



MD120/4 Magnetic Drill

4 speed 2000 W magnetic drilling machine

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Internal & Confidential

AGP TAIWAN

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AGP | MD120/4 Magnetic Drill



Introduction

Target group & Applications

MD120 Introduction

The MD120/4 is AGP's highest capacity magnetic drill with a wide range of capabilities. For both HSS and TCT cutters, it is rated at 120 mm diameter and 50 mm depth, with 100 mm depth optional. The 4-speed gearbox with mechanical slip clutch allows a wide range cutting speeds which is useful for both varying cutter diameters, as well as different types of cutting tools to be used. In addition to this, there is a variable electronic constant speed control for even more versatility in precisely matching the cutting speed to the application. The number 3 Morse taper (MT3) spindle makes it easy to change between different styles of arbors and adaptors to use a large array of cutting tools. Since MT3 is a common, industry-wide standard, many different arbors and MT3 shank cutting tools can be found in the market and can be shared with other equipment, such as drill presses, etc. Reducers can also be used to mount MT2 and MT1 tools as well. The reversing switch, together with the optional #1 and #2 tapping adaptor arbors allow the machine to easily perform tapping using outside-sourced clamp collets.

Target Groups and Applications

For operators in the metalworking, fabrication, steel frame construction, bridge building industry, or anyone who needs to perform a wide array of heavy steel drilling, up to 120 mm diameter, this is the tool for the job. With its powerful motor, strong magnet, and full range of features, this tool's performance in thick steel is outstanding.



Sales Arguments

Stepless Variable Speed with Constant Speed Electronics

Extra control and versatility with variable speed, allowing a wider range of cutting speeds for the requirements of different cutting tools.



Reversing Switch

The reversing switch allows the machine to perform tapping.



Morse Taper Spindle

MT3 spindle allows a wide range of cutting tools to be directly mounted in the spindle.



4-Speed Gearbox with Clutch

Four mechanical gear ratios for optimized cutting speed and maximum torque with a wide range of diameters and types of cutting tools. The mechanical clutch adds to the safety of the tool.



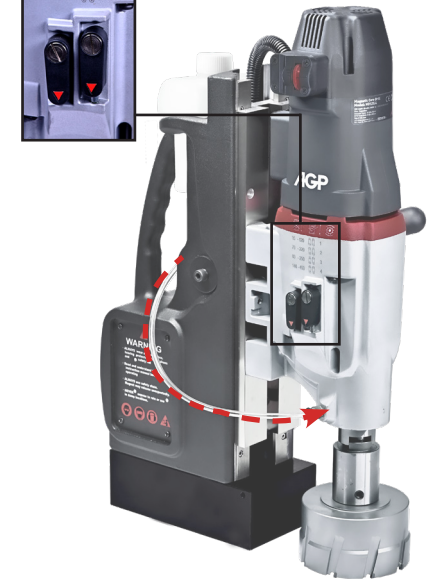
31.75 mm (1-1/4") Cutter Arbor

The 31.75 mm Weldon shank cutter arbor has extra driving tangs for added stability.



Integrated Cutting Fluid Feed

The unique AGP design integrates the cutting fluid feed with all of the MT3 cutter arbors.



Technical Specification

Model		MD120/4
Power Input		2000 W (220-240 V), 1700 W (110-120 V)
Voltage, Frequency		220-240 V~ 50-60 Hz, or 110-120 V~ 50-60 Hz
Rated Load Speeds	Gear 1	35-115 min ⁻¹
	Gear 2	70-210 min ⁻¹
	Gear 3	80-250 min ⁻¹
	Gear 4	140-450 min ⁻¹
Max. Capacity	∅ x Depth of Cut (with Set-Screw Type Cutter Arbor)	120 mm x 50 mm (4" x 2") (100 mm depth optional)
	∅ x Depth of Cut (with Quick-Release Cutter Arbor)	60 mm x 50 mm (2-3/8" x 2")
	Chuck Capacity	≤ 16 mm (5/8") shank
	∅ of MT3 Twist Drill	32 mm (1-1/4")
	∅ of Taps	32 mm (1-1/4")
	Stroke	215 mm (8-1/2")
Max. Spindle Height		295 mm (11-5/8")
Magnetic Adhesion		32,000 N
Weight		29.3 kg (64.6 lb)

- 1 MT3 Arbor
- 2 Crank Handle
- 3 Motor Switch
- 4 Magnet Switch
- 5 Reversing Switch
- 6 Magnet Base
- 7 Coolant Feed Tap
- 8 Coolant Tank
- 9 Gear Selectors
- 10 Annular Cutter (Not included)
- 11 Pilot Pin (Not included)



Offer Content

Standard Accessories

- 1 MD120/4 Magnetic Drill
- 2 Coolant Tank Kit
- 3 MT3 (31.75 mm, 1-1/4" Weldon)
Annular Cutter Arbor, 50 mm Depth of Cut (set screw type)
- 4 MT3 (19.05 mm, 3/4" Weldon)
Annular Cutter Arbor, 50 mm Depth of Cut (set screw type)
- 5 Wrench M8
- 6 L-Hex Key M4
- 7 L-Hex Key M2.5
- 8 Drift
- 9 Chip Guard Kit
- 10 Ratchet Strap

Optional Accessories

- 11 MT3 Chuck Adaptor
- 12 5/8" (16 mm) Chuck & Chuck Key
- 13 MT3 Tapping Adaptors
- 14 Tapping Attachments
- 15 MT3 (19.05 mm, 3/4" Weldon)
Quick-Release Annular Cutter Arbor, 50 mm Depth of Cut
- 16 MT3 (31.75 mm, 1-1/4" Weldon)
Annular Cutter Arbor, 100 mm Depth of Cut (set screw type)
- 17 MT3 (19.05 mm, 3/4" Weldon)
Annular Cutter Arbor, 75 mm Depth of Cut (set screw type)

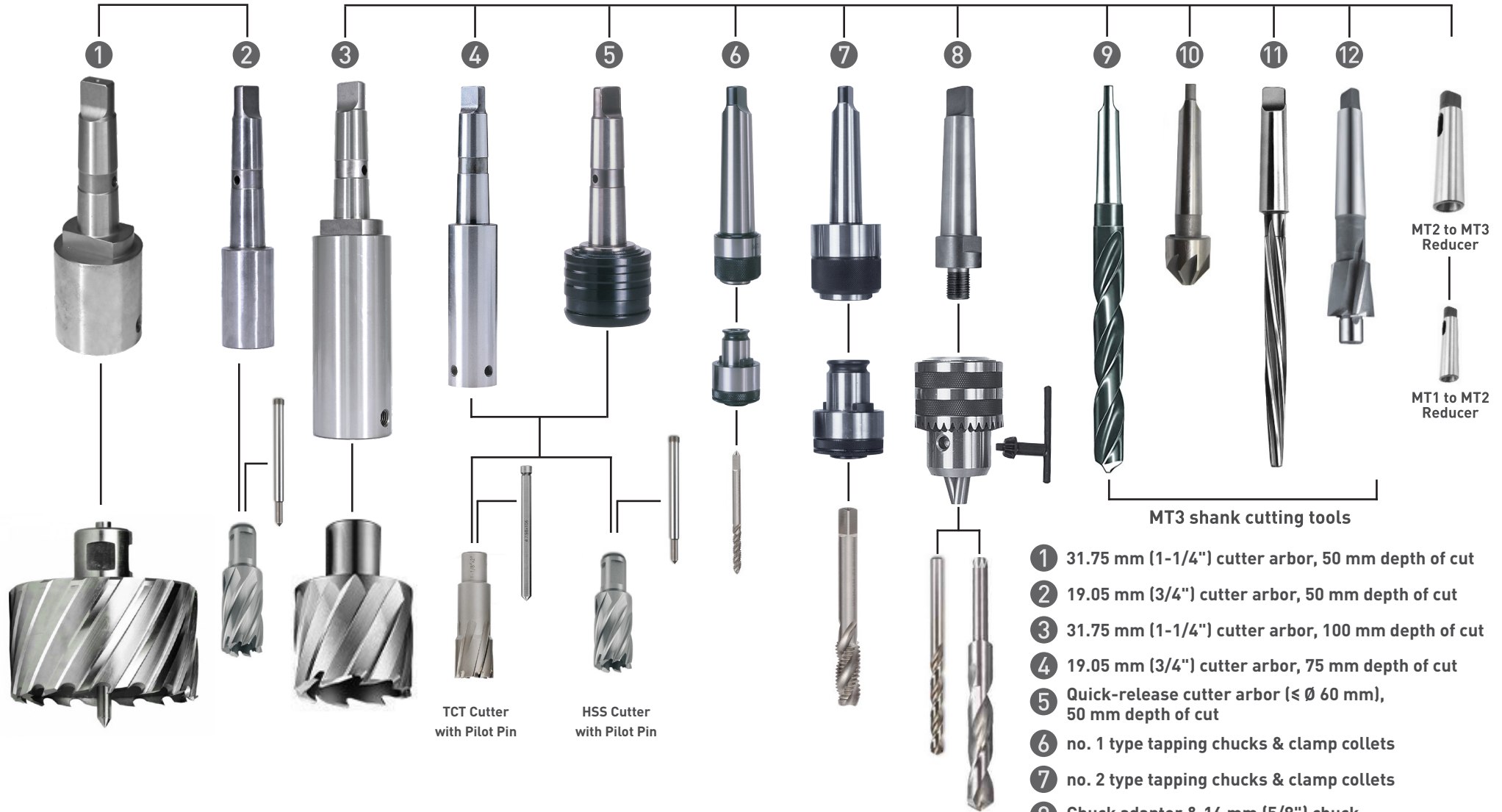


Cutting Tools Applications

MT3 Shank

Standard

Optional





















TCT Cutter with Pilot Pin
HSS Cutter with Pilot Pin

MT3 shank cutting tools

- ① 31.75 mm (1-1/4") cutter arbor, 50 mm depth of cut
- ② 19.05 mm (3/4") cutter arbor, 50 mm depth of cut
- ③ 31.75 mm (1-1/4") cutter arbor, 100 mm depth of cut
- ④ 19.05 mm (3/4") cutter arbor, 75 mm depth of cut
- ⑤ Quick-release cutter arbor (≤ Ø 60 mm), 50 mm depth of cut
- ⑥ no. 1 type tapping chucks & clamp collets
- ⑦ no. 2 type tapping chucks & clamp collets
- ⑧ Chuck adapter & 16 mm (5/8") chuck
- ⑨ Twist Drills ⑪ Reamers
- ⑩ Countersinks ⑫ Counterbores

Comparison Table

Brand									
									
Model	MD120/4	KBU 110-4 M	MAB 825	MAB 1300	RB 100 RL-E	RB 130	ECO.100S+/T	Element 100	PRO 112 T
Power	2 000 W	1 700 W (850 W output)	1 800 W	2 300 W	2 500 W	2 500 W	1 900 W	2 000 W	2 300 W
Morse Taper Spindle	MT3	MT4	MT3	MT4	MT3	MT4	MT3	MT3	MT3
Capacity Ø (cutters)	120 mm	110 mm (TCT) 80 mm (HSS)	100 mm	130 mm	100 mm	130 mm	100 mm	100 mm	100 mm
Depth of Cut (cutters)	50 mm (100 mm optional)	100 mm	50 mm (110 mm)	50 mm (110 mm)	50 mm (110 mm)	50 mm (110 mm)	50 mm (110 mm)	100 mm	100 mm
MT3 Shank Twist Drills	32 mm	40 mm	32 mm	45 mm	32 mm	45 mm	32 mm	31.75 mm	31.75 mm
Drill Chuck	16 mm (5/8")	16 mm (5/8")	16 mm (5/8")	16 mm (5/8")	16 mm (5/8")	16 mm (5/8")	16 mm (5/8")	16 mm (5/8")	16 mm (5/8")
RPM-no load (rated load) I (constant speed)	35 - 120	100 / 190 (60 / 120) (2 speed switch)	40 - 110 (constant speed)	(30 - 80) (constant speed)	50 - 110 (constant speed)	(30 - 80) (constant speed)	42 - 110 (85)	45 - 129 (constant speed)	75 - 110 (constant speed)
RPM-no load (rated load) II	70 - 220	160 / 290 (90 / 170)	65 - 175	(50 - 120)	75 - 175	(50 - 120)	65 - 190 (152)	70 - 208	135 - 200
RPM-no load (rated load) III	80 - 250	270 / 500 (150 / 300)	140 - 360	(130 - 350)	105 - 245	(130 - 350)	140 - 400 (270)	150 - 434	220 - 320
RPM-no load (rated load) IV	140 - 450	420 / 750 (230 / 430)	220 - 600	(210 - 550)	165 - 385	(210 - 550)	220 - 620 (480)	240 - 700	390 - 570
Variable Speed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Reversing	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Cutter Shank	31.75 & 19.05 mm Weldon	31.75 mm Weldon	31.75 & 19.05 mm Weldon	31.75 mm Weldon	19.05 Weldon	31.75 mm Weldon	19.05 Weldon	19.05 Weldon	19.05 Weldon
Quick-Release Arbor	19 Weldon only (optional)	Yes	19 Weldon only (optional)	No	Yes	No	No	No	No
Adjustable Slide Height	No	Yes	No	No	Yes	Yes 100 mm	No	No	No
Swivel Base	No	Yes	optional (MAB 845)	No	Yes	No	No	optional	No
Gearbox Lubrication	grease	grease	Oil Bath	Oil Bath	Oil Bath	Oil Bath	Oil Bath	grease	grease
Mechanical Clutch	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Overload Protection	Yes	Yes (thermal)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tapping	M 32	M 36	M 30	M 42	M 30	M 42 (w/ attachment)	M 30	M 30	M 30
Stroke	215 mm	280 mm	255 mm	310 mm	245 mm	230 mm	260 mm	200 mm	225 mm
Torque Control	No	No	Yes	Yes	No	Yes	Yes	No	Yes
Magnetic Force Display	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Magnetic Adhesion	32 000 N	23 000 N	not listed	not listed	20 000 N	33 000 N	30 000 N (3 000 kgf)	20 000 N	18 000 N
Weight	29.3 kg	39.0 kg	25.0 kg	51.0 kg	28.0 kg	34.5 kg	27.8 kg	24.8 kg	25.0 kg
Conclusion	The AGP MD120/4 provides an excellent combination of features and performance. The 4 speed gearbox, variable speed, and long stroke range make it very competitive in this segment.								

Tool Dimensions

