



Auto Feed Drills & Tappers Tools



1.2 Selection

The Ultimate Power Tools

Introduction and Contents



The international CP group, founded in 1901, continues to be a world leader in power tool technology.

Since 1960, CP have been providing machine builders with Automatic Feed Drills (AFD) for low cost, special purpose machine tools.

During this period production engineers have successfully introduced AFD's into their machining processes to reduce cycle times and increase productivity.

The flexibility of a unique modular design enables the user to easily adapt

existing equipment to perform a new operation.

By combining the benefits of long experience and a highly innovative approach to product design, Desoutter determine the trends others follow.

What is an Auto Feed Drill?



The CP range of Auto Feed Drills and Tappers are fixture mounted tools combining linear feed and rotation for machining and tapping operations.

There are 3 basic model types:

AFD/AFT – Pneumatic Feed and Drive

AFDE – Pneumatic Feed with Electric Drive

AFTE – Electric Drive and Feed via a Leadscrew

A wide range of accessories allow the tools to be configured to suit the application and include mounting clamps, output spindles, multiple spindle heads and various control options for interfacing with PLC's or pneumatics.

Contents

3	Introduction	18	Auto Feed Tapper Selection
6	Auto Feed Drill Selection		
12	Auto Feed Drill Quick Reference Charts	24	Auto Feed Tapper Quick Reference Charts



Introduction

The CP Auto Feed Drill and Tapper selector is a comprehensive handbook to allow the engineer to select the appropriate AFD for the application. For both drilling and tapping certain parameters must be defined prior to beginning the selection process:

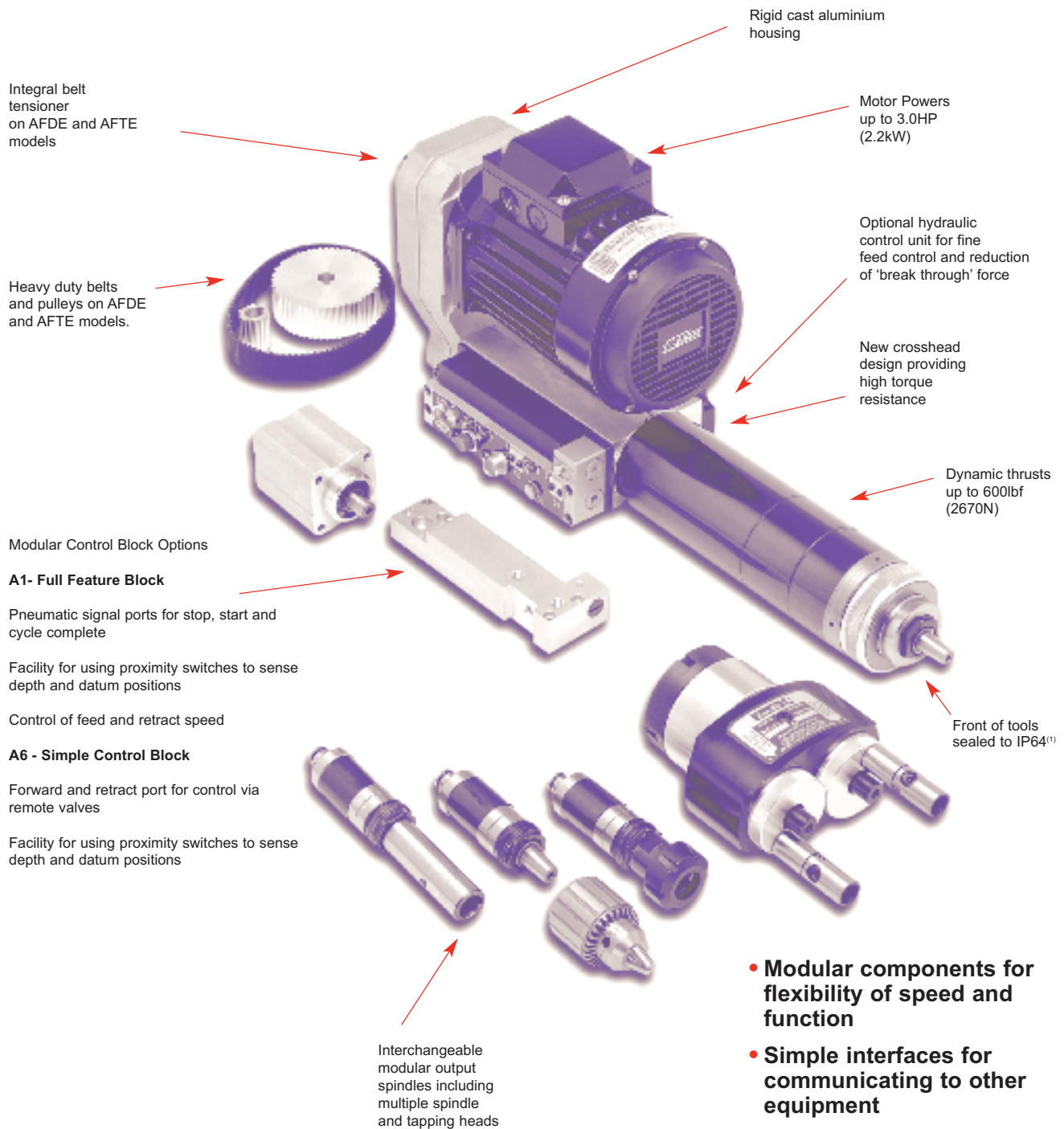
- Hole or thread diameter (D)
- Number of holes (H)
- Depth of hole to be drilled or tapped (L)
- The material to be machined (p)
- Pitch of thread (tapping only)
- Electric or Pneumatic drive
- 60 or 50 Hz electrical supply (electric drive only)

The cutting data in the handbook has been supplied by Dormer Tools, Sheffield, UK. CP recommend the use of Dormer cutting tools with the AFD product range.

Quick reference charts are included in the handbook for the more common materials but the selection of AFD for the majority of materials commonly used in industry can be made using the formulae detailed overleaf. CP can provide details for most other materials not specified in the tables by the engineer completing the form on page 30 and returning it to the appropriate fax number on the back of the handbook.



Auto Feed Drill & Tapper Features



Integral belt tensioner on AFDE and AFTE models

Heavy duty belts and pulleys on AFDE and AFTE models.

Modular Control Block Options

A1- Full Feature Block

Pneumatic signal ports for stop, start and cycle complete

Facility for using proximity switches to sense depth and datum positions

Control of feed and retract speed

A6 - Simple Control Block

Forward and retract port for control via remote valves

Facility for using proximity switches to sense depth and datum positions

Interchangeable modular output spindles including multiple spindle and tapping heads

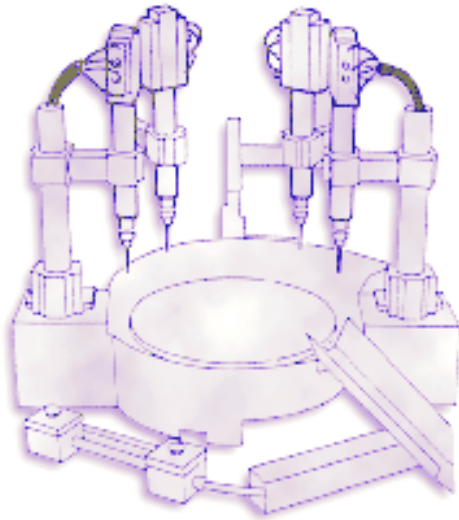
- **Modular components for flexibility of speed and function**
- **Simple interfaces for communicating to other equipment**
- **Control options including peck feed, dwell and skip feed**

General Information

- All performance data is obtained at a line pressure of 6.3 ± 0.15 bar in accordance with ISO2787 (1984).
- All speeds are nominal.
- Performance data is subject to alteration without prior notice.
- Unless stated otherwise dimensions are in mm.
- All imperial dimensions and performance data have been calculated from the measured metric values.
- Before using an AFD always refer to the operating and warning instructions supplied with the tool.
- For optimum efficiency and minimum maintenance for AFD it is recommended that a CP filter, regulator, lubricator is fitted to the airline. Further details can be obtained from your local CP representative.
- For AFD models maximum power is achieved at 50% of no load speed.

⁽¹⁾ AFD415, AFDE400/410 and AFDE610 tools only

Auto Feed Drill Applications

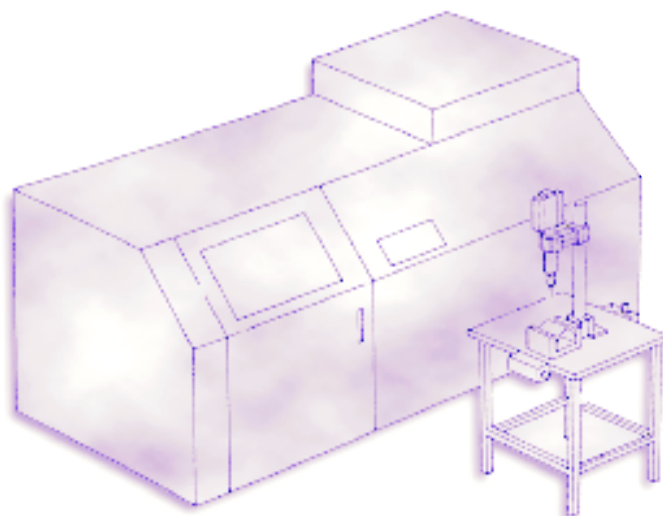
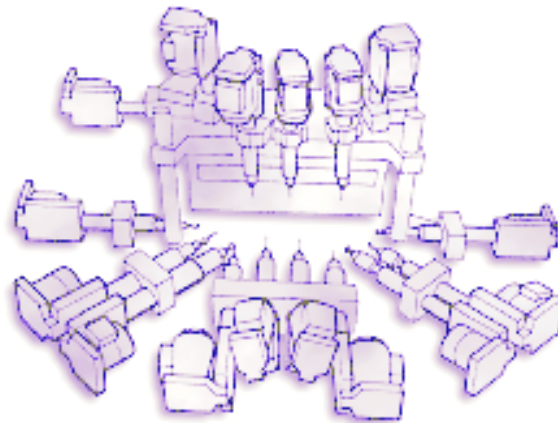


Ease of Incorporation into Machine or Process

- Extensive range of mounting clamps
- Control interfaces to link AFD(E) to other equipment through pneumatics or electrically
- Single signal required for AFD(E) to perform cycle
- Output signals at datum and depth

Modular Design

- Upgradeable product range to incorporate the latest features
- Flexibility of unit function and speed
- Common components in differing models reducing inventory
- Multiple spindle head options
- Drill and tapping options for all models



Comprehensive range of Product

- For single spindle operations to multi spindle processes
- Pneumatic and electric drive from 0.3-1.0HP (0.22-0.75kW) with thrusts from 72-350lbf (320-1557N)
- Reliability through quality

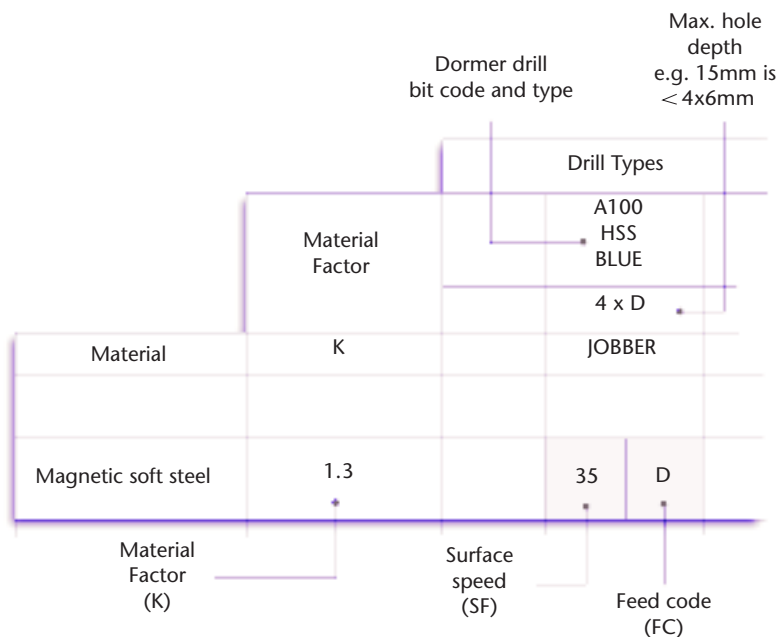


Auto Feed Drill Selection

Follow the steps listed to select an Auto Feed Drill (AFD):

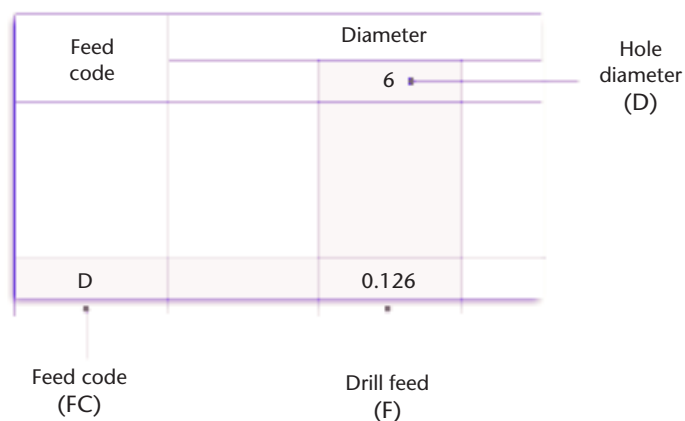
1. Using the material specification and the diameter of the hole (D) select the following items from the Application Material Group Table (table 1).

- Material Factor (K)
- Surface Speed +/-10% (SF)
- Feed Code (FC)



The Dormer drills which are excellent for the application are highlighted.

2. Using the hole diameter (D) and feed code (FC), select the drill feed from table 2.



Auto Feed Drill Selection

3. Calculate the **speed (N)** using:

$$(SF \times 1000) / (\pi \times D)$$

4. Calculate the **thrust (T)** using:

$$11.4 \times K \times D \times (100 \times F)^{0.85} \times H \quad \text{To convert to lbf} \times 0.224$$

5. Calculate the **power (P)** using:

$$1.25 \times D^2 \times K \times N \times (0.056 + (1.5 \times F)) \times H / 100000 \quad \text{To convert to hp} \times 1.34$$

6. Select the appropriate tool using table 3 and the values for speed (N), power (P), thrust (T) together with whether the tool is to be pneumatic or electric drive and the electric supply frequency (50 or 60 Hz) if relevant.

7. Calculate the **drill rate (R)** using:

$$N \times F \quad \text{To convert to ins} \div 25.4$$

8. Calculate the **approximate machining time in seconds**:

$$L \times 60 / R$$

Add rapid advance and retract times for complete cycle time.

EXAMPLE: Drill a Ø6mm, 15mm deep in magnetic soft steel using an AFDE

$$N = (35 \times 1000) / (\pi \times 6) = 1857 \text{ rpm} \quad (\text{SF from table 1})$$

$$T = 11.4 \times 1.3 \times 6 \times (100 \times 0.126)^{0.85} \times 1 = 766 \text{ N} \quad (\text{K from table 1, F from table 2})$$

$$P = 1.25 \times 6^2 \times 1.3 \times 1857 \times (0.056 + (1.5 \times 0.126)) \times 1 / 100000 = 0.27 \text{ kW}$$

Electric drive tool, 1857 rpm, 0,27 kW, 766 N (from table 3)

Select **AFDE610-1750** for optimum performance
(An AFDE400-1750 would also perform the operation although in a slightly slower cycle time)

$$R = 1750 \times 0.126 = 220 \text{ mm/min}$$

$$\text{Approximate machining time} = 15 \times 60 / 220 = 4 \text{ seconds}$$

Assume 1 second for advance, 2 seconds for retract for a 100mm stroke

$$\text{Total cycle time} = 1 + 2 + 4 = 7 \text{ seconds}$$

Technical data reproduced with the kind permission of Dormer Tools Limited



Auto Feed Drill Selection

Table 1: Application material group table for drilling

type in red = excellent for application
type in black = acceptable for application

						ST							
						Material factor	A120 HSS	A117 HSCo	A100 HSS	A107 HSS	A500 HSS	A114 HSS	A108 HSS
							blue	bronze	blue	blue	TiN	bright	blue
							2.5 x D	2.5 x D	4 x D	4 x D	4 x D	4 x D	4 x D
Application Material Groups	Hardness HB	B.S. Standards	EN/other Classifications	SAE/AISI/ASTM/AMS	K	STUB	STUB	JOBBER	JOBBER	JOBBER	JOBBER	JOBBER	
1. Steel	1.1 Magnetic soft steel	<=120	230M07, 050A12	EN1, EN2 Leadloy	1005-1010, 1108-1115, 1210-1215	1.3	35 E		35 D		45 E		
	1.2 Structural steel case carburizing steel	<=200	060A35, 080M40 4360-50B	EN3A, 4, 6, 7, 8, 32 EN207, S62	1030-1095, 1146-1151	1.4	27 E		27 D		37 D		
	1.3 Plain carbon steel	<=250	080M46, 080A62	EN9, 10, 43, S70	1020, 1035, 1045, 1055, 1060	1.9	22 D	30 D	22 C		27 C		
	1.4 Alloy steel	<=250	708M40/42, 817M40, 534A99, BM2, BT42	EN16, 17, 19 (R,S) EN31, S2-10-1-8 (soft)	4135, 4137, 4140, 4142	1.9	20 D	27 D	20 C		25 C		
	1.5 Alloy steel, hardened and tempered steel	>250<=350	B01, BM2, BT42, 826M40, 830M31	EN24, 25, 26 (T,U,V) S95, S97, S98 (annealed)	D3, H13, H11, L6, T5, 4130, 4340, 6150	2.7	10 C	16 C	10 B	12 B			
	1.6 Alloy steel, hardened and tempered steel	>350	B01, 826M40, 830M31	EN25, 26, 27 (W,X,Z) S97, S98 (H&T)	300M, 4340, H10, A2, M1-M36	3.4	6 B	9 C	6 B	8 B			
2. Stainless Steel	2.1 Free machining Stainless steel	<=250	303 S21 416 S37	EN56, EN60	430F, 303	1.9	16 C	22 C	15 B	15 C			
	2.2 Austenitic	<=250	304 S15, 321 S17, 316 S, 320 S12	EN80, EN58+C EN58J, 316	302, 304, 316 LN, 321, 316 Ti	1.9	9 E	11 E		9 D		9 E	
	2.3 Ferritic + Austenitic Ferritic, Martensitic	<=300	317 S16, 316 S16	EN58 b,e,j,t Duplex alloys	405, 15-4PH, 17-4PH, 431, Custom 455	2.7	10 C	15 C		10 C		11 C	
3. Cast Iron	3.1 Lamellar graphite	>=150	Grade 150, Grade 400	Grey cast iron soft	G10-GG40, J431C	1.0	30 D	35 D	27 D		36 D		
	3.2 Lamellar graphite	>150<=300	Grade 200, Grade 400	Grey cast iron hard	GG25-GG40, J158	1.5	25 C	30 C	22 C		28 C		
	3.3 Nodular graphite Malleable Cast Iron	<=200	420/12, P440/7 700/2, 30g/72	S.G. Iron, Mehanite Black & White Heart	GGG40-GGG70	2.0	19 C	22 C	19 B		26 B		
	3.4 Nodular graphite Malleable Cast Iron	>200<=300	420/12, P440/7 700/2, 30g/72	S.G. Iron, Mehanite Black & White Heart	GTS, GTW, J434	1.5	14 C	17 C			22 B		
4. Titanium	4.1 Titanium, unalloyed	<=200	TA1 to 9	Ti 99.0	Commercially pure	1.4	27 D	30 D	23 C			25 D	
	4.2 Titanium, alloyed	<=270	TA10 to 14, TA17, TA28	Ti-2AL	6A14V, 6A14V-25N	2.0	16 C	18 D		14 C		16 C	
	4.3 Titanium, alloyed	>270<=350	TA10 to 13, TA28	Ti-AL	6A14V-4 Mo, 7A14V-4 Mo	2.7	8 B	10 B		7 A		7 A	
5. Nickel	5.1 Nickel, unalloyed	>=150	NA11, NA12	Nickel 200, Nickel 270	Commercially pure	1.3	10 E	15 E	10 D			12 D	
	5.2 Nickel, alloyed	>=270	HR203, 3027-76	Nimonic 75, Hastelloy C Monel 400, Inconel 600 Haynes Alloys 263	Monel 400, Hastelloy B2, Inconel 600	2.0	8 D	9 D				7 D	
	5.3 Nickel, alloyed	>270<=350	HR8, HR401, 601	Inconel 718, Waspalloy Nimonic 80, Rene 41	Nimonic 80A, Inconel 718, Waspalloy	2.7	4 B	6 C				6 C	
6. Copper	6.1 Copper	<=100	C101	Commercially pure	Commercially pure	0.6						35 D	
	6.2 β – Brass, Bronze	<=200	CZ120, CZ109, PB104		314-340, 350-370	0.7						40 D	
	6.3 ∞ – Brass	<=200	CZ108, CZ106		Alloyed Cu + Al + Fe	0.7						35 D	
	6.4 High strength Bronze	<=470	AB1 type	Ampco 18, Ampco 26	Ampco 18 25	1.5						21 D	
7. Aluminium Magnesium	7.1 Al, Mg, unalloyed	<=100	LM0, 1B (1050A)	Magnesium, Extruded Aluminium	Commercially pure	0.6							
	7.2 Al alloyed, Si<0.5%	<=150	LM5, 10, 12, N4 (5251)	Low Silicon wrought & Cast Aluminium	6061 T6, 7075, 314-340, 350-370	0.6							
	7.3 Al alloyed, 0.5%<Si<10%	<=120	LM2, 4, 16, 18, 21, 22, 24-27, L109	Silicon Aluminium	6061 T6, 380-390	0.7							
	7.4 Al alloyed, Si>10% whisker reinforced Al/Mg alloys	<=120	LM6, 12, 12, 20, 28-30 13	High Silicon Aluminium	Magnesium Whisker reinforced	0.7		30 D				28 C	
8. Synthetic Materials	8.1 Thermoplastics		Polystyrene, Nylon, PVC Cellulose, Acetate	Nylon, Hostalen, Makrolon	Ultramid, Polystyrol	0.6						30 E	
	8.2 Thermosetting plastics		Ebonite, Tufnol, Bakelite	Bakelite, Pertinax	Bakelit, Pestinax	0.6				50 C			
	8.3 Reinforced plastic materials		Kevlar, PCB's	CFK, GFK, AFK	CFK, GFK, AFK	1.0				35 B	17 C		
9. Hard Materials	9.1 Cermets (metals – ceramics)	<=550	Ferrotic, Ferrotitanit		Ferrotic	4.0	4 B	6 B		4 B			



Auto Feed Drill Selection

STANDARD DRILLS									HIGH PERFORMANCE DRILLS											
A102 HSS bright	A700 HSCo bronze	A118 HSS bright	A104 HSS bright	A105 HSS bright	A601 HSCo brt flutes ni. lands	A603 HSCo brt flutes ni. lands	A110 HSS blue	A116 HSS bright	A520 HSS TiN	A515 HSS TiN	A510 HSS TiN	A560 HSS TiNAl	A521 HSCo TiN	A522 HSCo TiN	A511 HSCo TiN	A512 HSCo TiN	R520 CARBIDE TiN	R550 CARBIDE TiN	R556 CARBIDE TiN	R510 CARBIDE TiN
4 x D	4 x D	2.5 x D	4 x D	4 x D	6 x D	10-14xD	4 x D	10 x D												
JOBBER	JOBBER	JOBBER	JOBBER	JOBBER	JOBBER	LONG SER	LONG SER	LONG SER	STUB	INTERM	JOBBER	JOBBER	STUB	STUB	JOBBER	JOBBER	STUB	STUB	STUB	JOBBER
32 D							24 B	27 C	57 G	57 G	57 F		70 F	85 G	70 F	85 G	100 X	100 X	150 X	100 W
							22 B	25 C	47 G	47 G	47 F		60 F	70 G	60 F	70 G	90 X	90 X	135 X	90 W
					25 D		18 B	20 C	40 E	40 E	40 E		50 F	60 G	50 F	60 G	90 X	90 X	135 X	90 W
24 C					23 C	22 C	13 B	16 B	32 E	32 E	30 D		40 D	45 E	40 D	45 E	80 X	80 X	115 W	80 W
16 B					14 C	13 B		8 B	21 C	21 C	21 C		24 C	28 D	24 C	28 D	55 X	55 W	90 V	55 V
8 B					8 B	8 B			11 C	11 C	11 B		13 B	15 B	13 B	15 B	45 W	45 W	65 V	45 V
22 B					22 B	18 B		13 B	30 E	30 E	28 D		32 D	40 D	32 D	40 D	50 W	50 W	80 V	50 V
					11 D	10 D		6 D	16 E	16 E	15 E		17 E	19 F	17 E	19 F				50 S
					15 C	13 C		10 C	20 D	20 D	19 D		23 D	27 D	23 D	27 D				45 S
35 C					32 D		25 C		48 F	42 E	42 E	45 F	55 E	70 E	55 E	70 E	90 Y	90 Y	130 Y	90 X
30 B					27 D	27 C	20 C		37 E	32 D	32 D	35 E	40 D	50 D	40 D	50 D	90 Y	90 Y	130 Y	90 X
22 B					20 C	18 C	13 B		30 D	28 D	28 D	30 E	37 D	45 D	37 D	45 D	65 X	65 X	90 X	65 W
17 B					16 C	14 B	11A		26 C	26 C	25 C	30 D	33 C	42 C	33 C	42 C	65 X	65 X	90 X	65 W
28 C					25 C	20 C		16 C	34 E	34 E	32 D		40 D	45 D	40 D	45 D	60 W	60 W	75 V	45 V
20 B					18 C	15 B		11 B	20 D	20 D	20 C		25 C	30 C	25 C	30 C	5 V	45 V	60 U	
11 B					9 B	7 B							6 B	8 B	6 B	8 B	35 U	35 U	45 T	
		12 D			14 D	12 C			17 E	17 E	17 E		21 E	25 E	21 E	25 E	50 W	50 W	65 V	50 V
7 D	7 D				7D	7D			11 D	11 D	9 C		12 C	15 C	12 C	15 C				50 U
		6 D			4 C	4 C			7 C	7 C			7 D	10 D	7 D	10 D				30 T
35 D													50 D	70 D	50 D	70 D				
		40 E							50 E	50 E	50 E		70 E	85 E	70 E	85 E				
		35 D			35 D	33 D			45 F		45 E		60 E	80 E	60 E	80 E				
					30 D	30 D							25 D	35 D	25 D	35 D				
45 F								32 E	55 E	55 E			50 D	70 E	50 D	70 E	225 Z	225 Z	300 Z	225 Y
35 E								27 E	50 G	50 F	50 F		70 G	100 G	70 G	100 G	225 Z	225 Z	300 Z	225 Y
31 D									37 F	37 E	36 E		45 E	55 E	45 E	55 E	150 Y	150 Y	200 Z	150 X
28 D					30 D	30 D			35 E	35 E	33 E		40 F	50 F	40 F	50 F	65 Y	65 Y	100 Y	65 X
42 E									65 D	65 D	65 D		75 D	90 D	75 D	90 D	75 Z	75 Z		75 X
		35 B	42 C														115 V	115 V		115 V
		17 D																		
6 B					6 A	5 A														



Auto Feed Drill Selection

Table 2: Drill feed chart

FEED CODE	DIAMETER MM											
	1	2	3	4	5	6	7	8	9	10	11	12
A	0.012	0.023	0.029	0.033	0.036	0.042	0.048	0.054	0.058	0.062	0.066	0.069
B	0.015	0.032	0.044	0.050	0.056	0.064	0.072	0.08	0.089	0.098	0.104	0.11
C	0.017	0.043	0.062	0.071	0.08	0.092	0.103	0.115	0.128	0.14	0.145	0.15
D	0.019	0.056	0.084	0.097	0.109	0.126	0.143	0.16	0.175	0.19	0.198	0.205
E	0.021	0.076	0.119	0.135	0.15	0.173	0.197	0.22	0.243	0.265	0.273	0.28
F	0.026	0.092	0.15	0.170	0.19	0.220	0.250	0.28	0.305	0.33	0.340	0.35
G	0.03	0.11	0.18	0.203	0.225	0.260	0.295	0.33	0.360	0.39	0.405	0.42
H			0.02	0.025	0.03	0.037	0.043	0.05	0.065	0.08	0.090	0.1
I			0.04	0.050	0.06	0.070	0.080	0.09	0.100	0.11	0.120	0.13
J			0.07	0.080	0.09	0.107	0.123	0.14	0.155	0.17	0.185	0.2
S			0.02	0.025	0.03	0.037	0.043	0.05	0.065	0.08	0.090	0.1
T			0.04	0.050	0.06	0.070	0.080	0.09	0.100	0.11	0.120	0.13
U			0.07	0.080	0.09	0.107	0.123	0.14	0.155	0.17	0.185	0.2
V			0.1	0.115	0.13	0.153	0.177	0.2	0.225	0.25	0.265	0.28
W			0.13	0.150	0.17	0.200	0.230	0.26	0.295	0.33	0.355	0.38
X			0.15	0.180	0.21	0.250	0.290	0.33	0.375	0.42	0.450	0.48
Y			0.18	0.220	0.26	0.317	0.373	0.43	0.490	0.55	0.585	0.62
Z			0.25	0.325	0.4	0.533	0.667	0.8	0.900	1	1.050	1.1

Feed in mm/Rev +/-25%

FEED CODE	DIAMETER MM											
	13	14	15	16	17	18	19	20	25	30	40	50
A	0.073	0.078	0.082	0.086	0.092	0.098	0.104	0.11	0.125	0.15	0.19	0.23
B	0.115	0.120	0.125	0.13	0.138	0.145	0.153	0.16	0.18	0.21	0.26	0.3
C	0.158	0.165	0.173	0.18	0.189	0.198	0.206	0.215	0.24	0.28	0.33	0.38
D	0.214	0.223	0.231	0.24	0.250	0.260	0.270	0.28	0.31	0.35	0.405	0.45
E	0.290	0.300	0.310	0.32	0.330	0.340	0.350	0.36	0.4	0.44	0.48	0.52
F	0.363	0.375	0.388	0.4	0.413	0.425	0.438	0.45	0.49	0.53	0.57	0.6
G	0.430	0.440	0.450	0.46	0.475	0.490	0.505	0.52	0.56	0.6	0.65	0.7
H	0.108	0.115	0.123	0.13	0.135	0.140	0.145	0.15				
I	0.140	0.150	0.160	0.17	0.175	0.180	0.185	0.19				
J	0.208	0.215	0.223	0.23	0.233	0.235	0.238	0.24				
S	0.108	0.115	0.123	0.13	0.135	0.140	0.145	0.15				
T	0.140	0.150	0.160	0.17	0.175	0.180	0.185	0.19				
U	0.208	0.215	0.223	0.23	0.233	0.235	0.238	0.24				
V	0.290	0.300	0.310	0.32	0.325	0.330	0.335	0.34				
W	0.393	0.405	0.418	0.43	0.435	0.440	0.445	0.45				
X	0.498	0.515	0.533	0.55	0.558	0.565	0.573	0.58				
Y	0.640	0.660	0.680	0.7	0.710	0.720	0.730	0.74				
Z	1.125	1.150	1.175	1.2	1.200	1.200	1.200	1.2				

Feed in mm/Rev +/-25%



Auto Feed Drill Selection

Table 3: Auto Feed Drill performance data

Electric drive

TOOL TYPE	SPEED		POWER		THRUST		STROKE	
	rpm		HP	kW	lbf	N	ins	mm
model code	60Hz	50Hz	motor power		dynamic thrust		working stroke	
AFDE200-2350	2820	2350	0.34	0.25	72	320	3.5	90
AFDE200-2850	3400	2850	0.34	0.25	72	320	3.5	90
AFDE200-3750	4500	3750	0.34	0.25	72	320	3.5	90
AFDE200-4600	5450	4600	0.34	0.25	72	320	3.5	90
AFDE200-5250	6300	5250	0.34	0.25	72	320	3.5	90
AFDE200-8000	9600	8000	0.34	0.25	72	320	3.5	90
AFDE200-10000	11950	10000	0.34	0.25	72	320	3.5	90
AFDE200-3750-K42	19300	16100	0.34	0.25	72	320	3.5	90
AFDE200-4600-K42	23400	19500	0.34	0.25	72	320	3.5	90
AFDE200-5250-K42	26900	22400	0.34	0.25	72	320	3.5	90
AFDE400-330	400	330	0.44	0.33	163	724	3.94	100
AFDE400-550	660	550	0.44	0.33	163	724	3.94	100
AFDE400-900	1100	900	0.44	0.33	163	724	3.94	100
AFDE400-1200	1450	1200	0.44	0.33	163	724	3.94	100
AFDE400-1450	1740	1450	0.44	0.33	163	724	3.94	100
AFDE400-1750	2100	1750	0.44	0.33	163	724	3.94	100
AFDE400-2350	2820	2350	0.44	0.33	163	724	3.94	100
AFDE400-2850	3400	2850	0.44	0.33	163	724	3.94	100
AFDE400-3750	4500	3750	0.44	0.33	163	724	3.94	100
AFDE400-4600	5450	4600	0.44	0.33	163	724	3.94	100
AFDE400-5250	6300	5250	0.44	0.33	163	724	3.94	100
AFDE400-8000	9600	8000	0.44	0.33	163	724	3.94	100
AFDE400-10000	11950	10000	0.44	0.33	163	724	3.94	100
AFDE410-330	400	330	1.00	0.75	163	724	3.94	100
AFDE410-550	660	550	1.00	0.75	163	724	3.94	100
AFDE410-900	1100	900	1.00	0.75	163	724	3.94	100
AFDE410-1200	1450	1200	1.00	0.75	163	724	3.94	100
AFDE410-1450	1740	1450	1.00	0.75	163	724	3.94	100
AFDE410-1750	2100	1750	1.00	0.75	163	724	3.94	100
AFDE410-2350	2820	2350	1.00	0.75	163	724	3.94	100
AFDE410-2850	3400	2850	1.00	0.75	163	724	3.94	100
AFDE410-3750	4500	3750	1.00	0.75	163	724	3.94	100
AFDE410-4600	5450	4600	1.00	0.75	163	724	3.94	100
AFDE410-5250	6300	5250	1.00	0.75	163	724	3.94	100
AFDE410-8000	9600	8000	1.00	0.75	163	724	3.94	100

TOOL TYPE	SPEED		POWER		THRUST		STROKE	
	rpm		HP	kW	lbf	N	ins	mm
model code	60Hz	50Hz	motor power		dynamic thrust		working stroke	
AFDE610-330	400	330	1.00	0.75	350	1557	3.94	100
AFDE610-550	660	550	1.00	0.75	350	1557	3.94	100
AFDE610-900	1100	900	1.00	0.75	350	1557	3.94	100
AFDE610-1220	1450	1200	1.00	0.75	350	1557	3.94	100
AFDE610-1450	1740	1450	1.00	0.75	350	1557	3.94	100
AFDE610-1750	2100	1750	1.00	0.75	350	1557	3.94	100
AFDE610-2350	2820	2350	1.00	0.75	350	1557	3.94	100
AFDE610-2850	3400	2850	1.00	0.75	350	1557	3.94	100
AFDE610-3750	4500	3750	1.00	0.75	350	1557	3.94	100
AFDE610-4600	5450	4600	1.00	0.75	350	1557	3.94	100
AFDE610-5250	6300	5250	1.00	0.75	350	1557	3.94	100

Pneumatic drive

TOOL TYPE	SPEED		POWER		THRUST		STROKE	
	rpm		HP	kW	lbf	N	ins	mm
model code	load speed	no load speed	motor	power	dynamic thrust		working stroke	
AFD205-650	490	650	0.30	0.22	90	400	1.97	50
AFD205-1000	750	1000	0.30	0.22	90	400	1.97	50
AFD205-2700	2025	2700	0.30	0.22	90	400	1.97	50
AFD205-4350	3263	4350	0.30	0.22	90	400	1.97	50
AFD205-10000	7500	10000	0.30	0.22	90	400	1.97	50
AFD205-18700	14025	18700	0.30	0.22	90	400	1.97	50
AFD215-650	490	650	0.30	0.22	90	400	3.54	90
AFD215-1000	750	1000	0.30	0.22	90	400	3.54	90
AFD215-2700	2025	2700	0.30	0.22	90	400	3.54	90
AFD215-4350	3263	4350	0.30	0.22	90	400	3.54	90
AFD215-10000	7500	10000	0.30	0.22	90	400	3.54	90
AFD215-18700	14025	18700	0.30	0.22	90	400	3.54	90
AFD415-490	370	490	0.51	0.38	159	706	3.94	100
AFD415-790	595	790	0.51	0.38	159	706	3.94	100
AFD415-1250	938	1250	0.51	0.38	159	706	3.94	100
AFD415-2100	1575	2100	0.51	0.38	159	706	3.94	100
AFD415-3400	2550	3400	0.51	0.38	159	706	3.94	100
AFD415-5400	4050	5400	0.51	0.38	159	706	3.94	100
AFD415-7000	5250	7000	0.51	0.38	159	706	3.94	100
AFD415-18000	13500	18000	0.51	0.38	159	706	3.94	100



Auto Feed Drill Quick Reference Charts

Mild steel – HSS jobber drill

Magnetic Soft Steel EN1A/EN2 Leadloy, SAE/AISI/ASTM/AMS 1005-1010, 1108-1115, 1210-1215, BS 230M07/050A12, DIN RFe60/RFe100 Hardness HB <120

single spindle				AFDE (50Hz)		AFDE (60Hz)		AFD	
HOLE DIAMETER	HOLE DIAMETER	OPTIMUM FEED	OPTIMUM FEED	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME
mm	in	mm/rev	in/rev						
1	0.039	0.019	0.001	AFDE200-10000		AFDE200-10000		AFD215/205-18700	
2	0.079	0.056	0.002	AFDE200-5250		AFDE200-4600		AFD215/205-10000	
3	0.118	0.084	0.003	AFDE200-3750		AFDE200-2850		AFD215/205-4350	
4	0.157	0.097	0.004	AFDE400-2850	AFDE200-2850	AFDE200-2350	AFDE200-2350	AFD215/205-4350	
5	0.197	0.109	0.004	AFDE400-2350	AFDE200-2350	AFDE400-1750		AFD415-3400	AFD215/205-2700
6	0.236	0.126	0.005	AFDE610-1750	AFDE400-1750	AFDE610-1450	AFDE400-1450		AFD415-3400
8	0.315	0.160	0.006	AFDE610-1200		AFDE610-1200			
10	0.394	0.190	0.007		AFDE610-1200		AFDE610-900		

2 spindle				AFDE (50Hz)		AFDE (60Hz)		AFD	
HOLE DIAMETER	HOLE DIAMETER	OPTIMUM FEED	OPTIMUM FEED	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME
mm	in	mm/rev	in/rev						
1	0.039	0.019	0.001	AFDE200-5250		AFDE200-4600		AFD215/205-10000	
2	0.079	0.056	0.002	AFDE200-5250		AFDE200-4600		AFD215/205-10000	
3	0.118	0.084	0.003	AFDE400-3750		AFDE400-2850		AFD415-5400	
4	0.157	0.097	0.004	AFDE610-2850	AFDE400-2850	AFDE610-2350	AFDE400-2350		AFD415-3400
5	0.197	0.109	0.004	AFDE610-2350		AFDE610-1750			
6	0.236	0.126	0.005	AFDE610-1750		AFDE610-1450			

3 spindle				AFDE (50Hz)		AFDE (60Hz)		AFD	
HOLE DIAMETER	HOLE DIAMETER	OPTIMUM FEED	OPTIMUM FEED	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME
mm	in	mm/rev	in/rev						
1	0.039	0.019	0.001	AFDE400-5250		AFDE400-4600		AFD415-7000	
2	0.079	0.056	0.002	AFDE400-5250		AFDE400-4600		AFD415-7000	
3	0.118	0.084	0.003	AFDE610-3750	AFDE400-3750	AFDE610-2850	AFDE400-3750		AFD415-5400
4	0.157	0.097	0.004	AFDE610-2850		AFDE610-2350			
5	0.197	0.109	0.004		AFDE610-1750		AFDE610-1750		



Auto Feed Drill Quick Reference Charts

Stainless steel – HSS jobber drill

Free Machining, BS 303S21/416S37, EN56/60, DIN X10CrNiS189/X12CrMoS17, USA 430F, 303
Hardness HB <250

single spindle				AFDE (50Hz)		AFDE (60Hz)		AFD	
HOLE DIAMETER	HOLE DIAMETER	OPTIMUM FEED	OPTIMUM FEED	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME
mm	in	mm/rev	in/rev						
1	0.039	0.017	0.001	AFDE200-5250		AFDE200-4600		AFD215/205-4350	
2	0.079	0.043	0.002	AFDE200-2350		AFDE200-2350	AFDE400-1750	AFD215/205-4350	
3	0.118	0.062	0.002	AFDE400-1750	AFDE200-2350	AFDE400-1450		AFD415-2100	AFD215/205-2700
4	0.157	0.071	0.003	AFDE400-1200		AFDE400-900		AFD415-1250	
5	0.197	0.080	0.003	AFDE400-900		AFDE400-900		AFD415-1250	
6	0.236	0.092	0.004	AFDE400-900		AFDE400-900			
8	0.315	0.115	0.005	AFDE610-550		AFDE610-550			
10	0.394	0.140	0.006						
12	0.472	0.150	0.006						
16	0.630	0.180	0.007						
20	0.787	0.215	0.008						

2 spindle				AFDE (50Hz)		AFDE (60Hz)		AFD	
HOLE DIAMETER	HOLE DIAMETER	OPTIMUM FEED	OPTIMUM FEED	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME
mm	in	mm/rev	in/rev						
1	0.039	0.017	0.001	AFDE200-5250		AFDE200-4600		AFD215/205-4350	
2	0.079	0.043	0.002	AFDE200-2350		AFDE200-2350	AFDE400-1750	AFD415-3400	AFD215/205-2700
3	0.118	0.062	0.002	AFDE400-1750	AFDE200-2350	AFDE400-1450	AFDE200-2350	AFD415-2100	
4	0.157	0.071	0.003	AFDE400-1200		AFDE400-900			
5	0.197	0.080	0.003	AFDE610-900		AFDE400-900			
6	0.236	0.092	0.004	AFDE610-900		AFDE610-900			
8	0.315	0.115	0.005						
10	0.394	0.140	0.006						
12	0.472	0.150	0.006						
16	0.630	0.180	0.007						
20	0.787	0.215	0.008						

3 spindle				AFDE (50Hz)		AFDE (60Hz)		AFD	
HOLE DIAMETER	HOLE DIAMETER	OPTIMUM FEED	OPTIMUM FEED	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME
mm	in	mm/rev	in/rev						
1	0.039	0.017	0.001	AFDE400-5250		AFDE400-4600		AFD415-5400	
2	0.079	0.043	0.002	AFDE400-2350		AFDE400-1750		AFD415-3400	
3	0.118	0.062	0.002	AFDE400-1750		AFDE400-1450			AFD415-2100
4	0.157	0.071	0.003	AFDE610-1200		AFDE610-900			
5	0.197	0.080	0.003	AFDE610-900		AFDE610-900			
6	0.236	0.092	0.004						
8	0.315	0.115	0.005						
10	0.394	0.140	0.006						
12	0.472	0.150	0.006						
16	0.630	0.180	0.007						
20	0.787	0.215	0.008						



Auto Feed Drill Quick Reference Charts

Cast iron – HSS jobber drill

Lamellar Graphite, BS Grades 200/400, EN Grey Cast Iron Hard, DIN GG25/40, SAE/AISI/ASTM/AMS GG25-40, J158
Hardness HB >150<300

single spindle				AFDE (50Hz)		AFDE (60Hz)		AFD	
HOLE DIAMETER	HOLE DIAMETER	OPTIMUM FEED	OPTIMUM FEED	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME
mm	in	mm/rev	in/rev						
1	0.039	0.017	0.001	AFDE200-8000		AFDE200-5250		AFD215/205-10000	
2	0.079	0.043	0.002	AFDE200-3750		AFDE200-2850		AFD215/205-4350	
3	0.118	0.062	0.002	AFDE200-2350		AFDE200-1750		AFD215/205-2700	
4	0.157	0.071	0.003	AFDE400-1750		AFDE400-1450		AFD215/205-2700	
5	0.197	0.080	0.003	AFDE400-1450		AFDE400-1200		AFD415-2100	
6	0.236	0.092	0.004	AFDE400-1200		AFDE400-900		AFD415-2100	
8	0.315	0.115	0.005	AFDE610-900		AFDE610-900			
10	0.394	0.140	0.006	AFDE610-900		AFDE610-550			
12	0.472	0.150	0.006						
16	0.630	0.180	0.007						
20	0.787	0.215	0.008						

2 spindle				AFDE (50Hz)		AFDE (60Hz)		AFD	
HOLE DIAMETER	HOLE DIAMETER	OPTIMUM FEED	OPTIMUM FEED	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME
mm	in	mm/rev	in/rev						
1	0.039	0.017	0.001	AFDE400-8000		AFDE400-5250		AFD415-7000	
2	0.079	0.043	0.002	AFDE200-3750		AFDE200-2850		AFD215/205-4350	
3	0.118	0.062	0.002	AFDE400-2350		AFDE400-1750		AFD415-3400	
4	0.157	0.071	0.003	AFDE400-1750		AFDE400-1450		AFD415-2100	
5	0.197	0.080	0.003	AFDE610-1450		AFDE610-1200			
6	0.236	0.092	0.004	AFDE610-1200		AFDE610-900			
8	0.315	0.115	0.005						
10	0.394	0.140	0.006						
12	0.472	0.150	0.006						
16	0.630	0.180	0.007						
20	0.787	0.215	0.008						

3 spindle				AFDE (50Hz)		AFDE (60Hz)		AFD	
HOLE DIAMETER	HOLE DIAMETER	OPTIMUM FEED	OPTIMUM FEED	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME
mm	in	mm/rev	in/rev						
1	0.039	0.017	0.001	AFDE400-8000		AFDE400-5250		AFD415-7000	
2	0.079	0.043	0.002	AFDE400-3750		AFDE400-2850		AFD415-5400	
3	0.118	0.062	0.002	AFDE400-2350		AFDE400-1750		AFD415-3400	
4	0.157	0.071	0.003	AFDE610-1750		AFDE610-1450			
5	0.197	0.080	0.003	AFDE610-1450		AFDE610-1200			
6	0.236	0.092	0.004						
8	0.315	0.115	0.005						
10	0.394	0.140	0.006						
12	0.472	0.150	0.006						
16	0.630	0.180	0.007						
20	0.787	0.215	0.008						



Auto Feed Drill Quick Reference Charts

Brass – HSS jobber drill

Brass, BS CZ108/106, DIN CuZn37/28, USA Alloyed Cu + Al + Fe
Hardness HB <200

single spindle				AFDE (50Hz)		AFDE (60Hz)		AFD	
HOLE DIAMETER	HOLE DIAMETER	OPTIMUM FEED	OPTIMUM FEED	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME
mm	in	mm/rev	in/rev						
1	0.039	0.019	0.001	AFDE200-10000		AFDE200-10000		AFD215/205-18700	
2	0.079	0.056	0.002	AFDE200-5250		AFDE200-5250		AFD215/205-10000	
3	0.118	0.084	0.003	AFDE200-3750		AFDE200-2850		AFD215/205-4350	
4	0.157	0.097	0.004	AFDE200-2850		AFDE200-2350		AFD215/205-4350	
5	0.197	0.109	0.004	AFDE200-2350		AFDE200-1750		AFD215/205-2700	
6	0.236	0.126	0.005	AFDE400-1750		AFDE400-1750		AFD215/205-2700	
8	0.315	0.160	0.006	AFDE400-1450		AFDE400-1200		AFD415-2100	
10	0.394	0.190	0.007	AFDE610-1200		AFDE610-900			
12	0.472	0.205	0.008	AFDE610-900		AFDE610-900			
16	0.630	0.240	0.009						
20	0.787	0.280	0.011						

2 spindle				AFDE (50Hz)		AFDE (60Hz)		AFD	
HOLE DIAMETER	HOLE DIAMETER	OPTIMUM FEED	OPTIMUM FEED	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME
mm	in	mm/rev	in/rev						
1	0.039	0.019	0.001	AFDE200-5250		AFDE200-5250		AFD415-7000	
2	0.079	0.056	0.002	AFDE200-5250		AFDE200-5250		AFD415-7000	
3	0.118	0.084	0.003	AFDE200-3750		AFDE200-2850		AFD215/205-4350	
4	0.157	0.097	0.004	AFDE400-2850		AFDE400-2350		AFD415-3400	
5	0.197	0.109	0.004	AFDE400-2350		AFDE400-1750		AFD415-3400	
6	0.236	0.126	0.005	AFDE610-1750		AFDE610-1450			
8	0.315	0.160	0.006	AFDE610-1450		AFDE610-1200			
10	0.394	0.190	0.007						
12	0.472	0.205	0.008						
16	0.630	0.240	0.009						
20	0.787	0.280	0.011						

3 spindle				AFDE (50Hz)		AFDE (60Hz)		AFD	
HOLE DIAMETER	HOLE DIAMETER	OPTIMUM FEED	OPTIMUM FEED	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME
mm	in	mm/rev	in/rev						
1	0.039	0.019	0.001	AFDE400-5250		AFDE400-5250		AFD415-7000	
2	0.079	0.056	0.002	AFDE400-5250		AFDE400-5250		AFD415-7000	
3	0.118	0.084	0.003	AFDE400-3750		AFDE400-2850		AFD415-5400	
4	0.157	0.097	0.004	AFDE400-2850		AFDE400-2350		AFD415-3400	
5	0.197	0.109	0.004	AFDE610-2350		AFDE610-1750			
6	0.236	0.126	0.005	AFDE610-1750		AFDE610-1450			
8	0.315	0.160	0.006						
10	0.394	0.190	0.007						
12	0.472	0.205	0.008						
16	0.630	0.240	0.009						
20	0.787	0.280	0.011						



Auto Feed Drill Quick Reference Charts

Aluminium – HSS jobber drill

AL. and MG. Unalloyed, BS LMO/1B(1050A), DIN AI99.5, USA Commercially pure
Hardness HB <100

single spindle				AFDE (50Hz)		AFDE (60Hz)		AFD	
HOLE DIAMETER	HOLE DIAMETER	OPTIMUM FEED	OPTIMUM FEED	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME
mm	in	mm/rev	in/rev						
1	0.039	0.026	0.001	AFDE200-3750-K42		AFDE200-8000		AFD215/205-18700	
2	0.079	0.092	0.004	AFDE200-8000		AFDE200-5250		AFD215/205-10000	
3	0.118	0.150	0.006	AFDE200-5250		AFDE200-4600		AFD415-7000	AFD215/205-10000
4	0.157	0.170	0.007	AFDE200-3750		AFDE200-2850		AFD215/205-4350	
5	0.197	0.190	0.007	AFDE400-2850	AFDE200-2850	AFDE400-2350	AFDE200-2350	AFD215/205-4350	
6	0.236	0.220	0.009	AFDE400-2350		AFDE400-1750		AFD415-3400	
8	0.315	0.280	0.011	AFDE610-1750		AFDE610-1450			
10	0.394	0.330	0.013	AFDE610-1450		AFDE610-1200			
12	0.472	0.350	0.014	AFDE610-900		AFDE610-550			
16	0.630	0.400	0.016						
20	0.787	0.450	0.018						

2 spindle				AFDE (50Hz)		AFDE (60Hz)		AFD	
HOLE DIAMETER	HOLE DIAMETER	OPTIMUM FEED	OPTIMUM FEED	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME
mm	in	mm/rev	in/rev						
1	0.039	0.026	0.001	AFDE400-8000		AFDE400-5250		AFD415-7000	
2	0.079	0.092	0.004	AFDE400-8000		AFDE400-5250		AFD415-7000	
3	0.118	0.150	0.006	AFDE400-5250		AFDE400-4600		AFD415-7000	
4	0.157	0.170	0.007	AFDE400-3750		AFDE400-2850			
5	0.197	0.190	0.007	AFDE610-2850	AFDE410-2850	AFDE610-2350	AFDE410-2350		
6	0.236	0.220	0.009	AFDE610-2350		AFDE610-1750			
8	0.315	0.280	0.011						
10	0.394	0.330	0.013						
12	0.472	0.350	0.014						
16	0.630	0.400	0.016						
20	0.787	0.450	0.018						

3 spindle				AFDE (50Hz)		AFDE (60Hz)		AFD	
HOLE DIAMETER	HOLE DIAMETER	OPTIMUM FEED	OPTIMUM FEED	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME
mm	in	mm/rev	in/rev						
1	0.039	0.026	0.001	AFDE400-5250		AFDE400-4600		AFD415-7000	
2	0.079	0.092	0.004	AFDE400-5250		AFDE400-4600		AFD415-7000	
3	0.118	0.150	0.006	AFDE400-5250		AFDE400-4600		AFD415-7000	AFD415-5400
4	0.157	0.170	0.007	AFDE610-3750		AFDE610-2850			
5	0.197	0.190	0.007	AFDE610-2850		AFDE610-2350			
6	0.236	0.220	0.009	AFDE610-2350		AFDE610-1750			
8	0.315	0.280	0.011						
10	0.394	0.330	0.013						
12	0.472	0.350	0.014						
16	0.630	0.400	0.016						
20	0.787	0.450	0.018						



Auto Feed Drill Quick Reference Charts

Plastics – HSS jobber drill

Thermoplastics, Polystyrene, Nylon, PVC Cellulose, Acetate, Nitrate, Ultramid, Polystyrol

single spindle				AFDE (50Hz)		AFDE (60Hz)		AFD	
HOLE DIAMETER	HOLE DIAMETER	OPTIMUM FEED	OPTIMUM FEED	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME
mm	in	mm/rev	in/rev						
1	0.039	0.017	0.001	AFDE200-10000		AFDE200-8000		AFD215/205-10000	
2	0.079	0.043	0.002	AFDE200-5250		AFDE200-4600		AFD215/205-10000	
3	0.118	0.062	0.002	AFDE200-2850		AFDE200-2850		AFD215/205-4350	
4	0.157	0.071	0.003	AFDE200-2350		AFDE200-2350		AFD215/205-2700	
5	0.197	0.080	0.003	AFDE400-1750		AFDE400-1750		AFD215/205-2700	
6	0.236	0.092	0.004	AFDE400-1750		AFDE400-1450		AFD415-2100	
8	0.315	0.115	0.005	AFDE400-1200		AFDE400-900			
10	0.394	0.140	0.006	AFDE610-900		AFDE610-900			
12	0.472	0.150	0.006	AFDE610-900		AFDE610-900			
16	0.630	0.180	0.007						
20	0.787	0.215	0.008						

2 spindle				AFDE (50Hz)		AFDE (60Hz)		AFD	
HOLE DIAMETER	HOLE DIAMETER	OPTIMUM FEED	OPTIMUM FEED	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME
mm	in	mm/rev	in/rev						
1	0.039	0.017	0.001	AFDE200-5250		AFDE200-4600		AFD415-7000	
2	0.079	0.043	0.002	AFDE200-5250		AFDE200-4600		AFD415-7000	
3	0.118	0.062	0.002	AFDE200-2850		AFDE200-2850		AFD215/205-4350	
4	0.157	0.071	0.003	AFDE400-2350		AFDE400-1750		AFD415-3400	
5	0.197	0.080	0.003	AFDE400-1750		AFDE400-1750		AFD415-3400	
6	0.236	0.092	0.004	AFDE610-1750		AFDE610-1450			
8	0.315	0.115	0.005	AFDE610-900		AFDE610-1200			
10	0.394	0.140	0.006						
12	0.472	0.150	0.006						
16	0.630	0.180	0.007						
20	0.787	0.215	0.008						

3 spindle				AFDE (50Hz)		AFDE (60Hz)		AFD	
HOLE DIAMETER	HOLE DIAMETER	OPTIMUM FEED	OPTIMUM FEED	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME	OPTIMUM CYCLE TIME	ACCEPTABLE CYCLE TIME
mm	in	mm/rev	in/rev						
1	0.039	0.017	0.001	AFDE400-5250		AFDE400-4600		AFD415-7000	
2	0.079	0.043	0.002	AFDE400-5250		AFDE400-4600		AFD415-7000	
3	0.118	0.062	0.002	AFDE400-2850		AFDE400-2350		AFD415-5400	
4	0.157	0.071	0.003	AFDE400-2350		AFDE400-1750			
5	0.197	0.080	0.003	AFDE610-1750		AFDE610-1450			
6	0.236	0.092	0.004	AFDE610-1750		AFDE610-1450			
8	0.315	0.115	0.005						
10	0.394	0.140	0.006						
12	0.472	0.150	0.006						
16	0.630	0.180	0.007						
20	0.787	0.215	0.008						



Auto Feed Tapper Selection

Follow the steps listed to select an Auto Feed Tapper:

1. Using the material specification and the diameter of the hole (D) select the following items from the Application Material Group Table (table 4).

- Material Factor (K)
- Surface Speed +/-25%, decrease by 30% for blind holes (SF)

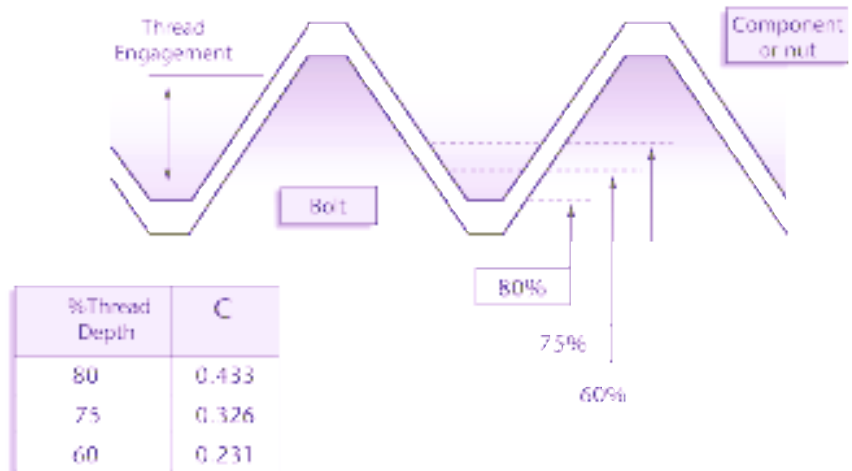
	Thread Form	Tap Types	
		TiN	
	Metric	E511	
	UNC	E522	
	UNF		
	G(BSPF)		
	Material factor	2.5xD	
Material	K		
Magnetic soft steel	1.3	20	
	Material factor (K)	Surface speed (SF)	Max hole depth e.g. 8mm is <math>< 2.5 \times M6</math>

The Dormer taps which are excellent for the application are highlighted.

2. Select the percentage thread depth from the table below to provide the constant (c).

The percentage of the thread depth takes into account the size of the hole to be tapped compared with the recommended pre-drilling size. The larger the hole the less the power required to tap the hole (smaller percentage of thread), but the thread engagement will be less.

If the thread depth is not known use 80%.



Auto Feed Tapper Selection

3. Calculate the **speed (N)** using:

$$(SF \times 1000) / (\pi \times D)$$

4. Calculate the **power (P)** using the formula below. The pitch of the thread (p) can be selected from table 5 if not known:

$$C \times D \times p^2 \times N \times K \times H / 10000$$

To convert to hp x 1.34

5. Calculate the **torque (T)** using:

$$60 \times P \times (D / 2) / SF$$

To convert to lbf ft x 0.738

6. Select the appropriate tool using table 6 and the values for speed (N), power (P), torque (T) together with whether the tool is to be pneumatic or electric drive and the electric supply frequency (50 or 60 Hz) if relevant. For thin materials, soft materials, fine pitches and where a high quality thread is required use leadscrew drive.

7. Calculate the **approximate tapping time**:

$$L \times 60 / (N \times p)$$

Add rapid advance and retract times for complete cycle time.

EXAMPLE: Tap a M6 metric coarse, 8mm deep in magnetic soft steel using an AFDE

$$N = (20 \times 1000) / (\pi \times 6) = 1061 \text{ rpm} \quad (\text{SF from table 4})$$

$$P = 0.44 \times 6 \times 1^2 \times 1061 \times 1.3 \times 1 / 10000 = 0.4 \text{ kW} \quad (\text{p from table 5, K from table 4})$$

$$T = 60 \times 0.4 \times (6 / 2) / 20 = 3.6 \text{ Nm}$$

Electric drive tool, 1061 rpm, 0.4 kW, 3.6 Nm (from table 6)

Select **AFDE410-1200** for optimum performance
(An AFDE610-1200 would also perform the operation)

Approximate tapping time = $8 \times 60 / (1200 \times 1.0) = 0.4$ use 1 second

Assume 1 second for advance, 2 seconds for retract for a 100mm stroke

Total cycle time = $1 + 2 + 1 = 4$ seconds

Technical data reproduced with the kind permission of Dormer Tools Limited



Auto Feed Tapper Selection

Table 4: Application material group table for tapping

type in red = excellent for application
type in black = acceptable for application

Application Material Groups						HSS T							
						straight flute		spiral point		spiral fl			
Thread Form						bright	TiN	blue	TiN	bright	TiN	ST	ST
Metric						E500	E504	E509	E511	E582	E560	E507	E519
UNC						E515	E517	E521	E522	E583		E519	E528
UNF						E524	E526	E529		E584		E528	E548
G(BSPF)						E547	E562	E549		E588		E548	
Material Factor						1.5 x D blind hole		2.5 x D through hole		2 x D with sp blind			
Hardness HB	B.S. Standards	EN/other Classifications	SAE/AISI/ASTM/AMS	K									
1. Steel	1.1 Magnetic soft steel	<=120	230M07, 050A12	EN1, EN2 Leadloy	1005-1010, 1108-1115, 1210-1215	1.3	18	28	20	35	20		16
	1.2 Structural steel case carburizing steel	<=200	060A35, 080M40 4360-50B	EN3A, 4, 6, 7, 8, 32 EN207, S62	1030-1095, 1146-1151	1.4	12	22	18	28	18		13
	1.3 Plain carbon steel	<=250	080M46, 080A62	EN9, 10, 43, S70	1020, 1035, 1045, 1055, 1060	1.9	10	16	12	19		12	11
	1.4 Alloy steel	<=250	708M40/42, 817M40, 534A99, BM2, BT42	EN16, 17, 19 (R,S) EN31, S2-10-1-8 (soft)	4135, 4137, 4140, 4142	1.9	8	13	10	16		9	9
	1.5 Alloy steel, hardened and tempered steel	>250<=350	B01, BM2, BT42, 826M40, 830M31	EN24, 25, 26 (T,U,V) S95, S97, S98 (annealed)	D3, H13, H11, L6, T5, 4130, 4340, 6150	2.7	6	11	8	13		9	7
	1.6 Alloy steel, hardened and tempered steel	>350	B01, 826M40, 830M31	EN25, 26, 27 (W,X,Z) S97, S98 (H&T)	300M, 4340, H10, A2, M1-M36	3.4	4		5	7		7	
2. Stainless Steel	2.1 Free machining Stainless steel	<=250	303 S21 416 S37	EN56, EN60	430F, 303	1.9	8			14			8
	2.2 Austenitic	<=250	304 S15, 321 S17, 316 S, 320 S12	EN80, EN58+C EN58J, 316	302, 304, 316 LN, 321, 316 Ti	1.9				11			5
	2.3 Ferritic + Austenitic Ferritic, Martensitic	<=300	317 S16, 316 S16	EN58 b,e,j,t Duplex alloys	405, 15-4PH, 17-4PH, 431, Custom 455	2.7				6			3
3. Cast Iron	3.1 Lamellar graphite	>=150	Grade 150, Grade 400	Grey cast iron soft	G10-GG40, J431C	1.0	12	24	14	24			
	3.2 Lamellar graphite	>150<=300	Grade 200, Grade 400	Grey cast iron hard	GG25-GG40, J158	1.5	5	10	7	10			
	3.3 Nodular graphite Malleable Cast Iron	<=200	420/12, P440/7 700/2, 30g/72	S.G. Iron, Mehanite Black & White Heart	GGG40-GGG70	2.0	9	16	9	14			
	3.4 Nodular graphite Malleable Cast Iron	>200<=300	420/12, P440/7 700/2, 30g/72	S.G. Iron, Mehanite Black & White Heart	GTS, GTW, J434	1.5	5	10	5	8			
4. Titanium	4.1 Titanium, unalloyed	<=200	TA1 to 9	Ti 99.0	Commercially pure	1.4	7			7			7
	4.2 Titanium, alloyed	<=270	TA10 to 14, TA17, TA28	Ti-2AL	6A14V, 6A14V-25N	2.0	6			5			6
	4.3 Titanium, alloyed	>270<=350	TA10 to 13, TA28	Ti-AL	6A14V-4 Mo, 7A14V-4 Mo	2.7			5	2			
5. Nickel	5.1 Nickel, unalloyed	>=150	NA11, NA12	Nickel 200, Nickel 270	Commercially pure	1.3	6		9	16	7		7
	5.2 Nickel, alloyed	>=270	HR203, 3027-76	Nimonic 75, Hastelloy C Monel 400, Inconel 600 Haynes Alloys 263	Monel 400, Hasteloy B2, Inconel 600	2.0	4		5	8	5	5	5
	5.3 Nickel, alloyed	>270<=350	HR8, HR401, 601	Inconel 718, Waspalloy Nimonic 80, Rene 41	Nimonic 80A, Inconel 718, Waspaloy	2.7			3	5		4	
6. Copper	6.1 Copper	<=100	C101	Commercially pure	Commercially pure	0.6	7			20	9		
	6.2 β – Brass, Bronze	<=200	CZ120, CZ109, PB104		314-340, 350-370	0.7	25	40		45			
	6.3 ∞ – Brass	<=200	CZ108, CZ106		Alloyed Cu + Al + Fe	0.7	14			32	16		
	6.4 High strength Bronze	<=470	AB1 type	Ampco 18, Ampco 26	Ampco 18 25	1.5	3	10					
7. Aluminium Magnesium	7.1 Al, Mg, unalloyed	<=100	LM0, 1B (1050A)	Magnesium, Extruded Aluminium	Commercially pure	0.6	15			40	18		
	7.2 Al alloyed, Si<0.5%	<=150	LM5, 10, 12, N4 (5251)	Low Silicon wrought & Cast Aluminium	6061 T6, 7075, 314-340, 350-370	0.6	22			40	18		
	7.3 Al alloyed, 0.5%<Si<10%	<=120	LM2, 4, 16, 18, 21, 22, 24-27, L109	Silicon Aluminium	6061 T6, 380-390	0.7	12			25	13		
	7.4 Al alloyed, Si>10% whisker reinforced Al/Mg alloys	<=120	LM6, 12, 12, 20, 28-30 13	High Silicon Aluminium	Magnesium Whisker reinforced	0.7	7	19			9		
8. Synthetic Materials	8.1 Thermoplastics		Polystyrene, Nylon, PVC Cellulose, Acetate	Nylon, Hostalen, Makrolon	Ultradim, Polystyrol	0.6	10			30	25		
	8.2 Thermosetting plastics		Ebonite, Tufrol, Bakelite	Bakelite, Pertinax	Bakelit, Pestinax	0.6	4	15					
	8.3 Reinforced plastic materials		Kevlar, PCB's	CFK, GFK, AFK	CFK, GFK, AFK	1.0		8			4		
9. Hard Materials	9.1 Cermet (metals – ceramics)	<=550	Ferrotic, Ferrotitanit		Ferrotic	4.0		4	4				



Auto Feed Tapper Selection

TABS							HSCo HIGH PERFORMANCE APPLICATION TAPS													
flutes			fluteless				For blind holes use slow speed	Sp Pt	Sp Flute	Sp Pt	Sp Flute	Sp Pt	Sp Flute	St Flute	Sp Pt	Sp Flute	Sp Pt	Sp Flute	Sp Pt	Sp Flute
TIN	blue	brt pol.	flash chr	bright	nitride	TIN		35 deg	35 deg	35 deg	R 35 deg									
E508 E520	E508	E591	E565 E523 E530	E565 E523 E530	E512	E561		E940 E941 E942	E943 E944 E945	E949 E950 E951	E952 E953 E954	E955 E956 E957	E958 E959 E960	E961 E962 E963	E964 E965 E966	E967 E968 E969	E970 E971 E972	E973 E974 E975	E976 E977 E978	E979 E980 E981
Space for lead hole			2.5 x D with space for lead through hole				TCN	Standard	<25xD	<2xD	<2.5xD	<2xD	<2.5xD	<2xD	<2.5xD	<2xD	<2.5xD	<1.5xD	<2.5xD	<1.5xD
25	16	16	25		25	40	18 - 28					•	•							
20	13		22		22	35	15 - 25					•	•							
14	8		16		16	25	12 - 22					•	•							
11	7		13		13	18	10 - 18	•	•			•								
8	5						14 - 20	6 - 12	•	•	•	•					•	•		
							8 - 15	3 - 6	•	•	•	•					•	•		
11	7		13		13	20	15 - 20	5 - 10	•	•	•	•								
8	5		9		9	12	12 - 17	5 - 10	•	•	•	•								
4	3					8	10 - 15	4 - 8			•	•							•	•
							18 - 25	10 - 18					•							
							15 - 20	4 - 8					•							
							14 - 18	7 - 12	•				•							
								3 - 8					•							
	9	7			15		10 - 15						•	•						
	6	3			10		8 - 12									•	•			
	2	2					3 - 6									•	•			
11		7			13	20	6 - 12						•	•						
6		5			6	10	4 - 8												•	•
						5	2 - 4												•	•
14		9			16	21	7 - 14							•	•					
							25 - 35						•							
22		16			25	40	15 - 25		•		•		•	•						
							2 - 4						•							
32		18			35	40	12 - 22						•	•						
28		18			30	45	45 - 55	25 - 35					•	•						
20		13			23	35	30 - 40	15 - 20	•				•	•	•					
							20 - 30	10 - 15	•				•							
30		20					20 - 30						•	•						
							8 - 12						•							
7		4					8 - 12	3 - 8					•							



Auto Feed Tapper Selection

Table 5: Standard tapping sizes – pitch and recommended drill sizes

ISO metric series (coarse)

(In Accordance with BS1157, ISO Metric Coarse Pitch Series)

NOMINAL TAP SIZE	PITCH	TAPPING DRILL SIZE
M	mm	mm
1.0	0.25	0.75
1.1	0.25	0.85
1.2	0.25	0.95
1.4	0.30	1.10
1.6	0.35	1.25
1.8	0.35	1.45
2.0	0.40	1.60
2.2	0.45	1.75
2.5	0.45	2.05
3.0	0.50	2.50
3.5	0.60	2.90
4.0	0.70	3.30
4.5	0.75	3.70
5.0	0.80	4.20
6.0	1.00	5.00
7.0	1.00	6.00
8.0	1.25	6.80
9.0	1.25	7.80
10.0	1.50	8.50
11.0	1.50	9.50
12.0	1.75	10.20
14.0	2.00	12.00
16.0	2.00	14.00
18.0	2.50	15.50
20.0	2.50	17.50
22.0	2.50	19.50
24.0	3.00	21.00
27.0	3.00	24.00
30.0	3.50	26.50
33.0	3.50	29.50
36.0	4.00	32.00
39.0	4.00	35.00
42.0	4.50	37.50
45.0	4.50	40.50
48.0	5.00	43.00
52.0	5.00	47.00
56.0	5.50	50.50

ISO metric special

NOMINAL TAP SIZE	PITCH	TAPPING DRILL SIZE
M	mm	mm
1.7	0.35	1.35
2.0	0.45	1.55
2.3	0.40	1.90
2.6	0.45	2.15
3.0	0.35	2.65
3.0	0.60	2.40
4.0	0.50	3.50
4.0	0.75	3.20
5.0	0.50	4.50
5.0	0.90	4.10
5.5	0.90	4.60
6.0	0.75	5.20
8.0	0.75	7.20
8.0	1.00	7.00
9.0	1.00	8.00
10.0	0.75	9.20
10.0	1.00	9.00
10.0	1.25	8.80
12.0	1.00	11.00
12.0	1.25	10.80
12.0	1.50	10.50
14.0	1.25	12.80
14.0	1.50	12.50
16.0	1.00	15.00
16.0	1.50	14.50
18.0	1.50	16.50
20.0	1.00	19.00
20.0	1.50	18.50
20.0	2.00	18.00
22.0	1.50	20.50
24.0	1.00	23.00
24.0	1.50	22.50
24.0	2.00	22.00
25.0	1.50	23.50
32.0	1.50	30.50

type in red = ISO metric preferred fine pitch

UNC (unified coarse)

Note: Tapping Drill sizes vary with depth of hole being tapped. If in doubt consult with DORMER

NOMINAL TAP SIZE	PITCH	TAPPING DRILL SIZE	TAPPING DRILL SIZE	
M	tpi	in	mm	
No. 1	0.073	64	0.0610	1.55
No. 2	0.086	56	0.0728	1.85
No. 3	0.099	48	0.0827	2.10
No. 4	0.112	40	0.0925	2.35
No. 5	0.125	40	0.1043	2.65
No. 6	0.138	32	0.1122	2.85
No. 8	0.164	32	0.1378	3.50
No. 10	0.190	24	0.1535	3.90
No. 12	0.216	24	0.1772	4.50
1/4		20	0.2008	5.10
5/16		18	0.2598	6.60
3/8		16	0.3150	8.00
7/16		14	0.3701	9.40
1/2		13	0.4252	10.80
9/16		12	0.4803	12.20
5/8		11	0.5315	13.50
3/4		10	0.6496	16.50
7/8		9	0.7677	19.50
1		8	0.8760	22.25
1 1/8		7	0.9843	25.00
1 1/4		7	1.1024	28.00
1 3/8		6	1.2106	30.75
1 1/2		6	1.3386	34.00
1 3/4		5	1.5551	39.50
2		4 1/2	1.7717	45.00
2 1/4		4 1/2	2.0472	52.00

BSP (british standard pipe)

NOMINAL TAP SIZE	PITCH	TAPPING DRILL SIZE	TAPPING DRILL SIZE
M	tpi	G mm	Rp mm
1/16	28	6.60	6.80
1/8	28	8.60	8.80
1/4	19	11.50	11.80
3/8	19	15.00	15.25
1/2	14	18.50	19.00
5/8	14	21.00	21.00
3/4	14	24.00	24.50
7/8	14		28.25
1	11	30.25	30.75
1 1/4	11	39.00	39.50
1 1/2	11	45.00	45.00
1 3/4	11		51.00
2	11	56.50	57.00
2 1/4	11	*	*
2 1/2	11	*	*
2 3/4	11	*	*
3	11	*	*
3 1/4	11	*	*
3 1/2	11	*	*
3 3/4	11	*	*
4	11	*	*

* No sizes are recommended for this range

UNF (unified fine)

Note: Tapping Drill sizes vary with depth of hole being tapped. If in doubt consult with DORMER

NOMINAL TAP SIZE	PITCH	TAPPING DRILL SIZE	TAPPING DRILL SIZE	
M	tpi	in	mm	
No. 0	80	0.0492	1.25	
No. 1	0.073	72	0.0610	1.55
No. 2	0.086	64	0.0748	1.90
No. 3	0.099	56	0.0846	2.15
No. 4	0.112	48	0.0945	2.40
No. 5	0.125	44	0.1063	2.70
No. 6	0.138	40	0.1161	2.95
No. 8	0.164	36	0.1378	3.50
No. 10	0.190	32	0.1614	4.10
No. 12	0.216	28	0.1850	4.70
1/4		28	0.2165	5.50
5/16		24	0.2717	6.90
3/8		24	0.3346	8.50
7/16		20	0.3898	9.90
1/2		20	0.4528	11.50
9/16		18	0.5079	12.90
5/8		18	0.5709	14.50
3/4		16	0.6890	17.50
7/8		14	0.8031	20.40
1		12	0.9154	23.25
1 1/8		12	1.0433	26.50
1 1/4		12	1.1614	29.50
1 3/8		12	1.2894	32.75
1 1/2		12	1.4173	36.00

NPT (american national taper pipe)

NOMINAL TAP SIZE	PITCH	TAPPING DRILL SIZE
M	tpi	mm
1/16	27	6.30
1/8	27	8.70
1/4	18	11.10
3/8	18	14.50
1/2	14	18.00
3/4	14	23.25
1	11 1/2	29.00
1 1/4	11 1/2	38.00
1 1/2	11 1/2	44.00
2	11 1/2	56.00
2 1/2	8	67.00



Auto Feed Tapper Selection

Table 6: Auto Feed Tapping performance data

Electric drive

TOOL TYPE	SPEED		POWER		TORQUE		STROKE	
	rpm		HP	kW	lbf ins	Nm	ins	mm
model code	60Hz	50Hz	motor power		tapping torque available		working stroke	
AFDE200-850	1020	850	0.34	0.25	21.2	2.4	3.5	90
AFDE200-1200	1450	1200	0.34	0.25	15.9	1.8	3.5	90
AFDE400-330	400	330	0.44	0.33	76.1	8.6	3.94	100
AFDE400-550	660	550	0.44	0.33	46.0	5.2	3.94	100
AFDE400-900	1100	900	0.44	0.33	28.3	3.2	3.94	100
AFDE400-1200	1450	1200	0.44	0.33	21.2	2.4	3.94	100
AFDE410-330	400	330	1.00	0.75	173.5	19.6	3.94	100
AFDE410-550	660	550	1.00	0.75	104.4	11.8	3.94	100
AFDE410-900	1100	900	1.00	0.75	63.7	7.2	3.94	100
AFDE410-1200	1450	1200	1.00	0.75	47.8	5.4	3.94	100
AFDE610-330	400	330	1.00	0.75	173.5	19.6	3.94	100
AFDE610-550	660	550	1.00	0.75	104.4	11.8	3.94	100
AFDE610-900	1100	900	1.00	0.75	63.7	7.2	3.94	100
AFDE610-1200	1450	1200	1.00	0.75	47.8	5.4	3.94	100

Leadscrew tappers

TOOL TYPE	SPEED		POWER		TORQUE		STROKE	
	rpm		HP	kW	lbf ins	Nm	ins	mm
model code	60Hz	50Hz	motor power		tapping torque available		pitch controlled stroke	
AFTE480-180	215	180	1.00	0.75	316.8	35.8	2.76	70
AFTE480-330	400	330	1.00	0.75	172.8	19.5	2.76	70
AFTE480-550	660	550	1.00	0.75	103.7	11.7	2.76	70
AFTE480-900	1080	900	1.00	0.75	63.4	7.2	2.76	70
AFTE480-1200	1440	1200	1.00	0.75	47.5	5.4	2.76	70
AFTE480-1450	1740	1450	1.00	0.75	39.3	4.4	2.76	70

Pneumatic drive

TOOL TYPE	SPEED		POWER		TORQUE		STROKE	
	rpm		HP	kW	lbf ins	Nm	ins	mm
model code	load*	no load	motor power		tapping torque available		working stroke	
AFD205-650	490	650	0.30	0.22	38.1	4.3	1.97	50
AFD205-1000	750	1000	0.30	0.22	24.8	2.8	1.97	50
AFD215-650	490	650	0.30	0.22	38.1	4.3	3.54	90
AFD215-1000	750	1000	0.30	0.22	24.8	2.8	3.54	90
AFD415-490	370	490	0.51	0.38	87.6	9.9	3.94	100
AFD415-790	595	790	0.51	0.38	54.0	6.1	3.94	100
AFD415-1250	940	1250	0.51	0.38	34.5	3.9	3.94	100

* 75% of no load



Auto Feed Tapper Quick Reference Guide

Mild steel – spiral fluted HSS bright tap

Magnetic Soft Steel EN1A/EN2 Leadloy, SAE/AISI/ASTM/AMS 1005-1010, 1108-1115, 1210-1215, BS 230M07/050A12, DIN RFe60/RFe100 Hardness HB <120

single spindle				Electric (50Hz)		Electric (60Hz)		Pneumatic
HOLE DIAMETER	HOLE DIAMETER	TORQUE	TORQUE	LEADSCREW TAPPER	CONVENTIONAL TAPPER	LEADSCREW TAPPER	CONVENTIONAL TAPPER	CONVENTIONAL TAPPER
mm	in	Nm	lbf ft					
1	0.039	0.03	0.02	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
2	0.079	0.17	0.13	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
3	0.118	0.40	0.30	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
4	0.157	1.05	0.77	AFTE480-1450	AFDE200-1200	AFTE480-1200	AFDE200-1200	AFD215/205-1000
5	0.197	1.72	1.27	AFTE480-1450	AFDE400-1200	AFTE480-1200	AFDE400-900	AFD415-1250
6	0.236	3.22	2.37	AFTE480-1200	AFDE410-900	AFTE480-900	AFDE410-900	AFD415-1250
8	0.315	6.72	4.96	AFTE480-900	AFDE610-550	AFTE480-550	AFDE610-550	
10	0.394	12.09	8.92	AFTE480-550		AFTE480-550		
12	0.472	19.75	14.57					
16	0.630	34.39	25.36					
20	0.787	67.16	49.53					

2 spindle				Electric (50Hz)		Electric (60Hz)		Pneumatic
HOLE DIAMETER	HOLE DIAMETER	TORQUE	TORQUE	LEADSCREW TAPPER	CONVENTIONAL TAPPER	LEADSCREW TAPPER	CONVENTIONAL TAPPER	CONVENTIONAL TAPPER
mm	in	Nm	lbf ft					
1	0.039	0.06	0.04	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
2	0.079	0.34	0.25	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
3	0.118	0.80	0.59	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
4	0.157	2.10	1.55	AFTE480-1450	AFDE400-1200	AFTE480-1200	AFDE400-1200	AFD415-1250
5	0.197	3.44	2.54	AFTE480-1450	AFDE410-1200	AFTE480-1200	AFDE410-900	
6	0.236	6.44	4.75	AFTE480-1200	AFDE610-900	AFTE480-900	AFDE610-900	
8	0.315	13.44	9.91					
10	0.394	24.18	17.83					
12	0.472	39.50	29.13					
16	0.630	68.78	50.73					
20	0.787	134.32	99.07					

3 spindle				Electric (50Hz)		Electric (60Hz)		Pneumatic
HOLE DIAMETER	HOLE DIAMETER	TORQUE	TORQUE	LEADSCREW TAPPER	CONVENTIONAL TAPPER	LEADSCREW TAPPER	CONVENTIONAL TAPPER	CONVENTIONAL TAPPER
mm	in	Nm	lbf ft					
1	0.039	0.09	0.07	AFTE480-1450	AFDE400-1200	AFTE480-1450	AFDE400-1200	AFD415-1250
2	0.079	0.51	0.38	AFTE480-1450	AFDE400-1200	AFTE480-1450	AFDE400-1200	AFD415-1250
3	0.118	1.20	0.89	AFTE480-1450	AFDE400-1200	AFTE480-1450	AFDE400-1200	AFD415-1250
4	0.157	3.15	2.32	AFTE480-1450	AFDE610-1200	AFTE480-1200	AFDE610-1200	
5	0.197	5.16	3.81	AFTE480-1450	AFDE610-1200	AFTE480-1200	AFDE610-900	
6	0.236	9.66	7.12					
8	0.315	20.16	14.87					
10	0.394	36.27	26.75					
12	0.472	59.25	43.70					
16	0.630	103.17	76.09					
20	0.787	201.48	148.60					

⁽¹⁾ Fixed spindle head only ⁽²⁾ With electric motor reversing circuit ⁽³⁾ With electric motor reversing circuit and fixed spindle head



Auto Feed Tapper Quick Reference Guide

Stainless steel – spiral fluted HSS bright tap

Free Machining, BS 303S21/416S37, EN56/60, DIN X10CrNiS189/X12CrMoS17, USA 430F, 303
Hardness HB <250

single spindle				Electric (50Hz)		Electric (60Hz)		Pneumatic
HOLE DIAMETER	HOLE DIAMETER	TORQUE	TORQUE	LEADSCREW TAPPER	CONVENTIONAL TAPPER	LEADSCREW TAPPER	CONVENTIONAL TAPPER	CONVENTIONAL TAPPER
mm	in	Nm	lbf ft					
1	0.039	0.05	0.04	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-900	AFD215/205-1000
2	0.079	0.25	0.18	AFTE480-1450	AFDE200-1200	AFTE480-1200	AFDE200-900	AFD215/205-1000
3	0.118	0.59	0.44	AFTE480-1450	AFDE200-1200	AFTE480-1200	AFDE200-900	AFD215/205-1000
4	0.157	1.54	1.14	AFTE480-900	AFDE200-900	AFTE480-550	AFDE200-550	AFD215/205-650
5	0.197	2.51	1.85	AFTE480-550	AFDE400-550	AFTE480-330	AFDE400-330	AFD215/205-650
6	0.236	4.71	3.47	AFTE480-550	AFDE400-550	AFTE480-330	AFDE400-330	AFD415-490
8	0.315	9.82	7.24	AFTE480-330	AFDE610-330	AFTE480-180	AFDE610-330	
10	0.394	17.67	13.03	AFTE480-330	AFDE610-330	AFTE480-180	AFDE610-330	
12	0.472	28.86	21.29					
16	0.630	50.26	37.07					
20	0.787	98.16	72.40					

2 spindle				Electric (50Hz)		Electric (60Hz)		Pneumatic
HOLE DIAMETER	HOLE DIAMETER	TORQUE	TORQUE	LEADSCREW TAPPER	CONVENTIONAL TAPPER	LEADSCREW TAPPER	CONVENTIONAL TAPPER	CONVENTIONAL TAPPER
mm	in	Nm	lbf ft					
1	0.039	0.10	0.07	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-900	AFD215/205-1000
2	0.079	0.50	0.37	AFTE480-1450	AFDE200-1200	AFTE480-1200	AFDE200-900	AFD215/205-1000
3	0.118	1.18	0.87	AFTE480-900	AFDE200-900	AFTE480-550	AFDE200-900	AFD215/205-1000
4	0.157	3.08	2.27	AFTE480-550	AFDE400-550	AFTE480-330	AFDE400-330	AFD215/205-650
5	0.197	5.02	3.70	AFTE480-550	AFDE400-550	AFTE480-330	AFDE400-330	AFD415-490
6	0.236	9.42	6.95	AFTE480-330	AFDE610-330	AFTE480-180	AFDE610-330	
8	0.315	19.64	14.49					
10	0.394	35.34	26.07					
12	0.472	57.72	42.57					
16	0.630	100.52	74.14					
20	0.787	196.32	144.80					

3 spindle				Electric (50Hz)		Electric (60Hz)		Pneumatic
HOLE DIAMETER	HOLE DIAMETER	TORQUE	TORQUE	LEADSCREW TAPPER	CONVENTIONAL TAPPER	LEADSCREW TAPPER	CONVENTIONAL TAPPER	CONVENTIONAL TAPPER
mm	in	Nm	lbf ft					
1	0.039	0.15	0.11	AFTE480-1450	AFDE400-1200	AFTE480-1450	AFDE400-900	AFD415-1250
2	0.079	0.75	0.55	AFTE480-1450	AFDE400-1200	AFTE480-1200	AFDE400-900	AFD415-1250
3	0.118	1.77	1.31	AFTE480-900	AFDE400-900	AFTE480-550	AFDE400-550	AFD415-1250
4	0.157	4.62	3.41	AFTE480-550	AFDE400-550	AFTE480-330	AFDE400-330	AFD415-790
5	0.197	7.53	5.55	AFTE480-550	AFDE610-550	AFTE480-330	AFDE400-330	
6	0.236	14.13	10.42	AFTE480-330	AFDE610-330	AFTE480-180	AFDE610-330	
8	0.315	29.46	21.73					
10	0.394	53.01	39.10					
12	0.472	86.58	63.86					
16	0.630	150.78	111.21					
20	0.787	294.48	217.20					

⁽¹⁾ Fixed spindle head only ⁽²⁾ With electric motor reversing circuit ⁽³⁾ With electric motor reversing circuit and fixed spindle head



Auto Feed Tapper Quick Reference Guide

Cast iron – straight flute tap

Lamellar Graphite, BS Grades 200/400, EN Grey Cast Iron Hard, DIN GG25/40, USA SAE/AISI/ASTM/AMS GG25-40, J158
Hardness HB >150<300

single spindle				Electric (50Hz)		Electric (60Hz)		Pneumatic
HOLE DIAMETER	HOLE DIAMETER	TORQUE	TORQUE	LEADSCREW TAPPER	CONVENTIONAL TAPPER	LEADSCREW TAPPER	CONVENTIONAL TAPPER	CONVENTIONAL TAPPER
mm	in	Nm	lbf ft					
1	0.039	0.01	0.01	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
2	0.079	0.20	0.15	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-900	AFD215/205-1000
3	0.118	0.46	0.34	AFTE480-1200	AFDE200-1200	AFTE480-1200	AFDE200-900	AFD215/205-1000
4	0.157	1.22	0.90	AFTE480-900	AFDE200-900	AFTE480-550	AFDE200-900	AFD215/205-1000
5	0.197	1.98	1.46	AFTE480-550	AFDE400-550	AFTE480-550	AFDE400-550	AFD415-790
6	0.236	3.72	2.74	AFTE480-550	AFDE400-550	AFTE480-550	AFDE400-550	AFD415-790
8	0.315	7.75	5.72	AFTE480-330	AFDE400-330	AFTE480-330	AFDE400-330	AFD415-490
10	0.394	13.95	10.29	AFTE480-330	AFDE610-330	AFTE480-180	AFDE610-330	
12	0.472	22.78	16.80	AFTE480-180		AFTE480-180		
16	0.630	39.68	29.27					
20	0.787	77.50	57.16					

2 spindle				Electric (50Hz)		Electric (60Hz)		Pneumatic
HOLE DIAMETER	HOLE DIAMETER	TORQUE	TORQUE	LEADSCREW TAPPER	CONVENTIONAL TAPPER	LEADSCREW TAPPER	CONVENTIONAL TAPPER	CONVENTIONAL TAPPER
mm	in	Nm	lbf ft					
1	0.039	0.03	0.02	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
2	0.079	0.40	0.30	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
3	0.118	0.92	0.68	AFTE480-1200	AFDE200-1200	AFTE480-1200	AFDE200-900	AFD215/205-1000
4	0.157	2.44	1.80	AFTE480-900	AFDE400-900	AFTE480-550	AFDE400-550	AFD215/205-1000
5	0.197	3.96	2.92	AFTE480-550	AFDE400-550	AFTE480-550	AFDE400-550	AFD415-790
6	0.236	7.44	5.49	AFTE480-550	AFDE410-550	AFTE480-330	AFDE410-550	
8	0.315	15.50	11.43	AFTE480-330	AFDE610-330	AFTE480-330	AFDE610-330	
10	0.394	27.90	20.58					
12	0.472	45.56	33.60					
16	0.630	79.36	58.53					
20	0.787	155.0	114.32					

3 spindle				Electric (50Hz)		Electric (60Hz)		Pneumatic
HOLE DIAMETER	HOLE DIAMETER	TORQUE	TORQUE	LEADSCREW TAPPER	CONVENTIONAL TAPPER	LEADSCREW TAPPER	CONVENTIONAL TAPPER	CONVENTIONAL TAPPER
mm	in	Nm	lbf ft					
1	0.039	0.04	0.03	AFTE480-1450	AFDE400-1200	AFTE480-1450	AFDE400-1200	AFD415-1250
2	0.079	0.60	0.44	AFTE480-1450	AFDE400-1200	AFTE480-1450	AFDE400-1200	AFD415-1250
3	0.118	1.38	1.02	AFTE480-1200	AFDE400-900	AFTE480-900	AFDE400-900	AFD415-1250
4	0.157	3.66	2.70	AFTE480-900	AFDE410-900	AFTE480-550	AFDE410-550	AFD415-1250
5	0.197	5.94	4.38	AFTE480-550	AFDE610-550	AFTE480-550	AFDE610-550	
6	0.236	11.16	8.23	AFTE480-550	AFDE610-550	AFTE480-330	AFDE610-330	
8	0.315	23.25	17.15					
10	0.394	41.85	30.87					
12	0.472	68.34	50.40					
16	0.630	119.04	87.80					
20	0.787	232.50	171.48					

⁽¹⁾ Fixed spindle head only ⁽²⁾ With electric motor reversing circuit ⁽³⁾ With electric motor reversing circuit and fixed spindle head



Auto Feed Tapper Quick Reference Guide

Brass – spiral fluted HSS bright tap

Brass, BS CZ108/106, DIN CuZn37/28, USA Alloyed Cu + Al + Fe
Hardness HB <200

single spindle				Electric (50Hz)		Electric (60Hz)		Pneumatic
HOLE DIAMETER	HOLE DIAMETER	TORQUE	TORQUE	LEADSCREW TAPPER	CONVENTIONAL TAPPER	LEADSCREW TAPPER	CONVENTIONAL TAPPER	CONVENTIONAL TAPPER
mm	in	Nm	lbf ft					
1	0.039	0.02	0.01	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
2	0.079	0.09	0.07	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
3	0.118	0.22	0.16	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
4	0.157	0.57	0.42	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
5	0.197	0.93	0.69	AFTE480-1450	AFDE200-1200	AFTE480-1200	AFDE200-1200	AFD215/205-1000
6	0.236	1.74	1.28	AFTE480-1450	AFDE200-1200	AFTE480-1200	AFDE200-900	AFD415-1250
8	0.315	3.62	2.67	AFTE480-1200	AFDE410-1200	AFTE480-900	AFDE410-900	AFD415-1250
10	0.394	6.51	4.80	AFTE480-900	AFDE610-900	AFTE480-550	AFDE610-550	
12	0.472	10.63	7.84	AFTE480-550	AFDE610-550	AFTE480-330	AFDE610-330	
16	0.630	18.52	13.66					
20	0.787	36.17	26.68					

2 spindle				Electric (50Hz)		Electric (60Hz)		Pneumatic
HOLE DIAMETER	HOLE DIAMETER	TORQUE	TORQUE	LEADSCREW TAPPER	CONVENTIONAL TAPPER	LEADSCREW TAPPER	CONVENTIONAL TAPPER	CONVENTIONAL TAPPER
mm	in	Nm	lbf ft					
1	0.039	0.04	0.03	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
2	0.079	0.18	0.13	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
3	0.118	0.44	0.32	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
4	0.157	1.14	0.84	AFTE480-1450	AFDE400-1200	AFTE480-1200	AFDE400-1200	AFD215/205-1000
5	0.197	1.86	1.37	AFTE480-1450	AFDE400-1200	AFTE480-1200	AFDE400-1200	AFD415-1250
6	0.236	3.48	2.57	AFTE480-1450	AFDE410-1200	AFTE480-1200	AFDE410-900	AFD415-1250
8	0.315	7.24	5.34	AFTE480-900	AFDE610-900	AFTE480-550	AFDE610-550	
10	0.394	13.02	9.60					
12	0.472	21.26	15.68					
16	0.630	37.04	27.32					
20	0.787	72.34	53.36					

3 spindle				Electric (50Hz)		Electric (60Hz)		Pneumatic
HOLE DIAMETER	HOLE DIAMETER	TORQUE	TORQUE	LEADSCREW TAPPER	CONVENTIONAL TAPPER	LEADSCREW TAPPER	CONVENTIONAL TAPPER	CONVENTIONAL TAPPER
mm	in	Nm	lbf ft					
1	0.039	0.06	0.04	AFTE480-1450	AFDE400-1200	AFTE480-1450	AFDE400-1200	AFD415-1250
2	0.079	0.27	0.20	AFTE480-1450	AFDE400-1200	AFTE480-1450	AFDE400-1200	AFD415-1250
3	0.118	0.66	0.49	AFTE480-1450	AFDE400-1200	AFTE480-1450	AFDE400-1200	AFD415-1250
4	0.157	1.71	1.26	AFTE480-1450	AFDE400-1200	AFTE480-1450	AFDE400-1200	AFD415-1250
5	0.197	2.79	2.06	AFTE480-1450	AFDE400-1200	AFTE480-1200	AFDE400-1200	AFD415-1250
6	0.236	5.22	3.85	AFTE480-1200	AFDE610-900	AFTE480-900	AFDE610-900	
8	0.315	10.86	8.01	AFTE480-900	AFDE610-900	AFTE480-550	AFDE610-550	
10	0.394	19.53	14.40					
12	0.472	31.89	23.52					
16	0.630	55.56	40.98					
20	0.787	108.51	80.03					

⁽¹⁾ Fixed spindle head only ⁽²⁾ With electric motor reversing circuit ⁽³⁾ With electric motor reversing circuit and fixed spindle head



Auto Feed Tapper Quick Reference Guide

Aluminium – spiral fluted HSS bright tap

AL. and MG. Unalloyed, BS LMO/1B(1050A), DIN A199.5, USA Commercially pure
Hardness HB <100

single spindle				Electric (50Hz)		Electric (60Hz)		Pneumatic
HOLE DIAMETER	HOLE DIAMETER	TORQUE	TORQUE	LEADSCREW TAPPER	CONVENTIONAL TAPPER	LEADSCREW TAPPER	CONVENTIONAL TAPPER	CONVENTIONAL TAPPER
mm	in	Nm	lbf ft					
1	0.039	0.02	0.01	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
2	0.079	0.08	0.06	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
3	0.118	0.19	0.14	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
4	0.157	0.49	0.36	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
5	0.197	0.79	0.58	AFTE480-1450	AFDE200-1200	AFTE480-1200	AFDE200-900	AFD215/205-1000
6	0.236	1.49	1.10	AFTE480-1200	AFDE200-900	AFTE480-1200	AFDE200-900	AFD215/205-1000
8	0.315	3.10	2.29	AFTE480-900	AFDE400-550	AFTE480-550	AFDE400-550	AFD415-790
10	0.394	5.58	4.12	AFTE480-550	AFDE400-550	AFTE480-550	AFDE400-550	AFD415-790
12	0.472	9.11	6.72	AFTE480-550	AFDE610-550	AFTE480-330	AFDE610-330	
16	0.630	15.87	11.71	AFTE480-330	AFDE610-330	AFTE480-330	AFDE610-330	
20	0.787	31.00	22.86					

2 spindle				Electric (50Hz)		Electric (60Hz)		Pneumatic
HOLE DIAMETER	HOLE DIAMETER	TORQUE	TORQUE	LEADSCREW TAPPER	CONVENTIONAL TAPPER	LEADSCREW TAPPER	CONVENTIONAL TAPPER	CONVENTIONAL TAPPER
mm	in	Nm	lbf ft					
1	0.039	0.04	0.03	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
2	0.079	0.16	0.12	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
3	0.118	0.38	0.28	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
				AFTE480-1450	AFDE200-1200	AFTE480-1200	AFDE200-1200	AFD215/205-1000
5	0.197	1.58	1.17	AFTE480-1200	AFDE200-1200	AFTE480-900	AFDE200-900	AFD415-1250
6	0.236	2.98	2.20	AFTE480-900	AFDE600-900	AFTE480-900	AFDE600-900	AFD415-1250
8	0.315	6.20	4.57	AFTE480-550	AFDE610-550	AFTE480-550	AFDE610-550	
10	0.394	11.16	8.23	AFTE480-550	AFDE610-550	AFTE480-550	AFDE610-550	
12	0.472	18.22	13.44	AFTE480-550		AFTE480-330		
16	0.630	31.74	23.41					
20	0.787	62.00	45.73					

3 spindle				Electric (50Hz)		Electric (60Hz)		Pneumatic
HOLE DIAMETER	HOLE DIAMETER	TORQUE	TORQUE	LEADSCREW TAPPER	CONVENTIONAL TAPPER	LEADSCREW TAPPER	CONVENTIONAL TAPPER	CONVENTIONAL TAPPER
mm	in	Nm	lbf ft					
1	0.039	0.06	0.04	AFTE480-1450	AFDE400-1200	AFTE480-1450	AFDE400-1200	AFD415-1250
2	0.079	0.24	0.18	AFTE480-1450	AFDE400-1200	AFTE480-1450	AFDE400-1200	AFD415-1250
3	0.118	0.57	0.42	AFTE480-1450	AFDE400-1200	AFTE480-1450	AFDE400-1200	AFD415-1250
4	0.157	1.47	1.08	AFTE480-1450	AFDE400-1200	AFTE480-1200	AFDE400-1200	AFD415-1250
5	0.197	2.37	1.75	AFTE480-1200	AFDE610-1200	AFTE480-900	AFDE610-900	AFD415-1250
6	0.236	4.47	3.30	AFTE480-900	AFDE610-900	AFTE480-900	AFDE610-900	
8	0.315	9.30	6.86	AFTE480-550	AFDE610-550	AFTE480-550	AFDE610-550	
10	0.394	16.74	12.35					
12	0.472	27.33	20.16					
16	0.630	47.61	35.12					
20	0.787	93.00	68.59					

⁽¹⁾ Fixed spindle head only ⁽²⁾ With electric motor reversing circuit ⁽³⁾ With electric motor reversing circuit and fixed spindle head



Auto Feed Tapper Quick Reference Guide

Plastics – spiral fluted HSS bright tap

Thermoplastics, Polystyrene, Nylon, PVC Cellulose, Acetate, Nitrate, Ultramid, Polystyrol

single spindle				Electric (50Hz)		Electric (60Hz)		Pneumatic
HOLE DIAMETER	HOLE DIAMETER	TORQUE	TORQUE	LEADSCREW TAPPER	CONVENTIONAL TAPPER	LEADSCREW TAPPER	CONVENTIONAL TAPPER	CONVENTIONAL TAPPER
mm	in	Nm	lbf ft					
1	0.039	0.02	0.01	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
2	0.079	0.08	0.06	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
3	0.118	0.19	0.14	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
4	0.157	0.49	0.36	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
5	0.197	0.79	0.58	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
6	0.236	1.49	1.10	AFTE480-1200	AFDE200-900	AFTE480-900	AFDE200-900	AFD415-1250
8	0.315	3.10	2.29	AFTE480-900	AFDE400-900	AFTE480-900	AFDE400-900	AFD415-1250
10	0.394	5.58	4.12	AFTE480-900	AFDE410-550	AFTE480-550	AFDE410-550	
12	0.472	9.11	6.72	AFTE480-550	AFDE610-550	AFTE480-550	AFDE610-550	
16	0.630	15.87	11.71	AFTE480-330	AFDE610-330	AFTE480-330	AFDE610-330	
20	0.787	31.00	22.86					

2 spindle				Electric (50Hz)		Electric (60Hz)		Pneumatic
HOLE DIAMETER	HOLE DIAMETER	TORQUE	TORQUE	LEADSCREW TAPPER	CONVENTIONAL TAPPER	LEADSCREW TAPPER	CONVENTIONAL TAPPER	CONVENTIONAL TAPPER
mm	in	Nm	lbf ft					
1	0.039	0.04	0.03	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
2	0.079	0.16	0.12	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
3	0.118	0.38	0.28	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
4	0.157	0.98	0.72	AFTE480-1450	AFDE200-1200	AFTE480-1450	AFDE200-1200	AFD215/205-1000
5	0.197	1.58	1.17	AFTE480-1450	AFDE400-1200	AFTE480-1200	AFDE400-1200	AFD415-1250
6	0.236	2.98	2.20	AFTE480-1200	AFDE410-900	AFTE480-900	AFDE410-900	AFD415-1250
8	0.315	6.20	4.57	AFTE480-900	AFDE610-900	AFTE480-900	AFDE610-900	
10	0.394	11.16	8.23		AFDE610-550		AFDE610-550	
12	0.472	18.22	13.44					
16	0.630	31.74	23.41					
20	0.787	62.00	45.73					

3 spindle				Electric (50Hz)		Electric (60Hz)		Pneumatic
HOLE DIAMETER	HOLE DIAMETER	TORQUE	TORQUE	LEADSCREW TAPPER	CONVENTIONAL TAPPER	LEADSCREW TAPPER	CONVENTIONAL TAPPER	CONVENTIONAL TAPPER
mm	in	Nm	lbf ft					
1	0.039	0.06	0.04	AFTE480-1450	AFDE400-1200	AFTE480-1450	AFDE400-1200	AFD415-1250
2	0.079	0.24	0.18	AFTE480-1450	AFDE400-1200	AFTE480-1450	AFDE400-1200	AFD415-1250
3	0.118	0.57	0.42	AFTE480-1450	AFDE400-1200	AFTE480-1450	AFDE400-1200	AFD415-1250
4	0.157	1.47	1.08	AFTE480-1450	AFDE410-1200	AFTE480-1450	AFDE410-1200	AFD415-1250
5	0.197	2.37	1.75	AFTE480-1450	AFDE610-1200	AFTE480-1200	AFDE610-1200	
6	0.236	4.47	3.30	AFTE480-1200	AFDE610-900	AFTE480-900	AFDE610-900	
8	0.315	9.30	6.86					
10	0.394	16.74	12.35					
12	0.472	27.33	20.16					
16	0.630	47.61	35.12					
20	0.787	93.00	68.59					

⁽¹⁾ Fixed spindle head only ⁽²⁾ With electric motor reversing circuit ⁽³⁾ With electric motor reversing circuit and fixed spindle head



AFD Selection Form

Fax To: _____

Date: _____

From: _____

Return Fax No: _____

Telephone No: _____

Application

Drilling

Tapping

Other _____

Parameters

Hole/Thread Diameter: _____

Depth of Hole: _____

Number of Holes: _____

Through Hole

Blind Hole

Material: _____

Pitch of Thread (Tapping Only): _____

Pneumatic:

Electric (50Hz):

Electric (60Hz):

Hole Pattern



AFD Publications



Auto Feed Drills Product Range Brochure

Part No. LT1215

Provides a brief overview of the CP range of Auto Feed Drills and Tappers



Air Motor Range Catalogue

Part No. LT1317

Detailed catalogue featuring the CP Air Motor Range



Auto Feed Drills CAD Disks

DXF Part No. 439563
Autocad Part No. 439573

CAD drawing files for the Desoutter Auto Feed Drills and Tappers



Dormer Cutting Tool Handbook

This catalogue can be obtained by contacting Dormer Tools Inc.
Asheville
NC 28813
USA
Tel: +1 704 274 60 78
Fax: +1 704 274 6076





www.cp.com



Please find your local contact at: www.cp.com



USA LT1221
Printed in England May 2005 Issue 1
© Copyright 2005
CP Desoutter HP2 7DR United Kingdom



Certificate No. FM28383
Desoutter Limited
ISO 9001 Registered



Certificate No. EMS61525
Desoutter Limited
ISO 14001 Registered