

Innovative Scale Control Technology for Heat Exchangers, Boilers, Condensers, Chillers, Evaporators, Cooling Towers

Scale Buildup Costs Money*

Scale Thickness	Fuel wasted	Money wasted
1/8"	+25%	\$58,743
1/4"	+40%	\$93,991
1/2"	+70%	\$164,484

Cut HVAC Operating Costs by 20-30%

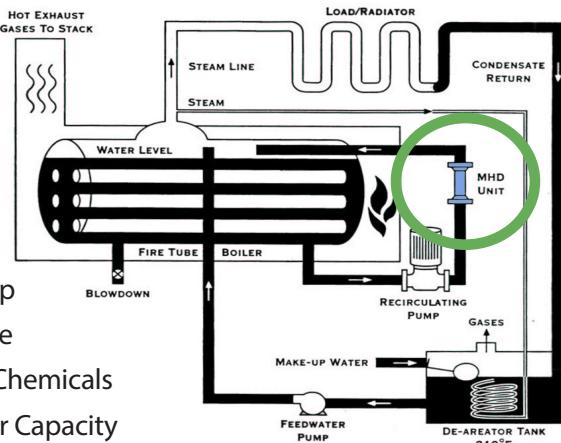
Millions of dollars in extra fuel costs are wasted due to mineral scale buildup.

A Better Alternative To Chemical Treatment

MHD units are self-powered by a permanent magnetic field treating the fluid to prevent scale buildup and remove existing scale downstream, in both watertube and firetube boilers.

These rock-hard scale deposits increase fuel costs, repair and maintenance expenses and equipment downtime. Excessive scale buildup can increase the possibility of pipe ruptures, equipment failure and even explosions.

Magnetohydrodynamics is a well established science, initially demonstrated in 1839 by Michael Faraday.



- Prevents Scale Build-up
- Removes Existing Scale
- No Use of Hazardous Chemicals
- Increases Heat Transfer Capacity

* Annual extra fuel costs, based on a 500 HP boiler, operating 10 hours per day, 260 days per year; Natural Gas price based on \$4.30 per 1000 cubic feet (MMBTU).

- No Moving Parts
- No Operating Costs
- Save Energy Costs
- Eliminate Pollution
- Self-Contained Units
- Improve Efficiency
- No Maintenance
- No Electrical Connections

Magnetic Water Treatment



MHD Heavy Industrial Units



Before



After



Before



90 Days After

www.mhdsystems.com

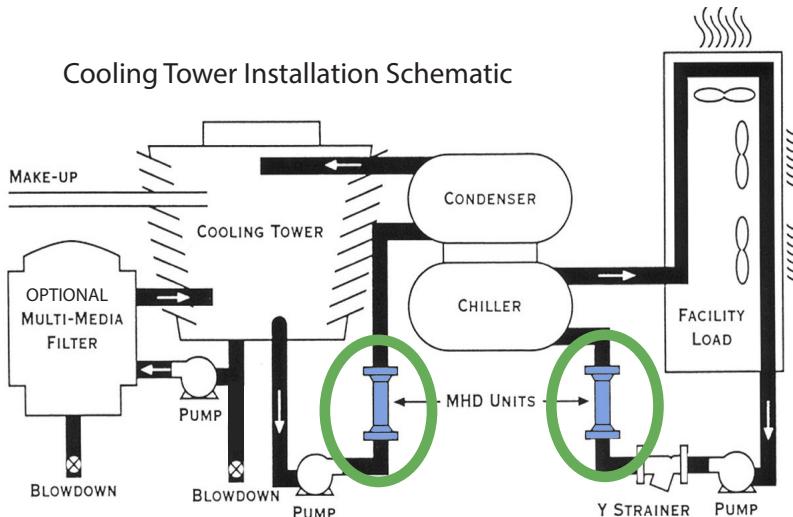
Extra Fuel Costs Due to Boiler Scale

Test Results by U.S. Bureau of Standards

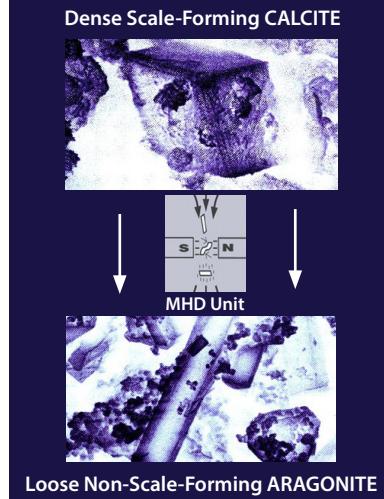
Boiler Horsepower:	100 HP	200 HP	500 HP	1000 HP
Annual Fuel Cost, Clean Boiler (80% efficient)	\$46,995	\$93,991	\$234,979	\$469,959
Scale Thickness	% Extra Fuel Cost	Extra Cost:	Extra Cost:	Extra Cost:
1/8"	+ 25%	\$11,747	\$23,497	\$58,743
1/4"	+ 40%	\$18,798	\$37,569	\$93,991
1/2"	+ 70%	\$32,896	\$65,794	\$164,484
				\$328,971

Annual extra fuel costs are based on a boiler operating 10 hours per day, 260 days per year.
 Natural Gas price is based on \$4.30 per 1000 cubic feet (MMBTU).

Cooling Tower Installation Schematic



MHD Treatment Process



Standard Sizes and Models of Heavy Industrial MHD Units:

Model	Diameter (inches)	Flow Rate (USGPM)	Model	Diameter (inches)	Flow Rate (USGPM)	Model	Diameter (inches)	Flow Rate (USGPM)
ID-15	1.5"	25	ID-80	8.0"	800	ID-240	24"	6,900
ID-20	2.0"	50	ID-100	10"	1,200	ID-300	30"	10,800
ID-25	2.5"	75	ID-120	12"	1,700	ID-360	36"	15,500
ID-30	3.0"	100	ID-140	14"	2,350	ID-420	42"	21,100
ID-40	4.0"	200	ID-160	16"	3,000	ID-480	48"	27,600
ID-50	5.0"	300	ID-180	18"	3,800	ID-540	54"	34,900
ID-60	6.0"	450	ID-200	20"	4,800	ID-600	60"	43,200

Models are 304 stainless steel, with standard 150 lb. ASA flanges. Optional 300 lb. and 600 lb. flanges available.
 Larger sizes and metric sizes are available upon request