

# 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



## FORMING TAPS

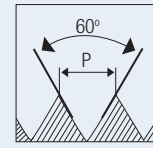
| SERIES |   | THREAD FORM | BLANK STANDARD | APPLICATION  | CHAMFER | COATING | PAGE |
|--------|---|-------------|----------------|--------------|---------|---------|------|
| SD1    |    | M           | DIN371/DIN376  | Aluminium    | C/2-3P  | Bright  | 98   |
| SD3    |    | M           | DIN371/DIN376  | 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



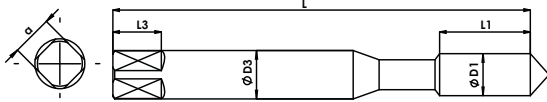
HSS-E

DIN  
371/376

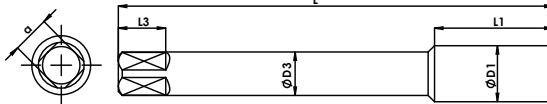
6HX

C/2-3P

BF

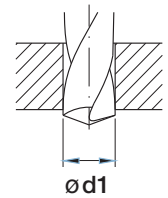


Reinforced Shank DIN371 (M3 - M10)



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                   |

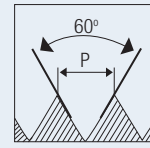


## Forming Machine Taps

## SD3 Series



### Metric coarse threads



HOLE TYPE



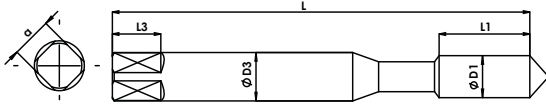
HSS-E

DIN  
371/376

6HX



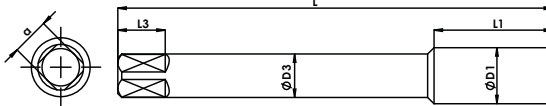
TiN



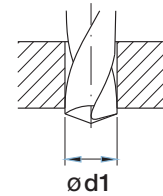
Reinforced Shank DIN371 (M3 - M10)



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                   |

HSS TAPS

DIES

END MILLS

DRILLS

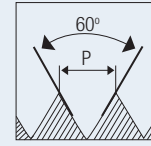
CARBIDE BURRS

CS TAPS



M

## Metric coarse threads



HOLE TYPE



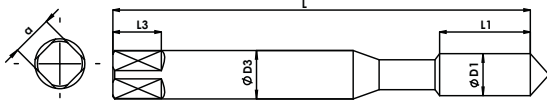
HSS-E

DIN  
371/376

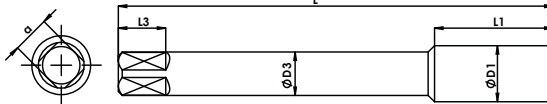
6HX

C/2-3P

TiAlN



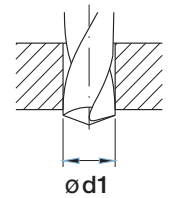
Reinforced Shank DIN371 (M3 - M10)



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                   |

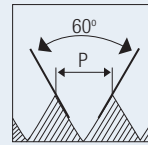


Forming Machine Taps

SD1 Series

**MF**

**Metric fine threads**

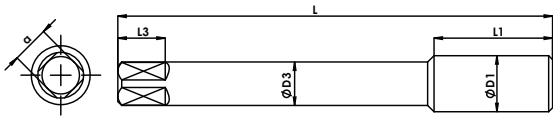


HOLE TYPE

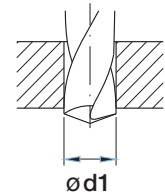


HSS-E
DIN 374
6HX
C/2-3P
BF

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

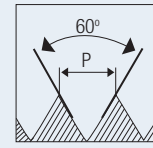
CARBIDE BURRS

CS TAPS



MF

## Metric fine threads



HOLE TYPE



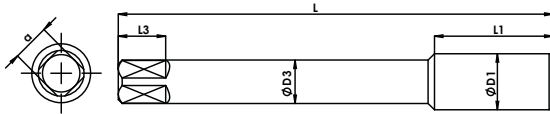
HSS-E

DIN  
374

6HX

C/2-3P

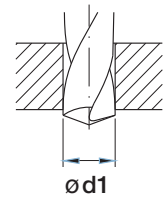
TiN



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            | Ød1                    |
| 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                   |



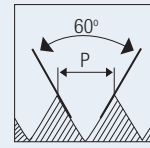


## Forming Machine Taps

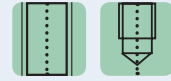
## SD4 Series



### Metric fine threads



HOLE TYPE



HSS-E

DIN 374

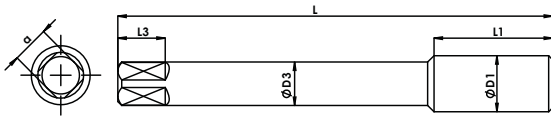
6HX



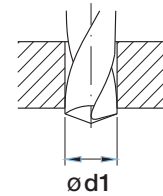
TiAIN

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

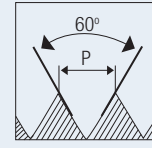
DRILLS

CARBIDE BURRS

CS TAPS

**M**

## Metric coarse threads - without oil groove



HOLE TYPE



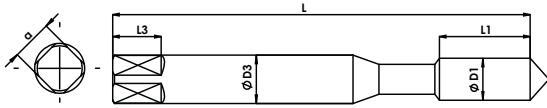
HSS-E

DIN  
371

6HX

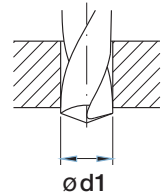
C/2-3P

BF



Reinforced Shank DIN371

N1-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   | 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                    |

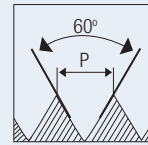


Forming Machine Taps

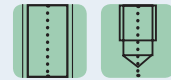
SD3 Series



**Metric coarse threads - without oil groove**



HOLE TYPE



HSS-E

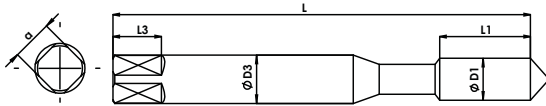
DIN 371

6HX

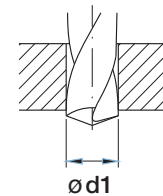


TiN

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

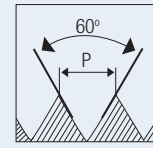
CARBIDE BURRS

CS TAPS



M

## Metric coarse threads



HOLE TYPE



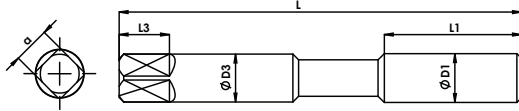
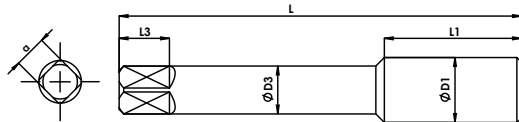
HSS-E

ISO  
529

6HX

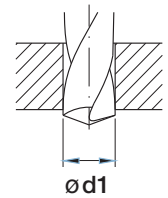
C/2-3P

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                   |

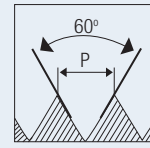


## Forming Machine Taps

## SD3 Series



### Metric coarse threads



HOLE TYPE



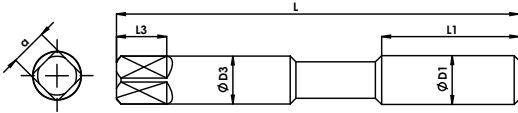
HSS-E

ISO 529

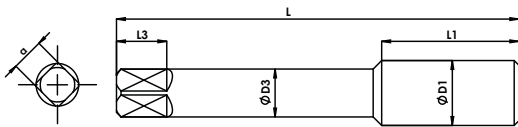
6HX

C/2-3P

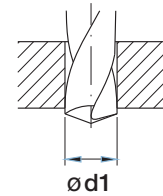
TiN



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                   |

HSS TAPS

DIES

END MILLS

DRILLS

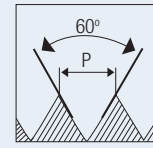
CARBIDE BURRS

CS TAPS



M

## Metric coarse threads



HOLE TYPE



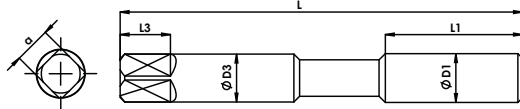
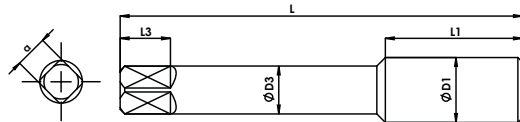
HSS-E

ISO  
529

6HX

C/2-3P

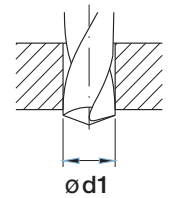
TiCN

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            | Ød1                    |
| 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                   |

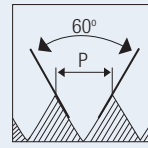


Forming Machine Taps

SD1 Series

**MF**

**Metric fine threads**

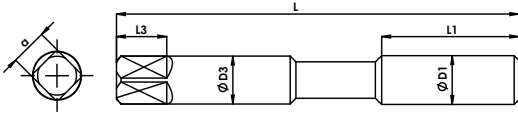


HOLE TYPE

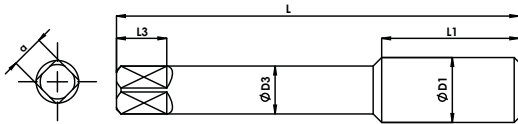


HSS-E
ISO 529
6HX
C/2-3P
BF

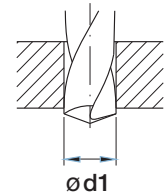
**P1**



Reinforced Shank (M8 - M10)



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 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

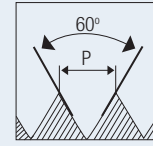
CARBIDE BURRS

CS TAPS



MF

## Metric fine threads



HOLE TYPE



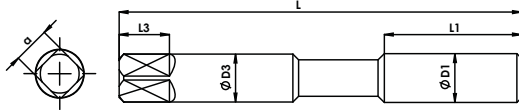
HSS-E

ISO  
529

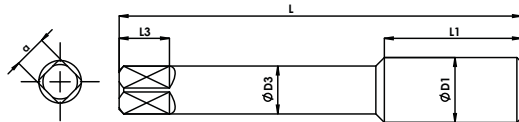
6HX

C/2-3P

TiN



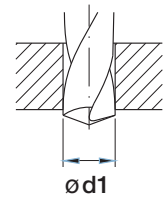
Reinforced Shank (M8 - M10)



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                   |