18	1.5	FAB0204261	110	25	14	12	14	16.5
M 20	1.5	FAB0204262	125	25	16	14.5	15	18.5

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

CS TAPS

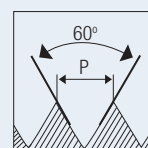


Spiral Point Machine Taps

SA4 Series

MF

Metric fine threads



HOLE TYPE



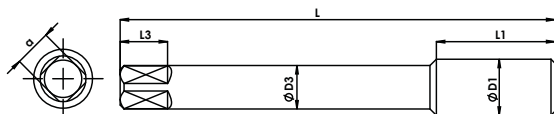
HSS-E

DIN
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6HX

B/4-4.5P

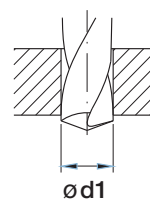
TiAIN



Male Centre (M6 - M10)
Female Centre (M12 - M20)

P0-P2

K1-K3



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ø d1
M 6	0.75	FAB0204263	80	14	4.5	3.4	6	5.2
M 8	1	FAB0204264	90	18	6	4.9	7	7
M 10	1.25	FAB0204265	100	22	7	5.5	8	8.8
M 10	1	FAB0204266	90	18	7	5.5	8	9
M 12	1.5	FAB0204267	100	22	9	7	10	10.5
M 12	1.25	FAB0204268	100	22	9	7	10	10.8
M 14	1.5	FAB0204269	100	22	11	9	12	12.5
M 14	1.25	FAB0204270	100	22	11	9	12	12.8
M 16	1.5	FAB0204271	100	22	12	11	12	14.5
M 18	1.5	FAB0204272	110	25	14	12	14	16.5
M 20	1.5	FAB0204273	125	25	16	14.5	15	18.5



Spiral Point Machine Taps

SA1 Series

HSS TAPS

DIES

END MILLS

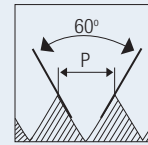
DRILLS

CARBIDE BURRS

CS TAPS

UNC

Unified coarse threads



HOLE TYPE



HSS-E

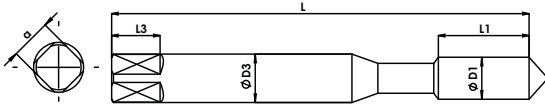
DIN
371/376

2B

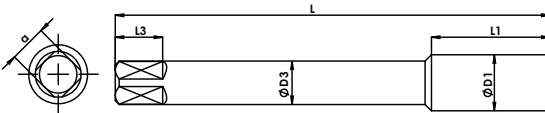
8/4-4.5P

BF

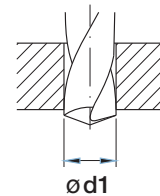
P0-P1



Reinforced Shank DIN371 (1/4" - 3/8")



Reduced Shank DIN376 (7/16" - 1")



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	20	FAB0204274	80	19	7	5.5	8	5.2
5/16"	18	FAB0204275	90	22	8	6.2	9	6.6
3/8"	16	FAB0204276	100	24	10	8	11	8
7/16"	14	FAB0204277	100	24	8	6.2	9	9.4
1/2"	13	FAB0204278	110	28	9	7	10	10.8
5/8"	11	FAB0204279	110	32	12	9	12	13.5
3/4"	10	FAB0204280	125	34	14	11	14	16.5
7/8"	9	FAB0204281	140	34	18	14.5	17	19.5
1"	8	FAB0204282	160	38	18	14.5	17	22.25

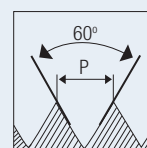


Spiral Point Machine Taps

SA3 Series

UNC

Unified coarse threads



HOLE TYPE



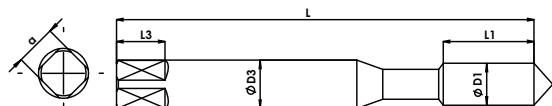
HSS-E

DIN
371/376

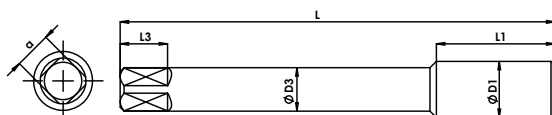
2B

B/4-4.5P

TiN



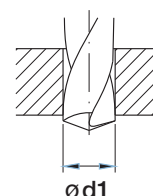
Reinforced Shank DIN371 (1/4" - 3/8")



Reduced Shank DIN376 (7/16" - 1")

P0-P2

K1-K2



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
Ø D1			L	L1	Ø D3	a	L3	Ø d1
1/4"	20	FAB0204283	80	19	7	5.5	8	5.2
5/16"	18	FAB0204284	90	22	8	6.2	9	6.6
3/8"	16	FAB0204285	100	24	10	8	11	8
7/16"	14	FAB0204286	100	24	8	6.2	9	9.4
1/2"	13	FAB0204287	110	28	9	7	10	10.8
5/8"	11	FAB0204288	110	32	12	9	12	13.5
3/4"	10	FAB0204289	125	34	14	11	14	16.5
7/8"	9	FAB0204290	140	34	18	14.5	17	19.5
1"	8	FAB0204291	160	38	18	14.5	17	22.25

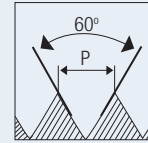


Spiral Point Machine Taps

SA4 Series

UNC

Unified coarse threads



HOLE TYPE



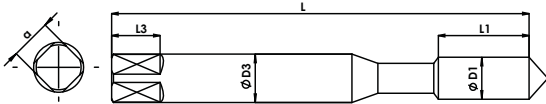
HSS-E

DIN
371/376

2B



TiAIN

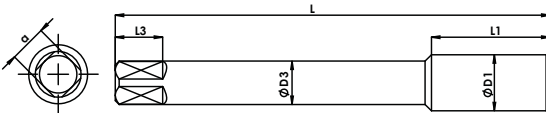


Reinforced Shank DIN371 (1/4" - 3/8")

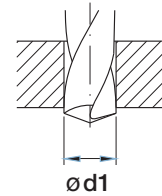


P0-P2

K1-K3



Reduced Shank DIN376 (7/16" - 1")



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	20	FAB0204292	80	19	7	5.5	8	5.2
5/16"	18	FAB0204293	90	22	8	6.2	9	6.6
3/8"	16	FAB0204294	100	24	10	8	11	8
7/16"	14	FAB0204295	100	24	8	6.2	9	9.4
1/2"	13	FAB0204296	110	28	9	7	10	10.8
5/8"	11	FAB0204297	110	32	12	9	12	13.5
3/4"	10	FAB0204298	125	34	14	11	14	16.5
7/8"	9	FAB0204299	140	34	18	14.5	17	19.5
1"	8	FAB0204300	160	38	18	14.5	17	22.25

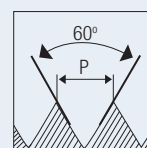


Spiral Point Machine Taps

SA1 Series

UNF

Unified fine threads



HOLE TYPE



HSS-E

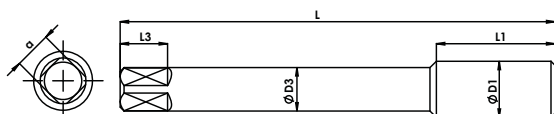
DIN
374

2B

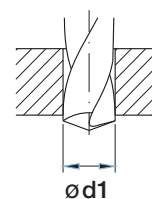
B/4-4.5P

BF

P0-P1



Male Centre (1/4" - 3/8")
Female Centre (7/16" - 1")



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	28	FAB0204301	80	19	5.5	4.3	7	5.5
5/16"	24	FAB0204302	90	20	6	4.9	8	6.9
3/8"	24	FAB0204303	100	20	7	5.5	8	8.5
7/16"	20	FAB0204304	100	22	8	6.2	9	9.9
1/2"	20	FAB0204305	100	22	9	7	10	11.5
5/8"	18	FAB0204306	100	22	12	9	12	14.5
3/4"	16	FAB0204307	110	25	14	11	14	17.5
7/8"	14	FAB0204308	125	25	18	14.5	17	20.5
1"	12	FAB0204309	140	28	18	14.5	17	23.25



Spiral Point Machine Taps

SA3 Series

HSS TAPS

DIES

END MILLS

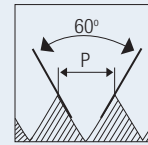
DRILLS

CARBIDE BURRS

CS TAPS

UNF

Unified fine threads



HOLE TYPE



HSS-E

DIN
374

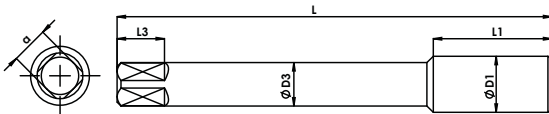
2B

8/4-4.5P

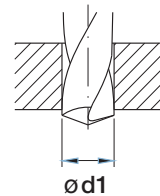
TiN

P0-P2

K1-K2



Male Centre (1/4" - 3/8")
Female Centre (7/16" - 1")



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	28	FAB0204310	80	19	5.5	4.3	7	5.5
5/16"	24	FAB0204311	90	20	6	4.9	8	6.9
3/8"	24	FAB0204312	100	20	7	5.5	8	8.5
7/16"	20	FAB0204313	100	22	8	6.2	9	9.9
1/2"	20	FAB0204314	100	22	9	7	10	11.5
5/8"	18	FAB0204315	100	22	12	9	12	14.5
3/4"	16	FAB0204316	110	25	14	11	14	17.5
7/8"	14	FAB0204317	125	25	18	14.5	17	20.5
1"	12	FAB0204318	140	28	18	14.5	17	23.25

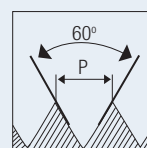


Spiral Point Machine Taps

SA4 Series

UNF

Unified fine threads



HOLE TYPE



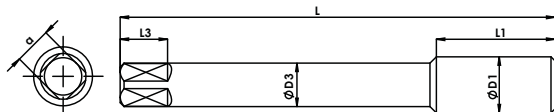
HSS-E

DIN
374

2B

B/4-4.5P

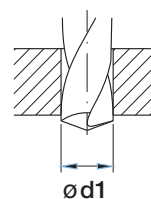
TiAIN



Male Centre (1/4" - 3/8")
Female Centre (7/16" - 1")

P0-P2

K1-K3



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	28	FAB0204319	80	19	5.5	4.3	7	5.5
5/16"	24	FAB0204320	90	20	6	4.9	8	6.9
3/8"	24	FAB0204321	100	20	7	5.5	8	8.5
7/16"	20	FAB0204322	100	22	8	6.2	9	9.9
1/2"	20	FAB0204323	100	22	9	7	10	11.5
5/8"	18	FAB0204324	100	22	12	9	12	14.5
3/4"	16	FAB0204325	110	25	14	11	14	17.5
7/8"	14	FAB0204326	125	25	18	14.5	17	20.5
1"	12	FAB0204327	140	28	18	14.5	17	23.25

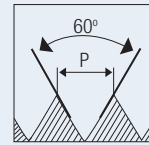


Spiral Point Machine Taps

SA1 Series



Metric coarse threads



HOLE TYPE



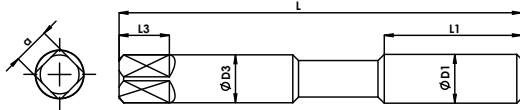
HSS-E

ISO
529

6HX

8/4-4.5P

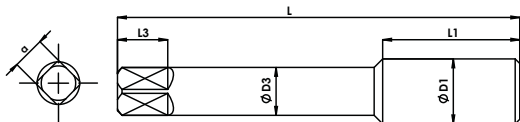
BF



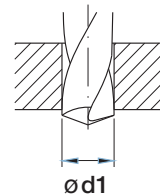
Reinforced Shank (M3 - M10)
Male Centre upto M5



P0-P1



Reduced Shank (M12 - M20)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0200647	48	11	3.15	2.5	5	2.5
M 3.5	0.6	FAB0200653	50	13	3.55	2.8	5	2.9
M 4	0.7	FAB0200659	53	13	4	3.15	6	3.3
M 5	0.8	FAB0200671	58	16	5	4	7	4.2
M 6	1	FAB0200682	66	19	6.3	5	8	5
M 7	1	FAB0203033	66	19	7.1	5.6	8	6
M 8	1.25	FAB0200694	72	22	8	6.3	9	6.8
M 10	1.5	FAB0200718	80	24	10	8	11	8.5
M 12	1.75	FAB0200748	89	29	9	7.1	10	10.3
M 14	2	FAB0200778	95	30	11.2	9	12	12
M 16	2	FAB0200799	102	32	12.5	10	13	14
M 18	2.5	FAB0203037	112	37	14	11.2	14	15.5
M 20	2.5	FAB0203039	112	37	14	11.2	14	17.5

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

CS TAPS

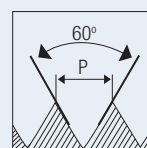


Spiral Point Machine Taps

SA3 Series



Metric coarse threads



HOLE TYPE



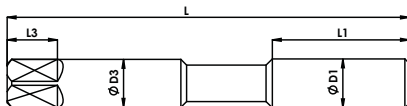
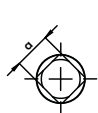
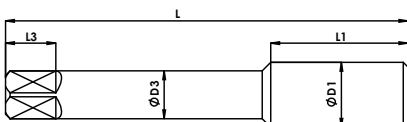
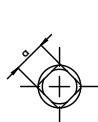
HSS-E

ISO
529

6HX

B/4-4.5P

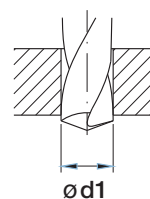
TiN

Reinforced Shank (M3 - M10)
Male Centre upto M5

Reduced Shank (M12 - M20)

P0-P2

K1-K2



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0200648	48	11	3.15	2.5	5	2.5
M 3.5	0.6	FAB0200654	50	13	3.55	2.8	5	2.9
M 4	0.7	FAB0200661	53	13	4	3.15	6	3.3
M 5	0.8	FAB0200673	58	16	5	4	7	4.2
M 6	1	FAB0200684	66	19	6.3	5	8	5
M 7	1	FAB0203040	66	19	7.1	5.6	8	6
M 8	1.25	FAB0200696	72	22	8	6.3	9	6.8
M 10	1.5	FAB0200720	80	24	10	8	11	8.5
M 12	1.75	FAB0200751	89	29	9	7.1	10	10.3
M 14	2	FAB0200780	95	30	11.2	9	12	12
M 16	2	FAB0200801	102	32	12.5	10	13	14
M 18	2.5	FAB0203043	112	37	14	11.2	14	15.5
M 20	2.5	FAB0200810	112	37	14	11.2	14	17.5

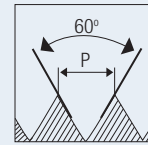


Spiral Point Machine Taps

SA4 Series



Metric coarse threads



HOLE TYPE



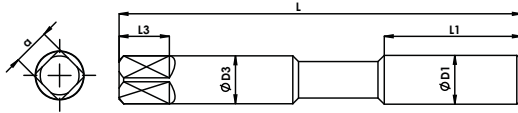
HSS-E

ISO
529

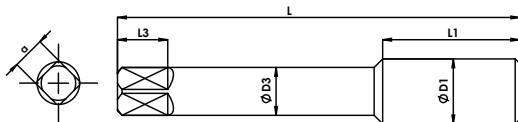
6HX



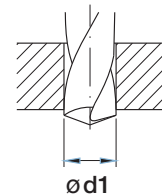
TiAIN



Reinforced Shank (M3 - M10)
Male Centre upto M5



Reduced Shank (M12 - M20)



P0-P2

K1-K3

Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0203044	48	11	3.15	2.5	5	2.5
M 3.5	0.6	FAB0203045	50	13	3.55	2.8	5	2.9
M 4	0.7	FAB0200662	53	13	4	3.15	6	3.3
M 5	0.8	FAB0203046	58	16	5	4	7	4.2
M 6	1	FAB0200685	66	19	6.3	5	8	5
M 7	1	FAB0203047	66	19	7.1	5.6	8	6
M 8	1.25	FAB0200697	72	22	8	6.3	9	6.8
M 10	1.5	FAB0200721	80	24	10	8	11	8.5
M 12	1.75	FAB0203052	89	29	9	7.1	10	10.3
M 14	2	FAB0203054	95	30	11.2	9	12	12
M 16	2	FAB0203055	102	32	12.5	10	13	14
M 18	2.5	FAB0203057	112	37	14	11.2	14	15.5
M 20	2.5	FAB0203059	112	37	14	11.2	14	17.5

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

CS TAPS

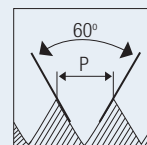


Spiral Point Machine Taps

SAF3 Series

M

Metric coarse threads



HOLE TYPE



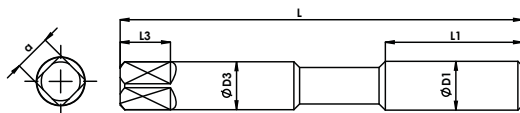
HSS-E

ISO
529

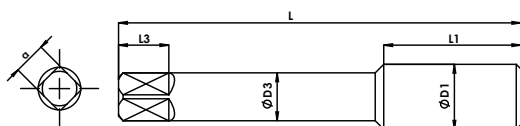
6HX

B/4-4.5P

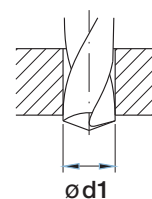
TiN

Reinforced Shank (M3 - M10)
Male Centre upto M5

P2-P3



Reduced Shank (M12 - M16)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0203060	48	11	3.15	2.5	5	2.5
M 4	0.7	FAB0203061	53	13	4	3.15	6	3.3
M 5	0.8	FAB0203062	58	16	5	4	7	4.2
M 6	1	FAB0203063	66	19	6.3	5	8	5
M 8	1.25	FAB0203065	72	22	8	6.3	9	6.8
M 10	1.5	FAB0203068	80	24	10	8	11	8.5
M 12	1.75	FAB0203070	89	29	9	7.1	10	10.3
M 14	2	FAB0203072	95	30	11.2	9	12	12
M 16	2	FAB0203074	102	32	12.5	10	13	14

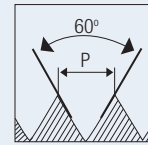


Spiral Point Machine Taps

SAF5 Series



Metric coarse threads



HOLE TYPE



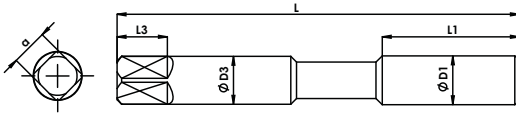
HSS-E

ISO 529

6HX

B/4-4.5P

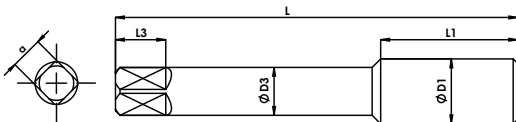
TiCN



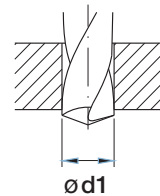
Reinforced Shank (M3 - M10)
Male Centre upto M5



P2-P4



Reduced Shank (M12 - M16)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0203077	48	11	3.15	2.5	5	2.5
M 4	0.7	FAB0203078	53	13	4	3.15	6	3.3
M 5	0.8	FAB0203079	58	16	5	4	7	4.2
M 6	1	FAB0203080	66	19	6.3	5	8	5
M 8	1.25	FAB0203082	72	22	8	6.3	9	6.8
M 10	1.5	FAB0203085	80	24	10	8	11	8.5
M 12	1.75	FAB0203087	89	29	9	7.1	10	10.3
M 14	2	FAB0203089	95	30	11.2	9	12	12
M 16	2	FAB0203091	102	32	12.5	10	13	14

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

CS TAPS

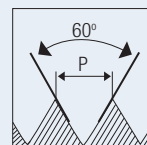


Spiral Point Machine Taps

SAS4 Series

M

Metric coarse threads



HOLE TYPE



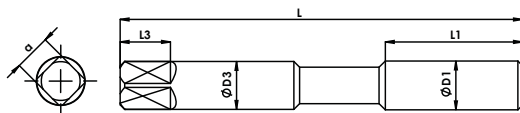
HSS-E

ISO
529

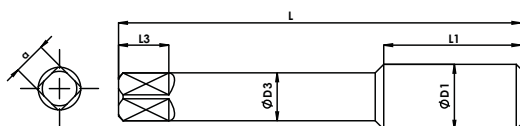
6HX

B/4-4.5P

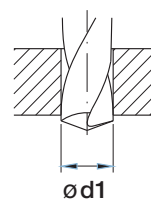
TiAIN

Reinforced Shank (M3 - M10)
Male Centre upto M5

M1-M3



Reduced Shank (M12 - M16)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
Ø D	p		L	L1	Ø D3	a	L3	Ø d1
M 3	0.5	FAB0203094	48	11	3.15	2.5	5	2.5
M 4	0.7	FAB0203095	53	13	4	3.15	6	3.3
M 5	0.8	FAB0203096	58	16	5	4	7	4.2
M 6	1	FAB0203097	66	19	6.3	5	8	5
M 8	1.25	FAB0203098	72	22	8	6.3	9	6.8
M 10	1.5	FAB0203099	80	24	10	8	11	8.5
M 12	1.75	FAB0203100	89	29	9	7.1	10	10.3
M 14	2	FAB0203101	95	30	11.2	9	12	12
M 16	2	FAB0203102	102	32	12.5	10	13	14

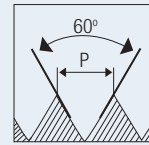


Spiral Point Machine Taps

SAS5 Series



Metric coarse threads



HOLE TYPE



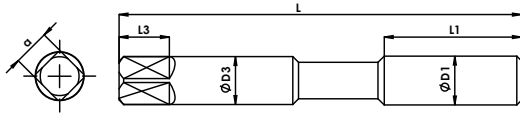
HSS-E

ISO
529

6HX

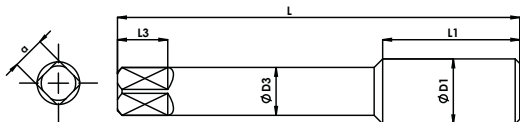
B/4-4.5P

TiCN

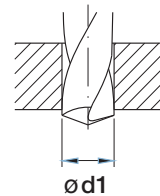


Reinforced Shank (M3 - M10)
Male Centre upto M5

M1-M3



Reduced Shank (M12 - M16)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0203103	48	11	3.15	2.5	5	2.5
M 4	0.7	FAB0203104	53	13	4	3.15	6	3.3
M 5	0.8	FAB0203105	58	16	5	4	7	4.2
M 6	1	FAB0203106	66	19	6.3	5	8	5
M 8	1.25	FAB0203107	72	22	8	6.3	9	6.8
M 10	1.5	FAB0203108	80	24	10	8	11	8.5
M 12	1.75	FAB0203109	89	29	9	7.1	10	10.3
M 14	2	FAB0203110	95	30	11.2	9	12	12
M 16	2	FAB0203111	102	32	12.5	10	13	14

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

CS TAPS

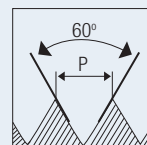


Spiral Point Machine Taps

SA1 Series

MF

Metric fine threads



HOLE TYPE



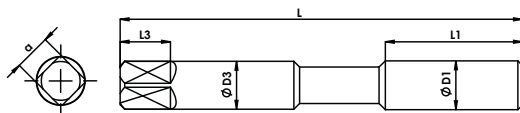
HSS-E

ISO
529

6HX

B/4-4.5P

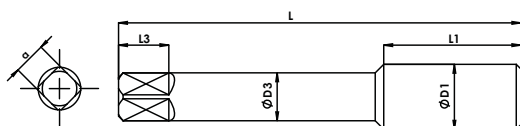
BF



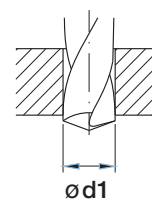
Reinforced Shank (M8 - M10)



P0-P1



Reduced Shank (M12 - M20)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
Ø D1	p		L	L1	Ø D3	a	L3	Ø d1
M 8	1	FAB0203034	69	19	8	6.3	9	7
M 10	1	FAB0203035	76	20	10	8	11	9
M 10	1.25	FAB0200708	76	20	10	8	11	8.8
M 12	1.5	FAB0200738	89	29	9	7.1	10	10.5
M 14	1.5	FAB0200769	95	30	11.2	9	12	12.5
M 16	1.5	FAB0200787	102	32	12.5	10	13	14.5
M 18	1.5	FAB0203036	104	29	14	11.2	14	16.5
M 20	1.5	FAB0203038	104	29	14	11.2	14	18.5

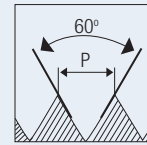


Spiral Point Machine Taps

SA3 series

MF

Metric fine threads



HOLE TYPE



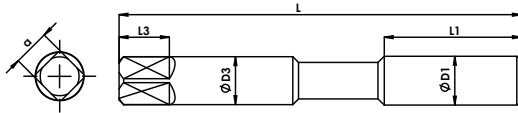
HSS-E

ISO
529

6HX

B/4-4.5P

TiN

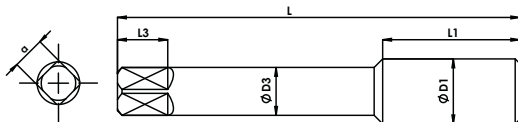


Reinforced Shank (M8 - M10)

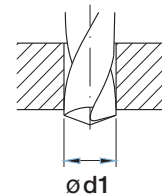


P1-P2

K1-K2



Reduced Shank (M12 - M20)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD	p		L	L1	ØD3	a	L3	Ød1
M 8	1	FAB0203041	69	19	8	6.3	9	7
M 10	1	FAB0200702	76	20	10	8	11	9
M 10	1.25	FAB0200710	76	20	10	8	11	8.8
M 12	1.5	FAB0200740	89	29	9	7.1	10	10.5
M 14	1.5	FAB0200771	95	30	11.2	9	12	12.5
M 16	1.5	FAB0200789	102	32	12.5	10	13	14.5
M 18	1.5	FAB0203042	104	29	14	11.2	14	16.5
M 20	1.5	FAB0200807	104	29	14	11.2	14	18.5

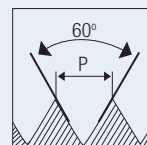


Spiral Point Machine Taps

SA4 Series

MF

Metric fine threads



HOLE TYPE



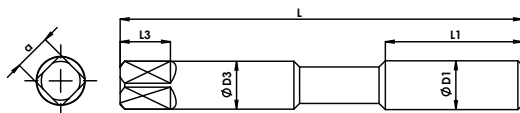
HSS-E

ISO
529

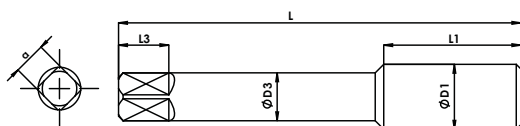
6HX

B/4-4.5P

TiAIN



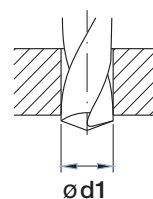
Reinforced Shank (M8 - M10)



Reduced Shank (M12 - M20)

P0-P2

K1-K3



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
Ø D	p		L	L1	ØD3	a	L3	Ø d1
M 8	1	FAB0203048	69	19	8	6.3	9	7
M 10	1	FAB0203049	76	20	10	8	11	9
M 10	1.25	FAB0203050	76	20	10	8	11	8.8
M 12	1.5	FAB0203051	89	29	9	7.1	10	10.5
M 14	1.5	FAB0203053	95	30	11.2	9	12	12.5
M 16	1.5	FAB0200790	102	32	12.5	10	13	14.5
M 18	1.5	FAB0203056	104	29	14	11.2	14	16.5
M 20	1.5	FAB0203058	104	29	14	11.2	14	18.5

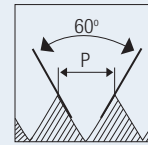


Spiral Point Machine Taps

SAF3 Series



Metric fine threads



HOLE TYPE



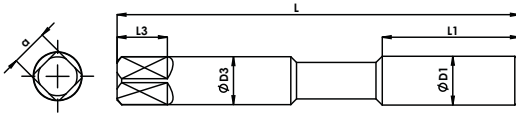
HSS-E

ISO
529

6HX

B/4-4.5P

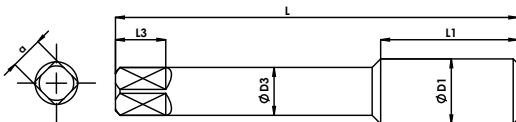
TiN



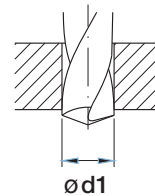
Reinforced Shank (M8 - M10)



P2-P3



Reduced Shank (M12 - M20)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 8	1	FAB0203064	69	19	8	6.3	9	7
M 10	1	FAB0203066	76	20	10	8	11	9
M 10	1.25	FAB0203067	76	20	10	8	11	8.8
M 12	1.5	FAB0203069	89	29	9	7.1	10	10.5
M 14	1.5	FAB0203071	95	30	11.2	9	12	12.5
M 16	1.5	FAB0203073	102	32	12.5	10	13	14.5
M 18	1.5	FAB0203075	104	29	14	11.2	14	16.5
M 20	1.5	FAB0203076	104	29	14	11.2	14	18.5

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

CS TAPS

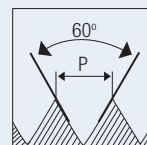


Spiral Point Machine Taps

SAF5 Series

MF

Metric fine threads



HOLE TYPE



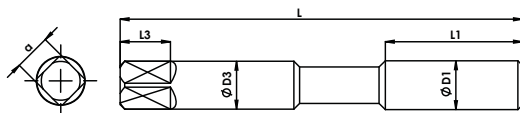
HSS-E

ISO
529

6HX

B/4-4.5P

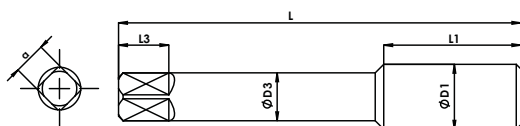
TiCN



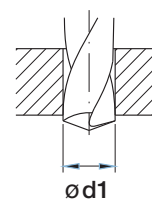
Reinforced Shank (M8 - M10)



P2-P4



Reduced Shank (M12 - M20)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
Ø D1	p		L	L1	Ø D3	a	L3	Ø d1
M 8	1	FAB0203081	69	19	8	6.3	9	7
M 10	1	FAB0203083	76	20	10	8	11	9
M 10	1.25	FAB0203084	76	20	10	8	11	8.8
M 12	1.5	FAB0203086	89	29	9	7.1	10	10.5
M 14	1.5	FAB0203088	95	30	11.2	9	12	12.5
M 16	1.5	FAB0203090	102	32	12.5	10	13	14.5
M 18	1.5	FAB0203092	104	29	14	11.2	14	16.5
M 20	1.5	FAB0203093	104	29	14	11.2	14	18.5



Spiral Point Machine Taps

SA1L Series

HSS TAPS

DIES

END MILLS

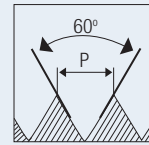
DRILLS

CARBIDE BURRS

CS TAPS

M/MF

Metric coarse & fine threads - long shank



HOLE TYPE



HSS-E

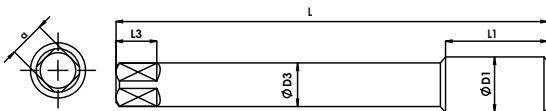
ISO 529

6HX

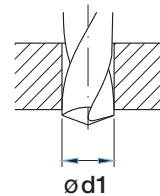
8/4-4.5P

BF

P0-P1



Male centre (M4 - M5)
Female centre (M6 - M16)



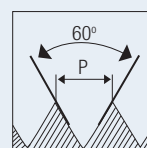
Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 4	0.7	FAB0200818	73	13	3.15	2.5	5	3.3
M 5	0.8	FAB0200822	79	16	4	3.15	6	4.2
M 6	1	FAB0200832	89	19	4.5	3.55	6	5
M 8	1.25	FAB0200843	97	22	6.3	5	8	6.8
M 10	1.5	FAB0200854	108	24	8	6.3	9	8.5
M 12	1.5	FAB0200865	119	29	9	7.1	10	10.5
M 12	1.75	FAB0200876	119	29	9	7.1	10	10.3
M 14	1.5	FAB0200886	127	30	11.2	9	12	12.5
M 14	2	FAB0203264	127	30	11.2	9	12	12
M 16	1.5	FAB0203265	137	32	12.5	10	13	14.5
M 16	2	FAB0203266	137	32	12.5	10	13	14



Spiral Point Machine Taps

SA3L Series

M/MF**Metric coarse & fine threads -
long shank**

HOLE TYPE



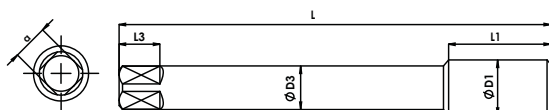
HSS-E

ISO
529

6HX

B/4-4.5P

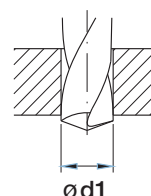
TiN



Male centre (M4 - M5)
Female centre (M6 - M16)

P0-P2

K1-K2



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 4	0.7	FAB0200820	73	13	3.15	2.50	5	3.3
M 5	0.8	FAB0200824	79	16	4	3.15	6	4.2
M 6	1	FAB0200834	89	19	4.5	3.55	6	5
M 8	1.25	FAB0200845	97	22	6.3	5.00	8	6.8
M 10	1.5	FAB0200856	108	24	8	6.30	9	8.5
M 12	1.5	FAB0200867	119	29	9	7.10	10	10.5
M 12	1.75	FAB0200878	119	29	9	7.10	10	10.3
M 14	1.5	FAB0200888	127	30	11.2	9.00	12	12.5
M 14	2	FAB0203267	127	30	11.2	9.00	12	12
M 16	1.5	FAB0203268	137	32	12.5	10.00	13	14.5
M 16	2	FAB0203269	137	32	12.5	10.00	13	14

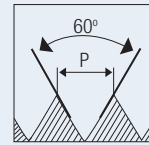


Spiral Point Machine Taps

SA1 Series

UNC

Unified coarse threads



HOLE TYPE



HSS-E

ISO
529

2B

8/4-4.5P

BF

HSS TAPS

DIES

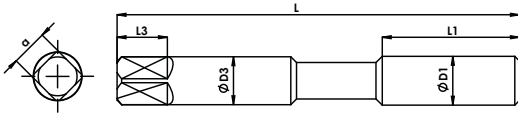
END MILLS

DRILLS

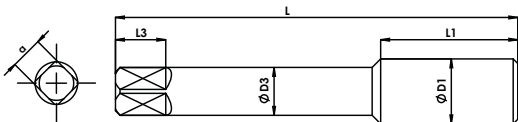
CARBIDE BURRS

CS TAPS

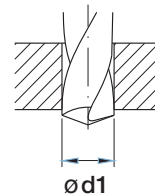
P0-P1



Reinforced Shank (1/4" - 3/8")



Reduced Shank (7/16" - 3/4")



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	20	FAB0200573	66	19	6.3	5	8	3.2
5/16"	18	FAB0200582	72	22	8	6.3	9	6.6
3/8"	16	FAB0200593	80	24	10	8	11	8
7/16"	14	FAB0200603	85	25	8	6.3	9	9.4
1/2"	13	FAB0200614	89	29	9	7.1	10	10.8
5/8"	11	FAB0200627	102	32	12.5	10	13	13.5
3/4"	10	FAB0200638	112	37	14	11.2	14	16.5

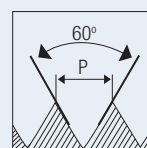


Spiral Point Machine Taps

SA3 Series

UNC

Unified coarse threads



HOLE TYPE



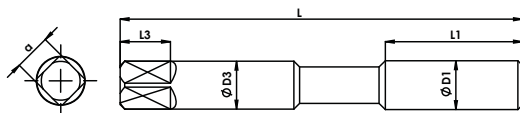
HSS-E

ISO
529

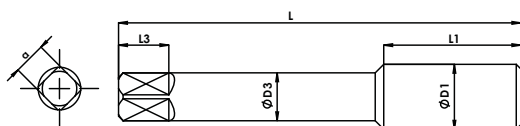
2B

B/4-4.5P

TiN



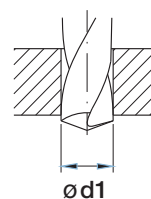
Reinforced Shank (1/4" - 3/8")



Reduced Shank (7/16" - 3/4")

P0-P2

K1-K2



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
Ø D1			L	L1	Ø D3	a	L3	Ø d1
1/4"	20	FAB0200575	66	19	6.3	5	8	3.2
5/16"	18	FAB0200584	72	22	8	6.3	9	6.6
3/8"	16	FAB0200595	80	24	10	8	11	8
7/16"	14	FAB0200605	85	25	8	6.3	9	9.4
1/2"	13	FAB0200616	89	29	9	7.1	10	10.8
5/8"	11	FAB0200629	102	32	12.5	10	13	13.5
3/4"	10	FAB0200640	112	37	14	11.2	14	16.5

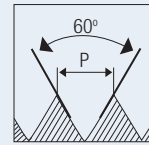


Spiral Point Machine Taps

SA1 Series

UNF

Unified fine threads



HOLE TYPE



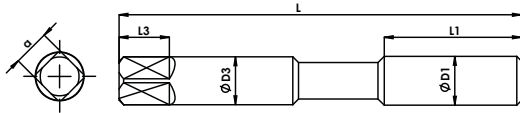
HSS-E

ISO
529

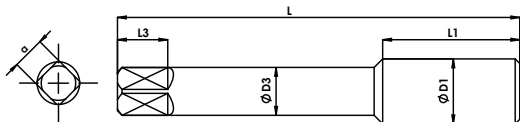
2B



BF



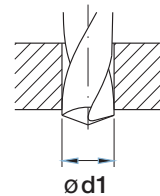
Reinforced Shank (1/4" - 3/8")



Reduced Shank (7/16" - 3/4")



P0-P1



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	28	FAB0200497	66	19	6.3	5	8	5.5
5/16"	24	FAB0200506	69	19	8	6.3	9	6.9
3/8"	24	FAB0200517	76	20	10	8	11	8.5
7/16"	20	FAB0200528	82	22	8	6.3	9	9.9
1/2"	20	FAB0200539	84	24	9	7.1	10	11.5
5/8"	18	FAB0200552	95	25	12.5	10	13	14.5
3/4"	16	FAB0200563	104	29	14	11.2	14	17.5

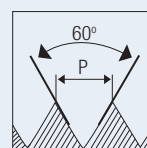


Spiral Point Machine Taps

SA3 Series

UNF

Unified fine threads



HOLE TYPE



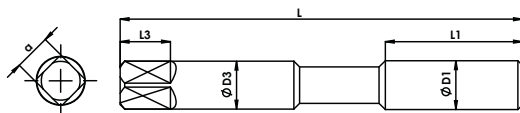
HSS-E

ISO
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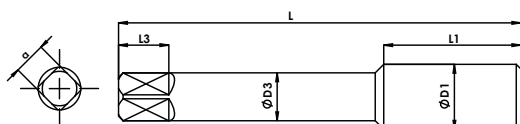
2B

B/4-4.5P

TiN



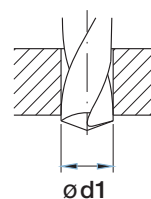
Reinforced Shank (1/4" - 3/8")



Reduced Shank (7/16" - 3/4")

P0-P2

K1-K2



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
Ø D1			L	L1	Ø D3	a	L3	Ø d1
1/4"	28	FAB0200499	66	19	6.3	5	8	5.5
5/16"	24	FAB0200508	69	19	8	6.3	9	6.9
3/8"	24	FAB0200519	76	20	10	8	11	8.5
7/16"	20	FAB0200530	82	22	8	6.3	9	9.9
1/2"	20	FAB0200541	84	24	9	7.1	10	11.5
5/8"	18	FAB0200554	95	25	12.5	10	13	14.5
3/4"	16	FAB0200565	104	29	14	11.2	14	17.5

HSS-E



High Performance Cutting Tools



SPIRAL FLUTE MACHINE TAPS

SPIRAL FLUTE TAPS - SB SERIES



SPIRAL FLUTE - These taps are used to produce a thread close to the bottom of a blind hole and therefore have a very short lead. The right hand spiral cut of the flutes acts to force the swarf away from the cutting teeth to the rear of the flutes and out of the hole. They are better on materials which form long continuous stringy swarf, rather than chips. They are also better to tap a thread in a hole where there is a break in the material, e.g. another hole, as the spiral fluting helps the tap to pick up on the other side. Spiral flute taps can have slow or fast helix angles.














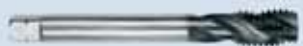













Advantages :

- Can be used in both blind holes & also in through holes
- Chips are pushed upwards due to spiral flute – Chip clogging avoided
- Full thread depth can be achieved and this design prevents tap breakage

SELECTION GUIDE



SPIRAL FLUTE TAPS

SERIES		THREAD FORM	BLANK STANDARD	APPLICATION	CHAMFER	COATING	PAGE
SB1		M	DIN371/ DIN376	General Steel	C/2-3P	Bright	44
SB3		M	DIN371/ DIN376	General Steel	C/2-3P	TiN	45
SB4		M	DIN371/ DIN376	General Steel	C/2-3P	TiAlN	46
SBF5		M	DIN371/ DIN376	Forged Steel	C/2-3P	TiCN	47
SB1		MF	DIN374	General Steel	C/2-3P	Bright	48
SB3		MF	DIN374	General Steel	C/2-3P	TiN	49
SB4		MF	DIN374	General Steel	C/2-3P	TiAlN	50
SBF5		MF	DIN374	Forged Steel	C/2-3P	TiCN	51
SB1		UNC	DIN371/ DIN376	General Steel	C/2-3P	Bright	52
SB3		UNC	DIN371/ DIN376	General Steel	C/2-3P	TiN	53
SB1		UNF	DIN374	General Steel	C/2-3P	Bright	54
SB3		UNF	DIN374	General Steel	C/2-3P	TiN	55
SB1		M	ISO	General Steel	C/2-3P	Bright	56
SB3		M	ISO	General Steel	C/2-3P	TiN	57
SB4		M	ISO	General Steel	C/2-3P	TiAlN	58
SBF5		M	ISO	Forged Steel	C/2-3P	TiCN	59
SBS4		M	ISO	Stainless Steel	C/2-3P	TiAlN	60
SBS5		M	ISO	Stainless Steel	C/2-3P	TiCN	61
SB1		MF	ISO	General Steel	C/2-3P	Bright	62
SB3		MF	ISO	General Steel	C/2-3P	TiN	63
SB4		MF	ISO	General Steel	C/2-3P	TiAlN	64
SBF5		MF	ISO	Forged Steel	C/2-3P	TiCN	65
SB1L		M	ISO Long Shank	General Steel	C/2-3P	Bright	66
SB3L		M	ISO Long Shank	General Steel	C/2-3P	TiN	67
SB1		UNC	ISO	General Steel	C/2-3P	Bright	68
SB3		UNC	ISO	General Steel	C/2-3P	TiN	69
SB1		UNF	ISO	General Steel	C/2-3P	Bright	70
SB3		UNF	ISO	General Steel	C/2-3P	TiN	71

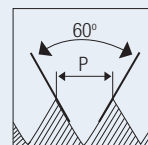


Spiral Flute Machine Taps

SB1 Series

M

Metric coarse threads



HOLE TYPE



HSS-E

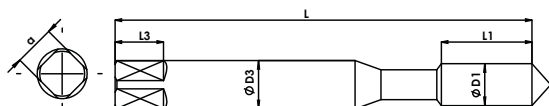
DIN
371/376

6HX

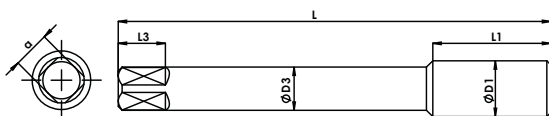
C/2-3P

35°

BF

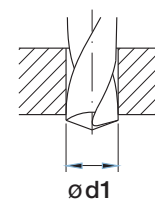


Reinforced Shank DIN371 (M3 - M10)



Reduced Shank DIN376 (M12 - M20)

P0-P1



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
Ø D1	p		L	L1	Ø D3	a	L3	Ø d1
M 3	0.5	FAB0203197	56	6	3.5	2.7	6	2.5
M 3.5	0.6	FAB0204328	56	7	4	3	6	2.9
M 4	0.7	FAB0203198	63	8	4.5	3.4	6	3.3
M 5	0.8	FAB0203199	70	8	6	4.9	8	4.2
M 6	1	FAB0203200	80	10	6	4.9	8	5
M 7	1	FAB0203201	80	10	7	5.5	8	6
M 8	1.25	FAB0203202	90	13	8	6.2	9	6.8
M 10	1.5	FAB0203203	100	15	10	8	11	8.5
M 12	1.75	FAB0203204	110	18	9	7	10	10.2
M 14	2	FAB0203205	110	20	11	9	12	12
M 16	2	FAB0203206	110	20	12	9	12	14
M 18	2.5	FAB0204329	125	25	14	11	14	15.5
M 20	2.5	FAB0204330	140	25	16	12	15	17.5

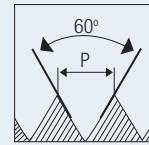


Spiral Flute Machine Taps

SB3 Series



Metric coarse threads



HOLE TYPE



HSS-E

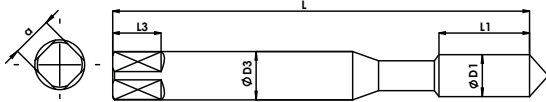
DIN 371/376

6HX

C/2-3P

35°

TiN

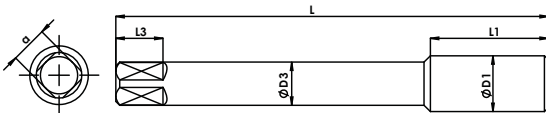


Reinforced Shank DIN371 (M3 - M10)

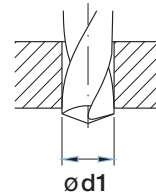


P0-P2

K1-K2



Reduced Shank DIN376 (M12 - M20)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0203207	56	6	3.5	2.7	6	2.5
M 3.5	0.6	FAB0204331	56	7	4	3	6	2.9
M 4	0.7	FAB0203208	63	8	4.5	3.4	6	3.3
M 5	0.8	FAB0203209	70	8	6	4.9	8	4.2
M 6	1	FAB0203210	80	10	6	4.9	8	5
M 7	1	FAB0203211	80	10	7	5.5	8	6
M 8	1.25	FAB0203212	90	13	8	6.2	9	6.8
M 10	1.5	FAB0203213	100	15	10	8	11	8.5
M 12	1.75	FAB0203684	110	18	9	7	10	10.2
M 14	2	FAB0203215	110	20	11	9	12	12
M 16	2	FAB0203216	110	20	12	9	12	14
M 18	2.5	FAB0204332	125	25	14	11	14	15.5
M 20	2.5	FAB0204333	140	25	16	12	15	17.5

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

CS TAPS

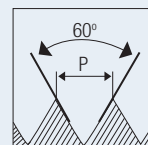


Spiral Flute Machine Taps

SB4 Series

M

Metric coarse threads



HOLE TYPE



HSS-E

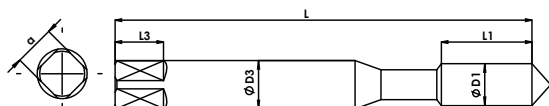
DIN
371/376

6HX

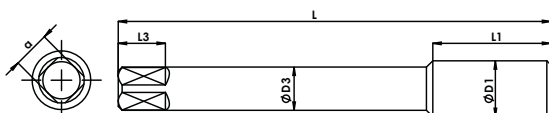
C/2-3P

35°

TiAIN



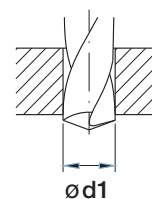
Reinforced Shank DIN371 (M3 - M10)



Reduced Shank DIN376 (M12 - M20)

P0-P2

K1-K3



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0204334	56	6	3.5	2.7	6	2.5
M 3.5	0.6	FAB0204335	56	7	4	3	6	2.9
M 4	0.7	FAB0200968	63	8	4.5	3.4	6	3.3
M 5	0.8	FAB0203685	70	8	6	4.9	8	4.2
M 6	1	FAB0203686	80	10	6	4.9	8	5
M 7	1	FAB0204336	80	10	7	5.5	8	6
M 8	1.25	FAB0203687	90	13	8	6.2	9	6.8
M 10	1.5	FAB0203688	100	15	10	8	11	8.5
M 12	1.75	FAB0203689	110	18	9	7	10	10.2
M 14	2	FAB0204337	110	20	11	9	12	12
M 16	2	FAB0204338	110	20	12	9	12	14
M 18	2.5	FAB0204339	125	25	14	11	14	15.5
M 20	2.5	FAB0204340	140	25	16	12	15	17.5

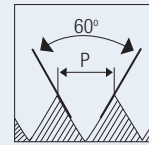


Spiral Flute Machine Taps

SBF5 Series



Metric coarse threads



HOLE TYPE



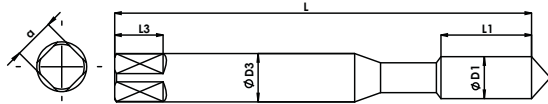
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DIN
371/376

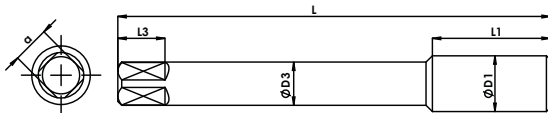
6HX



TiCN



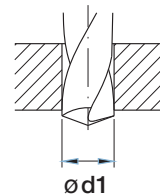
Reinforced Shank DIN371 (M3 - M10)



Reduced Shank DIN376 (M12 - M20)



P2-P3



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0204341	56	6	3.5	2.7	6	2.5
M 3.5	0.6	FAB0204342	56	7	4	3	6	2.9
M 4	0.7	FAB0204343	63	8	4.5	3.4	6	3.3
M 5	0.8	FAB0204344	70	8	6	4.9	8	4.2
M 6	1	FAB0204345	80	10	6	4.9	8	5
M 7	1	FAB0204346	80	10	7	5.5	8	6
M 8	1.25	FAB0204347	90	13	8	6.2	9	6.8
M 10	1.5	FAB0204348	100	15	10	8	11	8.5
M 12	1.75	FAB0204349	110	18	9	7	10	10.2
M 14	2	FAB0204350	110	20	11	9	12	12
M 16	2	FAB0204351	110	20	12	9	12	14
M 18	2.5	FAB0204352	125	25	14	11	14	15.5
M 20	2.5	FAB0204353	140	25	16	12	15	17.5

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

CS TAPS

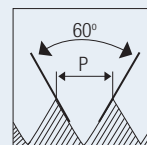


Spiral Flute Machine Taps

SB1 Series

MF

Metric fine threads



HOLE TYPE



HSS-E

DIN
374

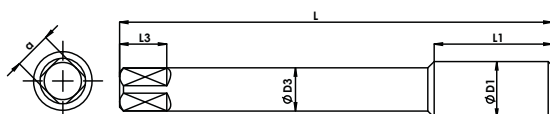
6HX



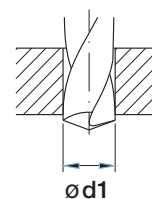
35°

BF

P1-P1



Male centre (M6 - M10)
Female centre (M12 - M20)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 6	0.75	FAB0204354	80	8	4.5	3.4	6	5.2
M 8	1	FAB0204355	90	11	6	4.9	8	7
M 10	1.25	FAB0204356	100	13	7	5.5	8	8.8
M 10	1	FAB0204357	90	13	7	5.5	8	9
M 12	1.5	FAB0204358	100	15	9	7	10	10.5
M 12	1.25	FAB0204359	100	15	9	7	10	10.8
M 14	1.5	FAB0204360	100	15	11	9	12	12.5
M 14	1	FAB0204361	100	15	11	9	12	13
M 16	1.5	FAB0204362	100	15	12	9	12	14.5
M 18	1.5	FAB0204363	110	15	14	11	14	16.5
M 20	1.5	FAB0204364	125	15	16	12	15	18.5

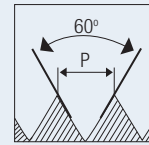


Spiral Flute Machine Taps

SB3 Series



Metric fine threads



HOLE TYPE



HSS-E

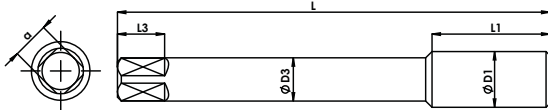
DIN 374

6HX

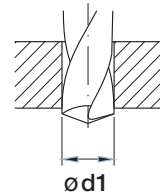
C/2-3P

35°

TiN



Male centre (M6 - M10)
Female centre (M12 - M20)



P1-P2

K1-K2

Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 6	0.75	FAB0204365	80	8	4.5	3.4	6	5.2
M 8	1	FAB0203297	90	11	6	4.9	8	7
M 10	1.25	FAB0204366	100	13	7	5.5	8	8.8
M 10	1	FAB0204367	90	13	7	5.5	8	9
M 12	1.5	FAB0204368	100	15	9	7	10	10.5
M 12	1.25	FAB0204369	100	15	9	7	10	10.8
M 14	1.5	FAB0204370	100	15	11	9	12	12.5
M 14	1	FAB0204371	100	15	11	9	12	13
M 16	1.5	FAB0204372	100	15	12	9	12	14.5
M 18	1.5	FAB0204373	110	15	14	11	14	16.5
M 20	1.5	FAB0204374	125	15	16	12	15	18.5

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

CS TAPS

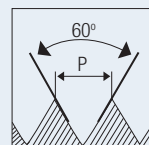


Spiral Flute Machine Taps

SB4 Series

MF

Metric fine threads



HOLE TYPE



HSS-E

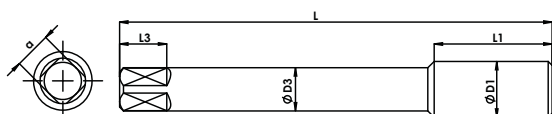
DIN
374

6HX

C/2-3P

35°

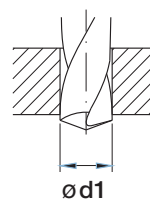
TiAIN



Male centre (M6 - M10)
Female centre (M12 - M20)

P0-P2

K1-K3



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ø d1
M 6	0.75	FAB0204375	80	8	4.5	3.4	6	5.2
M 8	1	FAB0204376	90	11	6	4.9	8	7
M 10	1.25	FAB0204377	100	13	7	5.5	8	8.8
M 10	1	FAB0204378	90	13	7	5.5	8	9
M 12	1.5	FAB0204379	100	15	9	7	10	10.5
M 12	1.25	FAB0204380	100	15	9	7	10	10.8
M 14	1.5	FAB0204381	100	15	11	9	12	12.5
M 14	1	FAB0204382	100	15	11	9	12	13
M 16	1.5	FAB0204383	100	15	12	9	12	14.5
M 18	1.5	FAB0204384	110	15	14	11	14	16.5
M 20	1.5	FAB0204385	125	15	16	12	15	18.5

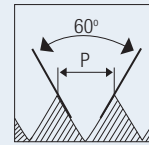


Spiral Flute Machine Taps

SBF5 Series



Metric fine threads



HOLE TYPE



HSS-E

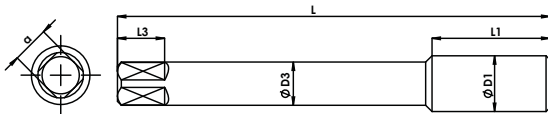
DIN 374

6HX

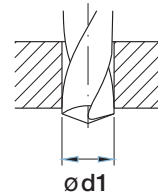


TiCN

P2-P3



Male centre (M6 - M10)
Female centre (M12 - M20)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 6	0.75	FAB0204386	80	8	4.5	3.4	6	5.2
M 8	1	FAB0204387	90	11	6	4.9	8	7
M 10	1.25	FAB0204388	100	13	7	5.5	8	8.8
M 10	1	FAB0204389	90	13	7	5.5	8	9
M 12	1.5	FAB0204390	100	15	9	7	10	10.5
M 12	1.25	FAB0204391	100	15	9	7	10	10.8
M 14	1.5	FAB0204392	100	15	11	9	12	12.5
M 14	1	FAB0204393	100	15	11	9	12	13
M 16	1.5	FAB0204394	100	15	12	9	12	14.5
M 18	1.5	FAB0204395	110	15	14	11	14	16.5
M 20	1.5	FAB0204396	125	15	16	12	15	18.5

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

CS TAPS

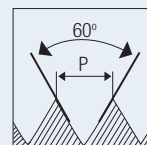


Spiral Flute Machine Taps

SB1 Series

UNC

Unified coarse threads



HOLE TYPE



HSS-E

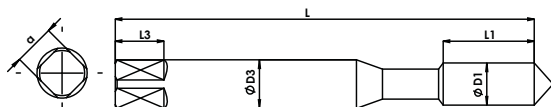
DIN
371/376

2B

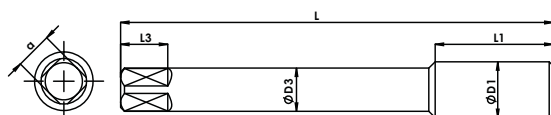


35°

BF

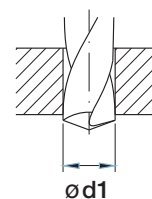


Reinforced Shank DIN371 (1/4" - 3/8")



Reduced Shank (7/16" - 1")

P0-P1



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	20	FAB0204397	80	13	7	5.5	8	5.2
5/16"	18	FAB0204398	90	14	8	6.2	9	6.6
3/8"	16	FAB0204399	100	16	9	7	10	8
7/16"	14	FAB0204400	100	19	8	6.2	9	9.4
1/2"	13	FAB0204401	110	20	9	7	10	10.80
5/8"	11	FAB0204402	110	24.20	12	9	12	13.5
3/4"	10	FAB0204403	125	25	14	11	14	16.5
7/8"	9	FAB0204404	140	25	18	14.5	17	19.5
1"	8	FAB0204405	160	30	18	14.5	17	22.25

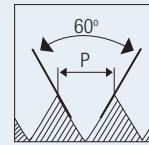


Spiral Flute Machine Taps

SB3 Series

UNC

Unified coarse threads



HOLE TYPE



HSS-E

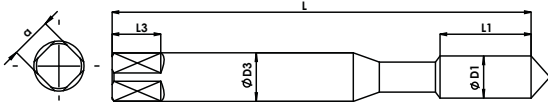
DIN 371/376

2B

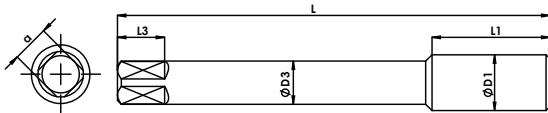
C/2-3P

35°

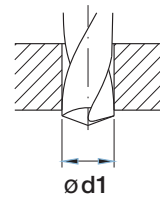
TiN



Reinforced Shank DIN371 (1/4" - 3/8")



Reduced Shank DIN376 (7/16" - 1")



P0-P2

K1-K2

Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	20	FAB0204406	80	13	7	5.5	8	5.2
5/16"	18	FAB0204407	90	14	8	6.2	9	6.6
3/8"	16	FAB0204408	100	16	9	7	10	8
7/16"	14	FAB0204409	100	19	8	6.2	9	9.4
1/2"	13	FAB0204410	110	20	9	7	10	10.80
5/8"	11	FAB0204411	110	24.20	12	9	12	13.5
3/4"	10	FAB0204412	125	25	14	11	14	16.5
7/8"	9	FAB0204413	140	25	18	14.5	17	19.5
1"	8	FAB0204414	160	30	18	14.5	17	22.25

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

CS TAPS

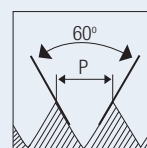


Spiral Flute Machine Taps

SB1 Series

UNF

Unified fine threads



HOLE TYPE



HSS-E

DIN
374

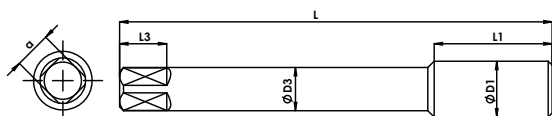
6HX

C/2-3P

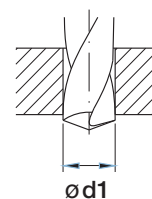
35°

BF

P0-P1



Male centre (1/4" - 3/8")
Female centre (7/16" - 1")



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ø d1
1/4"	28	FAB0204415	80	10	7	5.5	8	5.5
5/16"	24	FAB0204416	90	10	8	6.2	9	6.9
3/8"	24	FAB0204417	100	10	9	7	10	8.5
7/16"	20	FAB0204418	100	13	8	6.2	9	9.9
1/2"	20	FAB0204419	100	13	9	7	10	11.5
5/8"	18	FAB0204420	100	16	12	9	12	14.5
3/4"	16	FAB0204421	110	16	14	11	14	17.5
7/8"	14	FAB0204422	125	18	18	14.5	17	20.5
1"	12	FAB0204423	140	22	18	14.5	17	23.25

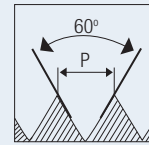


Spiral Flute Machine Taps

SB3 Series

UNF

Unified fine threads



HOLE TYPE



HSS-E

DIN
374

2B

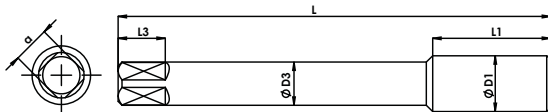
C/2-3P

35°

TiN

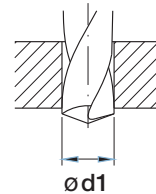
P0-P2

K1-K2



Male centre (1/4" - 3/8")

Female centre (7/16" - 1")



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	28	FAB0204424	80	10	7	5.5	8	5.5
5/16"	24	FAB0204425	90	10	8	6.2	9	6.9
3/8"	24	FAB0204426	100	10	9	7	10	8.5
7/16"	20	FAB0204427	100	13	8	6.2	9	9.9
1/2"	20	FAB0204428	100	13	9	7	10	11.5
5/8"	18	FAB0204429	100	16	12	9	12	14.5
3/4"	16	FAB0204430	110	16	14	11	14	17.5
7/8"	14	FAB0204431	125	18	18	14.5	17	20.5
1"	12	FAB0204432	140	22	18	14.5	17	23.25

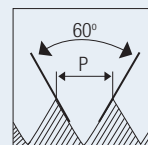


Spiral Flute Machine Taps

SB1 Series

M

Metric coarse threads



HOLE TYPE



HSS-E

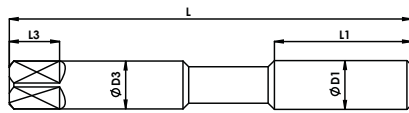
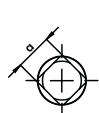
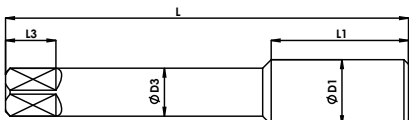
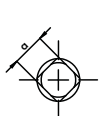
ISO
529

6HX



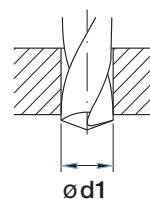
35°

BF

Reinforced Shank (M3 - M10)
Male centre upto M5

Reduced Shank (M12 - M20)

P0-P1



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0200649	48	5	3.15	2.5	5	2.5
M 3.5	0.6	FAB0203134	50	6	3.55	2.8	5	2.9
M 4	0.7	FAB0200663	53	7	4	3.15	6	3.3
M 5	0.8	FAB0200674	58	8	5	4	7	4.2
M 6	1	FAB0200686	66	10	6.3	5	8	5
M 7	1	FAB0203135	66	10	7.1	5.6	8	6
M 8	1.25	FAB0200698	72	13	8	6.3	9	6.8
M 10	1.5	FAB0200722	80	15	10	8	11	8.5
M 12	1.75	FAB0200752	89	18	9	7.1	10	10.2
M 14	2	FAB0200781	95	20	11.2	9	12	12
M 16	2	FAB0200802	102	20	12.5	10	13	14
M 18	2.5	FAB0203139	112	25	14	11.2	14	15.5
M 20	2.5	FAB0203141	112	25	14	11.2	14	17.5

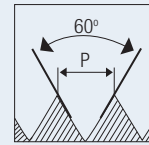


Spiral Flute Machine Taps

SB3 Series



Metric coarse threads



HOLE TYPE



HSS-E

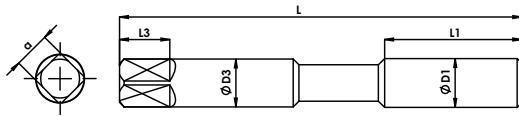
ISO 529

6HX

C/2-3P

35°

TiN

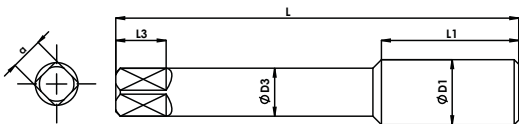


Reinforced Shank (M3 - M10)
Male centre upto M5

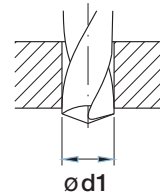


P0-P2

K1-K2



Reduced Shank (M12 - M20)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0200650	48	5	3.15	2.5	5	2.5
M 3.5	0.6	FAB0203142	50	6	3.55	2.8	5	2.9
M 4	0.7	FAB0200665	53	7	4	3.15	6	3.3
M 5	0.8	FAB0200676	58	8	5	4	7	4.2
M 6	1	FAB0200688	66	10	6.3	5	8	5
M 7	1	FAB0203143	66	10	7.1	5.6	8	6
M 8	1.25	FAB0200700	72	13	8	6.3	9	6.8
M 10	1.5	FAB0200724	80	15	10	8	11	8.5
M 12	1.75	FAB0200754	89	18	9	7.1	10	10.2
M 14	2	FAB0200782	95	20	11.2	9	12	12
M 16	2	FAB0200804	102	20	12.5	10	13	14
M 18	2.5	FAB0202155	112	25	14	11.2	14	15.5
M 20	2.5	FAB0200812	112	25	14	11.2	14	17.5

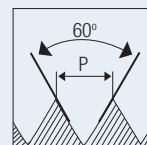


Spiral Flute Machine Taps

SB4 Series

M

Metric coarse threads



HOLE TYPE



HSS-E

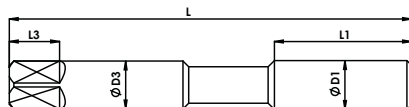
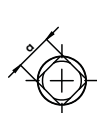
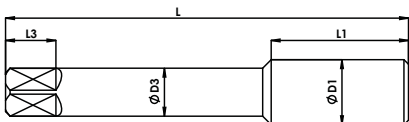
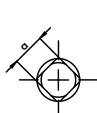
ISO
529

6HX

C/2-3P

35°

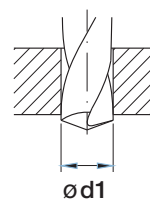
TiAIN

Reinforced Shank (M3 - M10)
Male centre upto M5

Reduced Shank (M12 - M20)

P0-P2

K1-K3



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ø d1
M 3	0.5	FAB0203145	48	5	3.15	2.5	5	2.5
M 3.5	0.6	FAB0203146	50	6	3.55	2.8	5	2.9
M 4	0.7	FAB0200666	53	7	4	3.15	6	3.3
M 5	0.8	FAB0200677	58	8	5	4	7	4.2
M 6	1	FAB0200689	66	10	6.3	5	8	5
M 7	1	FAB0203147	66	10	7.1	5.6	8	6
M 8	1.25	FAB0200701	72	13	8	6.3	9	6.8
M 10	1.5	FAB0200725	80	15	10	8	11	8.5
M 12	1.75	FAB0200755	89	18	9	7.1	10	10.2
M 14	2	FAB0203152	95	20	11.2	9	12	12
M 16	2	FAB0203153	102	20	12.5	10	13	14
M 18	2.5	FAB0203155	112	25	14	11.2	14	15.5
M 20	2.5	FAB0203157	112	25	14	11.2	14	17.5

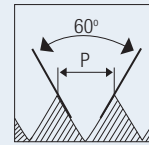


Spiral Flute Machine Taps

SBF5 Series



Metric coarse threads



HOLE TYPE



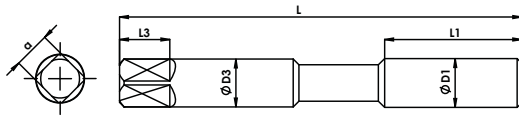
HSS-E

ISO 529

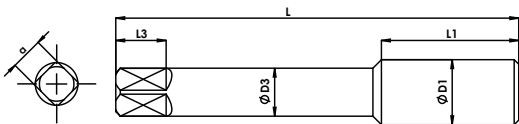
6HX



TiCN



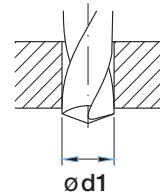
Reinforced Shank (M3 - M10)
Male centre upto M 5



Reduced Shank (M12 - M20)



P3-P4



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ø d1
M 3	0.5	FAB0203158	48	5	3.15	2.5	5	2.5
M 4	0.7	FAB0203159	53	7	4	3.15	6	3.3
M 5	0.8	FAB0203160	58	8	5	4	7	4.2
M 6	1	FAB0203161	66	10	6.3	5	8	5
M 8	1.25	FAB0203163	72	13	8	6.3	9	6.8
M 10	1.5	FAB0203166	80	15	10	8	11	8.5
M 12	1.75	FAB0203169	89	18	9	7.1	10	10.2
M 14	2	FAB0203171	95	20	11.2	9	12	12
M 16	2	FAB0203173	102	20	12.5	10	13	14
M 20	2.5	FAB0203176	112	25	14	11.2	14	17.5

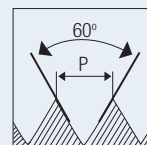


Spiral Flute Machine Taps

SBS4 Series

M

Metric coarse threads



HOLE TYPE



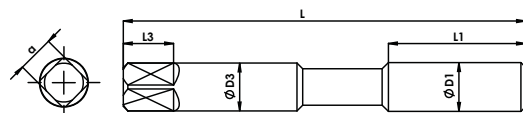
HSS-E

ISO
529

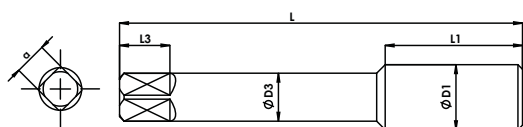
6HX

C/2-3P

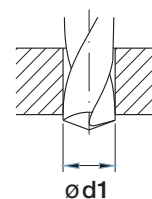
TiAIN

Reinforced Shank (M3 - M10)
Male centre upto M5

M1-M3



Reduced Shank (M12 - M20)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
Ø D1	p		L	L1	Ø D3	a	L3	Ø d1
M 3	0.5	FAB0203177	48	5	3.15	2.5	5	2.5
M 4	0.7	FAB0203178	53	7	4	3.15	6	3.3
M 5	0.8	FAB0203179	58	8	5	4	7	4.2
M 6	1	FAB0203180	66	10	6.3	5	8	5
M 8	1.25	FAB0203181	72	13	8	6.3	9	6.8
M 10	1.5	FAB0203182	80	15	10	8	11	8.5
M 12	1.75	FAB0203183	89	18	9	7.1	10	10.2
M 14	2	FAB0203184	95	20	11.2	9	12	12
M 16	2	FAB0203185	102	20	12.5	10	13	14
M 20	2.5	FAB0203186	112	25	14	11.2	14	17.5

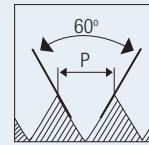


Spiral Flute Machine Taps

SBS5 Series



Metric coarse threads



HOLE TYPE



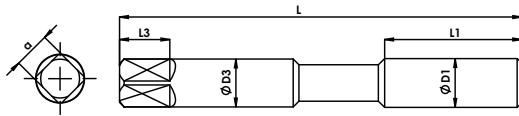
HSS-E

ISO
529

6HX



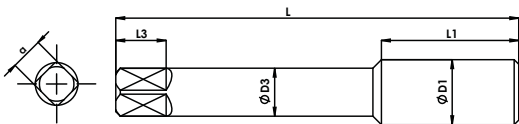
TiCN



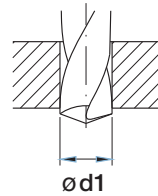
Reinforced Shank (M3 - M10)
Male centre upto M5



M1-M3



Reduced Shank (M12 - M20)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0203187	48	5	3.15	2.5	5	2.5
M 4	0.7	FAB0203188	53	7	4	3.15	6	3.3
M 5	0.8	FAB0203189	58	8	5	4	7	4.2
M 6	1	FAB0203190	66	10	6.3	5	8	5
M 8	1.25	FAB0203191	72	13	8	6.3	9	6.8
M 10	1.5	FAB0203192	80	15	10	8	11	8.5
M 12	1.75	FAB0203193	89	18	9	7.1	10	10.2
M 14	2	FAB0203194	95	20	11.2	9	12	12
M 16	2	FAB0203195	102	20	12.5	10	13	14
M 20	2.5	FAB0203196	112	25	14	11.2	14	17.5

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

CS TAPS

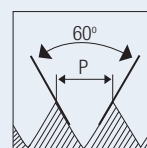


Spiral Flute Machine Taps

SB1 Series

MF

Metric fine threads



HOLE TYPE



HSS-E

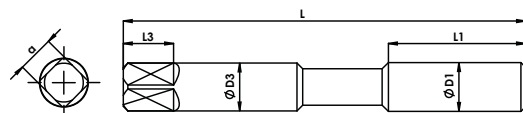
ISO
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6HX

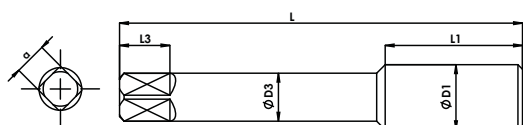


35°

BF



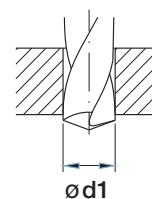
Reinforced Shank (M8 - M10)



Reduced Shank (M12 - M20)



P0-P1



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ø d1
M 8	1	FAB0203136	72	13	8	6.3	9	7
M 10	1	FAB0203137	80	15	10	8	11	9
M 10	1.25	FAB0200711	80	15	10	8	11	8.8
M 12	1.5	FAB0200741	89	18	9	7.1	10	10.5
M 14	1.5	FAB0200772	95	20	11.2	9	12	12.5
M 16	1.5	FAB0200791	102	20	12.5	10	13	14.5
M 18	1.5	FAB0203138	112	25	14	11.2	14	16.5
M 20	1.5	FAB0203140	112	25	14	11.2	14	18.5

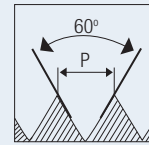


Spiral Flute Machine Taps

SB3 Series

MF

Metric fine threads



HOLE TYPE



HSS-E

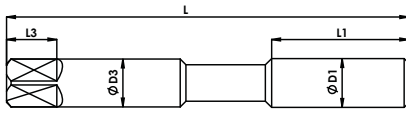
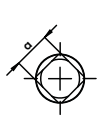
ISO 529

6HX

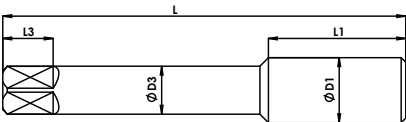
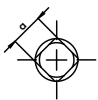
C/2-3P

35°

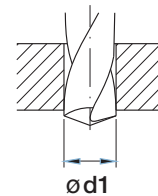
TiN



Reinforced Shank (M8 - M10)



Reduced Shank (M12 - M20)



P0-P2

K1-K2

Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 8	1	FAB0202157	72	13	8	6.3	9	7
M 10	1	FAB0200703	80	15	10	8	11	9
M 10	1.25	FAB0200713	80	15	10	8	11	8.8
M 12	1.5	FAB0200743	89	18	9	7.1	10	10.5
M 14	1.5	FAB0200774	95	20	11.2	9	12	12.5
M 16	1.5	FAB0200793	102	20	12.5	10	13	14.5
M 18	1.5	FAB0203144	112	25	14	11.2	14	16.5
M 20	1.5	FAB0200808	112	25	14	11.2	14	18.5

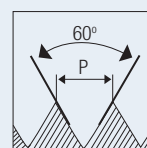


Spiral Flute Machine Taps

SB4 Series

MF

Metric fine threads



HOLE TYPE



HSS-E

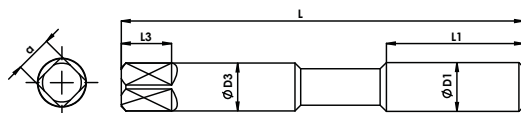
ISO
529

6HX

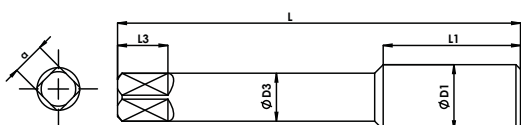
C/2-3P

35°

TiAIN



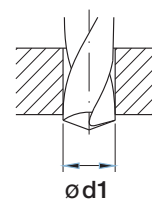
Reinforced Shank (M3 - M10)



Reduced Shank (M12 - M20)

P0-P2

K1-K3



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 8	1	FAB0203148	72	13	8	6.3	9	7
M 10	1	FAB0203149	80	15	10	8	11	9
M 10	1.25	FAB0203150	80	15	10	8	11	8.8
M 12	1.5	FAB0200744	89	18	9	7.1	10	10.5
M 14	1.5	FAB0203151	95	20	11.2	9	12	12.5
M 16	1.5	FAB0200794	102	20	12.5	10	13	14.5
M 18	1.5	FAB0203154	112	25	14	11.2	14	16.5
M 20	1.5	FAB0203156	112	25	14	11.2	14	18.5

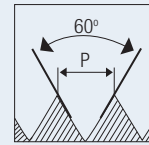


Spiral Flute Machine Taps

SBF5 Series



Metric fine threads



HOLE TYPE



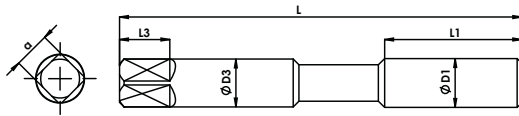
HSS-E

ISO
529

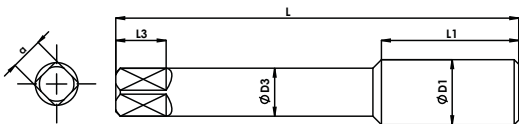
6HX



TiCN



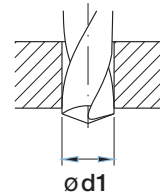
Reinforced Shank (M8 - M10)



Reduced Shank (M12 - M20)



P2-P3



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 8	1	FAB0203162	72	13	8	6.3	9	7
M 10	1	FAB0203164	80	15	10	8	11	9
M 10	1.25	FAB0203165	80	15	10	8	11	8.8
M 12	1.5	FAB0203167	89	18	9	7.1	10	10.5
M 14	1.5	FAB0203169	95	20	11.2	9	12	12.5
M 16	1.5	FAB0203171	102	20	12.5	10	13	14.5
M 18	1.5	FAB0203173	112	25	14	11.2	14	16.5
M 20	1.5	FAB0203175	112	25	14	11.2	14	18.5

HSS TAPS

DIES

END MILLS

DRILLS

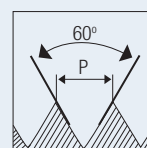
CARBIDE BURRS

CS TAPS



Spiral Flute Machine Taps

SB1L Series

M/MF**Metric coarse & fine threads - long shank**

HOLE TYPE



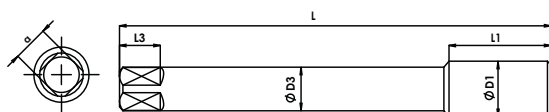
HSS-E

ISO 529

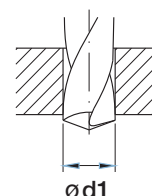
6HX



BF

P0-P1

Male Centre (M4 - M5)
Female Centre (M6 - M16)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ø d1
M 4	0.7	FAB0203270	73	7	3.15	2.5	5	3.3
M 5	0.8	FAB0200825	79	8	4	3.15	6	4.2
M 6	1	FAB0200836	89	10	6.34	3.55	6	5
M 8	1.25	FAB0200846	97	13	6.34	5	8	6.8
M 10	1.5	FAB0200857	108	15	8	6.3	9	8.5
M 12	1.5	FAB0200868	119	15	9	7.1	10	10.5
M 12	1.75	FAB0200879	119	18	9	7.1	10	10.3
M 14	1.5	FAB0200889	127	15	11.2	9	12	12.5
M 14	2	FAB0203271	127	20	11.2	9	12	12
M 16	1.5	FAB0203272	137	15	12.5	10	13	14.5
M 16	2	FAB0203273	137	20	12.5	10	13	14



Spiral Flute Machine Taps

SB3L Series

HSS TAPS

DIES

END MILLS

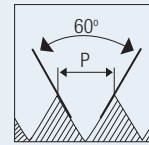
DRILLS

CARBIDE BURRS

CS TAPS

M/MF

Metric coarse & fine threads - long shank



HOLE TYPE



HSS-E

ISO 529

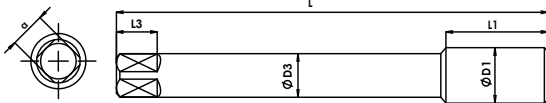
6HX

C/2-3P

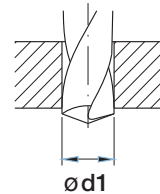
35°

TiN

P0-P2



Male Centre (M4 - M5)
Female Centre (M6 - M16)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 4	0.7	FAB0203274	73	7	3.15	2.5	5	3.3
M 5	0.8	FAB0200827	79	8	4	3.15	6	4.2
M 6	1	FAB0200838	89	10	6.34	3.55	6	5
M 8	1.25	FAB0200848	97	13	6.34	5	8	6.8
M 10	1.5	FAB0200859	108	15	8	6.3	9	8.5
M 12	1.5	FAB0200870	119	15	9	7.1	10	10.5
M 12	1.75	FAB0200881	119	18	9	7.1	10	10.3
M 14	1.5	FAB0200891	127	15	11.2	9	12	12.5
M 14	2	FAB0203275	127	20	11.2	9	12	12
M 16	1.5	FAB0203276	137	15	12.5	10	13	14.5
M 16	2	FAB0203277	137	20	12.5	10	13	14

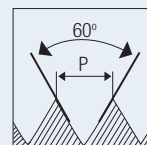


Spiral Flute Machine Taps

SB1 Series

UNC

Unified coarse threads



HOLE TYPE



HSS-E

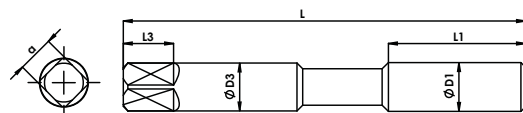
ISO
529

2B

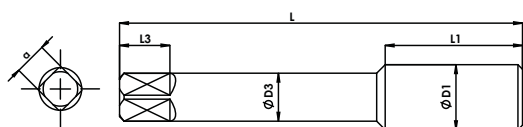


35°

BF

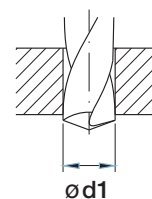


Reinforced Shank (1/4" - 3/8")



Reduced Shank (7/16" - 3/4")

P0-P1



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	20	FAB0200576	66	10	6.3	5	8	5.2
5/16"	18	FAB0200585	72	15	8	6.3	9	6.6
3/8"	16	FAB0200596	80	15	10	8	11	8
7/16"	14	FAB0200606	85	19	8	6.3	9	9.4
1/2"	13	FAB0200617	89	19	9	7.1	10	10.8
5/8"	11	FAB0200631	102	20	12.5	10	13	13.5
3/4"	10	FAB0200641	112	25	14	11.2	14	16.5

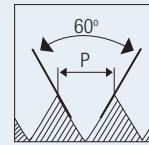


Spiral Flute Machine Taps

SB3 Series

UNC

Unified coarse threads



HOLE TYPE



HSS-E

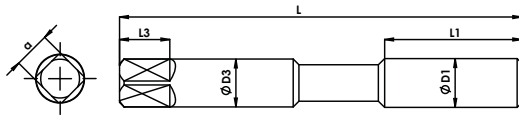
ISO
529

2B

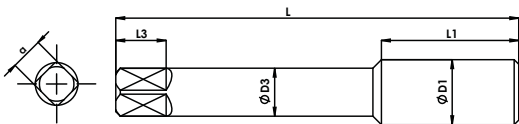
C/2-3P

35°

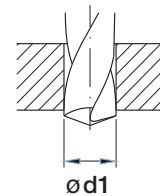
TiN



Reinforced Shank (1/4" - 3/8")



Reduced Shank (7/16" - 3/4")



P0-P2

K1-K2

Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	20	FAB0200578	66	10	6.3	5	8	5.2
5/16"	18	FAB0200587	72	15	8	6.3	9	6.6
3/8"	16	FAB0200598	80	15	10	8	11	8
7/16"	14	FAB0200608	85	19	8	6.3	9	9.4
1/2"	13	FAB0200619	89	19	9	7.1	10	10.8
5/8"	11	FAB0200633	102	20	12.5	10	13	13.5
3/4"	10	FAB0200643	112	25	14	11.2	14	16.5

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

CS TAPS

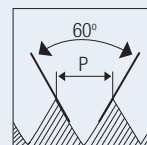


Spiral Flute Machine Taps

SB1 Series

UNF

Unified fine threads



HOLE TYPE



HSS-E

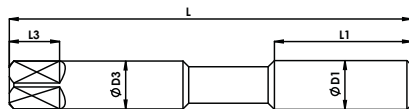
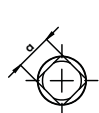
ISO
529

2B

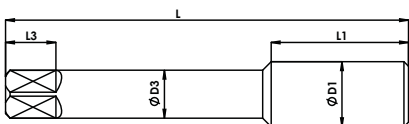
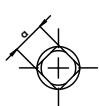


35°

BF

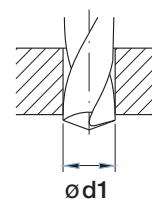


Reinforced Shank (1/4" - 3/8")



Reduced Shank (7/16" - 3/4")

P0-P1



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	28	FAB0200500	66	10	6.3	5	8	5.5
5/16"	24	FAB0200510	69	15	8	6.3	9	6.9
3/8"	24	FAB0200520	76	15	10	8	11	8.5
7/16"	20	FAB0200531	82	19	8	6.3	9	9.9
1/2"	20	FAB0200542	84	19	9	7.1	10	11.5
5/8"	18	FAB0200555	95	20	12.5	10	13	14.5
3/4"	16	FAB0200566	104	20	14	11.2	14	17.5

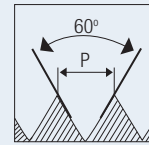


Spiral Flute Machine Taps

SB3 Series

UNF

Unified fine threads



HOLE TYPE



HSS-E

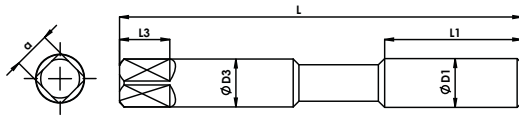
ISO
529

2B

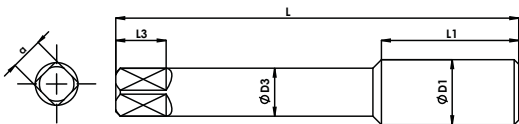
C/2-3P

35°

TiN



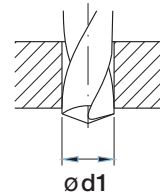
Reinforced Shank (1/4" - 3/8")



Reduced Shank (7/16" - 3/4")

P0-P2

K1-K2



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	28	FAB0200501	66	10	6.3	5	8	5.5
5/16"	24	FAB0200512	69	15	8	6.3	9	6.9
3/8"	24	FAB0200522	76	15	10	8	11	8.5
7/16"	20	FAB0200533	82	19	8	6.3	9	9.9
1/2"	20	FAB0200544	84	19	9	7.1	10	11.5
5/8"	18	FAB0200557	95	20	12.5	10	13	14.5
3/4"	16	FAB0200568	104	20	14	11.2	14	17.5

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

CS TAPS

HSS-E



High Performance Cutting Tools



STRAIGHT FLUTE MACHINE TAPS

STRAIGHT FLUTE TAPS - SC SERIES



Straight flute taps dimensionally same as hand taps & with a lead chamfer of 1.1/2 threads. The flute & rake angle are designed as per application. These Taps are recommended for tapping on grey cast iron, S G iron & steel. The chips produced are short or powder type with the help of special design provided in the tap

Advantages :

- Thread Chamfer is 1.5 thread & threading can be done upto bottom
- Chips are broken into short / powder chips



STRAIGHT FLUTE TAPS

SERIES		THREAD FORM	BLANK STANDARD	APPLICATION	CHAMFER	COATING	PAGE
SC3		M	DIN371/DIN376	Cast Iron	E/1.5-2P	TiN	76
SC4		M	DIN371/DIN376	Cast Iron	E/1.5-2P	TiAIN	77
SC3		MF	DIN374	Cast Iron	E/1.5-2P	TiN	78
SC4		MF	DIN374	Cast Iron	E/1.5-2P	TiAIN	79
SC3		UNC	DIN371/DIN376	Cast Iron	E/1.5-2P	TiN	80
SC4		UNC	DIN371/DIN376	Cast Iron	E/1.5-2P	TiAIN	81
SC3		UNF	DIN374	Cast Iron	E/1.5-2P	TiN	82
SC4		UNF	DIN374	Cast Iron	E/1.5-2P	TiAIN	83
SC3		M	ISO	Cast Iron	E/1.5-2P	TiN	84
SC4		M	ISO	Cast Iron	E/1.5-2P	TiAIN	85
SC3		MF	ISO	Cast Iron	E/1.5-2P	TiN	86
SC4		MF	ISO	Cast Iron	E/1.5-2P	TiAIN	87
SC3L		M/MF Long Shank	ISO	Cast Iron	E/1.5-2P	TiN	88
SC4L		M/MF Long Shank	ISO	Cast Iron	E/1.5-2P	TiAIN	89
SC3		UNC	ISO	Cast Iron	E/1.5-2P	TiN	90
SC4		UNC	ISO	Cast Iron	E/1.5-2P	TiAIN	91
SC3		UNF	ISO	Cast Iron	E/1.5-2P	TiN	92
SC4		UNF	ISO	Cast Iron	E/1.5-2P	TiAIN	93

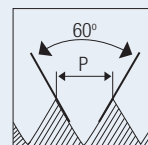


Straight Flute Machine Tap

SC3 Series

M

Metric coarse threads



HOLE TYPE



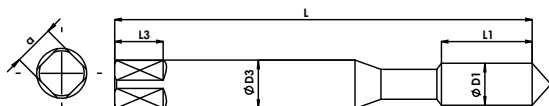
HSS-E

DIN
371/376

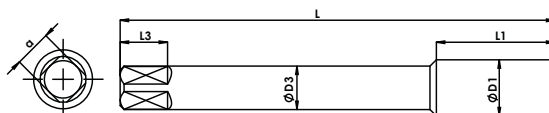
6HX

E/1.5-2P

TiN



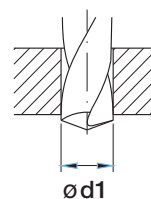
Reinforced Shank DIN371 (M3 - M10)



Reduced Shank DIN376 (M12 - M20)

K1-K2

N1-N3



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	TPI		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0204433	56	11	3.5	2.7	6	2.5
M 4	0.7	FAB0204434	63	13	4.5	3.4	6	3.3
M 5	0.8	FAB0203676	70	16	6	4.9	8	4.2
M 6	1	FAB0203677	80	19	6	4.9	8	5
M 8	1.25	FAB0203678	90	22	8	6.2	9	6.8
M 9	1.25	FAB0204435	90	22	9	7	10	7.8
M 10	1.5	FAB0200969	100	24	10	8	11	8.5
M 11	1.5	FAB0204436	100	24	8	6.2	9	9.5
M 12	1.75	FAB0200975	110	28	9	7	10	10.2
M 14	2	FAB0204437	110	30	11	9	12	12
M 16	2	FAB0204438	110	32	12	9	12	14
M 18	2.5	FAB0204439	125	34	14	11	14	15.5
M 20	2.5	FAB0204440	140	34	16	12	15	17.5

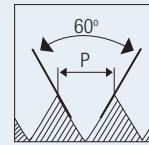


Straight Flute Machine Tap

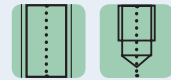
SC4 Series



Metric coarse threads



HOLE TYPE



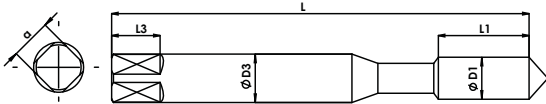
HSS-E

DIN
371/376

6HX

E/1.5-2P

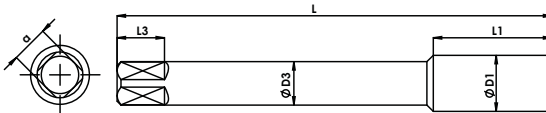
TiAlN



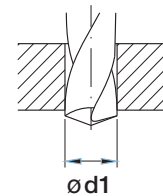
Reinforced Shank DIN371 (M3 - M10)



K1-K3



Reduced Shank DIN376 (M12 - M20)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	TPI		L	L1	ØD3	a	L3	Ød1
M3	0.5	FAB0204441	56	11	3.5	2.7	6	2.5
M 4	0.7	FAB0204442	63	13	4.5	3.4	6	3.3
M 5	0.8	FAB0204443	70	16	6	4.9	8	4.2
M 6	1	FAB0203679	80	19	6	4.9	8	5
M 8	1.25	FAB0203680	90	22	8	6.2	9	6.8
M 9	1.25	FAB0204444	90	22	9	7	10	7.8
M 10	1.5	FAB0203682	100	24	10	8	11	8.5
M 11	1.5	FAB0204445	100	24	8	6.2	9	9.5
M 12	1.75	FAB0203683	110	28	9	7	10	10.2
M 14	2	FAB0204446	110	30	11	9	12	12
M 16	2	FAB0204447	110	32	12	9	12	14
M 18	2.5	FAB0204448	125	34	14	11	14	15.5
M 20	2.5	FAB0204449	140	34	16	12	15	17.5

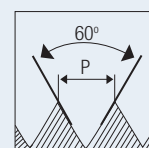


Straight Flute Machine Tap

SC3 Series

MF

Metric fine threads



HOLE TYPE



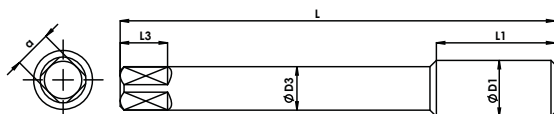
HSS-E

DIN
374

6HX

E/1.5-2P

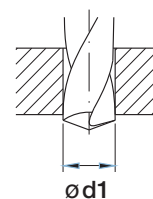
TiN



Male centre (M6 - M10)
Female centre (M12 - M20)

K1-K2

N1-N3



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	TPI		L	L1	ØD3	a	L3	Ød1
M 6	0.75	FAB0204450	80	19	4.5	3.4	6	5.2
M 8	1	FAB0204451	90	22	6	4.9	8	7
M 10	1.25	FAB0203681	100	24	7	5.5	8	8.8
M 10	1	FAB0204452	90	20	7	5.5	8	9
M 12	1.5	FAB0204453	100	22	9	7	10	10.5
M 12	1.25	FAB0204454	100	22	9	7	10	10.8
M 14	1.5	FAB0204455	100	22	11	9	12	12.5
M 16	1.5	FAB0204456	100	22	12	9	12	14.5
M 18	1.5	FAB0204457	110	25	14	11	14	16.5
M 20	1.5	FAB0204458	125	25	16	12	15	18.5

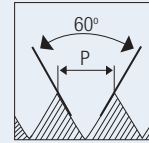


Straight Flute Machine Tap

SC4 Series

MF

Metric fine threads



HOLE TYPE



HSS-E

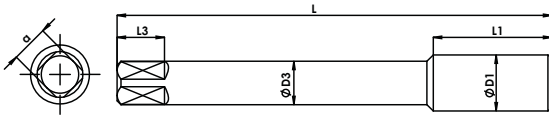
DIN
374

6HX

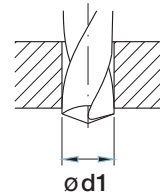
E/1.5-2P

TiAIN

K1-K3



Male centre (M6 - M10)
Female centre (M12 - M20)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	TPI		L	L1	ØD3	a	L3	Ød1
M 6	0.75	FAB0204459	80	19	4.5	3.4	6	5.2
M 8	1	FAB0204460	90	22	6	4.9	8	7
M 10	1.25	FAB0204461	100	24	7	5.5	8	8.8
M 10	1	FAB0204462	90	20	7	5.5	8	9
M 12	1.5	FAB0204463	100	22	9	7	10	10.5
M 12	1.25	FAB0204464	100	22	9	7	10	10.8
M 14	1.5	FAB0204465	100	22	11	9	12	12.5
M 16	1.5	FAB0204466	100	22	12	9	12	14.5
M 18	1.5	FAB0204467	110	25	14	11	14	16.5
M 20	1.5	FAB0204468	125	25	16	12	15	18.5

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

CS TAPS

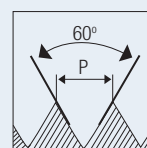


Straight Flute Machine Tap

SC3 Series

UNC

Unified coarse threads



HOLE TYPE



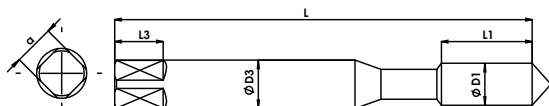
HSS-E

DIN
371/376

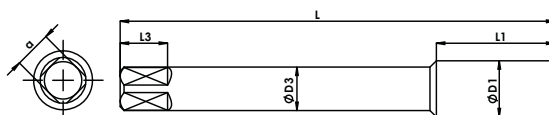
2B

E/1.5-2P

TiN



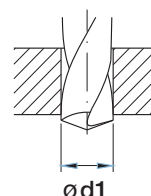
Reinforced Shank DIN371 (1/4" - 3/8")



Reduced Shank DIN376 (7/16" - 1")

K1-K2

N2-N3



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ø d1
1/4"	20	FAB0204469	80	19	7	5.5	8	5.2
5/16"	18	FAB0204470	90	22	8	6.2	9	6.6
3/8"	16	FAB0204471	100	24	10	8	11	8
7/16"	14	FAB0204472	110	24	8	6.2	9	9.4
1/2"	13	FAB0204473	110	28	9	7	10	10.8
5/8"	11	FAB0204474	110	32	12	9	12	13.5
3/4"	10	FAB0204475	125	34	14	11	14	16.5
7/8"	9	FAB0204476	140	34	18	14.5	17	19.5
1"	8	FAB0204477	160	38	18	14.5	17	22.25

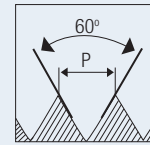


Straight Flute Machine Tap

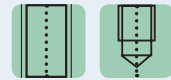
SC4 Series

UNC

Unified coarse threads



HOLE TYPE



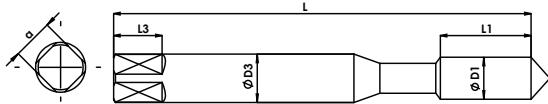
HSS-E

DIN
371/376

2B

E/1.5-2P

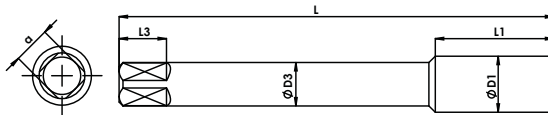
TiAIN



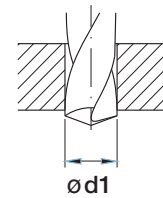
Reinforced Shank DIN371 (1/4" - 3/8")



K1-K3



Reduced Shank DIN376 (7/16" - 1")



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	20	FAB0204478	80	19	7	5.5	8	5.2
5/16"	18	FAB0204479	90	22	8	6.2	9	6.6
3/8"	16	FAB0204480	100	24	10	8	11	8
7/16"	14	FAB0204481	110	24	8	6.2	9	9.4
1/2"	13	FAB0204482	110	28	9	7	10	10.8
5/8"	11	FAB0204483	110	32	12	9	12	13.5
3/4"	10	FAB0204484	125	34	14	11	14	16.5
7/8"	9	FAB0204485	140	34	18	14.5	17	19.5
1"	8	FAB0204486	160	38	18	14.5	17.5	22.25

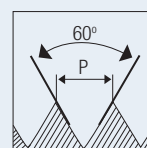


Straight Flute Machine Tap

SC3 Series

UNF

Unified fine threads



HOLE TYPE



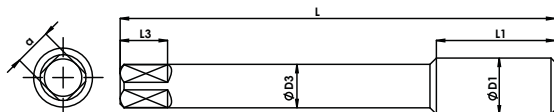
HSS-E

DIN
374

2B

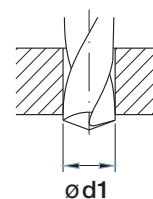
E/1.5-2P

TiN



Male centre (1/4" - 3/8")
Female centre (7/16" - 1")

K1-K2



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	28	FAB0204487	80	19	5.5	4.3	7	5.5
5/16"	24	FAB0204488	90	22	6	4.9	8	6.9
3/8"	24	FAB0204489	100	20	7	5.5	8	8.5
7/16"	20	FAB0204490	100	22	8	6	9	9.9
1/2"	20	FAB0204491	100	22	9	7	10	11.5
5/8"	18	FAB0204492	100	22	12	9	12	14.5
3/4"	16	FAB0204493	110	25	14	11	14	17.5
7/8"	14	FAB0204494	125	25	18	14.5	17	20.5
1"	12	FAB0204495	140	28	18	14.5	17	23.25

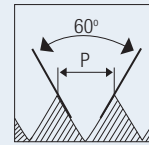


Straight Flute Machine Tap

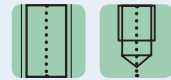
SC4 Series

UNF

Unified fine threads



HOLE TYPE



HSS-E

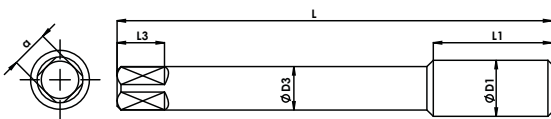
DIN
374

2B

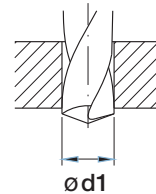
E/1.5-2P

TiAIN

K1-K3



Male centre (1/4" - 3/8")
Female centre (7/16" - 1")



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	28	FAB0204496	80	19	5.5	4.3	7	5.5
5/16"	24	FAB0204497	90	22	6	4.9	8	6.9
3/8"	24	FAB0204498	100	20	7	5.5	8	8.5
7/16"	20	FAB0204499	100	22	8	6	9	9.9
1/2"	20	FAB0204500	100	22	9	7	10	11.5
5/8"	18	FAB0204501	100	22	12	9	12	14.5
3/4"	16	FAB0204502	110	25	14	11	14	17.5
7/8"	14	FAB0204503	125	25	18	14.5	17	20.5
1"	12	FAB0204504	140	28	18	14.5	17	23.25

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

CS TAPS

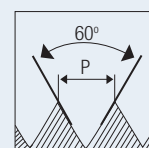


Straight Flute Machine Tap

SC3 Series

M

Metric coarse threads



HOLE TYPE



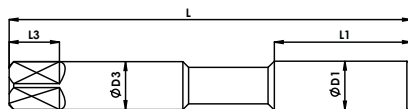
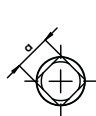
HSS-E

ISO
529

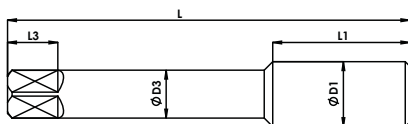
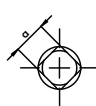
6HX

E/1.5-2P

TiN



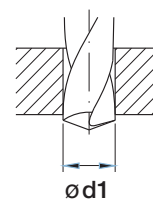
Reinforced Shank (M3 - M10)
Male centre upto M5



Reduced Shank (M12 - M20)

K1-K2

N2-N3



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0200645	48	11	3.15	2.5	5	2.5
M 3.5	0.6	FAB0200652	50	13	3.55	2.8	5	2.9
M 4	0.7	FAB0200657	53	13	4	3.15	6	3.3
M 5	0.8	FAB0200669	58	16	5	4	7	4.2
M 6	1	FAB0200680	66	19	6.3	5	8	5
M 8	1.25	FAB0200692	72	22	8	6.3	9	6.8
M 10	1.5	FAB0200716	80	24	10	8	11	8.5
M 12	1.75	FAB0200747	89	29	9	7.1	10	10.2
M 14	2	FAB0200776	95	30	11.2	9	12	12
M 16	2	FAB0200797	102	32	12.5	10	13	14
M 20	2.5	FAB0203219	112	37	14	11.2	14	17.5

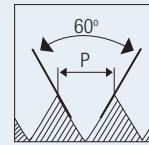


Straight Flute Machine Tap

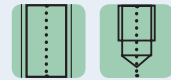
SC4 Series



Metric coarse threads



HOLE TYPE



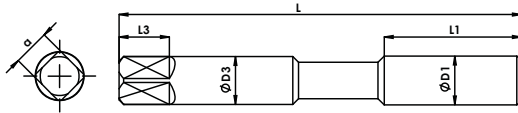
HSS-E

ISO 529

6HX

E/1.5-2P

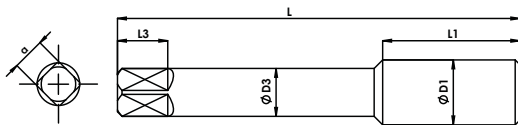
TiAlN



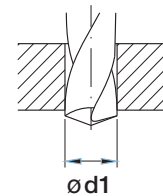
Reinforced Shank (M3 - M10)
Male centre upto M5



K1-K3



Reduced Shank (M12 - M20)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0200646	48	11	3.15	2.5	5	2.5
M 3.5	0.6	FAB0203220	50	13	3.55	2.8	5	2.9
M 4	0.7	FAB0200658	53	13	4	3.15	6	3.3
M 5	0.8	FAB0200670	58	16	5	4	7	4.2
M 6	1	FAB0200681	66	19	6.3	5	8	5
M 8	1.25	FAB0200693	72	22	8	6.3	9	6.8
M 10	1.5	FAB0200717	80	24	10	8	11	8.5
M 12	1.75	FAB0200871	89	29	9	7.1	10	10.2
M 14	2	FAB0200777	95	30	11.2	9	12	12
M 16	2	FAB0200798	102	32	12.5	10	13	14
M 20	2.5	FAB0200809	112	37	14	11.2	14	17.5

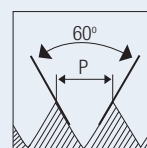


Straight Flute Machine Tap

SC3 Series

MF

Metric fine threads



HOLE TYPE



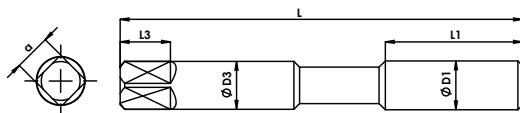
HSS-E

ISO
529

6HX

E/1.5-2P

TiN

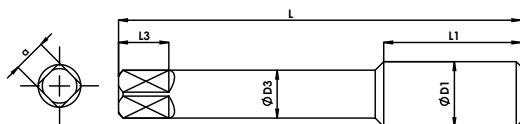


Reinforced Shank (M10)

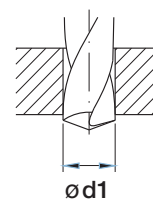


K1-K2

N2-N3



Reduced Shank (M12 - M20)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	TPI		L	L1	ØD3	a	L3	Ød1
M 10	1.25	FAB0200706	76	20	10	8	11	8.8
M 12	1.25	FAB0200727	84	24	9	7.1	10	10.8
M12	1.5	FAB0200736	89	29	9	7.1	10	10.5
M 14	1.5	FAB0200767	95	30	11.2	9	12	12.5
M 16	1.5	FAB0200785	102	32	12.5	10	13	14.5
M 18	1.5	FAB0203217	104	29	14	11.2	14	16.5
M 20	1.5	FAB0203218	104	29	14	11.2	14	18.5

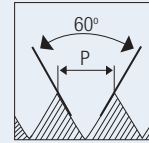


Straight Flute Machine Tap

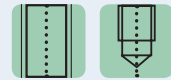
SC4 Series

MF

Metric fine threads



HOLE TYPE



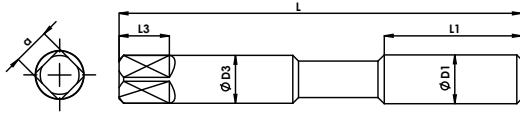
HSS-E

ISO
529

6HX

E/1.5-2P

TiAIN

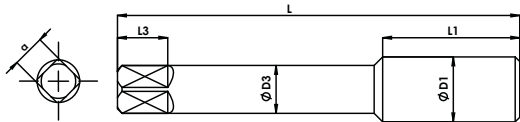


Reinforced Shank (M10)

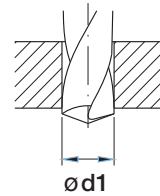


K1-K3

N2-N3



Reduced Shank (M12 - M20)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	TPI		L	L1	ØD3	a	L3	Ød1
M 10	1.25	FAB0200707	76	20	10	8	11	8.8
M 12	1.25	FAB0200728	84	20	10	8	11	10.8
M 12	1.5	FAB0200737	89	29	9	7.1	10	10.5
M 14	1.5	FAB0200768	95	30	11.2	9	12	12.5
M 16	1.5	FAB0200786	102	32	12.5	10	13	14.5
M 18	1.5	FAB0200805	104	29	14	11.2	14	16.5
M 20	1.5	FAB0200806	104	29	14	11.2	14	18.5

HSS TAPS

DIES

END MILLS

DRILLS

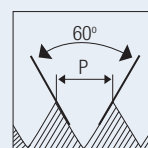
CARBIDE BURRS

CS TAPS



Straight Flute Machine Tap

SC3L Series

M/MF**Metric coarse & fine threads -
long shank**

HOLE TYPE



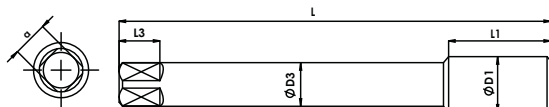
HSS-E

ISO
529

6HX

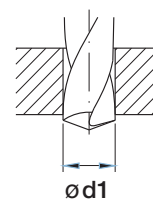
E/1.5-2P

TiN

Male centre (M4 - M5)
Female centre (M6 - M16)

K1-K2

N2-N3



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	TPI		L	L1	ØD3	a	L3	Ø d1
M 4	0.7	FAB0200817	73	13	3.15	2.50	5	3.3
M 5	0.8	FAB0200821	79	16	4.00	3.15	6	4.2
M 6	1	FAB0200830	89	19	4.50	3.55	6	5
M 8	1.25	FAB0200841	97	22	6.30	5.00	8	6.8
M 10	1.5	FAB0200852	108	24	8.00	6.30	9	8.5
M 12	1.5	FAB0200863	119	29	9.00	7.10	10	10.5
M 12	1.75	FAB0200874	119	29	9.00	7.10	10	10.3
M 14	1.5	FAB0200884	127	30	11.20	9.00	12	12.5
M 14	2	FAB0203278	127	30	11.20	9.00	12	12
M 16	1.5	FAB0203279	137	32	12.50	10.00	13	14.5
M 16	2	FAB0200892	137	32	12.50	10.00	13	14

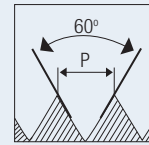


Straight Flute Machine Tap

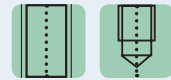
SC4L Series

M/MF

Metric coarse & fine threads - long shank



HOLE TYPE



HSS-E

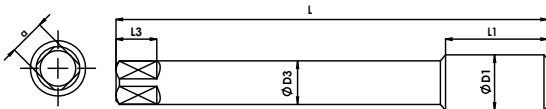
ISO 529

6HX

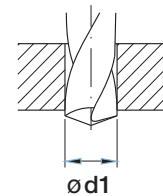
E/1.5-2P

TiAIN

K1-K3



Male centre (M4 - M5)
Female centre (M6 - M16)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	TPI		L	L1	ØD3	a	L3	Ød1
M 4	0.7	FAB0203280	73	13	3.15	2.50	5	3.3
M 5	0.8	FAB0203281	79	16	4.00	3.15	6	4.2
M 6	1	FAB0200831	89	19	4.50	3.55	6	5
M 8	1.25	FAB0200842	97	22	6.30	5.00	8	6.8
M 10	1.5	FAB0200853	108	24	8.00	6.30	9	8.5
M 12	1.5	FAB0200864	119	29	9.00	7.10	10	10.5
M 12	1.75	FAB0200875	119	29	9.00	7.10	10	10.3
M 14	1.5	FAB0200885	127	30	11.20	9.00	12	12.5
M 14	2	FAB0203282	127	30	11.20	9.00	12	12
M 16	1.5	FAB0203283	137	32	12.50	10.00	13	14.5
M 16	2	FAB0203284	137	32	12.50	10.00	13	14

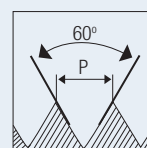


Straight Flute Machine Tap

SC3 Series

UNC

Unified coarse threads



HOLE TYPE



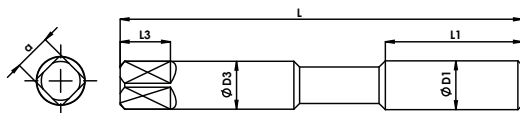
HSS-E

ISO
529

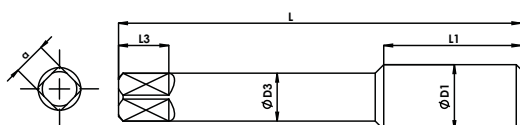
2B

E/1.5-2P

TiN



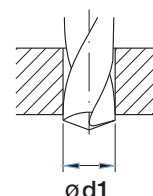
Reinforced Shank (1/4" - 3/8")



Reduced Shank (7/16" - 3/4")

K1-K2

N2-N3



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	20	FAB0200571	66	19	6.3	5	8	5.2
5/16"	18	FAB0200581	72	22	8	6.3	9	6.6
3/8"	16	FAB0200591	80	24	10	8	11	8
7/16"	14	FAB0200601	85	25	8	6.3	9	9.4
1/2"	13	FAB0200612	89	29	9	7.1	10	10.8
5/8"	11	FAB0200625	102	32	12.5	10	13	13.5
3/4"	10	FAB0200636	112	37	14	11.2	14	16.5

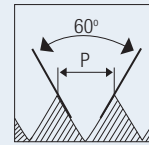


Straight Flute Machine Tap

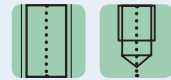
SC4 Series

UNC

Unified coarse threads



HOLE TYPE



HSS-E

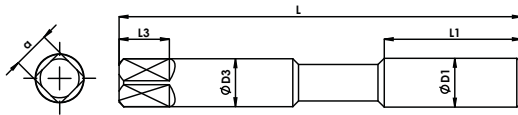
ISO
529

2B

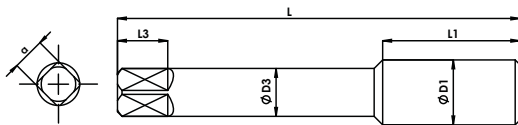
E/1.5-2P

TiAIN

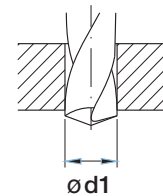
K1-K3



Reinforced Shank (1/4" - 3/8")



Reduced Shank (7/16" - 3/4")



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	20	FAB0200572	66	19	6.3	5	8	5.2
5/16"	18	FAB0203289	72	22	8	6.3	9	6.6
3/8"	16	FAB0200592	80	24	10	8	11	8
7/16"	14	FAB0200602	85	25	8	6.3	9	9.4
1/2"	13	FAB0200613	89	29	9	7.1	10	10.8
5/8"	11	FAB0200626	102	32	12.5	10	13	13.5
3/4"	10	FAB0200637	112	37	14	11.2	14	16.5

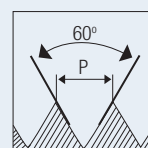


Straight Flute Machine Tap

SC3 Series

UNF

Unified fine threads



HOLE TYPE



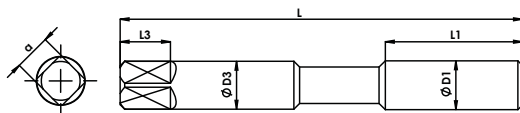
HSS-E

ISO
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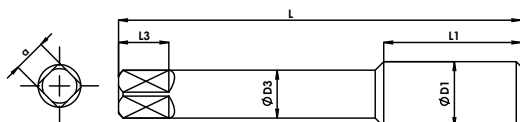
2B

E/1.5-2P

TiN



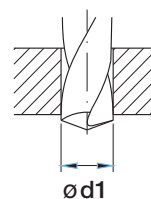
Reinforced Shank (1/4" - 3/8")



Reduced Shank (7/16" - 3/4")

K1-K2

N2-N3



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	28	FAB0200495	66	19	6.3	5	8	5.5
5/16"	24	FAB0200504	69	19	8	6.3	9	6.9
3/8"	24	FAB0200515	76	20	10	8	11	8.5
7/16"	20	FAB0200526	82	22	8	6.3	9	9.9
1/2"	20	FAB0200537	84	24	9	7.1	10	11.5
5/8"	18	FAB0200550	95	25	12.5	10	13	14.5
3/4"	16	FAB0200561	104	29	14	11.2	14	17.5

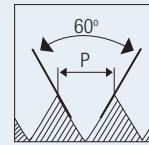


Straight Flute Machine Tap

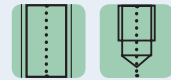
SC4 Series

UNF

Unified fine threads



HOLE TYPE



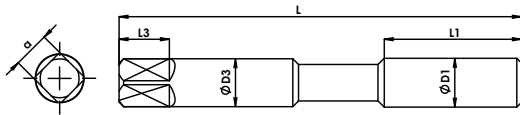
HSS-E

ISO 529

2B

E/1.5-2P

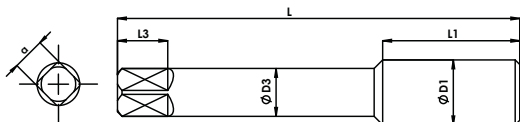
TiAIN



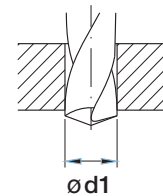
Reinforced Shank (1/4" - 3/8")



K1-K3



Reduced Shank (7/16" - 3/4")



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	28	FAB0200496	66	19	6.3	5	8	5.5
5/16"	24	FAB0200505	69	19	8	6.3	9	6.9
3/8"	24	FAB0200516	76	20	10	8	11	8.5
7/16"	20	FAB0200527	82	22	8	6.3	9	9.9
1/2"	20	FAB0200538	84	24	9	7.1	10	11.5
5/8"	18	FAB0200551	95	25	12.5	10	13	14.5
3/4"	16	FAB0200562	104	29	14	11.2	14	17.5

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

CS TAPS

HSS-E



High Performance Cutting Tools



FORMING MACHINE TAPS

FORMING TAPS - SD SERIES



Forming Otherwise known as 'Roll', 'Fluteless' or Polygon taps. Used for the chipless production of threads in ductile materials such as copper, aluminium, soft brass or steel. Threads produced by fluteless taps are formed by plastic deformation, they are not cut. These taps do not have flute or cutting edges but have special roll forming lobes with circular land. They are operated at high speeds and are better at maintaining gauge qualification. Because they produce no chips they are very suitable for blind hole application as well as through hole application.

Forming taps require different tapping drill sizes when compared to drill sizes used for cut taps.












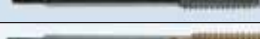
Advantages :

- Can run at higher parameters ex. cutting speed
- Better durability compared to cutting taps
- Sturdy exactness for dimensions & profile
- Better stability for formed threads
- Minimum chance of fracture
- No swarf, thus no concern of its disposable

SELECTION GUIDE



FORMING TAPS

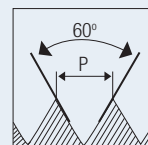
SERIES		THREAD FORM	BLANK STANDARD	APPLICATION	CHAMFER	COATING	PAGE
SD1		M	DIN371/DIN376	Aluminium	C/2-3P	Bright	98
SD3		M	DIN371/DIN376	Aluminium	C/2-3P	TiN	99
SD4		M	DIN371/DIN376	Aluminium	C/2-3P	TiAIN	100
SD1		MF	DIN374	Aluminium	C/2-3P	Bright	101
SD3		MF	DIN374	Aluminium	C/2-3P	TiN	102
SD4		MF	DIN374	Aluminium	C/2-3P	TiAIN	103
SD1*		M	DIN371	Aluminium	C/2-3P	Bright	104
SD3*		M	DIN371	Aluminium	C/2-3P	TiN	105
SD1		M	ISO	Aluminium	C/2-3P	Bright	106
SD3		M	ISO	Aluminium	C/2-3P	TiN	107
SDF5		M	ISO	Forged Steel	C/2-3P	TiCN	108
SD1		MF	ISO	Aluminium	C/2-3P	Bright	109
SD3		MF	ISO	Aluminium	C/2-3P	TiN	110

* without oil groove



M

Metric coarse threads



HOLE TYPE



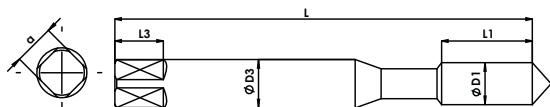
HSS-E

DIN
371/376

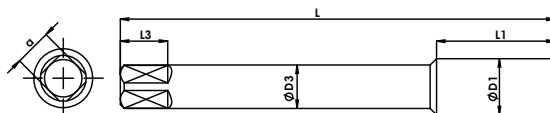
6HX

C/2-3P

BF

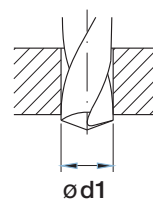


Reinforced Shank DIN371 (M3 - M10)



Reduced Shank DIN376 (M12 - M20)

N1-N4



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0200954	56	11	3.5	2.7	6	2.8
M 3.5	0.6	FAB0204505	56	12	4	3	6	3.3
M 4	0.7	FAB0200955	63	13	4.5	3.4	6	3.7
M 5	0.8	FAB0200956	70	16	6	4.9	8	4.7
M 6	1	FAB0200957	80	19	6	4.9	8	5.5
M 7	1	FAB0204506	80	19	7	5.5	8	6.5
M 8	1.25	FAB0200958	90	22	8	6.2	9	7.4
M 10	1.5	FAB0200959	100	24	10	8	11	9.3
M 12	1.75	FAB0200960	110	28	9	7	10	11.2
M 14	2	FAB0203285	110	30	11	9	12	13.1
M 16	2	FAB0203286	110	32	12	9	12	15.1

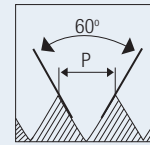


Forming Machine Taps

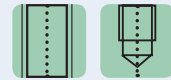
SD3 Series



Metric coarse threads



HOLE TYPE



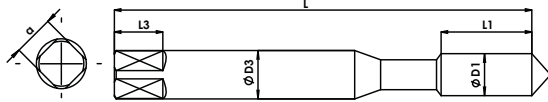
HSS-E

DIN
371/376

6HX



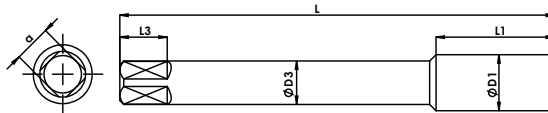
TiN



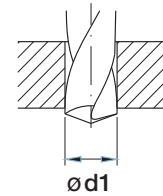
Reinforced Shank DIN371 (M3 - M10)



N1-N4



Reduced Shank DIN376 (M12 - M20)



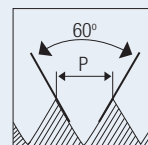
Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0200961	56	11	3.5	2.7	6	2.8
M 3.5	0.6	FAB0204507	56	12	4	3	6	3.3
M 4	0.7	FAB0200962	63	13	4.5	3.4	6	3.7
M 5	0.8	FAB0200963	70	16	6	4.9	8	4.7
M 6	1	FAB0200964	80	19	6	4.9	8	5.5
M 7	1	FAB0204508	80	19	7	5.5	8	6.5
M 8	1.25	FAB0200965	90	22	8	6.2	9	7.4
M 10	1.5	FAB0200966	100	24	10	8	11	9.3
M 12	1.75	FAB0200967	110	28	9	7	10	11.2
M 14	2	FAB0203287	110	30	11	9	12	13.1
M 16	2	FAB0203288	110	32	12	9	12	15.1



M

Metric coarse threads



HOLE TYPE



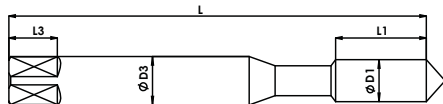
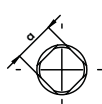
HSS-E

DIN
371/376

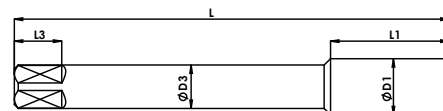
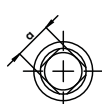
6HX

C/2-3P

TiAIN



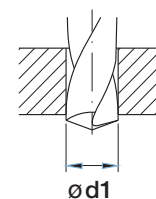
Reinforced Shank DIN371 (M3 - M10)



Reduced Shank DIN376 (M12 - M20)

P0-P2

N1-N4



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0204509	56	11	3.5	2.7	6	2.8
M 3.5	0.6	FAB0204510	56	12	4	3	6	3.3
M 4	0.7	FAB0204511	63	13	4.5	3.4	6	3.7
M 5	0.8	FAB0204512	70	16	6	4.9	8	4.7
M 6	1	FAB0204513	80	19	6	4.9	8	5.5
M 7	1	FAB0204514	80	19	7	5.5	8	6.5
M 8	1.25	FAB0204515	90	22	8	6.2	9	7.4
M 10	1.5	FAB0204516	100	24	10	8	11	9.3
M 12	1.75	FAB0204517	110	28	9	7	10	11.2
M 14	2	FAB0204518	110	30	11	9	12	13.1
M 16	2	FAB0204519	110	32	12	9	12	15.1

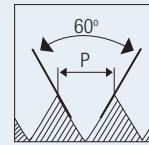


Forming Machine Taps

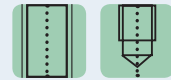
SD1 Series

MF

Metric fine threads



HOLE TYPE



HSS-E

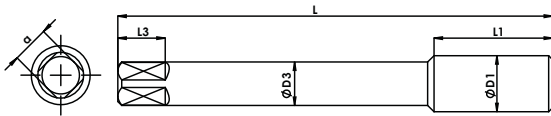
DIN
374

6HX

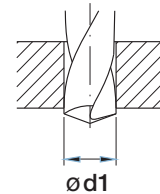


BF

N1-N4



Male Centre (M8 - M10)
Female Centre (M12 - M20)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 8	1	FAB0204520	90	17	6	4.9	8	7.6
M 10	1.25	FAB0204521	100	22	7	5.5	8	9.4
M 12	1.5	FAB0204522	100	22	9	7	10	11.3
M 12	1.25	FAB0204523	100	22	9	7	10	11.4
M 14	1.5	FAB0204524	100	22	11	9	12	13.3
M 16	1.5	FAB0204525	100	22	12	9	12	15.3
M 18	1.5	FAB0204526	110	25	14	11	14	17.3
M 20	1.5	FAB0204527	125	25	16	12	15	19.3

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

CS TAPS

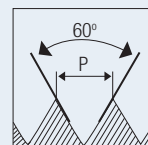


Forming Machine Taps

SD3 Series

MF

Metric fine threads



HOLE TYPE



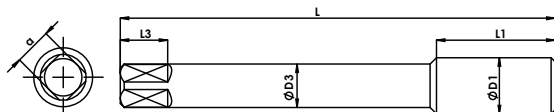
HSS-E

DIN
374

6HX

C/2-3P

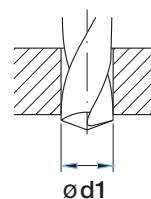
TiN



Male Centre (M8 - M10)
Female Centre (M12 - M20)

P0-P2

N1-N4



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ø d1
M 8	1	FAB0204528	90	17	6	4.9	8	7.6
M 10	1.25	FAB0204529	100	22	7	5.5	8	9.4
M 12	1.5	FAB0204530	100	22	9	7	10	11.3
M 12	1.25	FAB0204531	100	22	9	7	10	11.4
M 14	1.5	FAB0204532	100	22	11	9	12	13.3
M 16	1.5	FAB0204533	100	22	12	9	12	15.3
M 18	1.5	FAB0204534	110	25	14	11	14	17.3
M 20	1.5	FAB0204535	125	25	16	12	15	19.3

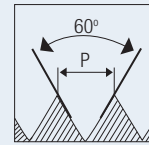


Forming Machine Taps

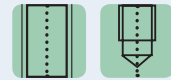
SD4 Series



Metric fine threads



HOLE TYPE



HSS-E

DIN
374

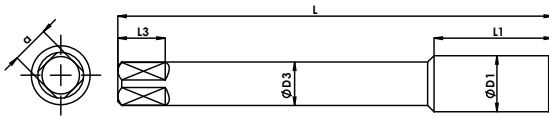
6HX



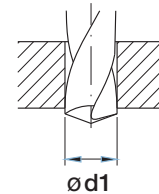
TiAIN

P0-P2

N1-N4



Male Centre (M8 - M10)
Female Centre (M12 - M20)



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 8	1	FAB0204536	90	17	6	4.9	7	7.6
M 10	1.25	FAB0204537	100	22	7	5.5	8	9.4
M 12	1.5	FAB0204538	100	22	9	7	10	11.3
M 12	1.25	FAB0204539	100	22	9	7	10	11.4
M 14	1.5	FAB0204540	100	22	11	9	12	13.3
M 16	1.5	FAB0204541	100	22	12	9	12	15.3
M 18	1.5	FAB0204542	110	25	14	11	14	17.3
M 20	1.5	FAB0204543	125	25	16	12	15	19.3

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

CS TAPS

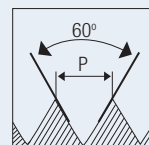


Forming Machine Taps

SD1 Series

M

Metric coarse threads - without oil groove



HOLE TYPE



HSS-E

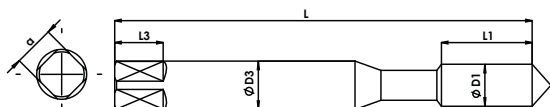
DIN
371

6HX

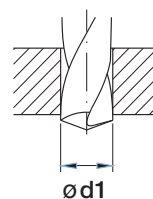
C/2-3P

BF

N1-N3



Reinforced Shank DIN371



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
Ø D1	p		L	L1	Ø D3	a	L3	Ø d1
M 3	0.5	FAB0203614	56	11	3.5	2.7	6	2.8
M 4	0.7	FAB0203615	63	13	4.5	3.4	6	3.3
M 5	0.8	FAB0203616	70	16	6	4.9	8	3.7
M 6	1	FAB0203617	80	19	6	4.9	8	4.6
M 8	1.25	FAB0203618	90	22	8	6.2	9	5.5

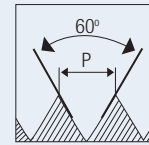


Forming Machine Taps

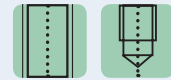
SD3 Series



Metric coarse threads - without oil groove



HOLE TYPE



HSS-E

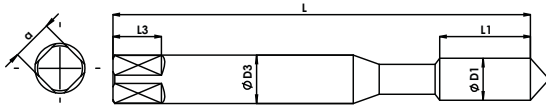
DIN
371

6HX

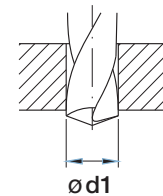


TiN

N1-N3



Reinforced Shank DIN371



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0203619	56	11	3.5	2.7	6	2.8
M 4	0.7	FAB0203620	63	13	4.5	3.4	6	3.3
M 5	0.8	FAB0203621	70	16	6	4.9	8	3.7
M 6	1	FAB0203622	80	19	6	4.9	8	4.6
M 8	1.25	FAB0203623	90	22	8	6.2	9	5.5

HSS TAPS

DIES

END MILLS

DRILLS

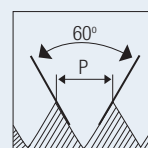
CARBIDE BURRS

CS TAPS



M

Metric coarse threads



HOLE TYPE



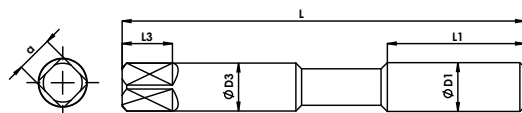
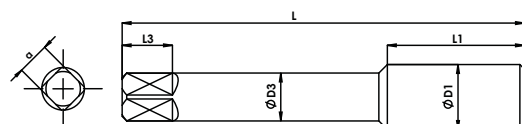
HSS-E

ISO
529

6HX

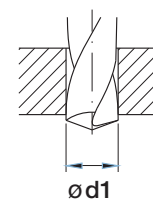
C/2-3P

BF

Reinforced Shank (M3 - M10)
Male Centre upto M5

Reduced Shank (M12 - M16)

N1-N4



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0201417	48	11	3.15	2.5	5	2.8
M 3.5	0.6	FAB0203221	50	13	3.55	2.8	5	3.3
M 4	0.7	FAB0201421	53	13	4	3.15	6	3.7
M 5	0.8	FAB0201420	58	16	5	4	7	4.6
M 6	1	FAB0201422	66	19	6.3	5	8	5.5
M 7	1	FAB0203222	66	19	7.1	5.6	8	6.5
M 8	1.25	FAB0201425	72	22	8	6.3	9	7.4
M 10	1.5	FAB0201426	80	24	10	8	9	9.3
M 12	1.75	FAB0201428	89	29	9	7.1	10	11.2
M 14	2	FAB0203228	95	30	11.2	9	12	13.1
M 16	2	FAB0203230	102	32	12.5	10	13	15.1

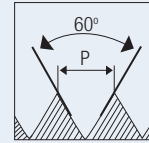


Forming Machine Taps

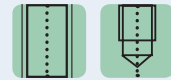
SD3 Series



Metric coarse threads



HOLE TYPE



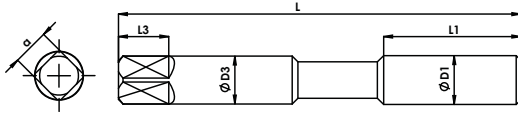
HSS-E

ISO
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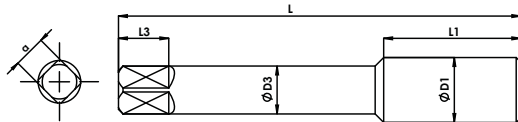
6HX

C/2-3P

TiN



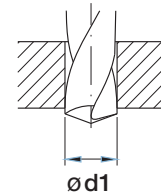
Reinforced Shank (M3 - M10)
Male Centre upto M5



Reduced Shank (M12 - M16)

P0-P2

N1-N4



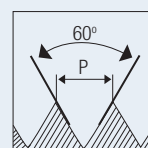
Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAB0202740	48	11	3.15	2.5	5	2.8
M 3.5	0.6	FAB0203231	50	13	3.55	2.8	5	3.3
M 4	0.7	FAB0202747	53	13	4	3.15	6	3.7
M 5	0.8	FAB0202748	58	16	5	4	7	4.6
M 6	1	FAB0202749	66	19	6.3	5	8	5.5
M 7	1	FAB0203232	66	19	7.1	5.6	8	6.5
M 8	1.25	FAB0202750	72	22	8	6.3	9	7.4
M 10	1.5	FAB0202751	80	24	10	8	9	9.3
M 12	1.75	FAB0202752	89	29	9	7.1	10	11.2
M 14	2	FAB0203238	95	30	11.2	9	12	13.1
M 16	2	FAB0203240	102	32	12.5	10	13	15.1



M

Metric coarse threads



HOLE TYPE



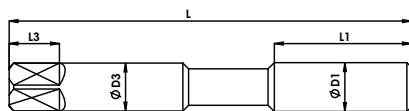
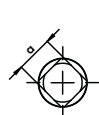
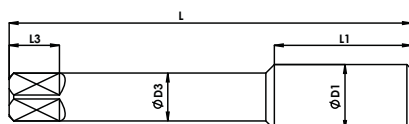
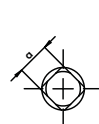
HSS-E

ISO
529

6HX

C/2-3P

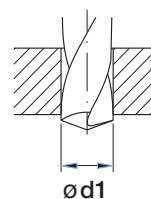
TiCN

Reinforced Shank (M3 - M10)
Male Centre upto M5

Reduced Shank (M12 - M16)

P0-P2

N1-N4



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ø d1
M 3	0.5	FAB0203241	48	11	3.15	2.5	5	2.8
M 4	0.7	FAB0203242	53	13	4	3.15	6	3.7
M 5	0.8	FAB0203243	58	16	5	4	7	4.6
M 6	1	FAB0203244	66	19	6.3	5	8	5.5
M 8	1.25	FAB0203246	72	22	8	6.3	9	7.4
M 10	1.5	FAB0203249	80	24	10	8	9	9.3
M 12	1.75	FAB0203251	89	29	9	7.1	10	11.2

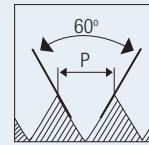


Forming Machine Taps

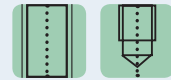
SD1 Series

MF

Metric fine threads



HOLE TYPE



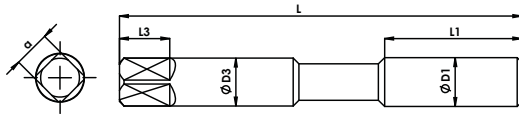
HSS-E

ISO 529

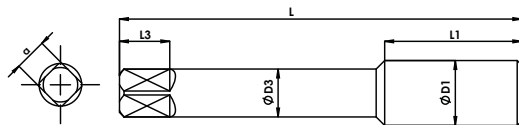
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C/2-3P

BF



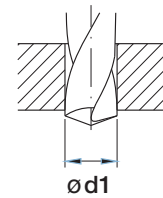
Reinforced Shank (M8 - M10)



Reduced Shank (M12 - M16)



P1



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 8	1	FAB0203223	69	19	8	6.3	9	7.5
M 10	1	FAB0203224	76	20	10	8	11	9.5
M 10	1.25	FAB0203225	76	20	10	8	11	9.4
M 12	1.5	FAB0203226	89	29	9	7.1	10	10.5
M 14	1.5	FAB0203227	95	30	11.2	9	12	12.5
M 16	1.5	FAB0203229	102	32	12.5	10	13	14.5

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

CS TAPS

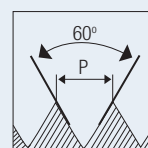


Forming Machine Taps

SD3 Series

MF

Metric fine threads



HOLE TYPE



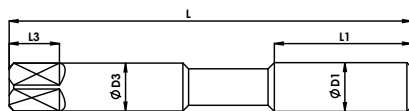
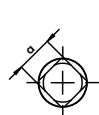
HSS-E

ISO
529

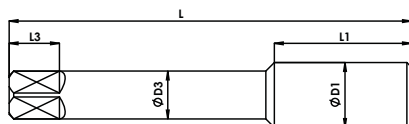
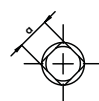
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C/2-3P

TiN



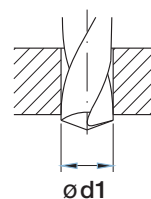
Reinforced Shank (M8 - M10)



Reduced Shank (M12 - M16)

P1-P1

N1-N4



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 8	1	FAB0203233	69	19	8	6.3	9	7.5
M 10	1	FAB0203234	76	20	10	8	11	9.5
M 10	1.25	FAB0203235	76	20	10	8	11	9.4
M 12	1.5	FAB0203236	89	29	9	7.1	10	10.5
M 14	1.5	FAB0203237	95	30	11.2	9	12	12.5
M 16	1.5	FAB0203239	102	32	12.5	10	13	14.5

HSS



High Performance Cutting Tools



HAND TAPS

HSS HAND TAPS



These are straight flute general purpose taps which can be used for both machine or hand tapping. They are generally the most economical tool for use on production runs, but are best on materials that produce chips, or where the swarf breaks readily. Where deep holes are to be tapped, in materials which produce stringy swarf, other types of taps may be needed, especially for coarse threads.

Hand taps can be supplied in sets of three; bottom, second and taper leads, or individually.

BOTTOM TAPS have a chamfer (lead) of 1–2 threads, the angle of the lead being around 18 degrees per side. They are used to produce threads close to the bottom of blind holes.

SECOND TAPS have a lead of 3-5 threads at 8 degrees per side. They are the most popular and can be used for through holes, or blind holes where the thread does not need to go right to the bottom.

TAPER TAPS have a lead of 7-10 threads at 5 degrees per side. The taper lead distributes the cutting force over a large area, and the taper shape helps the thread to start. They can therefore be used to start a thread prior to use of second or bottom leads, or for through holes.

SELECTION GUIDE



HSS HAND TAPS

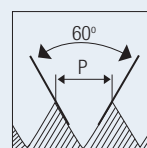
	THREAD FORM	BLANK STANDARD	APPLICATION	CHAMFER	COATING	PAGE
	M	ISO	6H	T/S/B	Bright	114
	MF	ISO	6H	T/B	Bright	116
	M	ISO Long Shank	6H	T	Bright	119
	M	ISO Long Shank	6H	S	Bright	120
	M/MF	ISO Long Shank	6H	B	Bright	121
	M/MF	ISO Long Shank	6H	B/4-4.5P	Bright	123
	M	ISO	6H	Serial Form	Bright	124
	BSW	ISO	6H	T/S/B	Bright	125
	BSF	ISO	6H	T/S/B	Bright	127
	BA	ISO	6H	T/S/B	Bright	128
	BSB	ISO	6H	T/S/B	Bright	129
	BS Con	ISO	6H	T/B	Bright	130
	ME	ISO	6H	T/S/B	Bright	131
	BSP	ISO 2284	6H	T/B	Bright	132
	BSPT	ISO 2284	6H	T/B	Bright	133
	UNC	ISO	2B	T/S/B	Bright	134
	UNF	ISO	2B	T/S/B	Bright	136
	NPT	ANSI	6H	T/B	Bright	138
	NPS	ANSI	6H	T/B	Bright	139



HSS Hand Taps

M

Metric coarse threads



HOLE TYPE



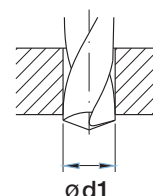
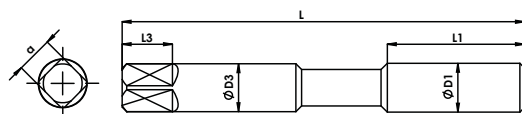
HSS

ISO
529

6H

T/S/B

BF

Reinforced Shank (M3 - M10)
Male Centre upto M5

Unit : mm

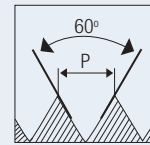
Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 1.6	0.35	FAA0201729	41	8	2.5	2	4	1.25
M 2	0.4	FAA0201745	41	8	2.5	2	4	1.6
M 2.2	0.45	FAA0201761	44.5	9.5	2.8	2.24	5	1.75
M 2.3	0.4	FAA0201766	44.5	9.5	2.8	2.24	5	1.9
M 2.5	0.45	FAA0201771	44.5	9.5	2.8	2.24	5	2.05
M 2.6	0.45	FAA0201782	44.5	9.5	2.8	2.24	5	2.15
M 3	0.5	FAA0201787	48	11	3.15	2.5	5	2.5
M 3.5	0.6	FAA0201828	50	13	3.55	2.8	5	2.9
M 4	0.7	FAA0201847	53	13	4	3.15	6	3.3
M 4.5	0.75	FAA0201889	53	13	4.5	3.55	6	3.75
M 5	0.8	FAA0201897	58	16	5	4	7	4.2
M 6	1	FAA0201939	66	19	6.3	5	8	5
M 7	1	FAA0201985	66	19	7.1	5.6	8	6
M 8	1.25	FAA0202003	72	22	8	6.3	9	6.75
M 9	1.25	FAA0202051	72	22	9	7.1	10	7.75
M 10	1.5	FAA0202072	80	24	10	8	11	8.5
M 11	1.5	FAA0202123	85	25	8	6.3	9	9.5



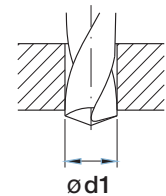
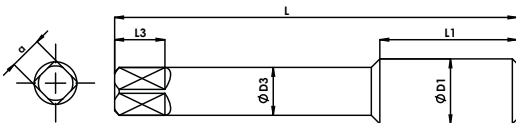
HSS Hand Taps



Metric coarse threads



HOLE TYPE



Reduced Shank (M12 - M56)

Unit : mm

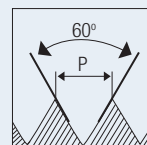
Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 12	1.75	FAA0202141	89	29	9	7.1	10	10.25
M 14	2	FAA0202177	95	30	11.2	9	12	12
M 16	2	FAA0202204	102	32	12.5	10	13	14
M 18	2.5	FAA0202247	112	37	14	11.2	14	15.5
M 20	2.5	FAA0202265	112	37	14	11.2	14	17.5
M 22	2.5	FAA0202302	118	38	16	12.5	16	19.5
M 24	3	FAA0202325	130	45	18	14	18	21
M 27	3	FAA0202360	135	45	20	16	20	24
M 30	3.5	FAA0202381	138	48	20	16	20	26.5
M 33	3.5	FAA0202405	151	51	22.4	18	22	29.5
M 36	4	FAA0202418	162	57	25	20	24	32
M 39	4	FAA0202440	170	60	28	22.4	26	35
M 42	4.5	FAA0202449	170	60	28	22.4	26	37.5
M 45	4.5	FAA0202459	187	67	31.5	25	28	40.5
M 48	5	FAA0202468	187	67	31.5	25	28	43
M 52	5	FAA0202477	200	70	35.5	28	31	47
M 56	5.5	FAA0202481	200	70	35.5	28	31	50.5



HSS Hand Taps

MF

Metric fine threads



HOLE TYPE



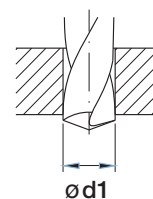
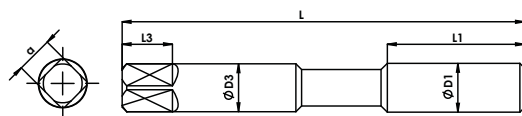
HSS

ISO
529

6H

T/B

BF

Reinforced Shank (M3 - M10)
Male Centre upto M5

Unit : mm

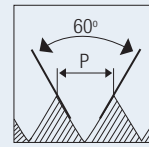
Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.35	FAA0202535	48	11	3.15	2.5	5	2.12
M 3	0.6	FAA0202541	48	11	3.15	2.5	5	2.12
M 4	0.5	FAA0202564	53	13	4	3.15	6	2.8
M 4	0.75	FAA0202575	53	13	4	3.15	6	2.8
M 5	0.5	FAA0202588	58	16	5	4	7	3.55
M 5.5	0.9	FAA0202614	62	17	5.6	4.5	7	4
M 6	0.5	FAA0202626	66	19	6.3	5	8	4.5
M 6	0.75	FAA0202633	66	19	6.3	5	8	4.5
M 7	0.75	FAA0202665	66	19	7.1	5.6	8	5.3
M 8	1	FAA0202697	69	19	8	6.3	9	6
M 9	1	FAA0202731	69	19	9	7.1	10	7.1
M 10	1	FAA0202758	76	20	10	8	11	7.5
M 10	1.25	FAA0202786	76	20	10	8	11	7.5
M 11	1.25	FAA0202829	82	22	8	6.3	9	9.75
M 12	1	FAA0202845	80	24	9	7.1	10	11
M 12	1.25	FAA0202869	84	24	9	7.1	10	10.8
M 12	1.5	FAA0202893	89	29	9	7.1	10	10.5
M 14	1	FAA0202945	87	22	11.2	9	12	13
M 14	1.25	FAA0202966	90	25	11.2	9	12	12.8
M 14	1.5	FAA0202988	95	30	11.2	9	12	13.5
M 16	1	FAA0203041	92	22	12.5	10	13	15



HSS Hand Taps

MF

Metric fine threads



HOLE TYPE



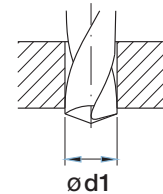
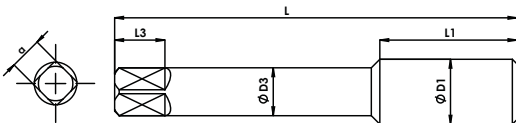
HSS

ISO
529

6H

T/B

BF



Reduced Shank (M12 - M56)

Unit : mm

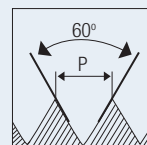
Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 16	1.5	FAA0203063	102	32	12.5	10	13	14.5
M 18	1	FAA0203097	97	22	14	11.2	14	17
M 18	1.5	FAA0203106	104	29	14	11.2	14	16.5
M 18	2	FAA0203129	112	37	14	11.2	14	16
M 20	1	FAA0203146	102	27	14	11.2	14	19
M 20	1.5	FAA0203155	104	29	14	11.2	14	18.5
M 20	2	FAA0203180	112	37	14	11.2	14	18
M 22	1	FAA0203195	109	29	16	12.5	16	21
M 22	1.5	FAA0203201	113	33	16	12.5	16	20.5
M 22	2	FAA0203218	118	38	16	12.5	16	20
M 24	1	FAA0203227	114	29	18	14	18	23
M 24	1.5	FAA0203233	120	35	18	14	18	22.5
M 24	2	FAA0203253	120	35	18	14	18	22
M 25	1	FAA0203266	114	29	18	14	18	24
M 25	1.5	FAA0203273	120	35	18	14	18	23.5
M 27	1.5	FAA0203306	127	37	20	16	20	25.5
M 27	2	FAA0203315	127	37	20	16	20	25
M 28	1.5	FAA0203328	127	37	20	16	20	26.5
M 30	1.5	FAA0203343	127	37	20	16	20	28.5
M 30	2	FAA0203358	127	37	20	16	20	28



HSS Hand Taps

MF

Metric fine threads



HOLE TYPE



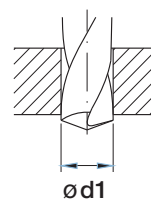
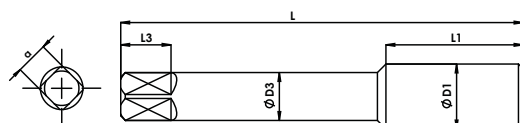
HSS

ISO
529

6H

T/B

BF



Reduced Shank (M12 - M56)

Unit : mm

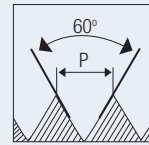
Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 30	3	FAA0203370	138	48	20	16	20	27
M 32	1.5	FAA0203384	137	37	22.4	18	22	30.5
M 33	1.5	FAA0203397	137	37	22.4	18	22	31.5
M 33	2	FAA0203402	137	37	22.4	18	22	31
M 33	3	FAA0203408	151	51	22.4	18	22	30
M 36	1.5	FAA0203434	144	39	25	20	24	34.5
M 36	2	FAA0203441	144	39	25	20	24	34
M 36	3	FAA0203449	162	57	25	20	24	33
M 39	1.5	FAA0203463	149	39	28	22.4	26	37.5
M 39	2	FAA0203466	149	39	28	22.4	26	37
M 39	3	FAA0203469	170	60	28	22.4	26	36
M 40	1.5	FAA0203476	149	39	28	22.4	26	38.5
M 42	1.5	FAA0203489	149	39	28	22.4	26	40.5
M 42	3	FAA0203499	170	60	28	22.4	26	39
M 45	1.5	FAA0203520	165	45	31.5	25	28	43.5
M 45	3	FAA0203528	187	67	31.5	25	28	42
M 48	1.5	FAA0203532	165	45	31.5	25	28	46.5
M 48	2	FAA0203538	165	45	31.5	25	28	46
M 48	3	FAA0203545	187	67	31.5	25	28	45



HSS Hand Taps



Metric coarse threads - long shank



(Taper-Type A)

HOLE TYPE



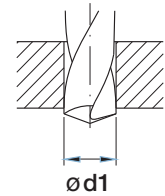
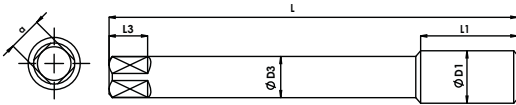
HSS

ISO
2283

6H



BF



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	TPI		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAA0203714	66	11	2.24	1.8	4	2.5
M 4	0.7	FAA0203721	73	13	3.15	2.5	5	3.3
M 5	0.8	FAA0203738	79	16	4	3.15	6	4.2
M 6	1	FAA0203747	89	19	4.5	3.55	6	5
M 8	1.25	FAA0203770	97	22	6.3	5	8	6.75
M 10	1.5	FAA0203794	108	24	8	6.3	9	8.5
M 12	1.75	FAA0203816	119	29	9	7.1	10	10.25
M 14	2	FAA0207063	127	30	11.2	9	12	12.5
M 16	2	FAA0203852	137	32	12.5	10	13	14
M 18	2.5	FAA0203867	149	37	14	11.2	14	15.5
M 20	2.5	FAA0203884	149	37	14	11.2	14	17.5

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

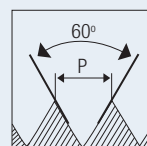
CS TAPS



HSS Hand Taps

M

Metric coarse threads - long shank



(Second-Type D)

HOLE TYPE



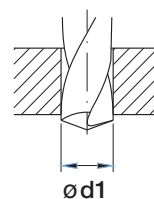
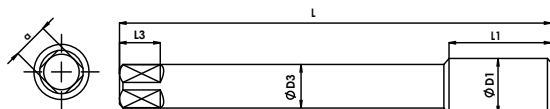
HSS

ISO
2283

6H

S

BF



Unit : mm

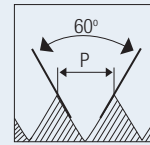
Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAA0203715	66	11	2.24	1.8	4	2.5
M 4	0.7	FAA0203722	73	13	3.15	2.5	5	3.3
M 5	0.8	FAA0203739	79	16	4	3.15	6	4.2
M 6	1	FAA0203748	89	19	4.5	3.55	6	5
M 8	1.25	FAA0203771	97	22	6.3	5	8	6.75
M 10	1.5	FAA0203795	108	24	8	6.3	9	8.5
M 12	1.75	FAA0203817	119	29	9	7.1	10	10.25
M 14	2	FAA0207305	127	30	11.2	9	12	12
M 16	2	FAA0203853	137	32	12.5	10	13	14
M 18	2.5	FAA0207306	149	37	14	11.2	14	15.5
M 20	2.5	FAA0203885	149	37	14	11.2	14	17.5



HSS Hand Taps

M/MF

Metric coarse & fine threads - long shank



(Bottom-Type C)

HOLE TYPE



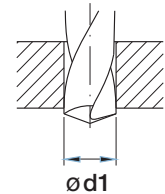
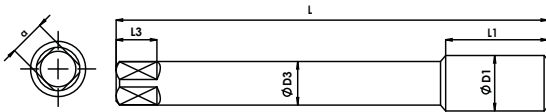
HSS

ISO
2283

6H

B

BF



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAA0203716	66	11	2.24	1.8	4	2.5
M 3.5	0.6	FAA0203719	68	13	2.5	2	4	2.9
M 4	0.7	FAA0203723	73	13	3.15	2.5	5	3.3
M 5	0.8	FAA0203740	79	16	4	3.15	6	4.2
M 6	1	FAA0203749	89	19	4.5	3.55	6	5
M 7	1	FAA0203759	89	19	5.6	4.5	7	6
M 8	1	FAA0203767	97	19	6.3	5	8	7
M 8	1.25	FAA0203772	97	22	6.3	5	8	6.75
M 9	1.25	FAA0203781	97	22	7.1	5.6	8	7.75
M 10	1	FAA0203786	108	20	8	6.3	9	9
M 10	1.25	FAA0203792	108	20	8	6.3	9	8.75
M 10	1.5	FAA0203796	108	24	8	6.3	9	8.5
M 12	1.25	FAA0203808	119	24	9	7.1	10	10.75
M 12	1.5	FAA0203813	119	29	9	7.1	10	10.5

HSS TAPS

DIES

END MILLS

DRILLS

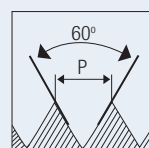
CARBIDE BURRS

CS TAPS



HSS Hand Taps

M/MF

Metric coarse & fine threads
- long shank

(Bottom-Type C)

HOLE TYPE



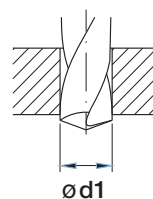
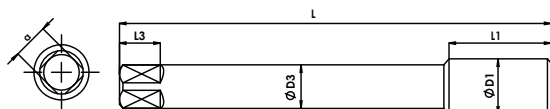
HSS

ISO
2283

6H

B

BF



Unit : mm

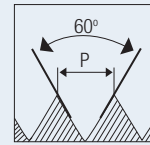
Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 12	1.75	FAA0203818	119	29	9	7.1	10	10.25
M 14	1.25	FAA0203828	127	25	11.2	9	12	12.75
M 14	1.5	FAA0203832	127	30	11.2	9	12	12.5
M 14	2	FAA0203841	127	30	11.2	9	12	12
M 16	1.5	FAA0203849	137	32	12.5	10	13	14.5
M 16	2	FAA0203854	137	32	12.5	10	13	14
M 18	1.5	FAA0203864	149	29	14	11.2	14	16.5
M 18	2.5	FAA0203868	149	37	14	11.2	14	15.5
M 20	1.5	FAA0203875	149	29	14	11.2	14	18.5
M 20	2.5	FAA0203886	149	37	14	11.2	14	17.5
M 22	2.5	FAA0203902	158	38	16	12.5	16	19.5
M 24	3	FAA0203918	172	45	18	14	18	21
M 27	3	FAA0203940	180	45	20	16	20	24
M 30	3.5	FAA0203955	183	48	20	16	20	26.5



HSS Hand Taps

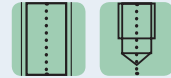
M/MF

Metric coarse & fine threads - long shank



(SPPT-Type B)

HOLE TYPE

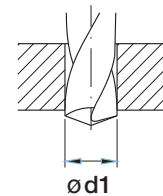
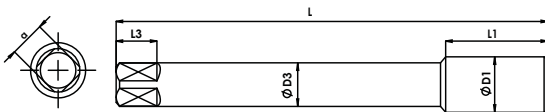


HSS

ISO 2283

6H

BF



Unit : mm

Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAA0203717	66	11	2.24	1.8	4	2.5
M 3.5	0.6	FAA0203720	68	13	2.5	2	4	2.9
M 4	0.7	FAA0203726	73	13	3.15	2.5	5	3.3
M 5	0.8	FAA0203743	79	16	4	3.15	6	4.2
M 6	1	FAA0203753	89	19	4.5	3.55	6	5
M 8	1.25	FAA0203775	97	22	6.3	5	8	6.75
M 10	1.25	FAA0203793	108	20	8	6.3	9	8.75
M 10	1.5	FAA0203798	108	24	8	6.3	9	8.5
M 12	1.5	FAA0203815	119	29	9	7.1	10	10.5
M 12	1.75	FAA0203821	119	29	9	7.1	10	10.25
M 14	1.5	FAA0203835	127	30	11.2	9	12	12.5
M 14	2	FAA0203842	127	30	11.2	9	12	12
M 16	1.5	FAA0203851	137	32	12.5	10	13	14.5
M 16	2	FAA0203857	137	32	12.5	10	13	14
M 18	1.5	FAA0203865	142	29	14	11.2	14	16.5
M 18	2.5	FAA0203869	149	37	14	11.2	14	15.5
M 20	1.5	FAA0203878	142	29	14	11.2	14	18.5
M 20	2.5	FAA0203888	149	37	14	11.2	14	17.5
M 22	2.5	FAA0203903	158	38	16	12.5	16	19.5
M 24	3	FAA0203920	172	45	18	14	18	21

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

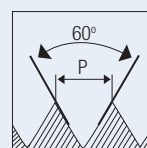
CS TAPS



HSS Hand Taps

M

Metric coarse threads - serial form



HOLE TYPE



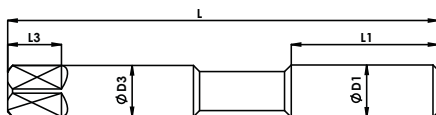
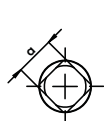
HSS

ISO
529

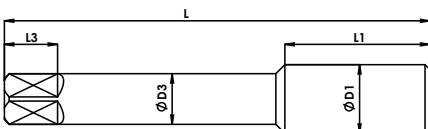
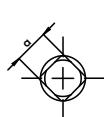
6H

T/S/B

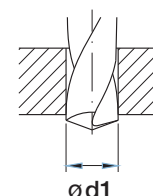
BF



Reinforced Shank (M3 - M10)



Reduced Shank (M12 - M30)



Unit : mm

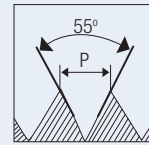
Nominal Diameter	Pitch	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1	p		L	L1	ØD3	a	L3	Ød1
M 3	0.5	FAA0201820	48	11	3.15	2.5	5	2.5
M 4	0.7	FAA0201880	53	13	4	3.15	6	3.3
M 5	0.8	FAA0201931	58	16	5	4	7	4.2
M 6	1	FAA0201976	66	19	6.3	5	8	5
M 8	1.25	FAA0202036	72	22	8	6.3	9	6.75
M 10	1.5	FAA0202107	80	24	10	8	11	8.5
M 12	1.75	FAA0202170	89	29	9	7.1	10	10.25
M 14	2	FAA0202197	95	30	11.2	9	12	12
M 16	2	FAA0202232	102	32	12.5	10	13	14
M 18	2.5	FAA0202262	112	37	14	11.2	14	15.5
M 20	2.5	FAA0202292	112	37	14	11.2	14	17.5
M 22	2.5	FAA0202321	118	38	16	12.5	16	19.5
M 24	3	FAA0202348	130	45	18	14	18	21
M 27	3	FAA0202375	135	45	20	16	20	24
M 30	3.5	FAA0202400	138	48	20	16	20	26.5



HSS Hand Taps

BSW

Whitworth coarse threads



HOLE TYPE



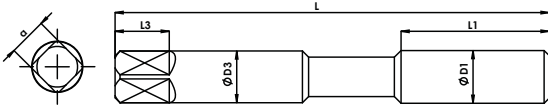
HSS

ISO
529

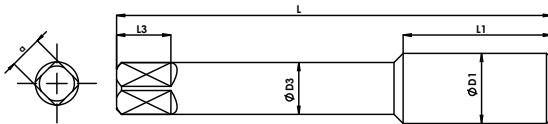
6H



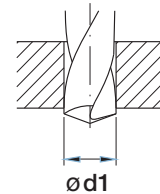
BF



Reinforced Shank (1/8" - 3/8")



Reduced Shank (7/16" - 2")



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/8"	40	FAA0200009	48	11	3.15	2.5	5	2.55
5/32"	32	FAA0200020	53	13	4	3.15	6	3.2
3/16"	24	FAA0200034	58	16	5	4	7	3.7
1/4"	20	FAA0200061	66	19	6.3	5	8	5.1
5/16"	18	FAA0200094	72	22	8	6.3	9	6.5
3/8"	16	FAA0200115	80	24	10	8	11	7.9
7/16"	14	FAA0200139	85	25	8	6.3	9	9.3
1/2"	12	FAA0200159	89	29	9	7.1	10	10.5
9/16"	12	FAA0200177	95	30	11.2	9	12	12.1
5/8"	11	FAA0200189	102	32	12.5	10	13	13.5
11/16"	11	FAA0200230	112	37	14	11.2	14	15.1

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

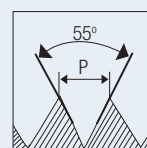
CS TAPS



HSS Hand Taps

BSW

Whitworth coarse threads



HOLE TYPE



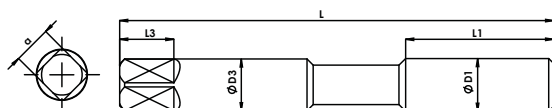
HSS

ISO
529

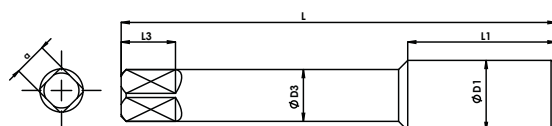
6H

T/S/B

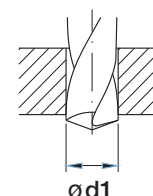
BF



Reinforced Shank (1/8" - 3/8")



Reduced Shank (7/16" - 2")



Unit : mm

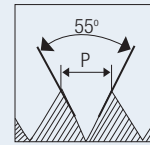
Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
3/4"	10	FAA0200211	112	37	14	11.2	14	16.25
7/8"	9	FAA0200235	118	38	16	12.5	16	19.25
1"	8	FAA0200254	130	45	18	14	18	22
1.1/8"	7	FAA0200274	138	48	20	16	20	24.75
1.1/4"	7	FAA0200281	151	51	22.4	18	22	28
1.3/8"	6	FAA0200290	162	57	25	20	24	30.1
1.1/2"	6	FAA0200294	170	60	28	22.4	26	33.5
1.5/8"	5	FAA0200302	170	60	28	22.4	26	35.7
1.3/4"	5	FAA0200304	187	67	31.5	25	28	39
1.7/8"	4.5	FAA0200308	187	67	31.5	25	28	41.3
2"	4.5	FAA0200312	200	70	35.5	28	31	44.5



HSS Hand Taps

BSF

Whitworth fine threads



HOLE TYPE



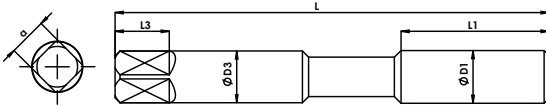
HSS

ISO 529

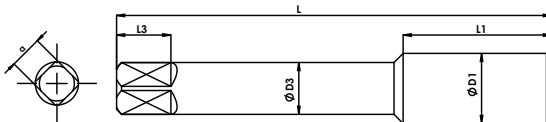
6H



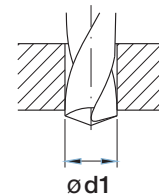
BF



Reinforced Shank (3/16" - 3/8")



Reduced Shank (7/16" - 2")



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
3/16"	32	FAA0200346	58	16	5	4	7	4
1/4"	26	FAA0200360	66	19	6.3	5	8	5.3
5/16"	22	FAA0200381	72	22	8	6.3	9	6.8
3/8"	20	FAA0200394	80	24	10	8	11	8.3
7/16"	18	FAA0200407	85	25	8	6.3	9	9.7
1/2"	16	FAA0200419	89	29	9	7.1	10	11.1
9/16"	16	FAA0200431	95	30	11.2	9	12	12.7
5/8"	14	FAA0200437	102	32	12.5	10	13	14
11/16"	14	FAA0200450	112	37	14	11.2	14	15.5
3/4"	12	FAA0200454	112	37	14	11.2	14	16.75
7/8"	11	FAA0200462	118	38	16	12.5	16	19.75
1"	10	FAA0200470	130	45	18	14	18	22.75
1.1/8"	9	FAA0200478	138	48	20	16	20	25.5
1.1/4"	9	FAA0200482	151	51	22.4	18	22	28.5
1.3/8"	8	FAA0200486	162	57	25	20	24	31.5
1.1/2"	8	FAA0200490	170	60	28	22.4	26	34.5
1.5/8"	8	FAA0200494	170	60	28	22.4	26	37.7
1.3/4"	7	FAA0200495	187	67	31.5	25	28	41
2"	7	FAA0200497	200	70	35.5	28	31	47

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

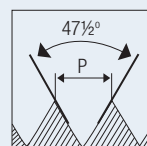
CS TAPS



HSS Hand Taps

BA

British association threads



HOLE TYPE



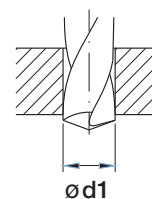
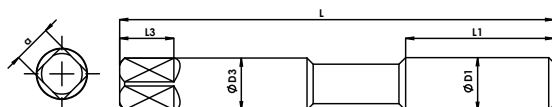
HSS

ISO
529

6H

T/S/B

BF



Unit : mm

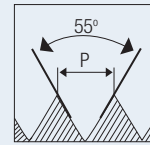
Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
# 12	90.9	FAA0200646	40	7	2.5	2	4	1.05
# 11	81.9	FAA0200642	41	8	2.5	2	4	1.2
# 10	72.6	FAA0200632	41	8	2.5	2	4	1.4
# 9	65.1	FAA0200623	41	8	2.5	2	4	1.55
# 8	59.1	FAA0200613	44.5	9.5	2.8	2.24	5	1.8
# 7	52.9	FAA0200601	44.5	9.5	2.8	2.24	5	2.05
# 6	47.9	FAA0200588	44.5	9.5	2.8	2.24	5	2.3
# 5	43	FAA0200576	48	11	3.15	2.5	5	2.65
# 4	38.5	FAA0200562	50	13	3.55	2.8	5	3
# 3	34.8	FAA0200552	53	13	4.5	3.55	6	3.4
# 2	31.4	FAA0200539	58	16	5	4	7	4
# 1	28.2	FAA0200527	62	17	5.6	4.5	7	4.5
# 0	25.4	FAA0200515	66	19	6.3	5	8	5.1



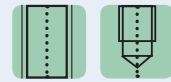
HSS Hand Taps

BSB

British standard brass threads



HOLE TYPE



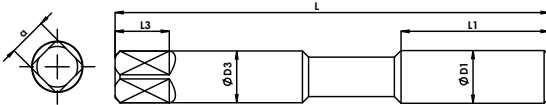
HSS

ISO
529

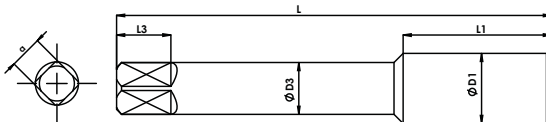
6H



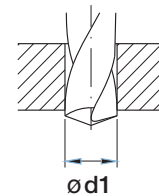
BF



Reinforced Shank (1/8" - 3/8")



Reduced Shank (7/16" - 2")



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	26	FAA0200651	66	19	6.3	5	8	5.3
5/16"	26	FAA0200656	69	19	8	6.3	9	5.8
3/8"	26	FAA0200661	76	20	10	8	11	8.4
7/16"	26	FAA0200666	82	22	8	6.3	9	10
1/2"	26	FAA0200671	84	24	9	7.1	10	11.5
9/16"	26	FAA0200676	90	25	11.2	9	12	13.1
5/8"	26	FAA0200681	95	25	12.5	10	13	14.7
3/4"	26	FAA0200686	104	29	14	11.2	14	17.8
7/8"	26	FAA0200690	113	33	16	12.5	16	21
1"	26	FAA0207315	120	35	18	14	18	24.2

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

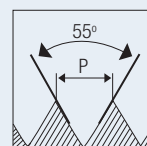
CS TAPS



HSS Hand Taps

BS Con

British standard conduit threads



HOLE TYPE



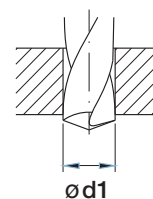
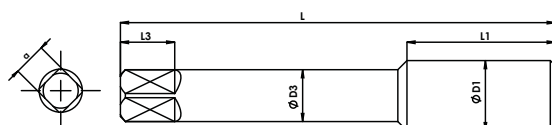
HSS

ISO
529

6H

T/B

BF



Unit : mm

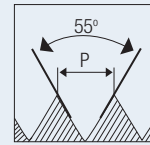
Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/2"	18	FAA0200696	84	24	9	7.1	10	11.5
5/8"	18	FAA0200699	95	25	12.5	10	13	14.2
3/4"	16	FAA0200701	104	29	14	11.2	14	17.5
1"	16	FAA0200706	120	35	18	14	18	23.8



HSS Hand Taps



Model engineers threads



HOLE TYPE



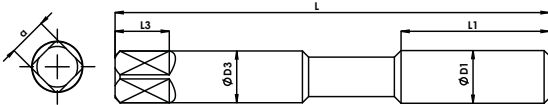
HSS

ISO
529

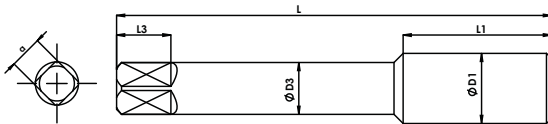
6H



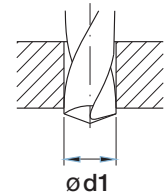
BF



Reinforced Shank (1/8" - 3/8")



Reduced Shank (7/16" - 2")



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/8"	40	FAA0207317	48	11	3.15	2.5	5	2.55
5/32"	40	FAA0200718	53	13	4	3.15	6	3.3
3/16"	40	FAA0200723	58	16	5	4	7	4
7/32"	40	FAA0200727	62	17	5.6	4.5	7	4.8
1/4"	40	FAA0200732	66	13	6.3	5	8	5.5
9/32"	32	FAA0200737	66	19	7.1	5.6	8	6.1
5/16"	32	FAA0200742	66	16	8	6.3	9	7
3/8"	32	FAA0200746	73	16	10	8	11	8.6
7/16"	32	FAA0207320	80	20	8	6.3	9	10.3
1/2"	32	FAA0207324	80	20	9	10	7.1	11.9

HSS TAPS

DIES

END MILLS

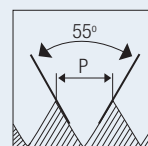
DRILLS

CARBIDE BURRS

CS TAPS



HSS Hand Taps

BSP**British standard pipe threads**

HOLE TYPE



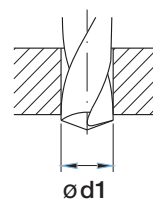
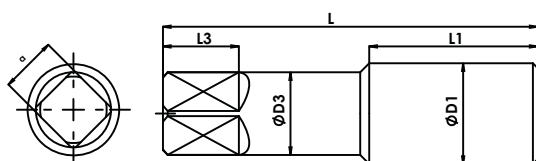
HSS

ISO
2284

6H

T/B

BF



Unit : mm

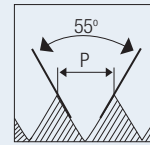
Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/8"	28	FAA0204602	59	15	8	6.3	9	8.8
1/4"	19	FAA0204623	67	19	10	8	11	11.8
3/8"	19	FAA0204644	75	21	12.5	10	13	15.25
1/2"	14	FAA0204662	87	26	16	12.5	16	19
5/8"	14	FAA0204678	91	26	18	14	18	21
3/4"	14	FAA0204686	96	28	20	16	20	24.5
7/8"	14	FAA0204700	102	29	22.4	18	22	28.25
1"	11	FAA0204706	109	33	25	20	24	30.75
1.1/4"	11	FAA0204721	119	36	31.5	25	28	39.5
1.1/2"	11	FAA0204732	125	37	35.5	28	31	45
1.3/4"	11	FAA0204742	132	39	35.5	28	31	51
2"	11	FAA0204745	140	41	40	31.5	34	57



HSS Hand Taps

BSPT

British standard taper pipe threads



HOLE TYPE



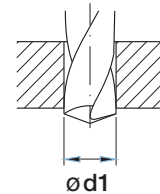
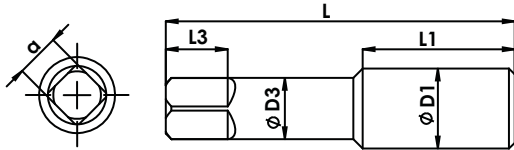
HSS

ISO
2284

6H

T/B

BF



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/8"	28	FAA0204833	59	15	8	6.3	9	8.8
1/4"	19	FAA0204846	67	19	10	8	11	11.8
3/8"	19	FAA0204855	75	21	12.5	10	13	15.25
1/2"	14	FAA0204863	87	26	16	12.5	16	19
3/4"	14	FAA0204871	96	28	20	16	20	24.5
1"	11	FAA0204880	109	33	25	20	24	30.75
1.1/4"	11	FAA0204889	119	36	31.5	25	28	39.5
1.1/2"	11	FAA0204892	125	37	35.5	28	31	45
2"	11	FAA0204895	140	41	40	31.5	34	57

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

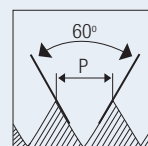
CS TAPS



HSS Hand Taps

UNC

Unified coarse threads



HOLE TYPE



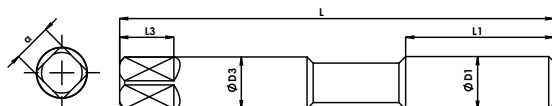
HSS

ISO
529

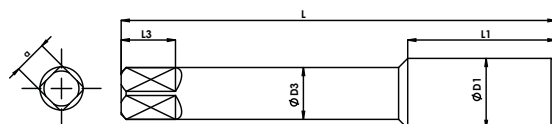
2B

T/S/B

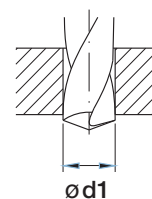
BF



Reinforced Shank (1/8" - 3/8")



Reduced Shank (7/16" - 2")



Unit : mm

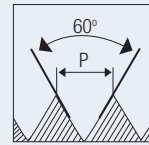
Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	20	FAA0200875	66	19	6.3	5	8	5.1
5/16"	18	FAA0200907	72	22	8	6.3	9	6.6
3/8"	16	FAA0200940	80	24	10	8	11	8
7/16"	14	FAA0200980	85	25	8	6.3	9	9.4
1/2"	13	FAA0201007	89	29	9	7.1	10	10.8
9/16"	12	FAA0201042	95	30	11.2	9	12	12.2
5/8"	11	FAA0201058	102	32	12.5	10	13	13.5
3/4"	10	FAA0201092	112	37	14	11.2	14	16.5
7/8"	9	FAA0201125	118	38	16	12.5	16	19.5
1"	8	FAA0201151	130	45	18	14	18	22.25
1.1/8"	7	FAA0201181	138	48	20	16	20	25
1.1/4"	7	FAA0201192	151	51	22.4	18	22	28
1.3/8"	6	FAA0201200	162	57	25	20	24	30.75
1.1/2"	6	FAA0201208	170	60	28	22.4	26	34
1.3/4"	5	FAA0201219	187	67	31.5	25	28	39.5
2"	4.5	FAA0201224	200	70	35.5	28	31	45



HSS Hand Taps

UNC

Unified coarse threads



HOLE TYPE



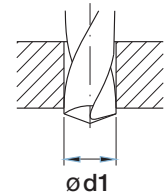
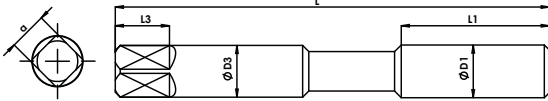
HSS

ISO
529

2B

T/S/B

BF



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
# 1	64	FAA0200810	41	8	2.5	2	4	1.55
# 2	56	FAA0200814	44.5	9.5	2.8	2.24	5	1.85
# 3	48	FAA0200819	44.5	9.5	2.8	2.24	5	2.1
# 4	40	FAA0200824	48	11	3.15	2.5	5	2.35
# 5	40	FAA0200833	48	11	3.15	2.5	5	2.65
# 6	32	FAA0200838	50	13	3.55	2.8	5	2.85
# 8	32	FAA0200845	53	13	4.5	3.55	6	3.5
# 10	24	FAA0200855	58	16	5	4	7	3.9
# 12	24	FAA0200866	62	17	5.6	4.5	7	4.5

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

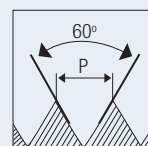
CS TAPS



HSS Hand Taps

UNF

Unified fine threads



HOLE TYPE



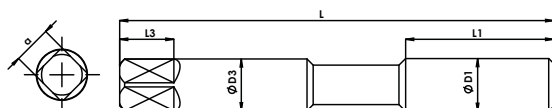
HSS

ISO
529

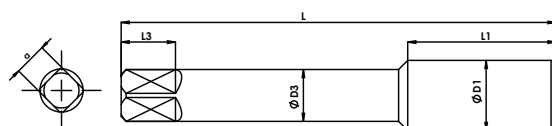
2B

T/S/B

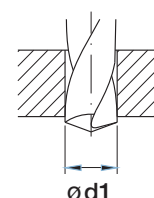
BF



Reinforced Shank (1/8" - 3/8")



Reduced Shank (7/16" - 2")



Unit : mm

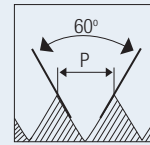
Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/4"	28	FAA0201315	66	19	6.3	5	8	5.5
5/16"	24	FAA0201349	69	19	8	6.3	9	6.9
3/8"	24	FAA0201390	76	20	10	8	11	8.5
7/16"	20	FAA0201430	82	22	8	6.3	9	9.9
1/2"	20	FAA0201455	84	24	9	7.1	10	11.5
9/16"	18	FAA0201488	90	25	11.2	9	12	12.9
5/8"	18	FAA0201503	95	25	12.5	10	13	14.5
3/4"	16	FAA0201528	104	29	14	11.2	14	17.5
7/8"	14	FAA0201555	113	33	16	12.5	16	20.4
1"	12	FAA0201586	120	35	18	14	18	23.25
1.1/8"	12	FAA0201610	127	37	20	16	20	26.5
1.1/4"	12	FAA0201622	137	37	22.4	18	22	29.5
1.3/8"	12	FAA0201629	144	37	25	20	24	32.75
1.1/2"	12	FAA0201637	149	39	28	22.4	26	36



HSS Hand Taps

UNF

Unified fine threads



HOLE TYPE



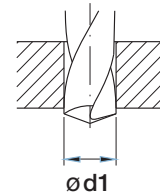
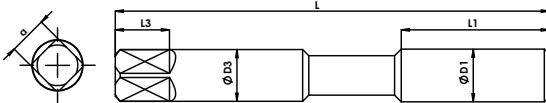
HSS

ISO
529

2B

T/S/B

BF



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
# 0	80	FAA0201236	41	8	2.5	2	4	1.25
# 1	72	FAA0201240	41	8	2.5	2	4	1.55
# 2	64	FAA0201243	44.5	9.5	2.8	2.24	5	1.9
# 3	56	FAA0201248	44.5	9.5	2.8	2.24	5	2.15
# 4	48	FAA0201253	48	11	3.15	2.5	5	2.4
# 5	44	FAA0201258	48	11	3.15	2.5	5	2.7
# 6	40	FAA0201263	50	13	3.55	2.8	5	2.95
# 8	36	FAA0201268	53	13	4.5	3.55	6	3.5
# 10	32	FAA0201275	58	16	5	4	7	4.1
# 12	28	FAA0201302	62	17	5.6	4.5	7	4.7

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

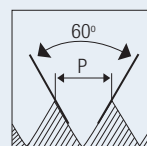
CS TAPS



HSS Hand Taps

NPT

National taper pipe threads



HOLE TYPE



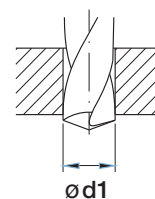
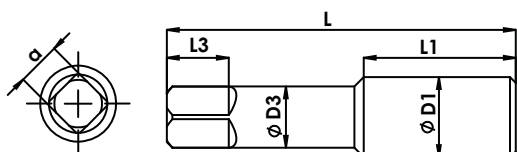
HSS

ANSI
94.9

6H

T/B

BF



Unit : mm

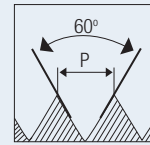
Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
ØD1			L	L1	ØD3	a	L3	Ød1
1/16"	27	FAA0204896	2.1/8	11/16	0.3125	0.234	3/8	6.3
1/8"	27	FAA0204899	2.1/8	3/4	0.4375	0.328	3/8	8.7
1/4"	18	FAA0204909	2.7/16	1.1/16	0.5625	0.421	7/16	11.1
3/8"	18	FAA0204919	2.9/16	1.1/16	0.7	0.531	1/2	14.5
1/2"	14	FAA0204928	3.1/8	1.3/8	0.6875	0.515	5/8	18
3/4"	14	FAA0204942	3.1/4	1.3/8	0.9063	0.679	11/16	23.25
1"	11.5	FAA0204950	3.3/4	1.3/4	1.125	0.843	13/16	29
1.1/4"	11.5	FAA0204957	4	1.3/4	1.3125	0.984	15/16	38
1.1/2"	11.5	FAA0204962	4.1/4	1.3/4	1.5	1.125	1	44
2"	11.5	FAA0204967	4.1/2	1.3/4	1.875	1.406	1.1/8	56
2.1/2"	8	FAA0204970	5.1/2	2.9/16	2.25	1.687	1.1/4	-
3"	8	FAA0207340	6	2.5/8	2.625	1.968	1.3/8	-



HSS Hand Taps

NPS

National pipe straight threads



HOLE TYPE



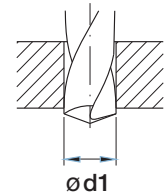
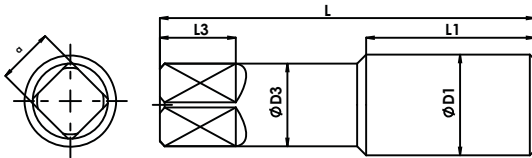
HSS

ANSI
94.9

6H

T/B

BF



Unit : mm

Nominal Diameter	TPI	EDP No.	Overall Length	Thread Length	Shank Diameter	Square Size	Square Length	Tapping Drill Diameter
Ø D			L	L1	Ø D3	a	L3	Ø d1
1/16"	27	FAA0207341	2.1/8	11/16	0.3125	0.234	3/8	6.3
1/8"	27	FAA0205002	2.1/8	3/4	0.4375	0.328	3/8	8.7
1/4"	18	FAA0207342	2.7/16	1.1/16	0.5625	0.421	7/16	11.1
3/8"	18	FAA0207343	2.9/16	1.1/16	0.7	0.531	1/2	14.5
1/2"	14	FAA0207344	3.1/8	1.3/8	0.6875	0.515	5/8	18
3/4"	14	FAA0207345	3.1/4	1.3/8	0.9063	0.679	11/16	23.25
1"	11.5	FAA0207346	3.3/4	1.3/4	1.125	0.843	13/16	29
1.1/4"	11.5	FAA0207349	4	1.3/4	1.3125	0.984	15/16	38
1.1/2"	11.5	FAA0207351	4.1/4	1.3/4	1.5	1.125	1	44
2"	11.5	FAA0207354	4.1/2	1.3/4	1.875	1.406	1.1/8	56

HSS TAPS

DIES

END MILLS

DRILLS

CARBIDE BURRS

CS TAPS

HSS TAPS



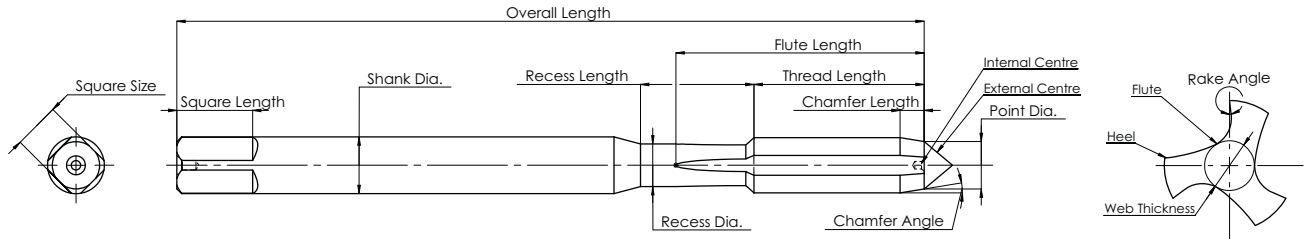
High Performance Cutting Tools



TECHNICAL DETAILS

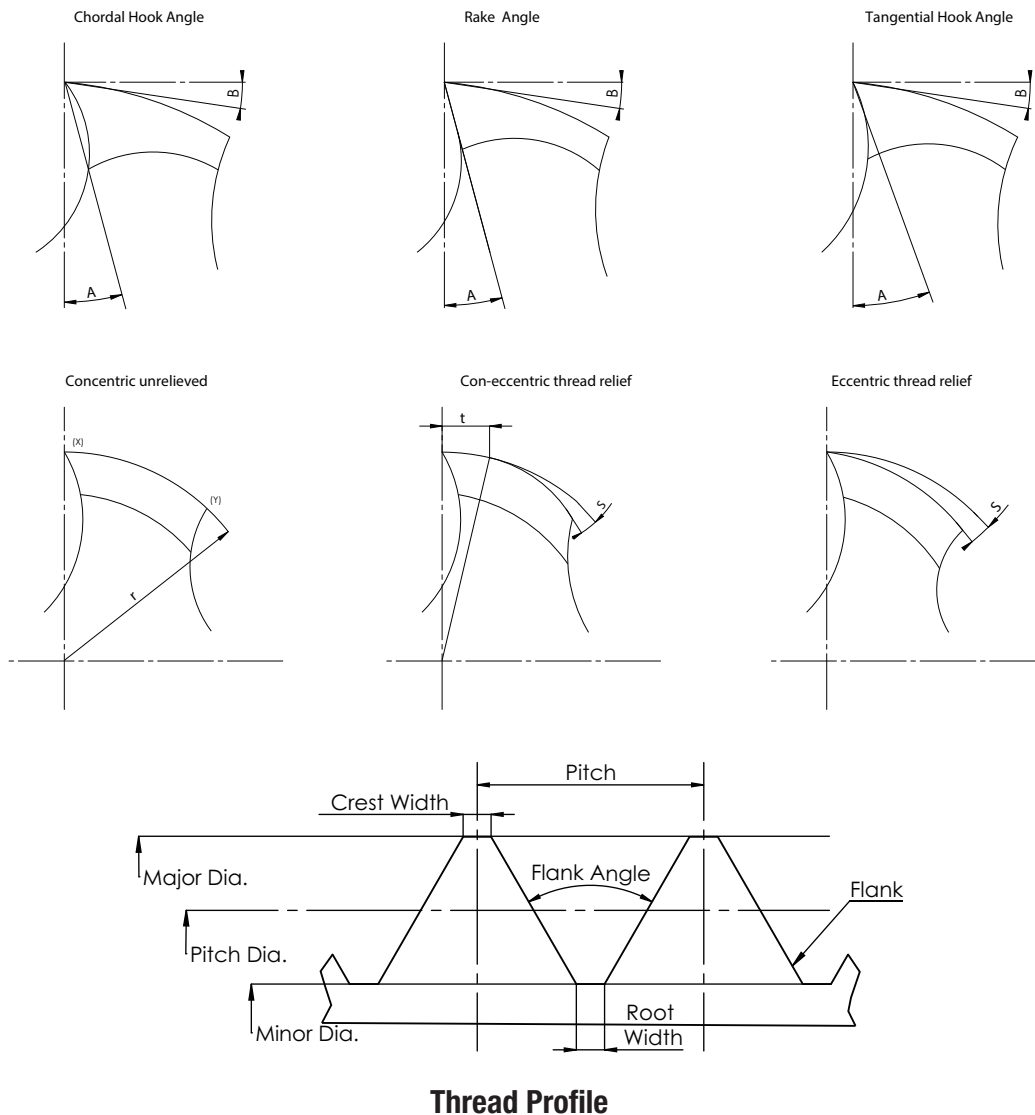


TAP NOMENCLATURE



- **THREAD LENGTH:** It is a total length of threaded portion.
- **OVERALL LENGTH:** The axial distance between the two extreme ends of a tap is called as the overall length of the tap.
- **SQUARE:** The square end of the tap shank, for holding it in the tap wrench.
- **SHANK :** It is the cylindrical part of tap which is used for hold or drive.
- **CUTTING EDGE :** The edge formed by the intersection of the flute face and the form of the thread, imposed on the land
- **FLUTE :** It is the groove in the body of tap which provides cutting edge. Permits removal of chips and allows coolant or lubricant to reach the cutting edge.
- **LAND :** It is the surface between cutting edge and non cutting edge
- **WEB :** The central portion of tap which joins the land and extending along the fluted portion of tap
- **WEB TAPER :** It is the increase in the web thickness from the entering end of the Tap towards the shank end of the flutes.
- **HEEL :** It is the edge formed by the intersection of the relieved surface behind the cutting edge and the flute
- **CHAMFER :** The taper on the threads at the front end of the tap made by grinding and relieving the crest of the first few teeth
- **RAKE ANGLE :** The angular relationship of the straight cutting face of the tooth with respect to a radial line through the crest of the tooth of cutting edge. There are three types of rake angle. The details given below. Positive rake means that the crest of the cutting face is angularly ahead. Negative rake means that the crest of the cutting face is angularly behind. Zero radial rake means the cutting face is directly on a radial line
- **CREST :** It is the prominent part of thread i.e. Top surface joining the two sides of thread
- **ROOT :** It is the bottom of groove between sides of two adjacent thread
- **FLANK :** The flank angle is the angle between individual flank and perpendicular to axis of thread, It is equal to half angle of thread
- **INCLUDED ANGLE :** It is the angle between two flanks of thread

TAP NOMENCLATURE

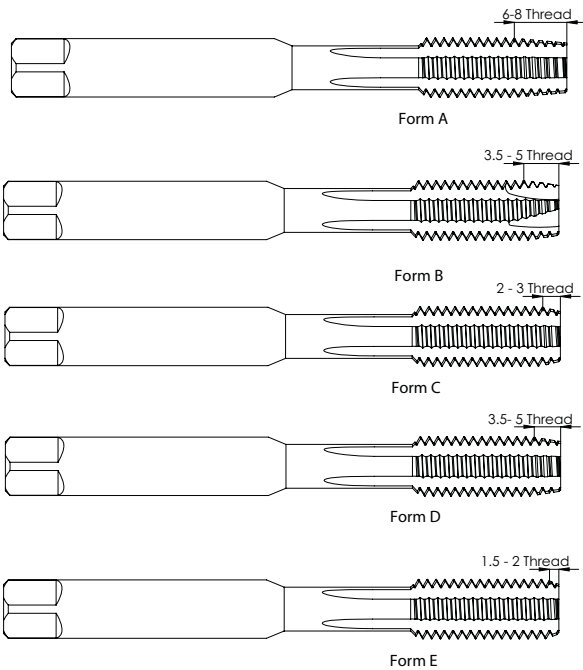


Thread Profile

- **DEPTH OF THREAD** : It is the distance between the crest and root of single thread
- **THREAD RELIEF** : The clearance produced on the land by gradually reducing the diameter of the entire thread form between the cutting edge and the non cutting edge
- **MAJOR DIAMETER** : It is the diameter over the crest of thread. Basic major diameter, it is the nominal diameter
- **MINOR DIAMETER** : It is the diameter between the two root of opposite thread.
- **EFFECTIVE DIAMETER (PCD)** : The pitch circle diameter of thread as generated by straight line parallel to axis of tap. This straight line is called as Pitch line. Along the pitch line the width of threads and width of spaces are equal on a perfect thread. This is the important parameter in screw thread and it decides the quality of fit between the two threaded assembly.



CHAMFER FORMS

**Form A**

6 - 8 threads for short through hole

Form B

3.5 - 5 threads with spiral point for all through holes and deep tapping holes

Form C

2 - 3 threads for blind holes; generally for aluminium and grey cast iron.

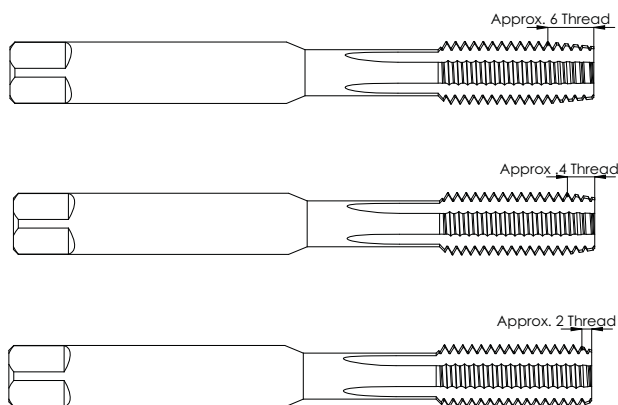
Form D

3.5 - 5 threads for short through hole

Form E

1.5 - 2 threads for blind holes with small run-out depth

Chamfer length for set of 3 taps

**Taper Tap**

6 threads approx.

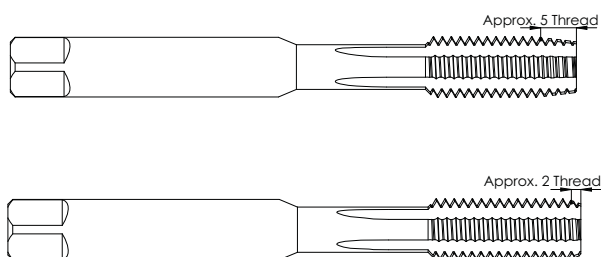
Second Tap

4 threads approx.

Bottom Tap

2 threads approx.

Chamfer length for set of 2 taps (Pairs)

**Taper Tap**

5 threads approx.

Bottom Tap

2 threads approx.

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.



MATERIAL DETAILS

High speed steel is used for construction of taps which plays a major role on the productivity of the tapping process. The High speed steel properties are often in contrast with one another: high hardness and hot hardness, high wear resistance, excellent cutting properties (cutting edge stability), and high toughness. Hence, the choice of high quality steel is vital in order to guarantee optimal tap performance.

Grade	Hardness	C%	W%	Mo%	Cr%	V%	Co%	ISO Standard
M2	810-850	0.9	6.4	5.0	4.2	1.8	-	HSS
M35	830-870	0.9	6.4	5.0	4.2	1.8	4.8	HSSE
M42	870-960	1.1	1.5	9.4	3.9	1.2	8.0	HSSE
Asp 30	870-910	1.3	6.4	5.0	4.2	3.1	8.5	ASP 30

Influence of the alloying elements on High speed steel are given below :

Carbon	:	Influences the hardness of the matrix and permits the formation of carbides
Tungsten	:	Increases hot hardness and wear resistance
Molybdenum	:	Improves hardenability and toughness
Vanadium	:	Increases wear resistance
Cobalt	:	Acts positively on hot hardness

Also heat treatment plays a major role in addition to composition and quality. The heat treatment must guarantee a good compromise between hardness, toughness, and other characteristics required by the tap. HSS heat treatment consists in heating the steel to high temperatures (austenitising) followed by a rapid cooling or quenching. The martensitic structure thus obtained has high hardness but is not sufficiently stable and tough to be used in taps. In order to stabilise the structure and increase toughness, a series of tempering cycles are made which also increase the hardness due to the formation of "secondary" carbides.



MATERIAL DETAILS

Material Group	Material Description	Content	Tensile Strength RM (MPa)*	Hardness (HB)	Hardness (HRC)
P0	Low-Carbon Steels, Long Chipping	C <0,25%	<530	<125	—
P1	Low-Carbon Steels, Short Chipping, Free Machining	C <0,25%	<530	<125	—
P2	Medium- and High-Carbon Steels	C >0,25%	<530	<220	<25
P3	Alloy Steels and Tool Steels	C >0,25%	600-850	<330	<35
P4	Alloy Steels and Tool Steels	C >0,25%	850-1400	340-450	35-48
P5	Ferritic, Martensitic, and PH Stainless Steels	—	600-900	<330	<35
P6	High-Strength Ferritic, Martensitic, and PH Stainless Steels	—	900-1350	350-450	35-48
M1	Austenitic Stainless Steel	—	<600	130-200	-
M2	High-Strength Austenitic Stainless and Cast Stainless Steels	—	600-800	150-230	<25
M3	Duplex Stainless Steel	—	<800	135-275	<30
K1	Grey Cast Iron	—	125-500	120-290	<32
K2	Low- and Medium-Strength Ductile Irons (Nodular Irons) and Compacted Graphite Irons (CGI)	—	<600	130-260	<28
K3	High-Strength Ductile Irons and Austempered Ductile Iron (ADI)	—	>600	180-350	<43
N1	Wrought Aluminium	—	—	—	—
N2	Low-Silicon Aluminium Alloys and Magnesium Alloys	Si <12,2%	—	—	—
N3	High-Silicon Aluminium Alloys and Magnesium Alloys	Si > 12,2%	—	—	—
N4	Copper-, Brass-, Zinc-Based on Machinability Index Range of 70-100	—	—	—	—
N5	Nylon, Plastics, Rubbers, Phenolics, Resins, Fibreglass	—	—	—	—
N6	Carbon, Graphite Composites, CFRP	—	—	—	—
N7	Metal Matrix Composites (MMC)	—	—	—	—
S1	Iron-Based, Heat-Resistant Alloys	—	500-1200	160-260	25-48
S2	Cobalt-Based, Heat-Resistant Alloys	—	1000-1500	250-450	25-48
S3	Nickel-Based, Heat-Resistant Alloys	—	600-1700	160-450	<48
S4	Titanium and Titanium Alloys	—	900-1600	300-400	33-48
H1	Hardened Materials	—	—	—	44-48
H2	Hardened Materials	—	—	—	48-55
H3	Hardened Materials	—	—	—	56-60
H4	Hardened Materials	—	—	—	>60

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.



TECHNICAL DETAILS

MATERIAL DETAILS

Material Group	ANSI	DIN
P0	A36, 1008, 1010, 1018 through 1029; 1108, 1117	
P1	10L18, 1200 Series, 1213, 12L14	C15, Ck22, ST37-2, S235JR, 9SMnPb28, GS38
P2	1035, 1045, 10L45, 1050, 10L50, 1080, 1137, 1144, 11L44, 1525, 1545, 1572	ST52, S355JR, C35, GS60, Cf53
P3	1300, 2000, 3000, 4000, 5000, 8000, P20, SAE: A, D, H, O, S, M, T	16MnCr5, Ck45, 21CrMoV5-7, 38SMn28
P4	1300, 2000, 3000, 4000, 5000, 8000, P20, SAE: A, D, H, O, S, M, T	100Cr6, 30CrNiMo8, 42CrMo4, C70W2, S6525, X120Mn12
P5	15-5 PH, 13-8 PH, 17-4 PH, 400 and 500 Series	100Cr6, 30CrNiMo8, 42CrMo4, C70W2, S6525, X120Mn12
P6	15-5 PH, 13-8 PH, 17-4 PH, 400 and 500 Series	X102CrMo17, G-X120Cr29
M1	200 Series, 301, 302, 304, 304L, 309	X5CrNi 18 10, X2CrNiMo 17 13 2, G-X25CrNiSi18 9, X15CrNiSi 20 12
M2	310, 316, 316L, 321, 347, 384 ASTM Cast XM-1, XM-5, XM-7, XM-21	X2CrNiMo 13 4, X5NiCr 32 21, X5CrNiNb 18 10, G-X15CrNi 25-20
M3	323, 329, F55, 2205, S329000	X8CrNiMo27 5, X2CrNiMoN22 5 3, X20CrNiSi25 4, G-X40CrNiSi27 4
K1	class 20, 25, 30, 35, 40, 45, 50, 55, 60, G1800, G3000, G3500, G4000	GG15, GG25, GG30, GG40, GTW40
K2	60-40-18, 65-45-12, 80-55-06, SAE J434:D4018, D4512, D5506, ASTM A47: Grade 32510, 35018, SAE J158: Grade M3210, M4504, M5003, M5503, M7002, ASTM A842: Grade 250, 300, 350, 400, 450	GGG40, GTS35
K3	ASTM A536:100-70-03, 120-90-02, SAE J434: D7003, SAE J158:Grade M8501AST A897: 125-80-10, 150-100-7, 175-125-4, 200-150-1, 230-185	GGG60, GTW55, GTS65
N1	2025, 5050, 7050, 1000, 2017	AlMg1, Al99.5, AlCuMg1, AlCuBiPb, AlMgSi1, AlMgSiPb
N2	2024, 6061, 7075	GAISiCu4, GDAISi10Mg
N3	—	G-ALSi12, G-ALSi17Cu4, G-ALSi21CuNiMg
N4	C81500	CuZn40, Ms60, G-CuSn5ZnPb, CuZn37, CuSi3Mn
N5	—	LEXAN®, HOSTALEN™, Polystyrol, Makralon®
N6	Graphite, CFK, CFRP	CFK, GFK
N7	C63000	—
S1	INCOLOY® 800 Series, A608, A567, Discaloy™, INVAR®, N-155, 16-25-6, 19-9 DL; Cast: ASTM A-297, A-351, A-567, A-608	X1NiCrMoCu32 28 7, X12NiCrSi36 16, X5NiCrAlTi31 20, X40CoCrNi20 20
S2	Haynes® 25 (L605), Haynes 188, J-1570, Stellite®, AiResist 213; Cast: AiResist 13, Haynes 21, MAR-M302, MAR-M509, NASA Co-W-Re, WI-52	Haynes® 188, Stellite® 6,21,31
S3	Astroloy™, Hastelloy® B/C/ C-276 /X, INCONEL® 600 and 700 Series, IN102,INCOLOY 900 Series, Rene 41, Waspalloy®, Monel®, K-500, MAR-M20, NIMONIC®, UDIMET®	INCONEL® 690, INCONEL 625, Hastelloy®, NIMONIC® 75
S4	Pure: Ti 98.8, Ti 98.9,Ti 99.9; Alloyed: Ti 5Al-2.5Sn, Ti6Al-4V, Ti6Al-2Sn-4Zr-2Mo,Ti-3Al-8V-6Cr-4Mo-4Zr, Ti-10V-2Fe-3Al, Ti-13V-11Cr-3Al	Ti1, TiAl5Sn2, TiAl6V4, TiAl4Mo4Sn2
H1	Tool Steel H10, H11, H13, D2, D3, 4340, P20	GX260NiCr42, GX330NiCr42, GX300CrNiSi952, GX300CrMo153, HARDOX® 400
H2	Tool Steel H10, H11, H13, D2, D3, 4340, P20	—
H3	Tool Steel H10, H11, H13, D2, D3, 4340, P20	—
H4	Tool Steel H10, H11, H13, D2, D3, 4340, P20	—

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.



FORMULAS

TAP DRILL SIZE

- A. Tap Drill Size (Inch Size Cut Taps)
 $\text{Drill } \emptyset = \text{Basic O.D. OF Thread} - ((0.0130 \times \% \text{ of Full Thread}) / \text{Pitch (T.P.I.)})$
- B. Tap Drill Size (Inch Size Roll Form Taps)
 $\text{Drill } \emptyset = \text{BASIC O.D. OF Thread} - ((0.0068 \times \% \text{ of Full Thread}) / \text{Pitch (T.P.I.)})$
- C. Tap Drill Size (Metric Size Cut Taps)
 $\text{Drill } \emptyset = \text{Basic O.D. OF Thread} - ((\text{Pitch in mm} \times \% \text{ of Full Thread}) / 76.98)$
- D. Tap Drill Size (Metric Size Roll Form Taps)
 $\text{DRILL } \emptyset = \text{BASIC O.D. OF THD} - ((\text{Pitch in mm} \times \% \text{ of Full Thread}) / 147.06).$

OR

Drill Diameter = Nominal diameter - Pitch

INCH – METRIC CONVERSIONS

- A. INCHES TO MILLIMETERS $\text{MM} = \text{INCH} \times 25.4$
- B. MILLIMETERS TO INCHES $\text{INCH} = \text{MM} / 25.4$ - OR - $\text{INCH} = \text{MM} \times 0.03937$

THREADING FORMULAS

Cutting Speed	(Vc)	=	$\frac{N \times 3.14 \times D}{1000}$	(m/min)
RRM	(N)	=	$\frac{Vc \times 1000}{3.14 \times D}$	(RPM)
Torque	(Md)	=	$\frac{P^2 \times D \times Kc}{8000}$	(Nm)
Power	(P)	=	$\frac{Md \times 2 \times 3.14 \times N}{60}$	(KW)

Vc - Cutting Speed (m/min)

P - Pitch (mm)

Kc - Specific cutting force (N/mm²)

P - Power (KW)

Md - Torque (Nm)

D - Nominal Dia (mm)

N - RPM



HARDNESS AND TENSILE STRENGTH

Vickers Hardness No. HV	Rockwell C. Scale Hardness No. HRC	Brinell Hardness No. HB	Tensile strength N/mm ²
940	68		
900	67		
864	66		
829	65		
800	64		
773	63		
745	62		
720	61		
698	60		
675	59		
655	58	2200	
650	618	2180	
640	608	2145	
639	57	607	2140
630	599	2105	
620	589	2070	
615	56	584	2050
610	580	2030	
600	570	1995	
596	55	567	1980
590	561	1955	
580	551	1920	
578	54	549	1910
570	542	1880	
560	53	532	1845
550	523	1810	
544	52	517	1790
540	513	1775	
530	504	1740	
527	51	501	1730
520	494	1700	
514	50	488	1680
510	485	1665	
500	475	1630	
497	49	472	1620
490	466	1595	
484	48	460	1570
480	456	1555	
473	47	449	1530
470	447	1520	
460	437	1485	
458	46	435	1480
450	428	1455	
446	45	424	1440
440	418	1420	

Vickers Hardness No. HV	Rockwell C. Scale Hardness No. HRC	Brinell Hardness No. HB	Tensile strength N/mm ²
434	44	413	1400
423	43	402	1360
413	42	393	1330
403	41	383	1300
392	40	372	1260
382	39	363	1230
373	38	354	1200
364	37	346	1170
355	36	337	1140
350	333	1125	
345	35	328	1110
340	323	1095	
336	34	319	1080
330	314	1060	
327	33	311	1050
320	304	1030	
317	32	301	1020
310	31	295	995
302	30	287	970
300	285	965	
295	280	950	
293	29	278	940
290	276	930	
287	28	273	920
285	271	915	
280	27	266	900
275	261	880	
272	26	258	870
270	257	865	
268	25	255	860
265	252	850	
260	24	247	835
255	23	242	820
250	22	238	800
245	233	785	
243	21	231	780
240	228	770	
235	223	755	
230	219	740	
225	214	720	
220	209	705	
215	204	690	
210	199	675	
205	195	660	
200	190	640	

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.



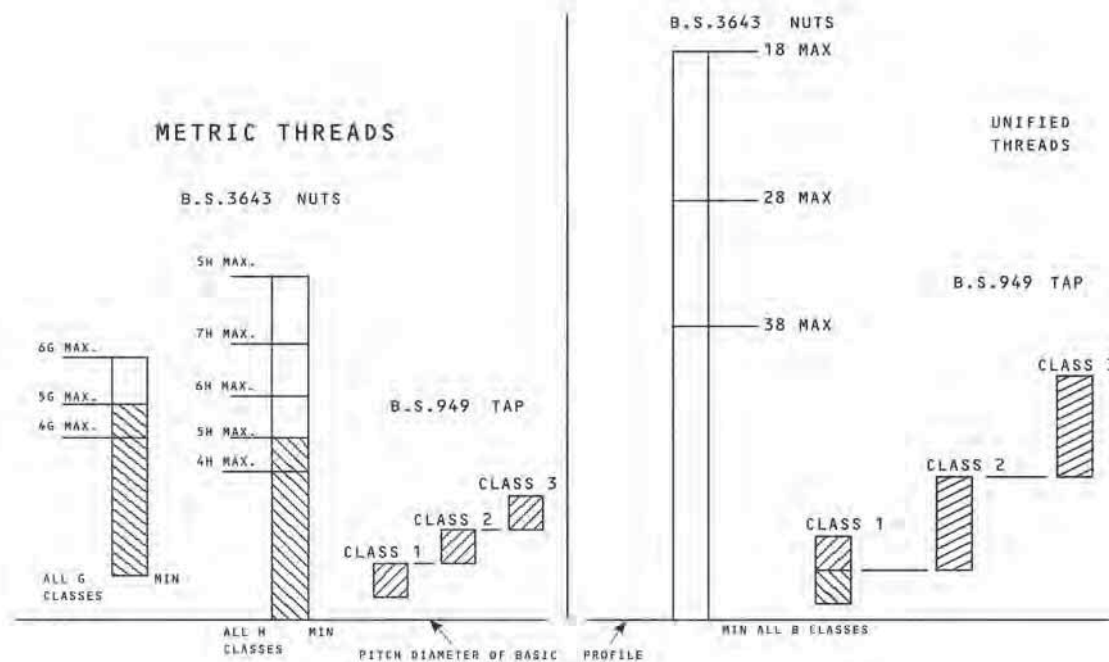
TABLE CUTTING SPEEDS

M/min	5	8	10	15	20	25	30	40	50	60	70	80	90	100	110	150
Tool dia mm /inch	Revolutions Per Minute (RPM)															
1	1592	2546	3138	4775	6366	7958	9549	12732	15916	19099	22282	25465	28648	31831	35014	47747
1.5	1061	1698	2122	3183	4244	5305	6366	8488	10610	12732	14854	16977	19099	21221	23343	31831
2	796	1273	1592	2387	3183	3979	4775	6366	7958	9549	11141	12732	14324	15916	17507	23873
2.5	637	1019	1273	1910	2546	3183	3820	5093	6366	7639	8913	10186	11459	12732	14006	19099
3	531	849	1061	1592	2122	2653	3183	4244	5305	6366	7427	8488	9549	10610	11671	15916
1/8"	500	801	1001	1501	2002	2502	3003	4004	5005	6006	7007	8008	9009	10010	11011	15015
3.5	455	728	909	1364	1819	2274	2728	3638	4547	5457	6366	7176	8185	9095	10004	13642
4	398	637	796	1194	1592	1989	2387	3183	3979	4775	5570	6366	7162	7958	8754	11937
4.5	354	566	707	1061	1415	1768	2122	2829	3537	4244	4951	5659	6366	7074	7781	10610
3/16"	334	535	669	1003	1337	1672	2006	2675	3344	4012	4681	5350	6018	6687	7356	10031
5	318	509	637	955	1273	1592	1910	2546	3183	3820	4456	5093	5730	6366	7003	9549
6	265	424	531	796	1061	1326	1592	2122	2653	3183	3714	4244	4775	5305	5836	7958
1/4"	251	401	501	752	1003	1253	1504	2005	2506	3008	3509	4010	4511	5013	5514	7519
7	227	364	455	682	909	1137	1364	1819	2274	2728	3183	3638	4093	4547	5002	6821
5/16"	200	321	401	601	802	1002	1203	1604	2004	2405	2806	3207	3608	4009	4410	6013
8	199	318	398	597	796	995	1194	1592	1989	2387	2785	3183	3581	3979	4377	5968
9	177	283	354	531	707	884	1061	1415	1768	2122	2476	2829	3183	3537	3890	5305
3/8"	167	267	334	501	668	835	1002	1336	1670	2004	2338	2672	3006	3340	3674	5010
10	159	255	318	477	637	796	955	1273	1592	1910	2228	2546	2865	3183	3501	4775
7/16"	143	229	287	430	573	716	860	1146	1433	1719	2006	2292	2579	2865	3152	4298
12	133	212	265	398	531	663	796	1061	1326	1592	1857	2122	2387	2653	2918	3979
1/2"	125	201	251	376	501	627	752	1003	1253	1504	1754	2005	2256	2506	2757	3760
14	114	182	227	341	455	568	682	909	1137	1364	1592	1819	2046	2274	2501	3410
9/16"	111	178	223	334	446	557	668	891	1114	1337	1559	1782	2005	2228	2450	3341
15	106	170	212	318	424	531	637	849	1061	1273	1485	1698	1910	2122	2334	3183

RECOMMENDED TAP TOLERANCES

Tap Tolerance BS 949	Class 1	Class 2	Class 3
Metric BS 3643	Classes 4H, 5H	Classes 6H, 4G, 5G	Classes 7H, 8H, 9G
Unified BS 1580	Class 3B	Class 2B	Class 1B
Whitworth BS 84	Close Class	Medium Class	Normal Class
B.A. BS 93	-	Normal Class	-

DISPOSITION OF TAP TOLERANCES IN RELATION TO NUT TOLERANCES FOR METRIC AND UNIFIED THREADS



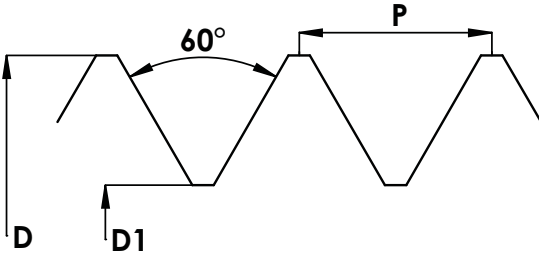
THREAD TOLERANCES FOR TAP TO ANSI 9-49

up to 1" Diameter	GH 2	Basic pitch diameter, plus 0.0005", plus 0.0010"
up to 1" Diameter	GH 3	Basic pitch diameter, plus 0.0010", plus 0.0015"
up to 1" Diameter	GH 4	Basic pitch diameter, plus 0.0015", plus 0.0020"
Over 1" Dia. to 1 1/2" Dia.	GH 4	Basic pitch diameter, plus 0.0010", plus 0.0020"
Over 1 1/2" Dia.	GH 7	Basic pitch diameter, plus 0.0015", plus 0.0035"

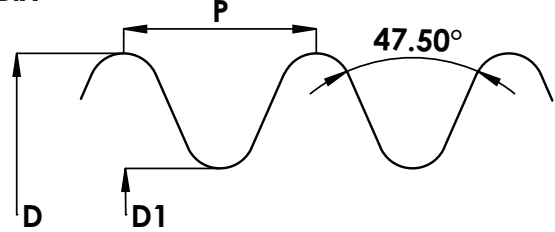


THREAD FORMS

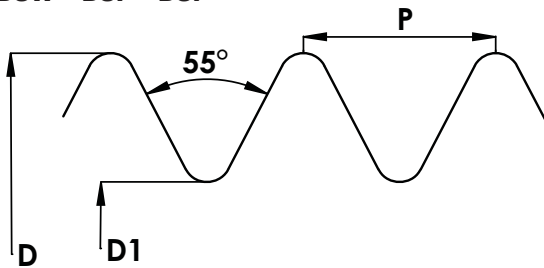
Metric ISO - UNC - UNF



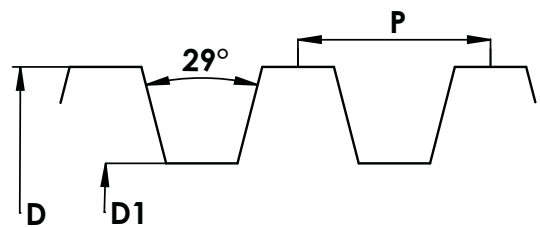
B.A



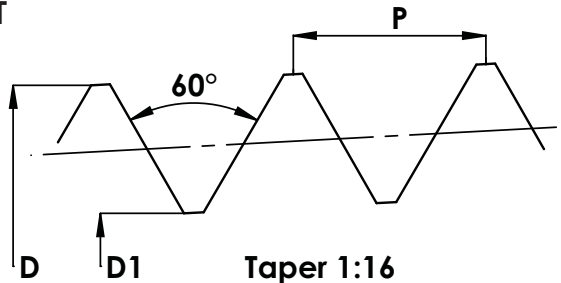
BSW - BSF - BSP



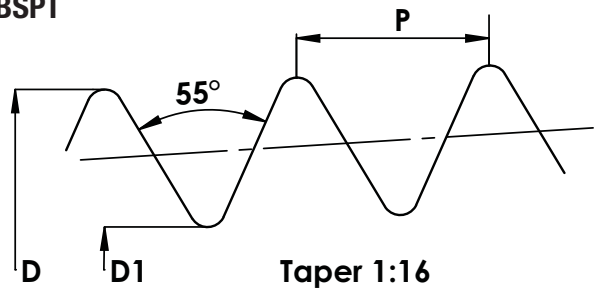
ACME



NPT



BSPT



ACME : Acme Thread
 BA : British Association Standard Thread
 BSF : British Standard Fine Thread Series
 BSP : British Standard Pipe
 BSPT : British Standard Taper Pipe Thread
 BSW : British Standard Whitworth Coarse Thread Series
 M : Metric Screw Thread Series
 NGT : National Gas Taper Thread (See "SGT")
 NPS : for Tap marking only (See NPSC, NPSM)
 NPSF : Dryseal American National Standard Fuel Internal Straight Pipe Thread
 NPSI : Dryseal American National Standard Intermediate Internal Straight Pipe Thread

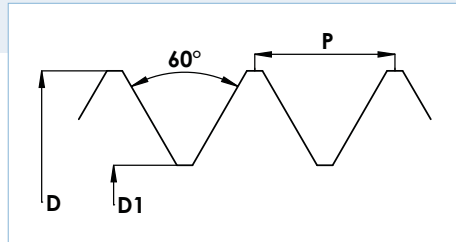
NPT : American National Standard Taper Pipe Thread
 NPTF : Dryseal American National Standard Taper Pipe Thread
 PG : Panzer Gewinder
 STI : Special Thread for Helical Coil Wire Screw Thread Inserts
 UN : Unified Constant Pitch Thread Series
 UNC : Unified Coarse Thread Series
 UNEF : Unified Extra Fine Thread Series
 UNF : Unified Fine Thread Series
 UNS : Unified Thread-Special
 WW : British Standard Whitworth Special Thread

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.



TECHNICAL DETAILS

RECOMMENDED TAP DRILL SIZES



Metric Coarse		
Nominal Diameter ØD	Pitch	Drill Size
2	0.4	1.6
2.2	0.45	1.75
2.3	0.4	1.9
2.5	0.45	2.05
2.6	0.45	2.1
3	0.5	2.5
3.5	0.6	2.9
4	0.7	3.3
4.5	0.75	3.7
5	0.8	4.2
6	1	5
7	1	6
8	1.25	6.8
9	1.25	7.8
10	1.5	8.5
11	1.5	9.5
12	1.75	10.2
14	2	12
16	2	14
18	2.5	15.5
20	2.5	17.5
22	2.5	19.5
24	3	21
27	3	24
30	3.5	26.5
33	3.5	29.5
36	4	32
39	4	35
42	4.5	37.5
45	4.5	40.5
48	5	43
52	5	47
56	5.5	50.5
60	5.5	54.5
64	6	58
68	6	62

Metric Fine		
Nominal Diameter ØD	Pitch	Drill Size
2.5	0.35	2.15
3	0.35	2.65
3.5	0.35	3.15
4	0.5	3.5
4.5	0.5	4
5	0.5	4.5
6	0.75	5.2
7	0.75	6.2
8	0.75	7.2
8	1	7
9	1	8
10	0.75	9.2
10	1	9
10	1.25	8.8
11	1	10
12	1	11
12	1.25	10.8
12	1.5	10.5
14	1	13
14	1.25	12.8
14	1.5	12.5
15	1	14
15	1.5	13.5
16	1	15
16	1.5	14.5
17	1	16
17	1.5	15.5
18	1.5	16.5
18	2	16
20	1	19
20	1.5	18.5
20	2	18
22	1	21
22	1.5	20.5
22	2	20
24	1	23
24	1.5	22.5
24	2	22
24	1	24
25	1.5	23.5

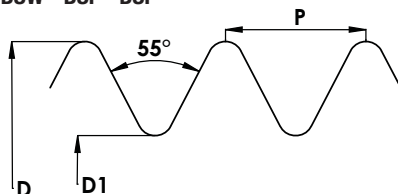
Metric Fine		
Nominal Diameter ØD	Pitch	Drill Size
26	1.5	24.5
27	1	26
27	1.5	25.5
27	2	25
28	1.5	26.5
28	2	26
30	1	29
30	1.5	28.5
30	2	28
32	1.5	30.5
32	2	30
33	1.5	31.5
33	2	31
33	3	30
35	1.5	33.5
36	1.5	34.5
36	2	34
36	3	33
38	1.5	36.5
39	1.5	37.5
39	2	37
39	3	36
40	1.5	38.5
40	2	38
40	3	37
42	1.5	40.5
42	2	40
42	3	39
45	1.5	43.5
45	2	43
45	3	42
48	1.5	46.5
48	2	46
48	3	45
50	1.5	48.5
50	2	48
50	3	47
52	1.5	50.5
52	2	50
52	3	49

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.



RECOMMENDED TAP DRILL SIZES

BSW - BSF - BSP



BSW		
Nominal Diameter	TPI	Drill Size in mm
Ø D		
1/16"	60	1.2
3/32"	48	1.9
1/8"	40	2.6
5/32"	32	3.2
3/16"	24	3.7
7/32"	24	4.5
1/4"	20	5.1
9/32"	20	5.8
5/16"	18	6.5
3/8"	16	7.9
7/16"	14	9.3
1/2"	12	10.5
9/16"	12	12.1
5/8"	11	13.5
11/16"	11	15.1
3/4"	10	16.3
7/8"	9	19.3
15/16"	9	20.6
1"	8	22.0
1.1/8"	7	24.8
1.1/4"	7	28.0
1.3/8"	6	30.5
1.1/2"	6	33.5
1.5/8"	5	36.0
1.3/4"	5	39.0
1.7/8"	4 ½	41.3
2"	4 ½	44.5

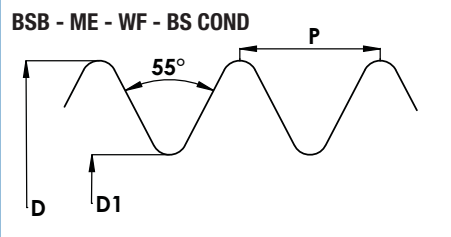
BSF		
Nominal Diameter	TPI	Drill Size in mm
Ø D		
3/16"	32	4
7/32"	28	4.6
1/4"	26	5.30
9/32"	26	6.00
5/16"	22	6.80
3/8"	20	8.30
7/16"	18	9.70
1/2"	16	11.10
9/16"	16	12.70
5/8"	14	14.00
11/16"	14	15.50
3/4"	12	16.75
7/8"	11	19.75
15/16"	11	21.50
1"	10	22.75
1.1/8"	9	25.50
1.1/4"	9	28.50
1.3/8"	8	31.50
1.1/2"	8	34.50
1.5/8"	8	37.70
1.3/4"	7	41.00
1.7/8"	7	43.70
2"	7	47.00

BSP		
Nominal Diameter	TPI	Drill Size in mm
Ø D		
1/8"	28	8.80
1/4"	19	11.80
3/8"	19	15.25
1/2"	14	19.00
5/8"	14	21.00
3/4"	14	24.50
7/8"	14	28.25
1"	11	30.75
1.1/4"	11	39.50
1.1/2"	11	45.00
1.3/4"	11	51.00
2"	11	57.00



TECHNICAL DETAILS

RECOMMENDED TAP DRILL SIZES



BSB		
Nominal Diameter ØD	TPI	Drill Size in mm
1/4"	26	5.3/4
9/32"	26	6.10
5/16"	26	6.90
3/8"	26	8.40
7/16"	26	10.00
1/2"	26	11.50
9/16"	26	13.1/13
5/8"	26	14.70
11/16"	26	16.50
3/4"	26	17.80
7/8"	26	21.00
1"	26	24.20
1.1/8"	26	27.50
1.1/4"	26	30.50
1.3/8"	26	33.70
1.1/2"	26	36.90
2	26	49.60

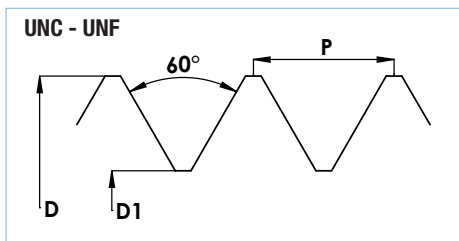
ME		
Nominal Diameter ØD	TPI	Drill Size in mm
1/8"	40	2.55
5/32"	40	3.30
3/16"	40	4.00
7/32"	40	4.80
1/4"	40	5.50
9/32"	32	6.10
5/16"	32	7.00
3/8"	32	8.60
7/16"	26	10.00
1/2"	26	11.50

BS COND.		
Nominal Diameter ØD	TPI	Drill Size in mm
1/2"	18	11.50
5/8"	18	14.20
3/4"	16	17.50
7/8"	16	20.60
1"	16	23.80
1.1/4"	16	30.10
1.1/2"	14	36.10
2	14	48.80

WHITWORTH FORM SPECIAL		
Nominal Diameter ØD	TPI	Drill Size in mm
1/4"	24/28/32	5.3, 5.4, 5.5
5/16"	24/40	6.75, 7.3
3/8"	24,40	8.4, 8.9
7/16"	20/24/40	9.8/10, 10.5
1/2"	20/24/40	11.5, 11.9, 12
9/16"	20	13.1
5/8"	20	14.5
11/16"	20	16.2
3/4"	14/20	17.1, 17.8
7/8"	14/16/20	20.0, 20.6, 21.0
1"	12/20	23.0, 24.0



RECOMMENDED TAP DRILL SIZES

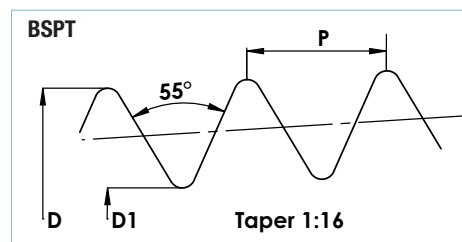
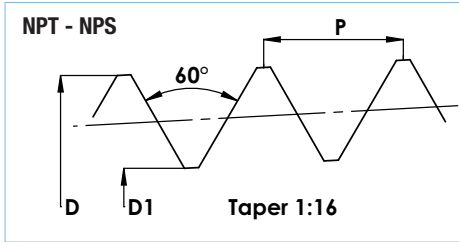


UNC		
Nominal Diameter	Pitch	Drill Size
Ø D		
#1	64	1.5
#2	56	1.8
#3	48	2.1
#4	40	2.3
#5	40	2.6
#6	32	2.85
#8	32	3.5
#10	24	3.9
#12	24	4.5
1/4"	20	5.2
5/16"	18	6.6
3/8"	16	8
7/16"	14	9.4
1/2"	13	10.75
9/16"	12	12.25
5/8"	11	13.5
3/4"	10	16.5
7/8"	9	19.5
1"	8	22.25
1.1/8"	7	25
1.1/4"	7	28.25
1.3/8"	6	30.75
1.1/2"	6	34
1.3/4"	5	39.5
2"	4.5	45.25

UNF		
Nominal Diameter	Pitch	Drill Size
Ø D		
#1	80	1.3
#2	72	1.6
#3	64	1.9
#4	56	2.1
#5	48	2.4
#6	44	2.7
#8	40	3
#10	36	3.5
#12	32	4.1
1/4"	28	4.7
5/16"	28	5.5
3/8"	24	6.9
7/16"	24	8.5
1/2"	20	9.9
9/16"	20	11.5
5/8"	18	12.9
3/4"	18	14.5
7/8"	16	17.5
1"	14	20.5
1.1/8"	12	23.25
1.1/4"	12	26.5
1.3/8"	12	29.5
1.1/2"	12	32.7
2"	12	36

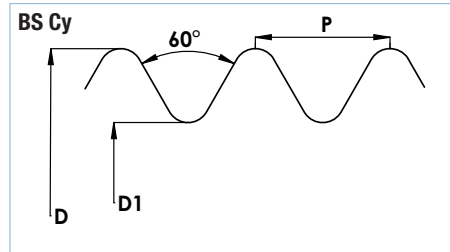
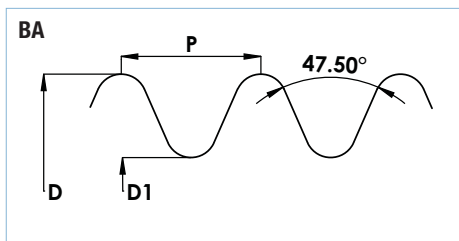


RECOMMENDED TAP DRILL SIZES



NPT & NPS			
Nominal Diameter	TPI	Drill Size in mm	
ØD		Tapping With Reamer	Tapping Without Reamer
1/16"	27	6.00	6.30
1/8"	27	8.40	8.70
1/4"	18	10.70	11.10
3/8"	18	14.25	14.50
1/2"	14	17.50	18.00
3/4"	14	22.75	23.25
1"	11.5	28.50	29.00
1.1/4"	11.5	37.50	38.00
1.1/2"	11.5	43.50	44.00
2" BA	11.5	55.00	56.00

BSPT		
Nominal Diameter	TPI	Drill Size in mm
ØD		
1/8"	28	8.80
1/4"	19	11.80
3/8"	19	15.25
1/2"	14	19.00
5/8"	14	21.00
3/4"	14	24.50
7/8"	14	28.25
1"	11	30.75
1.1/4"	11	39.50
1.1/2"	11	45.00
1.3/4"	11	51.00
2	11	57.00



BA			
Size	Diameter	TPI	Drill Size in mm
0	0.2362	25.4	5.10
1	0.2087	28.2	4.50
2	0.1850	31.4	4.00
3	0.1614	34.8	3.40
4	0.1417	38.5	3.00
5	0.1260	43	2.65
6	0.1102	47.9	2.30
7	0.0984	52.9	2.05
8	0.0866	59.1	1.80
9	0.0748	65.1	1.55
10	0.0669	72.6	1.40
11	0.0591	81.9	1.20
12	0.0512	90.9	1.05

BS Cy		
Size	TPI	Drill Size in mm
1/8"	40	2.65
5/32"	32	3.30
3/16"	32	4.10
7/32"	26	4.80
1/4"	26	5.60
5/16"	26	7.20
3/8"	26	8.70
7/16"	26	10.30
1/2"	26	11.90
9/16"	26	13.50
5/8"	26	15.00
3/4"	26	18.20
1"	24	24.50



SURFACE TREATMENT

While selecting the correct type of tap for a job, the material to be tapped should also be considered. This may determine the surface coating that should be applied to the tap in order to extend its life. Most taps are supplied with no surface treatment. They are referred to as 'Bright Finish'. These taps are mainly for use on non-ferrous materials, or steels that do not cold weld. Bright finish taps are therefore suitable for all hand operations, where speeds are too low for cold welding to occur, and for most machine operations.

STEAM OXIDE:

A black oxidized surface (Fe_3O_4) produced on the surface of a finished tap by means of a steam furnace. This oxidized surface is porous and helps retain cutting fluid in the working portion of the tap. The materials on which steam oxide has shown improvement in performance are stainless steels, steel forgings, tool and die steels, hot and cold rolled steels, and high nickel alloys.

TITANIUM NITRIDE (TiN):

A thin deposit (approx. 0.0001") applied to the surface of a finished tap utilizing PVD coating technology. TiN coating increases the surface hardness and wear resistance. Use of TiN coating on standard tools will help increase tool life in harder materials (up to 32 HRC), such as stainless steels, steel forgings, tool and die steels and hot and cold rolled steels. TiN coating also works very well with water-base cutting fluids.

TITANIUM CARBON NITRIDE (TiCN):

Similar to TiN, TiCN is applied utilizing PVD coating technology. This coating combines high hardness (approx. 2800 vickers) with the anti-seizure properties of Nitride. A lower coefficient of friction helps reduce welding by 75% over TiN coated tools. These features make TiCN especially beneficial in non-ferrous material and hardened steels.

TITANIUM ALUMINUM NITRIDE (TiAlN):

TiAlN is applied using PVD coating technology. The addition of aluminum reduces friction and increases the coating oxidation temperature. As a result, TiAlN has increased resistance to heat and oxidation wear. This makes TiAlN better suited for High Speed/High Heat applications. TiAlN coating is incorporated into many of our tools.



CUTTING SPEEDS BASED ON MACHINING CONDITION

Tapping speeds are determined by many factors. The main ones are:-

- a) Thread pitch
- b) Material being tapped
- c) Hole depth
- d) Hole type, through or blind
- e) Depth of thread
- f) Lubricant quality and flow rate

Tapping speeds should be decreased if :-

- a) Lubricant is poor, or flow is restricted
- b) Bottom lead or Spiral flute taps are used
- c) Thread depth (%) increases.
- d) Thread pitch is coarse
- e) Cutting taper threads (50% normal speed)
- f) Cutting Acme or Trapezoidal threads (40% normal speed)

Tapping speeds can be increased if:-

- a) Thread depth decreases
- b) Thread pitch is fine
- c) Coolant flow and quality is good
- d) Spiral point or Fluteless (Roll) taps are used



TROUBLESHOOTING

Many factors can affect the quality of a tapped thread.
Some more common problems are listed along with probable causes.

POOR THREAD FINISH

Misalignment of tap and work piece
Incorrect feed rate
Chips/swarf not being cleared properly
Tapping device or machine faulty
Insufficient or incorrect lubricant
Incorrectly ground or blunt tap
Wrong tap selection

OVERSIZE/BELL MOUTHED

Misalignment
Incorrect feed rate
Incorrect tapping drill
Tapping device or machine faulty
Insufficient or incorrect lubricant
Incorrectly ground or eccentric tap
Wrong tap selection

EXCESSIVE TAP WEAR

Wrong tap selection
Blunt or incorrectly sharpened tap
Insufficient or incorrect lubricant
Tapping speed too high
Hole work hardened
Taps Technical Information

COLD WELDING

Wrong material composition
Blunt or incorrectly sharpened tap
Insufficient or incorrect lubricant
Tapping speed too high
Material too soft

TAP BREAKING

Incorrectly sharpened/blunt tap
Tap hits bottom of hole
Machine or tapping device faulty
Wrong tap selection
Incorrect or insufficient lubricant
Tapping speed too high
Hole work hardened
Inefficient chip or swarf removal
Incorrect tapping drill size

TAP TEETH CHIPPING

Incorrectly sharpened/blunt tap
Tap hits bottom of hole
Machine or tapping device faulty

In order to minimize problems the following rules should be followed:-

- 1) Use a pitch controlled tapping attachment
- 2) Choose the correct lubricant
- 3) Use the correct type of tap for the job
- 4) Use the correct tapping drill size
- 5) Choose the correct speeds and feeds
- 6) Keep taps sharp. Regrind with a proper machine
- 7) Ensure accurate alignment
- 8) Check hardness of material, especially when changing batches
- 9) Ensure thread gauging is recently certified – they do wear !



TECHNICAL DETAILS

CUSTOM TOOL REQUEST FORM - HSS TAPS

HSS TAPS

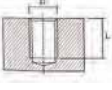
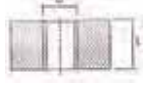
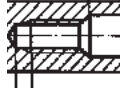
DIES

END MILLS

DRILLS

CARBIDE BURRS

CS TAPS

Customer:			
Customer Name		Date	
Address:			
Contact Person:			
Contact No.	Tel. _____	Mobile: _____	
	Email : _____		
Tap Details:		Work material Details:	
Tap Size :		Component Name:	
Tolerance/Gauge Details:		Material Type:	
Standard:		Hardness:	
Tap Dimensional Details (For Special)		Tensile Strength	
Pre Tapping Hole			
Type Of Hole			
<input type="checkbox"/> Drilled	<input type="checkbox"/> Reamed	<input type="checkbox"/> Punched	<input type="checkbox"/> Cast
<input type="checkbox"/> Blind Hole	<input type="checkbox"/> Through Hole	<input type="checkbox"/> Stepped Hole	
			
Drill /Hole Dia	Hole Depth:	Thread Depth:	
Machine Details			
Machine make/ Type :			
Operation:	<input type="checkbox"/> Vertical	<input type="checkbox"/> Horizontal	<input type="checkbox"/> Angular
	<input type="checkbox"/> Hand Tapping	<input type="checkbox"/> Machine Tapping	
Type Of Tap Holder:	<input type="checkbox"/> Rigid Type	<input type="checkbox"/> Floating Type	<input type="checkbox"/> Collect Chuck
Cutting Speed	_____ RPM	_____ M/Min	M/c Power: _____ hp
Lubrication	<input type="checkbox"/> Oil	<input type="checkbox"/> Water Soluble	<input type="checkbox"/> Brush
	<input type="checkbox"/> Air/Dry	<input type="checkbox"/> Other	
Type Of Chips:	<input type="checkbox"/> Continuous	<input type="checkbox"/> Semi Continous	<input type="checkbox"/> Short
	<input type="checkbox"/> Powder		
Coatings:	<input type="checkbox"/> Tin	<input type="checkbox"/> TiAlN	<input type="checkbox"/> TiCn
	<input type="checkbox"/> Other		
Current Supplier's Detail			
Tool Make:		Consumption/mth.: _____	
Tool Size: _____		Tool Price: _____	
Tool Life : _____		Cost Per Component: _____	
Additional Information if any:			
Sales Engineer		Branch Manager	
DSO:			

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.



TRIAL TOOL RESULTS FORM

Customer Name		Ref No.	
Address		Date	
		Sales/Apl. Engg.:	
Contact Person's Name & Dept.:		Contact No.:	
Tool Description:			
Component Details:		Operation Details:	
Component Name:		Type :	
Material:		Hole/Drill Depth:	
Hardness:		Hole Type:	
Tensile Strength:		Gauge Details:	
Recommended Parameters:			
Size:		Coolant:	
Speed:		These parameters are for only as a guide can vary according to working conditions	
Feed:			
Machine/Tapping Details:			
Present Status		Trial Status	
M/c. Type		Tool-1	Tool-2
Spindle rpm:			
Speed:			
Feed:			
Coolant:			
Tap Make:			
No Of Flutes:			
Type /Tool No:			
Life Obtained			
Kind of Failure		Thread Chip off / Thread worn out / No Go answering / Go Tight / Tap Breakage / Reverse Cutting / Chip Clogging / Built up edge	
Tool Consumption /Quarter:			
Cost / Component:			
Cycle time of operation:			
Trial Result Summary:			
Additional Information if any:			
Sales Engineer		Branch Manager	
DSO:			