

MAGNEMAG A/S
Customer Service Department

**A Concept
of Quality**

“In all kinds of Weather”



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René Andersen – Customer Service Department

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1.0 MAGNEMAG Customer Service Concept

We are pleased to learn that you have contacted MAGNEMAG with a view to purchase our Marking Machine.

Kindly allow us to present MAGNEMAG's Customer Service Department.

If you purchase a MAGNEMAG Marking Machine the Customer Service Department is your main contact from the time of shipment of the machine. We are responsible for shipping, supervision of the installation, commissioning, training, service and maintenance, supply of spare parts and consumables as well as warranty matters.

Therefore, it is imperative to us to ensure you a trouble free installation, and we trust that our offer will ensure a smooth and trouble free implementation.

It is our intention that you should come to know and respect Magnemag for our After Sales Services.

We are introducing new products and activities via News Letters approx. four times a year.

We will supply you with product data and product benefits and other information relevant for your activities, in order that we may ensure the optimum performance of your MAGNEMAG Marking Machine.

We look forward to hopefully working with you in the future.

Kind regards,
MAGNEMAG A/S

René Andersen
Customer Service Manager

2.0 MAGNEMAG - One Supplier for all Components

MAGNEMAG guarantees you a marking system that is well integrated because it has been 'engineered' – 'manufactured' - 'built' and 'tested' as one unit at MAGNEMAG.

The Factory Test at MAGNEMAG means that the machine has been assembled in full scale and tested under realistic, simulated conditions to ensure as few obstacles as possible during the installation and commissioning.

Furthermore, the equipment is throughout MAGNEMAG's design and the project will be managed in accordance with our ISO9001 certified Quality Assurance system. MAGNEMAG continues to improve all of our working and controlling procedures – as well as our technology.

3.0 MAGNEMAG World-Class Service References

MAGNEMAG's equipment is located in 34 countries all over the globe. Magnemag have thus attained an intimate knowledge of the production processes where marking machines are installed and a significant experience in the development, engineering and manufacturing of high quality marking machines incorporating advanced technology.

We carry out service on our machines all over the globe. Many of the machines are still running well after more than 20 years of service.

4.0 MAGNEMAG Availability Guarantees

When calculating the **cost of the equipment** - the **Total Life Cycle Cost** of the machinery is vital.

Evidently the breakdown cost involving the disruption of the total production line is what really matters when installing equipment that is to become an integrated part of a steel mill production line. The total life cycle cost of a new marker should include the indirect cost of production disruptions caused by a non-functioning marker - equal to the loss of turnover of your steel mill line in the stoppage time.

Provided maintenance schedules are observed and correct spares and paint are used, Magnemag can guarantee an availability factor of minimum 99%.

The availability of the machine shall be measured over a period of operation starting at the end commissioning.

5.0 MAGNEMAG Marking Paint Consumption

MAGNEMAG's technology ensures an efficient utilisation of the paint. You will be able to mark approx. 13 000 characters per litre of paint when writing 50 mm high characters on cold steel.

6.0 MAGNEMAG Spare Part Durability

Cold Paint Marking

For paint marking on cold steel one set of needles and nozzles can normally mark approx. 2 000 000 characters, which is equal to approx. 14 dots/character * 2 000 000 characters = 28 000 000 activations.

Punch Marking in normal steel qualities

A punch die can be ground 5 times and reused, i.e. it can be used 6 times. In normal steel qualities you can mark 500 000 characters with each grinding, which gives a lifetime of:

$$6 * 500\,000 \text{ characters} = 3\,000\,000 \text{ characters per punch die}$$

7.0 MAGNEMAG Electromagnetic Punch System

MAGNEMAG uses the faster and more powerful 'electromagnetic' Punch technology as opposed to an air based pneumatic system.

The Marking Head holds an assembly of aligned high-speed DC-magnet operated punchers each carrying a cone-shaped die.

Each puncher consists of a cylindrical housing, which encloses a reciprocating rod, activated by a powerful solenoid, firmly embedded and moulded in the housing. The dies are attached to the reciprocating rods by union nuts, easily detachable.

The punchers are bolted on a common base provided with compressed air for cooling. The whole assembly is mounted on a mechanism with two orthogonal axes driven by step motors via ball screws. The strokes of the orthogonal axes are controlled to move each puncher within a rectangular window. Limit switches are provided on both axes for detection of the initial position.

The cone-shaped dies are manufactured from a special, sintered material.

8.0 MAGNEMAG – A Minimum of Daily Maintenance

The daily maintenance is approximately 15 min. per day. Our service manual for a standard paint marker states as follows:

Daily Maintenance:

When the machine operates in normal function the following must be checked:

1. Legibility of the marking.
2. Cleaning function of guns after marking.
3. Lubricating oil level in air lubricators.
4. The paint container should contain enough paint for 24 hours' operation.
5. Check the viscosity of the paint.
6. The agitator must have an adequate rotation.
7. All manometers

9.0 MAGNEMAG Long term support options

For the easy adaptation to your maintenance requirements MAGNEMAG offers a range of service and maintenance options:

- Life long supply of Wear and Spare Parts – with guaranteed lead times
- Rotating pool service of your Paint and/or Punch Marking units
- Special tools and Instructional videos to facilitate maintenance
- Preventive Maintenance – scheduled visits ensuring you the optimum up-time
- Hot Line assistance – troubleshooting the odd error with the assistance of MAGNEMAG experts
- Training courses – refreshing your general knowledge, in depth know-how or ...
- Retro fitting of new technology

9.1 MAGNEMAG Rotating Pool Service

MAGNEMAG offers to refurbish your Paint Marking Section. Refurbishment of the Marking Section comprises required cleaning, exchange of required wear parts to original, new Magnemag parts, adjustment of the stroke of needle and final test of assembly.

MAGNEMAG will handle shipment in both directions, make the optimum refurbishment, supply the parts required – all on a fixed schedule ensuring that you will always have a ready-to-use Paint Marking Section in your stock and one for refurbishment – and of course the one in the machine.

9.2 MAGNEMAG Preventive Maintenance

The purpose of this service contract is to obtain a higher reliability of the machine until the next interval service the machine – which is recommended to take place at least every 6 months.

A MAGNEMAG service check covering the status of the complete machine before and after the service will be carried out and documented, showing also any deficiencies of the

various parts of the machine

The service check will comprise inspection and possible repair of minor, established deficiencies, cleaning necessary for correct functioning and test of the machine.

The maintenance, performed by you, will be evaluated and, if necessary, instructions to the persons in charge of the work will be given.

We trust this concept will meet your requirements and are always at your service with any further information you may need.