Selection guide for drills

Choosing a drill should be done using two key criteria:

- Drill bit or hole diameter
- Recommended cutting speed of the drill bit in a specific material

This table shows the optimum cutting speeds and drill bit diameters for various common materials as sorted by Bosch air drill models.

These recommended values are based on generally accepted speeds for HSS twist drill bits. If no value is specified in the table, it means that the drill bit diameter is beyond the capacity of the drill chuck.

The table shows which drill bit sizes fit each model, and what speeds work best. Remember, this table is only a guide and does not mean that the drills are limited to only the specified ranges of bit size for any given material.

To ensure that the ideal cutting speed of a bit is reached, some materials should be pre-drilled with a pilot hole beyond the following bit diameters:

- Steel up to 600 N/mm^2
  8 mm or larger
- Steel over 600 N/mm^2
  6 mm or larger
- Cast iron up to 180 N/mm^2
  10 mm or larger
- Cast iron up to 300 N/mm^2
  8 mm or larger

	Part number	No-load speed (rpm)
Cutting speed (m/min):		
		
		speed regulated
	0 607 154 101	3200
	0 607 153 103	1000
	0 607 153 106*	1000
		
		unregulated
	0 607 161 100	2560
	0 607 161 102*	2560
	0 607 161 101	1200
	0 607 161 103*	1200
		
		unregulated
	0 607 153 520	4000
	0 607 153 523*	4000
	0 607 153 521	3000
	0 607 153 524*	3000
	0 607 153 522	1300
	0 607 153 525*	1300
		
		unregulated
	0 607 161 500	2560
	0 607 161 504*	2560
	0 607 161 501	1200
	0 607 161 505*	1200
	0 607 161 502	800
	0 607 161 506*	800
	0 607 161 503	640
	0 607 161 507*	640

* with keyless chuck

Steel up to 600 N/mm²	Steel over 600 N/mm²	Cast iron up to 180 N/mm²	Cast iron up to 300 N/mm² Plastics	Brass, copper, bronze	Silumin (Aluminum-Silicon alloy)	Aluminum
20 to 25	15 to 20	20 to 35	10 to 20	50 to 60	30 to 40	80 to 120

Drilling diameter (mm)

Drills
with 120, 180 and 400 watt motors

Drills

- Production air drills rotate in forward direction only
- Polyamide housing reduces weight and provides operator comfort (400 watt model only)
- Excellent performance/weight ratio
- Air motor provides for long life and long run times without overheating

	Part number	Chuck capacity in mm (inches)
Drills  **120/180 watts 0.16/0.25 Hp motors**	0 607 154 101	10 mm (3/8″) Keyed
	0 607 153 103	10 mm (3/8″) Keyed
	0 607 153 106	10 mm (3/8″) Keyless
Drills  **400 watt 0.54 Hp motor**	0 607 161 100	10 mm (3/8″) Keyed
	0 607 161 102	10 mm (3/8″) Keyless
	0 607 161 101	10 mm (3/8″) Keyed
	0 607 161 103	10 mm (3/8″) Keyless
Drills  C·L·E·A·N **180 watt 0.25 Hp motor**	0 607 153 520	10 mm (3/8″) Keyed
	0 607 153 523	10 mm (3/8″) Keyless
	0 607 153 521	10 mm (3/8″) Keyed
	0 607 153 524	10 mm (3/8″) Keyless
	0 607 153 522	10 mm (3/8″) Keyed
	0 607 153 525	10 mm (3/8″) Keyless

Max. drilling dia. in steel mm (inch)	No-load speed (rpm)	Motor power in watts (Hp)	Air consumption under load l/s (cfm)	Weight in kg (lbs)	Drill spindle thread	Air inlet thread	Hose inner diameter (mm)	Included accessories
	regulated							Chuck (as specified) Suspension hook Barbed hose nipple
4	3200	120	14.5	0.45	3/8"-24 UNF-2A	G 1/8"	6	
(5/32")		(0.16)	(30.07)	(0.99)				
8	1000	180	16.0	0.73	3/8"-24 UNF-2A	G 1/8"	6	
(5/16")		(0.24)	(33.9)	(1.6)				
8	1000	180	16.0	0.83	3/8"-24 UNF-2A	G 1/8"	6	
(5/16")		(0.24)	(33.9)	(1.8)				
	unregulated							Chuck (as specified) Suspension hook Barbed hose nipple Auxiliary handle
8	2560	400	11.0	1.1	1/2"-20 UNF-2A	G 1/4"	10	
(5/16")		(0.54)	(23.3)	(2.4)				
8	2560	400	11.0	1.3	1/2"-20 UNF-2A	G 1/4"	10	
(5/16")		(0.54)	(23.3)	(1.8)				
10	1200	400	11.0	1.2	1/2"-20 UNF-2A	G 1/4"	10	
(3/8")		(0.54)	(23.3)	(2.6)				
10	1200	400	11.0	1.45	1/2"-20 UNF-2A	G 1/4"	10	
(3/8")		(0.54)	(23.3)	(3.2)				
	unregulated							Chuck (as specified) Barbed hose nipple Suspension hook
4	4000	180	16.0	0.8	3/8"-24 UNF-2A	G 1/4"	6	
(5/32")		(0.24)	(33.9)	(1.8)				
4	4000	180	16.0	0.9	3/8"-24 UNF-2A	G 1/4"	6	
(5/32")		(0.24)	(33.9)	(2.0)				
5	3000	180	16.0	0.8	3/8"-24 UNF-2A	G 1/4"	6	
(13/64")		(0.24)	(33.9)	(1.1)				
5	3000	180	16.0	0.9	3/8"-24 UNF-2A	G 1/4"	6	
(13/64")		(0.24)	(33.9)	(2.0)				
8	1300	180	16.0	0.8	3/8"-24 UNF-2A	G 1/4"	6	
(5/16")		(0.24)	(33.9)	(1.8)				
8	1300	180	16.0	0.9	3/8"-24 UNF-2A	G 1/4"	6	
(5/16")		(0.24)	(33.9)	(2.0)				

All motor power & torque data in this catalog assumes an air pressure of 6.3 bar/91psi exists at the tool inlet.
Correct air pressure and volume should be verified at inlet with the tool running at no-load speed.

Drills and rotary hammer
with 400 and 740 watt motors

Drills

- Production air drills rotate in forward direction only
- Polyamide housing reduces weight and provides operator comfort
- Excellent performance/weight ratio

	Part number	Chuck capacity in mm (inches)
Drills  **400 watt** **0.54 Hp motor**	0 607 161 500	10 mm (3/8″) Keyed
	0 607 161 504	10 mm (3/8″) Keyless
	0 607 161 501	10 mm (3/8″) Keyed
	0 607 161 505	10 mm (3/8″) Keyless
	0 607 161 502	13 mm (1/2″) Keyed
	0 607 161 506	13 mm (1/2″) Keyless
	0 607 161 503	13 mm (1/2″) Keyed
	0 607 161 507	13 mm (1/2″) Keyless

Rotary hammer

- Hammer mechanism is identical to electric "bulldog" model
- Hammer can be used in damp or wet locations where electric tools may be unsafe
- Air motor provides for long life and long run times without overheating

	Part number	Maximum drilling diameter mm (inch)	Full-load speed (rpm)
Rotary hammer  **740 watt** **1 Hp motor**	0 607 557 501	20 mm – concrete (3/4″ – concrete)	850
		13 mm – steel (1/2″ – steel)	
		30 mm – wood (1-1/8″ – wood)	

Max. drilling dia. in steel mm (inch)	No-load speed (rpm)	Power output in watts (Hp)	Air consumption under load in l/s (cfm)	Weight in kg (lbs)	Drill spindle thread	Air inlet thread	Hose inner diameter (mm)	Included accessories
	Unregulated							Chuck (as specified) Barbed hose nipple Sintered metal silencer Auxiliary handle
8	2560	400	10.5	1.1	1/2"-20 UNF-2A	G 1/4"	10	
(5/16")		(0.54)	(22.2)	(2.4)				
8	2560	400	10.5	1.3	1/2"-20 UNF-2A	G 1/4"	10	
(5/16")		(0.54)	(22.2)	(2.9)				
10	1200	400	10.5	1.3	1/2"-20 UNF-2A	G 1/4"	10	
(3/8")		(0.54)	(22.2)	(2.9)				
10	1200	400	10.5	1.5	1/2"-20 UNF-2A	G 1/4"	10	
(3/8")		(0.54)	(22.2)	(3.3)				
13	800	400	10.5	1.45	1/2"-20 UNF-2A	G 1/4"	10	
(1/2")		(0.54)	(22.2)	(3.2)				
13	800	400	10.5	1.5	1/2"-20 UNF-2A	G 1/4"	10	
(1/2")		(0.54)	(22.2)	(3.3)				
13	640	400	10.5	1.45	1/2"-20 UNF-2A	G 1/4"	10	
(1/2")		(0.54)	(22.2)	(3.2)				
13	640	400	10.5	1.6	1/2"-20 UNF-2A	G 1/4"	10	
(1/2")		(0.54)	(22.2)	(3.5)				

Impact rate (bpm)	Power output in watts (Hp)	Air consumption under load in l/s (cfm)	Weight in kg (lbs)	Bit holder/ drive end	Air inlet thread	Hose inner diameter (mm)	Comments	Included accessories
3900	740	16	2.7	SDS-plus with auto-locking system	G 1/4"	13	Ideal for drilling in damp conditions	Auxiliary handle Depth stop Barbed hose nipple Plastic carrying case
	(1.0)	(33.9)	(5.9)					

All motor power & torque data in this catalog assumes an air pressure of 6.3 bar/91psi exists at the tool inlet.
Correct air pressure and volume should be verified at inlet with the tool running at no-load speed.

Recommended speeds for HSS twist drill bits

The range of Bosch Drills features straight and pistol models from 120 – 400 watts.

The table is intended to help you select the right drill bit for a given material

up to drilling dia. (mm) Cutting speed (m/min):	Steel up to 600 N/mm² (rpm) 20 to 25	Steel over 600 N/mm² (rpm) 15 to 20	Cast iron up to 180 N/mm² (rpm) 20 to 35	Cast iron up to 300 N/mm² (rpm) 10 to 20	Brass, copper, bronze (rpm) 50 to 60	Silumin (Aluminum-Silicon alloy) (rpm) 30 to 40	Aluminum (rpm) 80 to 120
4	2380	1600	2200	1200	4400	2800	8000
5	1900	1270	1800	950	3500	2200	6400
6	1600	1060	1500	800	2900	1850	5300
7	1360	910	1300	680	2500	1600	4550
8	1200	800	1100	600	2200	1400	4000
9	1060	700	1000	530	1900	1200	3540
10	950	640	890	480	1700	1100	3200
11	860	580	810	430	1600	1000	2900
12	800	530	740	400	1500	930	2660
13	730	490	680	370	1350	860	2450
14	680	450	640	340	1250	800	2270
15	630	420	600	320	1150	740	2120
16	600	400	560	300	1100	700	2000
17	560	380	520	280	1050	660	1870
18	530	350	500	260	1000	620	1770
19	500	330	470	250	950	590	1680
20	480	320	450	240	900	560	1600
23	410	280	390	210	760	480	1380
30	310	210	300	160	580	370	1060