

EVOMAG 42

We test Evolution's 42mm capacity magnetic drill



Lightweight, 1300kg adhesion, from around £243 delivered - we had to have a go

by Toolman

So we need to drill sixteen 18mm holes in an RSJ, 12mm plates and box section... having tried to drill this kind of plate with a hand drill I have no desire to repeat that plan, and it would be tricky to put the 200kg beam in a pillar drill - so magnetic drill it is!

There are a huge number of drills on the market from manufacturers such as Rotabroach, Alfa, Hitachi, Evolution and even Milwaukee ranging from	around £200 to over £1500!	much as I would like the ability to tap holes with the machine I think for our use the cost cannot be justified.	life and ability for the lowest cost - some compromise has to be made.
	In common with a lot of users, our prospective machine needs to be able to work hard but will not be used continually. As well as this,	As with all tool purchases we want the best performance,	

When looking for a magnetic drill there are several specifications which need to be compared (some are obvious - some are less so) - here's what we suggest of looking out for when you are looking for a mag drill:

- Motor power and speed settings - how necessary variable speed is will depend on what size most of your holes are going to be
- Cutting capacity - again select based on your planned usage - more is better here
- Warranty - more is definitely good
- Throat depth - again, more is good so long as it doesn't compromise rigidity or accessibility.
- Does it come with a chuck and key?
- Magnetic adhesion - how well does it stick to the steel?
- Weight - you will probably end up climbing a ladder with this tool and as long as the magnetic adhesion is strong there should be no reason why you would need a heavy machine.

Having looked at various machines the EVOMAG 42 from Evolution was decided on due to its impressive specification, low weight, capacity and price - we took the plunge and purchased online for £243 delivered.

Let's drill some holes

We use the EVOMAG42 to drill the mounting bolt holes on our new gantry crane build

Using the Chuck

Although this machine is mainly for drilling large holes using the annular broach type cutters mounted in the 19.05mm "weldon" type chuck common to this machine type, you may find the 13mm keyed 3 jaw chuck very useful for smaller holes. It is included free (unusually) together with the required adaptor inside the carry case and we shall be using it later to bore some boiler bushes on the 4" scale traction engine.



We found the EVOMAG 42 a very capable machine, key points are the superb 2 stage magnet system which works well when finally positioning the drill for pin-point accuracy. The soft start on the machine is a nice feature and eliminates any tendency for the unit to jolt when started. This machine is solid and well machined but is still light in weight which is great for positioning - especially in awkward places. The throat and travel adjustments are very versatile, allowing plenty of scope for different cutters and the ability to minimise the overall height and adjust the travel whilst cutting. Power from the machine is excellent, allowing fast, clean & free cutting of the steel.



There are a few niggles: the locking mechanism is counter intuitive - it needs to be undone to tighten the vertical slide - I'm sure you will get used to this. The locking mechanism thread appears to be made from brass and seems a strange choice as it is frequently tightened and loosened in its threaded hole - time will tell with this. More apparent is that if you are using the cutting fluid reservoir it will collide with the locking mechanism on the slide at the top of its travel, this can be worked around but is annoying, especially considering the the rest of the drill design which is excellent.

Sadly the drill has to have its handles and coolant tank removed before storage in the otherwise excellent carry case.



Left: The EVOMAG42 is fitted with the industry standard 19.05mm weldon type mounting system needing two grub screws to be tightened onto the bit when it is mounted, the system is very secure but in common with most of these machines it is a little fiddly requiring careful lining up of the flats on the cutter to ensure it does not come loose in use. We found the cutter to have very little runout and little vibration when cutting.

Our verdict

The quality of the finished holes are superb. We used an Evolution Cyclone 18mm x 25mm broach cutter during the test, these are available for around £12 and it drilled our holes perfectly, very little vibration and a good fast removal of swarf. The cutter did not appear to have worn at all during the 12 holes through two layered 12mm steel plates. The EVOMAG42 is also fitted with breakaway protection whereby it will shut down the motor if the magnet breaks free - this should of course not be substituted for a strap but it's nice to have. In our tests we could not make the magnet break free as its adhesion was so effective even with heavy swarf under it.

The EVOMAG 42 is a very capable machine and we would highly recommend it - despite the few niggles mentioned it offers great all round performance and has proved itself to be a very accurate and well engineered machine.

