



Clean and Green Energy Savings

Scale Removal, Prevention & Control for Water Systems

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%	\$42,568
1/4"	+40%	\$68,110
1/2"	+70%	\$119,192

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

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

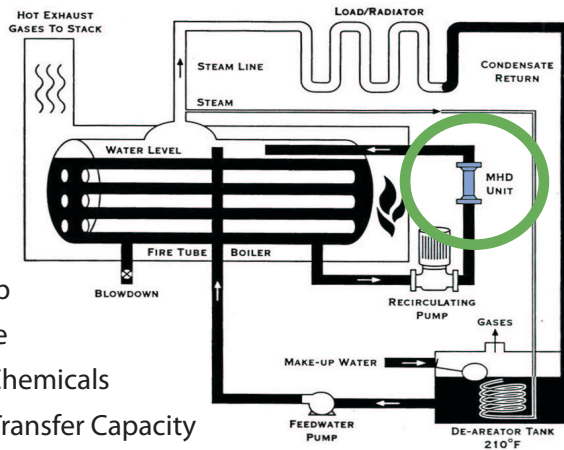
A Better Alternative To Chemical Treatment

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.

MHD systems are compact, require no external power sources and no maintenance. They have no moving parts, and can be custom built to virtually any size, to meet the needs of any fluid process or operation.

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
- Provides Higher 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 \$3.11 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



www.mhdsystems.com



Clean and Green Energy Savings

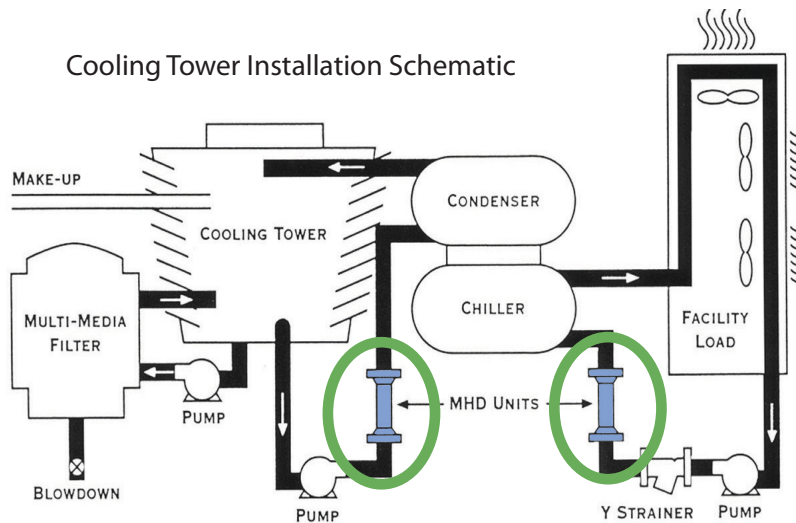
Scale Removal, Prevention & Control

Fuel Costs Due to Boiler Scale:

Test Results by U.S. Bureau of Standards

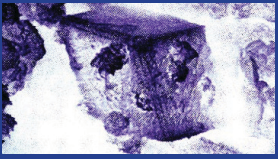
Boiler Horsepower:		100 HP	200 HP	500 HP	1000 HP
Annual Fuel Cost, Clean Boiler (80% efficient)		\$34,055	\$68,110	\$170,275	\$340,550
Scale Thickness	% Extra Fuel Cost	Extra Cost:	Extra Cost:	Extra Cost:	Extra Cost:
1/8"	+ 25%	\$8,513	\$17,027	\$42,568	\$85,137
1/4"	+ 40%	\$13,622	\$27,244	\$68,110	\$136,220
1/2"	+ 70%	\$23,838	\$47,677	\$119,192	\$238,385

Annual extra fuel costs are based on a boiler operating 10 hours per day, 260 days per year.
Natural Gas price is based on \$3.11 per 1000 cubic feet (MMBTU).




MHD Treatment Process

Dense Scale-Forming CALCITE




↓



MHD Unit

↓



Loose Non-Scale-Forming ARAGONITE

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. All industrial models have a five year warranty.