

MHD

MAGNETS

*YOUR PARTNER
AND EXPERT IN
MAGNETIC FLUID TREATMENT*



FLOWMAG

MAGNETIC FLUID TREATMENT MODULE

For more than 30 years, MHD fluid treatment technology combines advanced magnetics and fluid dynamics to control scaling in installations where a fluid is circulating. The two working principles of the FLOWMAG magnetic module have two effects, resulting in four major benefits:

- **Reduced environmental impact**
- **Reduced maintenance efforts, less and shorter downtimes**
- **Improved product quality**
- **Reduced costs**

MHD magnetic fluid treatment is a highly adopted technology in the automotive industry and commonly used in various other industries for more than 30 years. Wherever water circulates as a heating or cooling mechanism, in a water supply system, as process water or in chemical manufacturing processes, build-up of various types of scaling forms a major maintenance headache endangering productivity and increasing operational costs, risk of downtime and environmental footprint.

The effects of the FLOWMAG result in the forming of softer and more voluminous scaling. Therefore, having a lower tendency to deposit or settle/having a higher tendency to be carried along downstream with the fluid. The scaling that deposits upon passing the saturation point, or after the fluid is evaporated, is much more easily cleaned.



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TWO WORKING PRINCIPLES OF THE FLOWMAG

- **Direct**
The influence of the high gradient permanent magnetic field on (the particles present in) the process fluid.
- **Indirect**
The influence of the Lorentz force on (the particles present in) the process fluid, generated by the magnetic field and the flow velocity of the conductive process fluid.

HAVE TWO EFFECTS

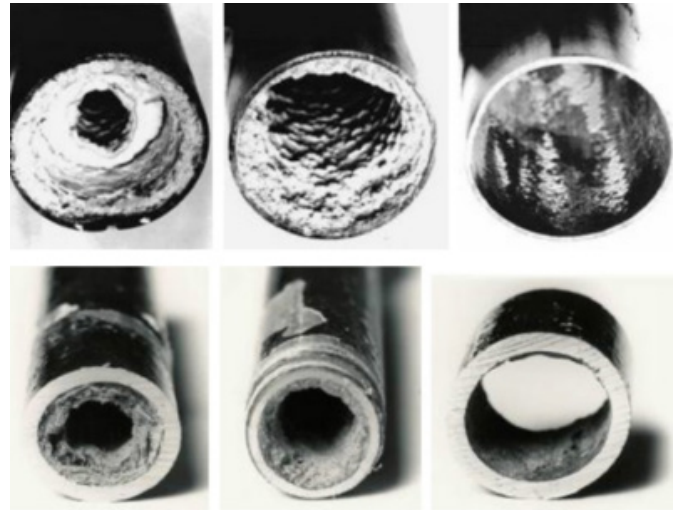
- **Preventive**
Control the formation of scale in new piping and process equipment, preventing increased energy consumption, blockages and unscheduled maintenance.
- **Corrective**
Dissolve and disintegrate deposited scale in existing piping and process equipment to be carried downstream with the passing fluid.

RESULTING IN FOUR MAJOR BENEFITS

- **Reduced environmental impact**
 - Lower energy consumption
 - Less need for chemicals
 - Longer lifetime of process fluid
 - Lower water consumption
- **Reduced maintenance efforts, less and shorter downtimes**
 - Decreased frequency of required maintenance
 - Deposited scale much easier to clean
- **Improved product quality**
 - Increased process stability
 - Improved homogeneity of layer build-up and accelerated hydrogen ad-and desorption in metal pretreatment
- **Reduced costs**

ANALYSIS

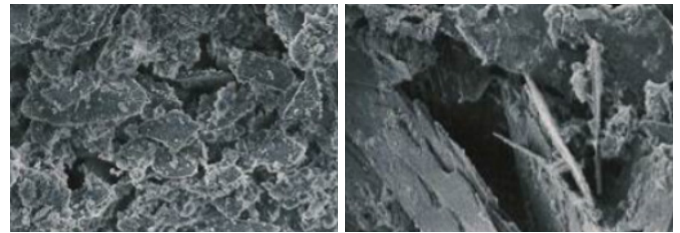
City University London, UK



Top Industrial application
Bottom Laboratory trial

Left Before FLOWMAG
Center After 3 months of FLOWMAG
Right After 7 months of FLOWMAG

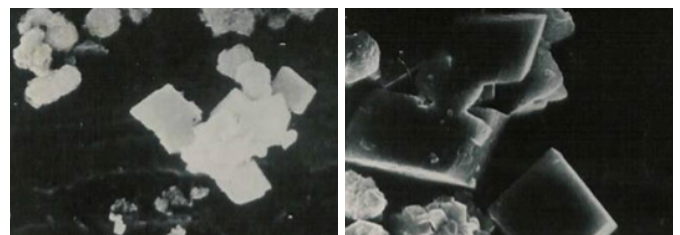
Technical University Delft, NL



Left Without FLOWMAG
Right With FLOWMAG

SEM pictures phosphate
Zoom 1000x

City University London, UK



Left Without FLOWMAG
Right With FLOWMAG

SEM pictures calcium carbonate
Zoom 1000x

SPECIFICATIONS

	Capacity <i>m³/hr.</i>	Connections <i>EN 1092-1</i>	Pressure drop <i>bar</i>	Length <i>mm</i>	Weight <i>kg</i>	Effective magnetic field <i>Tesla / Gauss</i>
SST-3	30 - 45	PN16 DN80	< 0,1	350	20	0,5 / 5000
SST-4	40 - 65	PN16 DN100	< 0,1	350	30	0,5 / 5000
SST-5	60 - 100	PN16 DN125	< 0,1	400	40	0,5 / 5000
SST-6	95 - 150	PN16 DN150	< 0,1	450	50	0,5 / 5000
SST-8	145 - 250	PN16 DN200	< 0,1	450	70	0,5 / 5000
SST-10	245 - 450	PN16 DN250	< 0,1	450	110	0,5 / 5000
SST-12	445 - 650	PN16 DN300	< 0,1	450	120	0,5 / 5000