AG-OPTIMISTS, LLC

MAGNATION®
WATER TECHNOLOGIES · MADE IN USA

RAINLIKE WATER™

AGRICULTURAL IRRIGATION

PRODUCT CATALOG

SALT FREE

Physical water softening for all water quality challenges, Magnation is leading the paradigm shift of water.

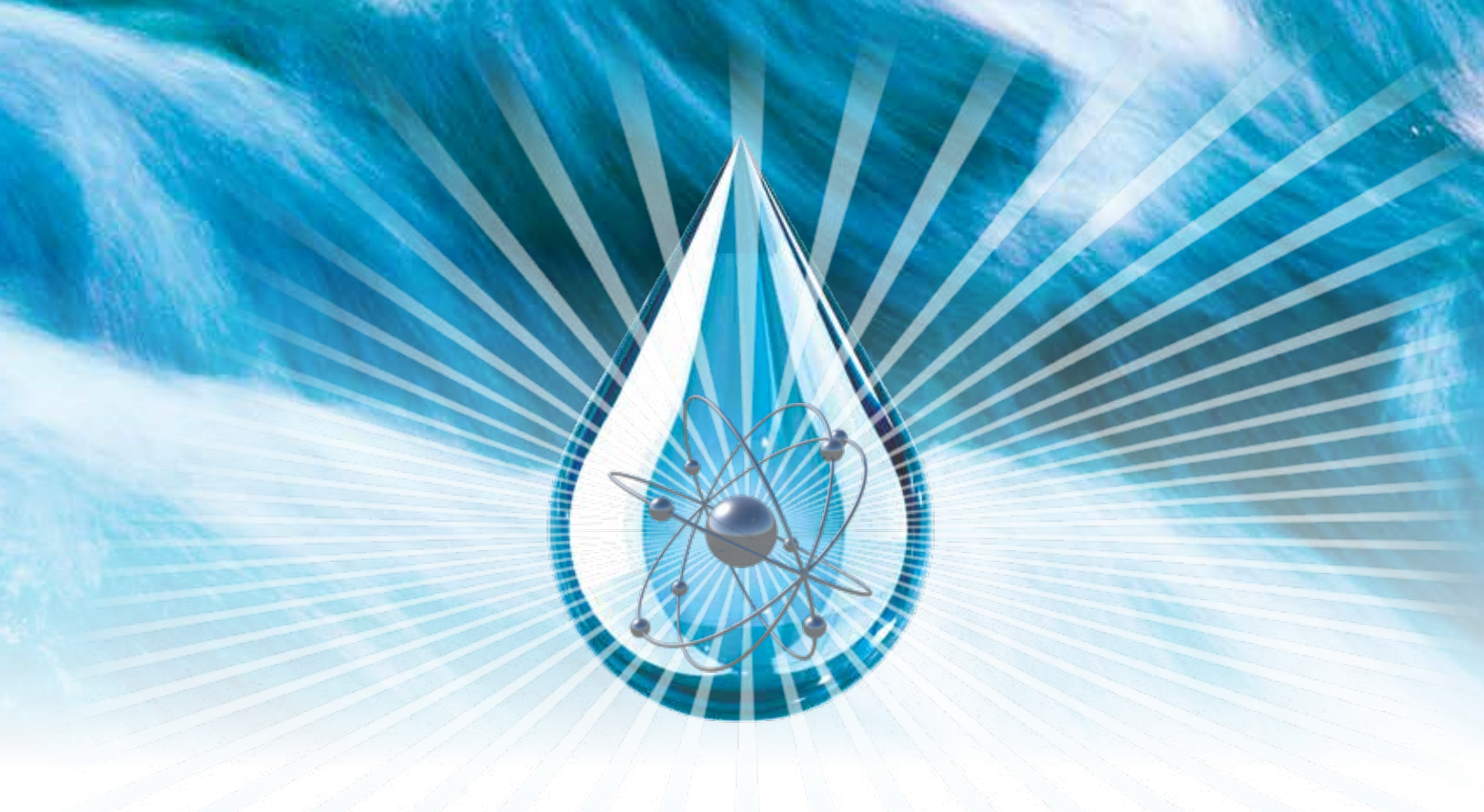
Water conservation
Healthier yields
Energy savings
Less inputs
And more.

2020

AG-OPTIMISTS, LLC

MAGNATION®
WATER TECHNOLOGIES · MADE IN USA

THE TRUSTED LEADER IN SALT-FREE WATER SOFTENING TREATMENT SINCE 2008



THE POWER OF RAINLIKE WATER™

SALT-FREE WATER SOFTENING FOR SUSTAINABLE IRRIGATION.

Maximizing our natural resources productively and sustainably is at the core of every Magnation product. Magnation's innovative salt-free water softening treatment maximizes water's potential with engineered designs that mimic nature. By applying physics and geometry to Magnation's passive, inline water treatment systems, water is transformed into soft, energized, healthier and more productive "rainlike" water.

Magnation solves tough water issues including limited water supply, lower water quality and hard water challenges such as saline, high TDS water and mineral scale— while reducing chemical requirements, energy consumption, impact and maintenance. Magnation helps you do more with less, and do it better with zero chemicals, energy, maintenance or byproducts.

Impact every angle of your farming operation with Magnation's Rainlike Water™.

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OUR MISSION

CHANGING THE WAY WE USE WATER.

Magnation's mission is to solve complex water challenges by delivering sustainable and efficient water treatment systems resulting in water, energy and chemical conservation which will protect and rehabilitate our environment.







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WHY MAGNATION?

TOP QUALITY PRODUCTS, PEOPLE AND COMPANY COMMITTED TO GOING THE DISTANCE.

Magnation manufactures products that uplevel sustainable water softening and efficiency. We promise to reduce water requirements, chemicals, energy consumption, maintenance and impact while solving problematic water quality issues with salt-free, energy-free and maintenance-free physical water treatment. We make every drop count, more.

Helping customers is our motivation. No other company in the marketplace delivers results or stands by their products like Magnation, with a two year money-back satisfaction guarantee.

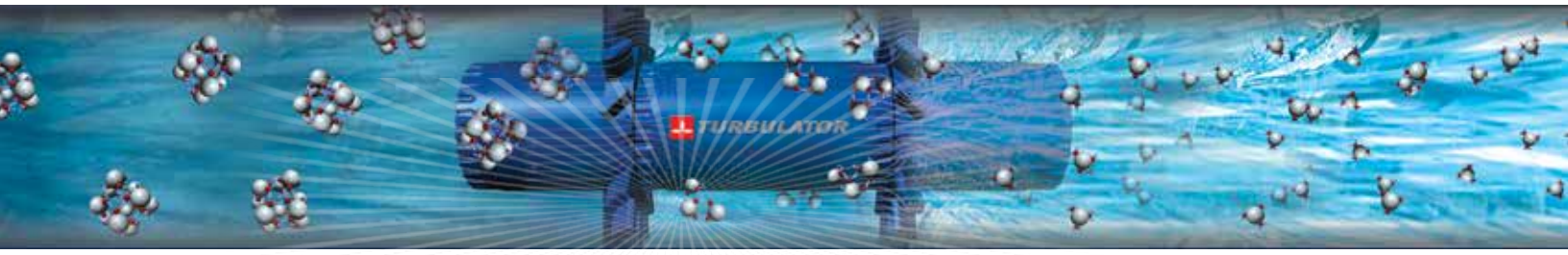
The harmony of performance-driven products with a world-class team of professionals dedicated to your success is what enables Magnation to be the global leader in physical water conditioning since 2008.
The proof is in our history, the drive is for our future.
100% designed, sourced and manufactured in the USA.

SUPERIOR WATER QUALITY

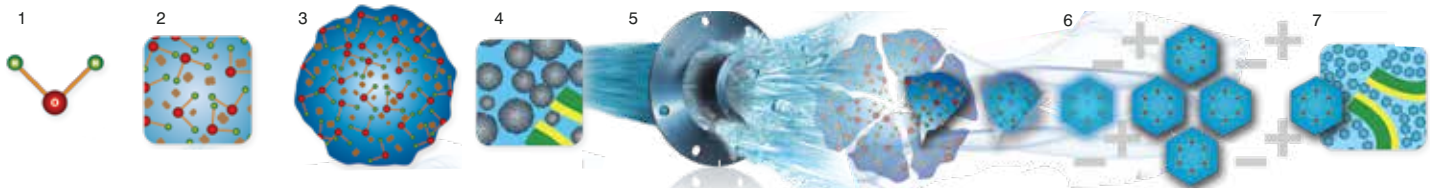
MAGNATION MIMICS NATURE TO INVIGORATE AND UNLOCK YOUR WATER'S POTENTIAL.

Magnation's salt-free water softening technology leverages the power of physics for superior water quality. Lorentz force, ionization, rifling, vortexing, Fibonacci's golden ratio, the Venturi effect, kinetics and static mixing transform hard and problematic water into soft, high quality "rainlike" water.

Magnation's innovative technology invigorates ions, transforming them into energized anions. Water with a higher anion ratio unlocks your water's energetic potential, creating a more productive water for every drop used. Better electrons, better water.



MAGNATION PROCESS EXPLAINED



(1) Water molecules (2) bond together with minerals and gasses (3) to form water molecule clusters. also known as "hard water". This hard water has higher surface tension and causes excess friction during the movement of water, often referred to as viscosity. (4) Coupled with high surface tension, many are too large to penetrate soil or enter the plant cell. (5) The Magnation process busts apart the bonds that keep the gasses and minerals trapped in the oversized water clusters (6) and then polarizes the liberated molecules. Polarization keeps the molecules from sticking together, mitigating scale formation and biofilm while promoting bioavailability for improved nutrient absorption. (7) The result is bioavailable, energized and softened water.

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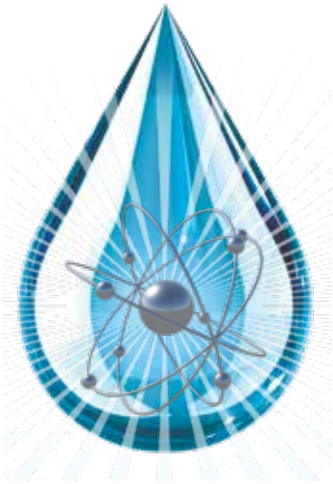
MAGNATION IMPROVES MANY WATER QUALITY ISSUES

- ✓ Hard water: calcium magnesium (CaMg)
- ✓ Hydrogen sulfides (rotten egg smell)
- ✓ SAR's (sodium adsorption ratios)
- ✓ Calcium carbonate ($CaCO_3$)
- ✓ Bicarbonates (HCO_3)
- ✓ Acidity (pH)
- ✓ High TDS water
- ✓ Boron toxicity
- ✓ Iron bacteria
- ✓ Chlorides
- ✓ Sulfates
- ✓ Nitrates



REDUCED CHLORIDES, SULFATES & HARDNESS

ANALYSIS CONDUCTED BY SDK LABS IN HUTCHINSON, KANSAS, 2017

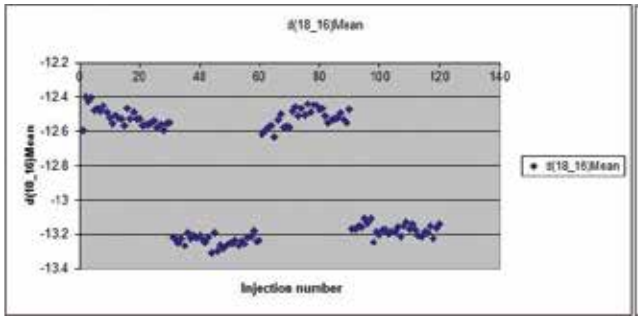
Comparative lab tests (below) reflect before and after treatment of residential tap water. For a complete list of results, all reflecting a decrease after Magnation treatment, please visit Rainlikewater.com/research/data.

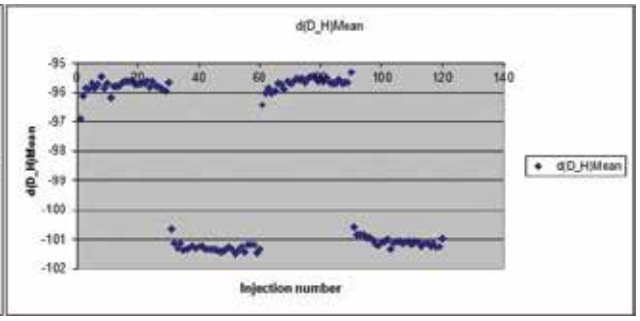
	MAGNATION TREATED	UNTREATED
Chloride (Cl-)	15 mg/L	79.90 mg/L
Sulfate (SO4)	475 mg/L	600 mg/L
Hardness	470 mg/L	509 mg/L

LESS DENSITY, HIGHER CLARITY, LESS PATHOGENIC BACTERIA

CONDUCTED WITH PICARRO L2140-I ANALYZER, 2012

Comparative lab tests (below) reflect untreated water and Magnation treated water. The chart on the right displays the atomic shift and lightened density of the water after treatment. The physical, chemical and biological properties are agitated and altered as a result. Water becomes visually transparent and its flora increases. These favorable isotopic geochemical changes occur because Magnation inhibits the coagulation of weighed particles and other various chemical compounds. Additionally, pathogenic bacteria can not grow by eliminating the opportunity for cavitation.





WATER PRODUCTIVITY

"Water is clearer as it comes out from the sprinkler. In the field where we installed the Magnation unit, we were running 500 GPMs and it produced 20 tons of sorgum silage per acre, compared to the untreated field next to it running 700 GPMs and 18 tons per acre. That tells you the story."

~ Larry Ryan, Burdett, Kansas

DO MORE WITH LESS.

Soils and crops become vibrant and more vigorous when it rains. As a rain drop falls, its molecules become smaller, more agitated and consequently more available to soil and roots. By emulating the physical forces that create this level of exceptional water quality, Magnation comes as close to natural rainwater as possible.

As water passes through engineered magnetic fields created by the Magnation system, the H_2O molecule is liberated from its molecular bonds to minerals and gasses. The result are smaller molecule clusters of oxygen, minerals and nutrients available to infiltrate and nourish soils, roots and crops. Softened, rainlike water more easily penetrates soil, spreads across a wider area of ground, helps retain soil moisture with decreased nutrient leaching into the groundwater supply while reducing irrigation requirements on average by 20%.

SUCCESS STORY

"Our results have been remarkable.

In a typical year in Central Nebraska we would pump 7 acre inches of irrigation water on our corn crop, and assuming a standard quarter section pivot. Using the field proven conservative 25% savings in irrigation requirements once the Turbulator is installed in the system, the amount of water we save annually is huge. Using one of my pivots as the example, the math looks like this:

Application time per inch pumping 550 gal/min – 100 hrs.
550 gal/min x 60 min/hr x 100 hrs = 3,300,000 gal per acre inch applied
7 ac/in x 3,300,000 = 23,100,000 gallons per season

Saving 25% water by using the Turbulator equals 5,313,000 gallons saved per pivot.

In a typical year we will have 5 pivot quarters of corn, so we will conserve over 26M gallons of water.

Taking a look at cost per gallon of water saved, a Turbulator costs 1/1,000 of a cent per gallon.

In addition, we save 25% of our pumping costs. Our corn yield increased by 10%, and our soybeans by 5%."

~ Lee Fintel, Superior, Nebraska

MAGNATION INCREASED IRRIGATED YIELD ADVANCEMENT BY 48 BUSHELS AN ACRE— WITH 33% LESS WATER

CONDUCTED BY LEE FINTEL, SUPERIOR, NEBRASKA, 2014

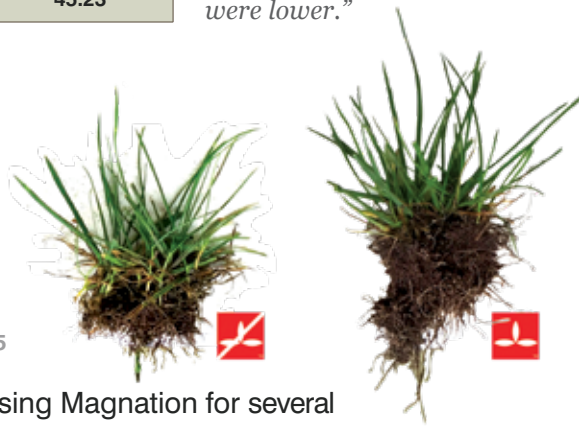
	WEST FARM		EAST FARM	
Irrigated/Dry	Dry	Irrigated	Dry	Irrigated
Tillable Acreage	30.4	91	18.47	124
Prev Crop	1 yr Corn	1 yr Corn	Beans	Beans
Planned Crop	Corn	Corn	Corn	Corn
Planting Population	22,500	30,000	22,500	30,000
Soil Moisture Content at Emergence	n/a	1.70	n/a	1.95
Rainfall 6/1 thru 8/25	13.54	13.54	13.29	13.29
Amount Pumped on Irrigated acres	n/a	2.62	n/a	3.94
Total water available 6/1 thru 8/30	13.54	17.86	13.29	19.18
Magnation Used?	n/a	Yes	n/a	No
Yield Goal	150	230	150	230
Planting Date	5/9/14	5/9/14	5/7/14	5/7/14
Harvest Date	11/8/14	11/8/14	11/16/14	11/16/14
Grain Moisture Content	~15	~15	~15	~15
Harvested Bushels	4,576.43	22,121.06	3,652.13	30,127.50
Yield	150.54	243.09	197.73	242.96
Yield Advancement Irrigated vs Non	n/a	**92.55**	n/a	**45.23**

Despite less rainfall and hardships to the crop, Magnation treated irrigated production was nearly double than the untreated irrigated production plot.

"Where we installed the Magnation system, the corn out-yielded our other irrigated corn but used 30% less irrigation water. The corn was 11% better than that fields' previous best yield, there was noticeably better uniformity across the sprinklers on the pivot, and our pumping costs were lower."

MOISTURE RETENTION UP 251%
ROOT GROWTH UP 216%
WITH 50% LESS WATER

CONDUCTED BY DISCOVERY SCHOOL, FRUITVALE SCHOOL DISTRICT; BAKERSFIELD, CALIFORNIA, 2015



Monthly samples were taken from various locations. After using Magnation for several months, sod roots in September were more than twice as long as they were in July, and the average ground moisture extended almost three times deeper from July to September during state mandated water cuts by 50%.

Depth (in inches) of Moisture and Sod Roots				
	July Onset Cores		Sept. Cores	
Test Site	Root	Moisture	Root	Moisture
1	1.38"	1.38"	3.62"	7.56"
2	1.5"	1.5"	3.38"	6.13"
3		7.63"		7.63"
4	1.63"	1.63"	3.38"	4"
5	0.94"	0.94"	1.41"	7.56"
Avg Depth	1.36"	2.62"	2.95"	6.58"
Change			**216%**	**251%**

Moisture Scale Ratings (1-10)			
	Test 1	TEST 2	TEST 3
Test Site	JULY	AUG	SEPT
1	9	9	10
2	9	9	8
3	9	10	10
4	9	8	8.5
5	2.5	8	10
Avg MOISTURE	7.7	8.8	9.3
Change		**14.29%**	**20.78%**

SOLVE SOIL SALINITY

"Works as effective as gypsum in leaching fields."
~ Grimmway Farms, Imperial Valley, California

LEACH SALTS BY 300-400% AND CORRECT SOIL pH.

Magnation significantly reduces salt buildup in soils, promotes soil penetration, infiltration, moisture retention, and improved nutrient delivery for healthier, easier to manage soils. Improve root growth and plant vitality with improved uniform distribution and more dynamic soil capillary action, corrected soil pH, balanced calcium to magnesium ratios.

MAGNATION REDUCES SODIUM ADSORPTION RATIOS

ANALYSIS CONDUCTED BY MIDWEST LABS IN OMAHA NEBRASKA, 2012

	Sodium Na^+ ppm	Calcium Ca^{++} ppm	Magnesium Mg^{++} ppm	pH	Nitrate NO_3^- ppm	Sulfate $SO_4^=$ ppm	Conductivity mmhos/cm	TDS ppm	Iron Fe ppm	Manganese Mn ppm	Chloride Cl^- ppm	Copper Cu ppm
Level Found	1620	48.7	13.7	7.97	6	2845	6.300	4095	n.d.	0.04	160	0.07
Magnation	1296	91.5	55.4	7.80	10	2448	5.450	3542	n.d.	n.d.	161	0.02

	Carbonate $CO_3^=$	Bicarbonate HCO_3^-	Total Phos.	Potassium K	SAR
Level Found	3.15	359	1.2	4.1	52.7
Magnation	2.05	345	0.1	4.3	26.3

Sodium adsorption ratio's (SAR) is a measure of the suitability of water for use in agricultural irrigation as determined by the concentrations of total dissolved solids (TDS) in the water. It is also a measure of the sodicity of soil as determined by analysis of water extracted from the soil. In general, the higher the SAR, the less suitable the water is for irrigation. Magnation reduces SAR's by 50%. Not only has Magnation demonstrated improved soil infiltration, permeability, moisture retention and overall soil health by reducing SAR's and inputs up to 50%, it also helps to balance calcium and nitrogen for improved nutrient availability for soil and crops.

"We put one of Magnation's water treatment units in a field of potatoes with 3/4 mile rows. One pivot had the unit installed and one did not. The pivot with the unit was watered two revolutions less and we also applied less fertilizer. Our soil petioles read higher all year on the pivot with the unit."
~ Bryan Searle, Idaho Farm Bureau President & Farmer; Shelley, Idaho

"Noticing more nitrogen nodules fixation on the treated production with more credits in the soil for next year."
~ Scott Borman, Schuyler, Nebraska

"We saw improvement in infiltration despite our high calcium and sodium. We yielded heavy on the barley—over 150 bushels per acre, average yield per acre is 129 bushels. We're noticing better soil penetration, less run off and better water flow."
~ Keith Nickerson, Howe, Idaho

AG-OPTIMISTS, LLC

WATER CONSERVATION

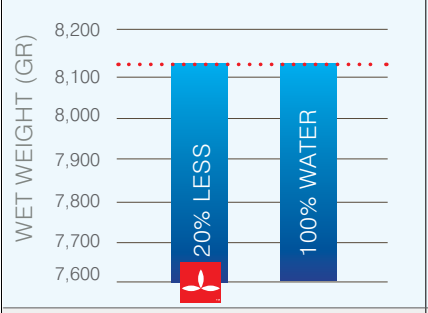
REDUCE IRRIGATION REQUIREMENTS 10-30%. AND BETTER CROPS, TOO.

The effects of installing Magnation in your irrigation program include significantly reduced surface runoff, evapotranspiration and percolation—the three causes of excessive and water use. With mellower soils and nutrients and availability to the plant, Magnation simultaneously improves yields with reduced irrigation requirements.

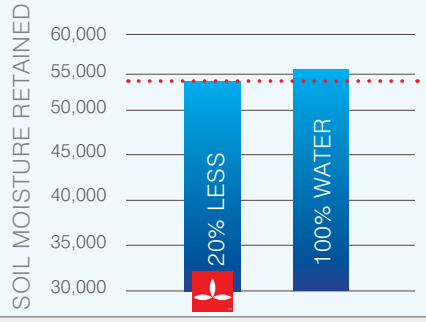
REDUCED IRRIGATION BY 20% WHILE RETAINING SOIL MOISTURE

CONDUCTED BY OLDS COLLEGE, TURFGRASS MANAGEMENT, CANADA, 2014

Experimental plots with the Magnation unit received 20% less irrigation water and showed no significant difference in wet weight yield or soil moisture when compared to the control plots.



Wet weight of clippings after 7 weeks of treatment



Average soil moisture percentage retained between irrigation periods

Control (left) vs. 80% treated with Magnation (right)

INCREASED SOIL MOISTURE RETENTION

CONDUCTED INDEPENDENTLY BY MAGNATION CUSTOMER IN CHOWCHILLA, CALIFORNIA, 2013

Using a PureSense® meter, soil moisture percent volume is shown to increase at every depth measured from 1-5 feet deep.

	MEDIAN SOIL MOISTURE PERCENTAGE	AFTER MAGNATION SOIL MOISTURE PERCENTAGE
12' Deep	17.1%	18.7%
24" Deep	21.8%	32.5%
36" Deep	19.2%	33.1%
48" Deep	24.5%	35.0%
60" Deep	23.1%	26.3%
	8 IRRIGATION INTERVALS 05/09 - 05/30	2 IRRIGATION INTERVALS 06/02 - 06/05

AG-OPTIMISTS, LLC

PHYSICAL SEED TREATMENT

FASTER AND HIGHER GERMINATION RATES.

Magnation's improves germination rates and reduces sowing materials by 30-50% by stimulating activity of proteins and enzymes and activating growth processes in weaker seeds. It also enhances seed vigor and boosts disease resistance by influencing the biochemical processes that involve free radicals. Specifically calibrated magnetic field increase an ion's uptake and consequently improves nutrition value, indicating a truly sustainable alternative for chemical treatments.

The end result is accelerated germination, higher percentage of sprouting, enhanced root growth, improved vigor, crop uniformity and earlier harvest ripening. Used in tandem with the Turbulator for irrigation, yields perform better with less inputs and water. Impact every aspect of your operation and a fast ROI with a one-time investment.

RECOMMENDED PRODUCTS

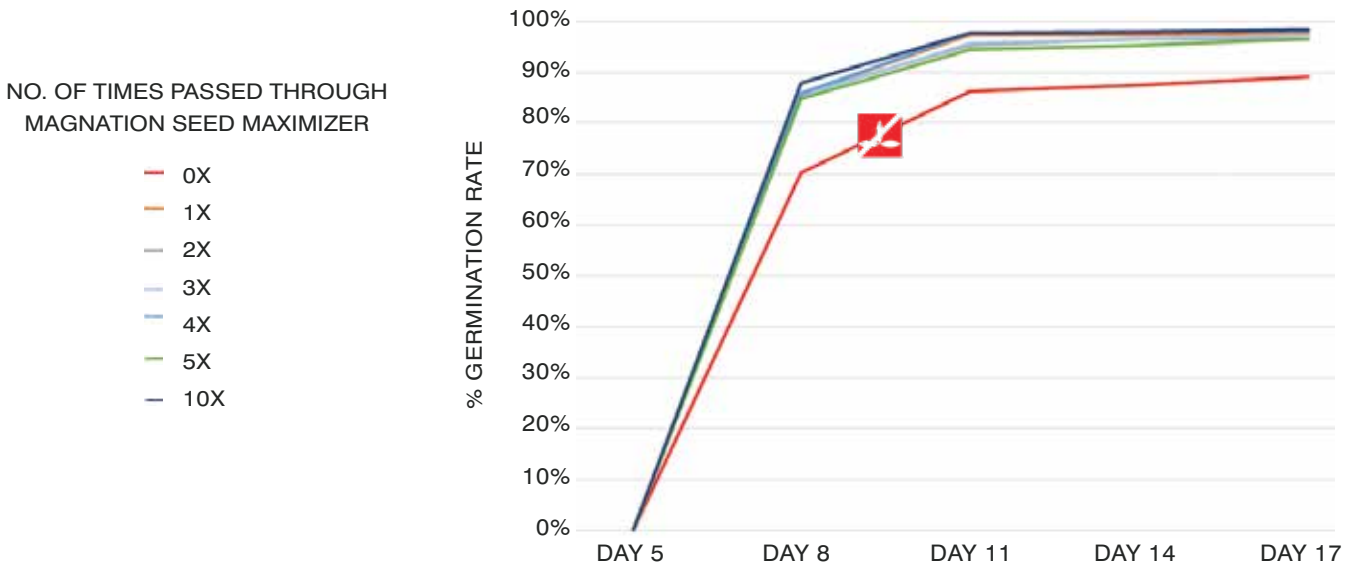
TURFBOLT™ & RAINBOLT™

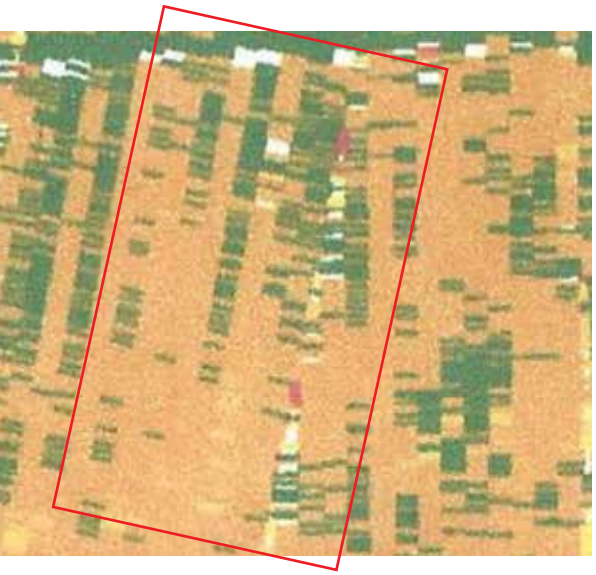
"Ripening across the field with complete uniformity. Zero fungicide, no spraying needed whatsoever. Clean field."
~ Diedrich Knelsen, Alberta, Canada

"Dramatic increase in the speed of establishment. 89% germination boosted up to 98%."
~ Barenbrug Seed USA; Tangent, Oregon

INCREASED GERMINATION RATE FROM 89% TO 98%

CONDUCTED BY BARENBRUG USA; 2018





3.48 ADDITIONAL BUSHELS PER ACRE YIELD INCREASE WITH SEED MAXIMIZER™

CONDUCTED BY LEE FINTEL, SUPERIOR, NEBRASKA, 2014

The map (above) is a yield map taken from a combine monitor in Nebraska of a soybean field. Green areas indicate the higher yield, and yellow reflects the lower yield. The red box indicates where the testing took place, at a diagonal angle to assure the data was specific to this test. 6.29 acres were treated, and 6.29 acres remained untreated. Every other row was treated with Magnation's Seed Maximizer. Untreated seeds yielded 55.1 bushels an acre. Treated seeds yielded 58.58 bushels an acre, yielding 3.48 additional bushels per acre.

GERMINATION COMPARISON STUDY

CONDUCTED ON 2016 BENT GRASS "007"
STEVEN WEBBER, SUPERINTENDENT, CLOVELLY GOLF ESTATE AT FISH HOEK; CAPE TOWN, SOUTH AFRICA 2017

SEED MAXIMIZER BENEFITS

- ✓ Earlier emergence & enhanced germination
- ✓ Increased starch and protein production
- ✓ Deeper, wide-spreading root structure
- ✓ Soybeans: more nitrogen nodules
- ✓ Improved uniformity and density
- ✓ Higher disease resistance
- ✓ Enhanced plant health
- ✓ Better absorption rate
- ✓ Reduced heat stress
- ✓ Stronger stalks
- ✓ Bigger yields

AG-OPTIMISTS, LLC

BOOSTED PLANT VIGOR

> *"Crop is looking great with less water used, didn't have to spray for spider mites on our corn field, wetter field two feet down, probe goes in easier."*
>
> ~ Chuck Eitemiller, Armour, South Dakota

STRONGER ROOTS. DISEASE RESISTANCE. BETTER YIELDS.

Healthier roots have increased nutrient uptake and stronger plant vitality. In addition to requiring less fertilizers while achieving higher yields, increased disease resistance means less pesticides, insecticides, herbicides, and fungicides—quantifiably impacting your bottom line.

STRONGER TOMATO ROOTS INCREASE YIELD BY 10%

CONDUCTED BY COMPANGNIES DRIFT FARM, BOTRIVER DISTRICT, WESTERN CAPE, SOUTH AFRICA, 2016

The farm encountered extreme heat conditions and the Magnation watered tomatoes had significantly less heat burn and was overall much stronger and healthier than the untreated tomato plants.

The Magnation watered tomatoes had an increased yield of 10.48% above the untreated tomatoes and received 20% less water.

Magnation watered plants had a better developed root structure and overall plant mass was better than the untreated watered plants (29% vs. 18.75%).

RASPBERRIES YIELD 22% BETTER, REPELS SPIDER MITES

CONDUCTED BY HEMEL & AARDE VALLEY FARM, HERMANUS DISTRICT, WESTERN CAPE, SOUTH AFRICA, 2016

"In terms of first class quality assessment we do at the pack house intake, the Magnation treated block was the best performing block on the farm.

It had the lowest counts of mold and cladisporium. Also the lowest levels of soft fruit, blistered fruit and low levels of insect damage. When the field was under attack from spider mites it was less severe with Magnation.

Comparing it to the control block trial block the Magnation treated block performed 22% better."




REDUCE CHEMICALS

USE 10%-100% LESS. IMPROVE SOLUBILITY.

Reduce fertilizers, pesticides, herbicides, insecticides, chemicals for scale and corrosion control, wetting agents, chlorine, ammonia, soaps and other detergents for a healthier, safer, more efficient operation, and a cleaner environment.

"I saved $9000 alone by using 30% less insecticides due to better solvency of my water."

~ Bryan Noland, Noland Farms, Palisades, Colorado

"Cleaning labor went from 8-9 hours a week down to 3 hours a week. We're able to just brush any residue away instead of applying chemicals. It's a way to save money. We're saving 300 hours a year, at $15 bucks an hour, that's $4,500 in labor savings this year alone."

~ Weibe Dijkstra, Dairy Farmer, Wisconsin

"There was a night and day difference where we have the calcium issues. We're also seeing better water infiltration and moisture retention. Our soils are mellower and our trees look healthier in comparison to where we use sulfuric acid. I did a side by side test with Magnation's water system on one micro-sprinkler system and 3 gallons per hour of sulfuric acid on the other. The moisture probe showed deeper absorption with Magnation. The tree leaves had better color and less tip burn than I'd seen in 30 years."

~ Robert Jones, Robert Jones Farms, Fresno, California

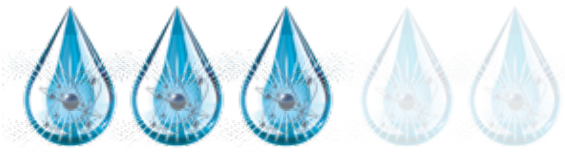
IRRIGATION WATER SUITABILITY ANALYSIS

CONDUCTED BY PRECISION AGRI LAB IN MADERA, CALIFORNIA, 2013

The efficacy of Magnation is equal to sulfuric acid, a harmful chemical.

	MAGNATION TREATED	SULFURIC ACID
pH	8.35 pH	6.99 pH
Theoretical pH	7.98	8.19
Soluble salts (EC)	1.42 mmhos/cm	1.44 mmhos/cm
SAR	15.25	14.63
Hardness	70 mg CaCO3/L	67 mg CaCO3/L
Calcium (Ca)	20 ppm	19 ppm
Potassium (K)	7 ppm	6 ppm
Magnesium (Mg)	4 ppm	4 ppm
Sodium (Na)	266 ppm	269 ppm
Sulfate (SO4)	37 ppm	58 ppm
Chloride (Cl-)	277 ppm	235 ppm
Boron (B)	1.25 ppm	1.28 ppm
Carbonate (CO3) and Bicarbonate (HCO3) Together	4.25 meq/L	2.75 meq/L

SPRAY APPLICATIONS



BETTER MIXING, UNIFORM DISTRIBUTION, FASTER FOLIAR ABSORPTION, LESS RUNOFF. USE LESS!

Magnation's Rainbolt™ is the state-of-the-art innovative solution to improve spray program efficiency and control drift during the application of fertilizers and protective insecticides, pesticides, herbicides and fungicides. Beneficial to all types of sprayers whether new or existing, Magnation's passive inline units can be installed at the tank or before splitting into multiple nozzles.

When chemical and nutrient solutions flow through the Magnation system, droplets are smaller and polarized for a more uniform distribution. A reduction in the solution's surface tension and viscosity allows for better mixing and foliar absorption. Cover more area in one pass with increased spray angle by up to 13%. With a lower boom, the problematic factor of wind in your spray program is minimized.

MAGNATION BENEFITS

- ✓ Reduced chemical and water requirements
- ✓ Keeps sprayer parts, pumps and nozzles free of mineral build up
- ✓ Improved water buffering of solution
- ✓ Reduced drift and surface run-off
- ✓ Improves fungicide effectiveness
- ✓ Reduce or eliminate surfactants
- ✓ Improved surface coverage
- ✓ Improved foliar absorption
- ✓ Increased spraying angle
- ✓ Improved distribution
- ✓ Reduced leaf burn
- ✓ Eliminate odors

RECOMMENDED PRODUCTS

RAINBOLT™

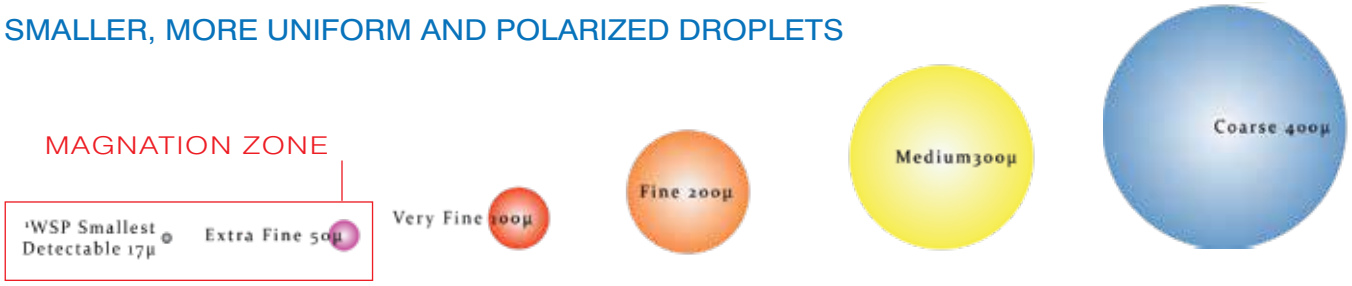
TURFBOLT™

"100% kill rate on my resistent weeds."
~ Lee Fintel, Superior, Nebraska

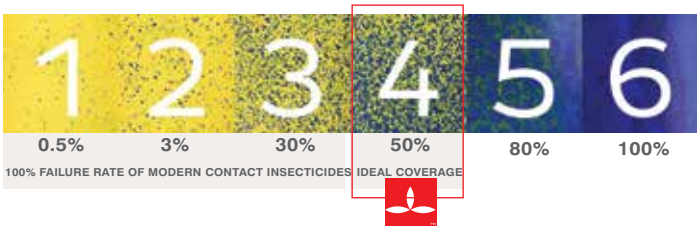
"Better leaf coverage with our spraying."
~ Donnie Rose, Pistachio Grower
Kettleman City, California

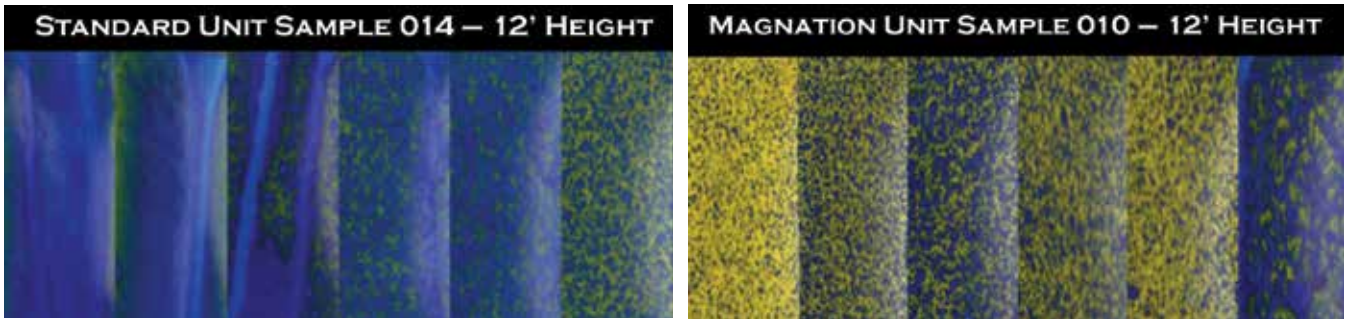
"There are a variety of chemicals you can put in to stop the drift, but they're about $3 an acre to apply. I have 1300 acres... so Magnation is saving me almost $4,000 per season, in addition to its other benefits."
~ Scott Borman, Nebraska Farmer

SMALLER, MORE UNIFORM AND POLARIZED DROPLETS



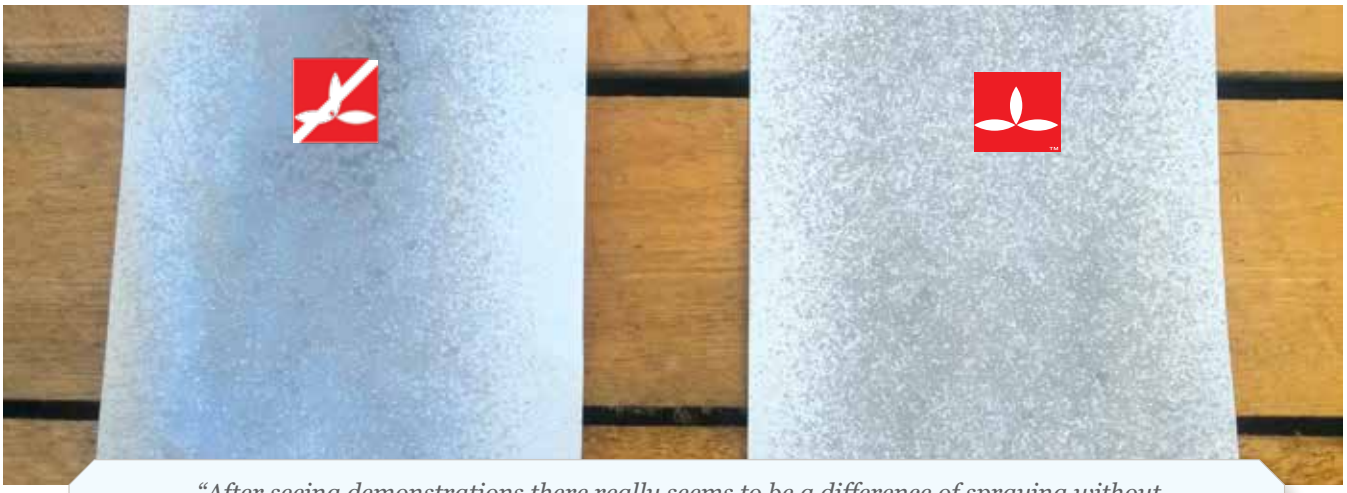
WATER-SENSITIVE PAPER COVERAGE (WSP) USING 200 PSI TXR CONEJET COMPARISON





Samples represent the amount of water deposited to the middle of a 20' tall almond tree.
At 200 gpa (gallons per acre), the left WSP reflects dripping occurring from the canopy without Magnation.

EVEN DISTRIBUTION WITH IMPROVED ABSORPTION



"After seeing demonstrations there really seems to be a difference of spraying without Magnation's Rainbolt. We see a better distribution and faster absorption of the spray liquid. This type of solution fits perfectly with the trend towards a more sustainable food production."

~ Jaap van 't Westeinde, Researcher at SPNA Agro Research, The Netherlands




MINERAL SCALE CONTROL

ZERO CHEMICALS, ACID WASH, SALTS, ENERGY OR MAINTENANCE.

Magnation prevents and reverses scale on the interior and exterior of all pipes, plumbing, and pumps, boilers, evaporative cooling towers, swamp coolers and other industrial equipment. Extend the life of your equipment and lower operating costs with less down time.

BEFORE > DEC. 21, 2018

AFTER > JAN. 17, 2019

BENEFITS

- ✓ Prevents rust, iron, iron bacteria, calcium, lime, and hard water issues in pipes, plumbing, nozzles and interior surfaces
- ✓ Reduces viscosity and friction with zero chemicals
- ✓ Reduces maintenance down time and expense
- ✓ 12.5% to 16.9% pumping energy savings
- ✓ Improves water flow
- ✓ Reduces chemicals

"Got the tests back from the lab. Magnation's system reduced the water hardness from 94.3 to 65.8 grains. A 30% reduction in hardness is significant in terms of percentages."

~ Don Taylor, Fertilizer Manufacturer, Texas

"Our scale was way down on our lines and we didn't have to clean or change any of our emitters; the hardness of our water at home went down from from 40 to 4 grains."

~ Paul Johl, Grower, Yuba City, California

"I could wipe the calcium residue from my drip toe emitters with my finger where I had installed Magnation; whereas in my other field without the Magnation system the calcium was hardened on the emitters."

~ Bob Vanella, Colusa, California

WELLS & PUMPS • DRILLING • EQUIPMENT
COOLING TOWERS • IRRIGATION PIPES




BETTER FLOW WITH LESS ENERGY

MOVE WATER FASTER, FURTHER AND EASIER.

Easier water flow due to reduced viscosity and less friction. Reduce energy consumption by a minimum of 12.5% to 25%. Prevent mineral scale with zero chemicals. Improve well drilling with increased permeability.

"We experienced significant scale reduction with improved water flow and reduced electrical bills."
~ Jeff Marchini, Farmer and former Farm Bureau President of Merced County, California

"My pivot is 12 miles from our pump. After installing the Magnation system, our 250 GPM went up to 285 GPM."
~ Gale Schaffer, Albion, Nebraska

IMPROVED FLOW WITH LESS ENERGY

CONDUCTED BY MARIN COUNTY FIRE DEPT, CA, 2009

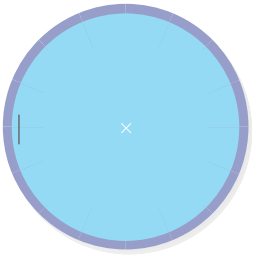
	Test No. 1	Test No. 2		
Nozzle pressure (psi)	Nozzle flow (gpm)	Pump intake pressure (psi)	Pump discharge pressure (psi)	Pump work rate (rpm)
80	450	100	130	700
80	510	90	120	600

Controlled study shows Magnation increased water flow from 450 gpm to 510 gpm, equalling a 13.3% flow increase with same energy. It also decreased its pump intake pressure from 100 psi to 90 psi. Pump discharge pressure dropped from 130 psi to 120 psi, and pump work rate decreased from 700 psi to 600 psi. Nozzle pressure remained constant at 80 psi. This indicates less energy is required to move water.

INCREASED THROW DISTANCE

CONDUCTED BY LEE FINTEL, MAGNATION CUSTOMER, SUPERIOR, NEBRASKA, 2015

Zone Gain: 10' 1" ≈ 8% increase with same psi



Big gun throw distance comparison perimeters: Pressure consistent at 97 psi.
Result: Throw distance increased from 133' to 143' after Magnation installation.



PRODUCTS & SPECS

RAINBOLT™

THREADED INLINE

ALSO USED FOR SEED AND RESIDENTIAL

MATERIAL	INTERNAL DIAMETER	EXTERNAL DIAMETER	LENGTH	WEIGHT	FLOW RATE
SS	1/4 in	1.25 in	4.75 in	1 lb	5-35 gpm
	6.35 mm	31.75 mm	120.65 mm	.45 kg	19-133 L/min
AL	3/8 in	1.55 in	5 in	<1 lb	5-45 gpm
	9.525 mm	39.37 mm	127 mm	<.5 kg	19-170 L/min
AL	1/2 in	1.55 in	5 in	<1 lb	8-50 gpm
	12.7 mm	39.37 mm	127 mm	<.5 kg	30-190 L/min
AL	3/4 in	1.75 in	5 in	<1 lb	11-55 gpm
	19.05 mm	44.45 mm	127 mm	<.5 kg	41-210 L/min
SS	3/4 in	1.75 in	5 in	1 lb	11-55 gpm
	19.05 mm	44.45 mm	127 mm	.45 kg	41-210 L/min
AL	1 in	1.875 in	5 in	<1 lb	16-90 gpm
	25.4 mm	47.6 mm	127 mm	<.5 kg	60-340 L/min
SS	1 in	1.875 in	5 in	1 lb	16-90 gpm
	25.4 mm	47.6 mm	127 mm	.45 kg	60-340 L/min
AL	1 1/4 in	2.75 in	6.5 in	2 lbs	20-300 gpm
	31.75 mm	69.85 mm	165.1 mm	.9 kg	75-1135 L/min
SS	1 1/4 in	2.75 in	6.5 in	2.5 lbs	20-300 gpm
	31.75 mm	69.85 mm	165.1 mm	1.1 kg	75-1135 L/min
PVC	1 1/2 in	3.25 in	5.75 in	1 lb	20-300 gpm
	38.1 mm	82.55 mm	146.05 mm	.45 kg	75-1135 L/min
AL	1 1/2 in	3.25 in	5.75 in	2.5 lbs	20-300 gpm
	38.1 mm	82.55 mm	146.05 mm	1.13 kg	75-1135 L/min
SS	1 1/2 in	3.25 in	5.75 in	2.75 lbs	20-300 gpm
	38.1 mm	82.55 mm	146.05 mm	1.25 kg	75-1135 L/min
PVC	2 in	4 in	6 in	1 lb	55-500 gpm
	50.8 mm	101.6 mm	152.5 mm	.45 kg	210-1900 L/min
AL	2 in	4 in	6 in	3 lbs	55-500 gpm
	50.8 mm	101.6 mm	152.5 mm	1.3 kg	210-1900 L/min
SS	2 in	4 in	6 in	3 lbs	55-500 gpm
	50.8 mm	101.6 mm	152.5 mm	1.3 kg	210-1900 L/min
PVC	3 in	5 in	9 in	3 lbs	140-600 gpm
	76.2 mm	127 mm	228.6 mm	1.4 kg	530-2270 L/min
AL	3 in	5 in	9 in	9 lbs	140-600 gpm
	76.2 mm	127 mm	228.6 mm	4.08 kg	530-2270 L/min
SS	3 in	5 in	9 in	10 lbs	140-600 gpm
	76.2 mm	127 mm	228.6 mm	4.5 kg	530-2270 L/min
PVC	4 in	6 in	9 in	4 lbs	240-700 gpm
	101.6 mm	152.4 mm	228.6 mm	1.8 kg	910-2650 L/min
AL	4 in	6 in	9 in	11 lbs	240-700 gpm
	101.6 mm	152.4 mm	228.6 mm	4.98 kg	910-2650 L/min
SS	4 in	6 in	9 in	30 lbs	240-700 gpm
	101.6 mm	152.4 mm	228.6 mm	13.6 kg	910-2650 L/min

AG-OPTIMISTS, LLC

AQUABOLT™

STATIC MIXER WITH DOUBLE RAINBOLT TREATMENT FOR EXTREME SALTS

ANY SIZE UP TO 60" DIAMETER, OR CONFIGURATION OF MATERIALS (PVC, AL, SS) OFFERED. VARYING MIXER LENGTHS AVAILABLE. CALL TO INQUIRE.

MATERIAL	INTERNAL DIAMETER	EXTERNAL DIAMETER	LENGTH	WEIGHT	FLOW RATE
STATIC MIXER MATERIAL: STAINLESS STEEL | SS RAINBOLTS					
SS-SS	1/2 in	2.375 in	13.5 in	5 lbs	11-55 gpm
	12.7 mm	60.33 mm	342.9 mm	2.27 kg	11-55 gpm
SS-SS	3/4 in	2.375 in	19 in	7 lbs	11-55 gpm
	19.05 in	60.33 mm	482.6 mm	3.18 kg	11-55 gpm
SS-SS	1 in	2.25 in	21 in	7 lbs	60-90 gpm
	25.4 mm	57.15 mm	533.4 mm	3.18 kg	60-340 L/min
SS-SS	1 1/4 in	2.75 in	39 in	9 lbs	20-300 gpm
	31.75 mm	69.85 mm	990.6 mm	4.08 kg	75-1135 L/min
SS-SS	1 1/2 in	3.25 in	37.5 in	11.6 lbs	20-300 gpm
	38.1 mm	82.55 mm	952.5 mm	5.26 kg	75-1135 L/min
SS-SS	2 in	4 in	45 in	16.85 lbs	55-500 gpm
	50.8 mm	101.6 mm	1143 mm	7.64kg	210-1900 L/min
SS-SS	3 in	5 in	57 in	33.3 lbs	140-600 gpm
	76.2 mm	127 mm	1447.8 mm	15.1 kg	530-2270 L/min
SS-SS	4 in	6 in	72 in	80.9 lbs	240-700 gpm
	101.6 mm	152.4 mm	1828.8 mm	36.7 kg	910-2650 L/min

MATERIALS	INTERNAL DIAMETER	LENGTH	WEIGHT	MAX WORKING PRESSURE FOR PVC MIXER (PSI @ 75°F / 23.9°C)	FLOW RATE
STATIC MIXER MATERIAL: PVC | ALUMINUM RAINBOLTS					
AL-PVC	1/2 in	15 in	3 lbs	300 psi	11-55 gpm
	12.7 mm	254 mm	1.36 kg	300 psi	11-55 gpm
AL-PVC	3/4 in	21 in	3 lbs	240 psi	11-55 gpm
	19.05 in	533.4 mm	1.36 kg	240 psi	11-55 gpm
AL-PVC	1 in	23 in	3 lbs	220 psi	60-90 gpm
	25.4 mm	584.2 mm	1.36 kg	220 psi	60-340 L/min
AL-PVC	1 1/4 in	26 in	5 lbs	180 psi	20-300 gpm
	31.75 mm	660.4 mm	2.27 kg	180 psi	75-1135 L/min
AL-PVC	1 1/2 in	39.5 in	7.58 lbs	170 psi	20-300 gpm
	38.1 mm	1003.3 mm	3.18 kg	170 psi	75-1135 L/min
AL-PVC	2 in	47 in	8.69	140 psi	55-500 gpm
	50.8 mm	1193.8 mm	3.94 kg	140 psi	210-1900 L/min
AL-PVC	3 in	30 in	21.8 lbs	120 psi	140-600 gpm
	76.2 mm	762 mm	9.89 kg	120 psi	530-2270 L/min
AL-PVC	4 in	32 in	26.9 lbs	110 psi	240-700 gpm
	101.6 mm	812.8 mm	12.2 kg	110 psi	910-2650 L/min

MATERIAL	INTERNAL DIAMETER	EXTERNAL DIAMETER	LENGTH	WEIGHT	FLOW RATE
STATIC MIXER MATERIAL: PVC | PVC RAINBOLTS					
PVC-PVC	1/2 in	2.25 in	15 in	3 lbs	11-55 gpm
	12.7 mm	57.15 mm	254 mm	1.36 kg	11-55 gpm
PVC-PVC	3/4 in	2.5 in	21 in	3 lbs	11-55 gpm
	19.05 in	63.5mm	533.4 mm	1.36 kg	11-55 gpm
PVC-PVC	1 in	2.5 in	17 in	2 lbs	60-90 gpm
	25.4 mm	63.5 mm	431.8 mm	.91 kg	60-340 L/min
PVC-PVC	1 1/4 in	2.75 in	26 in	4.3 lbs	20-300 gpm
	31.75 mm	69.85 mm	660.4 mm	1.95 kg	75-1135 L/min
PVC-PVC	1 1/2 in	3.25 in	37.5 in	3.58 lbs	20-300 gpm
	38.1 mm	82.55 mm	952.5 mm	1.62 kg	75-1135 L/min
PVC-PVC	2 in	3.75 in	31 in	3.56 lbs	55-500 gpm
	50.8 mm	95.25 mm	787.4 mm	1.61 kg	210-1900 L/min
PVC-PVC	3 in	4.75 in	42 in	9.8 lbs	140-600 gpm
	76.2 mm	120.65 mm	1066.8 mm	4.45 kg	530-2270 L/min
PVC-PVC	4 in	6 in	9 in	11 lbs	240-700 gpm
	101.6 mm	152.4 mm	228.6 mm	4.98 kg	910-2650 L/min

AG-OPTIMISTS, LLC

TURBULATOR™

HIGH SALTS

INTERNAL DIAMETER	EXTERNAL DIAMETER	LENGTH	WEIGHT - AA	WEIGHT - SS	FLOW RATE
4 in	9 in	6 in	10 lbs	40 lbs	240-700 gpm
101.6 mm	228.6 mm	152.4 mm	4.5 kg	18.2 kg	910-2650 L/min
6 in	11 in	20 in	22 lbs	55 lbs	550-1000 gpm
152.4 mm	279.4 mm	508 mm	10 kg	25 kg	2082-3785 L/min
8 in	13.5 in	20 in	24 lbs	68 lbs	950-1900 gpm
203.2 mm	342.9 mm	508 mm	10.8 kg	30.9 kg	3596-7192 L/min
10 in	16 in	20 in	29 lbs	80 lbs	1500-2000 gpm
254 mm	406.4 mm	508 mm	13.1 kg	36.3 kg	5678-7570 L/min
12 in	20 in	20 in	32 lbs	92 lbs	2000-3000 gpm
304.8 mm	508 mm	508 mm	14.5 kg	41.7 kg	7570-11355 L/min

RAINBOLT™

WELLS & INDUSTRIAL

INTERNAL DIAMETER	EXTERNAL DIAMETER	LENGTH	WEIGHT - AA	WEIGHT - SS	FLOW RATE
4 in	6 in	9 in	11 lbs	30 lbs	240-700 gpm
101.6 mm	152.4 mm	228.6 mm	5 kg	13.6 kg	910-2650 L/min
6 in	7 in	13 in	27 lbs	50 lbs	550-1000 gpm
152.4 mm	177.8 mm	330.2 mm	12.2 kg	22.7 kg	2082-3785 L/min
8 in	9 in	13 in	35 lbs	85 lbs	950-1900 gpm
203.2 mm	228.6 mm	330.2 mm	15.9 kg	38.6 kg	3596-7192 L/min
10 in	11 in	13 in	49 lbs	110 lbs	1500-2000 gpm
254 mm	279.4 mm	330.2 mm	22.2 kg	50 kg	5678-7570 L/min
12 in	13 in	13 in	60 lbs	130 lbs	2000-3000 gpm
304.8 mm	330.2 mm	330.2 mm	27.2 kg	60 kg	7570-11355 L/min

AG-OPTIMISTS, LLC

TURFBOLT™

SPRINKLERS & HANDWATERING

MATERIAL	INTERNAL DIAMETER	EXTERNAL DIAMETER	LENGTH	WEIGHT	FLOW RATE
	NPT THREADS				
AL-BLK	1/2 in	2.25 in	3.75 in	1 lb	11-55 gpm
	12.7 mm	57.15 mm	92.25 mm	.45 kg	40-210 L/min
SS	1/2 in	2.25 in	3.75 in	1 lb	11-55 gpm
	12.7 mm	57.15 mm	92.25 mm	.45 kg	40-210 L/min
AL-BLUE	3/4 in	2.25 in	3.75 in	1 lb	11-55 gpm
	19.05 mm	57.15 mm	92.25 mm	.45 kg	40-210 L/min
PVC	3/4 in	2.25 in	3.75 in	1 lb	11-55 gpm
	19.05 mm	57.15 mm	92.25 mm	.45 kg	40-210 L/min
PVC	1 in	2.25 in	3.5 in	<1 lb	16-90 gpm
	25.4 mm	57.15 mm	88.9 mm	<.45 kg	60-340 L/min
AL-GREEN	1 in	2.375 in	3.75 in	1 lb	16-90 gpm
	25.4 mm	60.325 mm	92.25 mm	.45 kg	60-340 L/min
AL-BLUE	1 1/4 in	2.5 in	4.75 in	1.5 lbs	20-300 gpm
	31.75 mm	63.5 mm	120.65 mm	.68 kg	75-1135 L/min
	HOSE/DRIP THREADS				
AL-RED	3/4 in	2.25 in	3.75 in	1 lb	11-55 gpm
	19.05 mm	57.15 mm	92.25 mm	.45 kg	40-210 L/min

* AGRICULTURAL TREATMENT

- 1" GREEN NPT UNITS GOOD FOR JOHN DEERE SEEDERS

* ENHANCED RESIDENTIAL TREATMENT

- INSTALL AT THE MAIN PUMP OR INCOMING LINE, SECOND UNIT INSTALLED BEFORE WATER HEATER,

INTERNAL DIAMETER	EXTERNAL DIAMETER	LENGTH	WEIGHT - SS	FLOW RATE
1/4 in	1.25 in	4.75 in	1 lb	4-18 gpm
6.35 mm	31.7 mm	120.7 mm	.45 kg	15-68 L/min
3/4 in	1.75 in	5 in	1 lb	11-55 gpm
19.05 mm	44.5 mm	127 mm	.45 kg	40-210 L/min
1 in	1.875 in	5 in	1 lb	16-90 gpm
25.4 mm	47.6 mm	127 mm	.45 kg	60-340 L/min
1 1/4 in	2.75 in	6.5 in	2.5 lbs	20-300 gpm
31.75 mm	69.9 mm	165.1 mm	1.1 kg	75-1135 L/min
2 in	3.5 in	5.5 in	5 lbs	55-500 gpm
50.8 mm	88.9 mm	139.7 mm	2.3 kg	205-1895 L/min
3 in	4.75 in	8 in	10 lbs	140-600 gpm
101.6 mm	120.7 mm	203.3 mm	4.5 kg	530-2270 L/min

DRIFT CONTROL™

FOR FIELD, AERIAL & HANDHELD SPRAYERS

*SAME SKU AS RAINBOLT

AG-OPTIMISTS, LLC

SOFT RAIN™

SHOWER TREATMENT

INTERNAL DIAMETER	EXTERNAL DIAMETER	LENGTH	WEIGHT	FLOW RATE
1/2 in	2.25 in	3.75 in	1 lb	11-55 gpm
12.7 mm	57.15 mm	92.25 mm	.45 kg	40-210 L/min

SPRINGBOLT™

SHOWERS & APPLIANCES

SPRINGBOLT™ PLUS

RESIDENTIAL MAIN LINE FOR RENTERS

INTERNAL DIAMETER	HEIGHT	LENGTH	WEIGHT
3/4 in	2 in	2 in	<1 lb
19.05 mm	50.8 mm	50.8 mm	<.45 kg
1 in	2 in	5 in	2 lbs
25.4 mm	50.8 mm	127 mm	.9 kg

HYDRABOLT™

HEALTH

INTERNAL DIAMETER	EXTERNAL DIAMETER	LENGTH	WEIGHT
3/8 in	4 in	7 in	<1 lb
19.05 mm	101.6 mm	117.8 mm	<.45 kg

POWERBAND™

HEALTH: BOTTLE WRAP/BRACELET

	INTERNAL DIAMETER	HEIGHT	LENGTH	WEIGHT
MED-BLUE	3/8 in.	4 in.	7 in.	<1 lb.
	19.05 mm	101.6 mm	117.8 mm	<.45 kg
MED-BLACK	3/8 in.	4 in.	7 in.	<1 lb.
	19.05 mm	101.6 mm	117.8 mm	<.45 kg
LG-BLUE	3/8 in.	4 in.	7 in.	<1 lb.
	19.05 mm	101.6 mm	117.8 mm	<.45 kg
LG-BLACK	3/8 in.	4 in.	7 in.	<1 lb.
	19.05 mm	101.6 mm	117.8 mm	<.45 kg

AG-OPTIMISTS, LLC

INSTALLATION

















SIMPLE

Requires no maintenance
Easy inline installation
Requires no electricity
No replacement parts
Long lasting

SUSTAINABLE

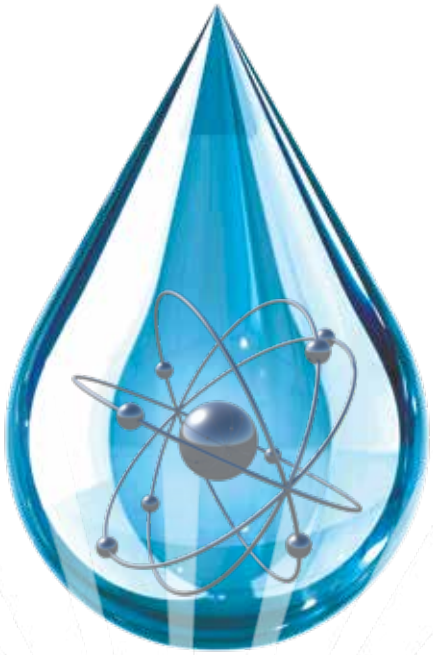
Reduces environmental impact
Promotes water efficiency
Improves water quality
Zero byproducts
Reduces waste

PROVEN

Backed by scientific field data
International peer reviewed
Over 25,000 installations
Customer testimonials
Money back guarantee

SOLID PRODUCTS. UNMATCHED PERFORMANCE. DEDICATED SERVICE.

Magnation Water Technologies helps you get the most out of your resources with our easy-to-use sustainable products, and a world-class team available to support you.



CALL NOW FOR REFERENCES IN YOUR AREA 541-610-6858

AG-OPTIMISTS, LLC

AG-Optimists, LLC 2400 E. 6895 S. Cottonwood Heights, UT 84121

ag-optimists.com/magnation

RAINLIKE WATER™

THE TRUSTED LEADER IN SALT-FREE, ENERGY-FREE AND MAINTENANCE-FREE WATER SOFTENING TREATMENT SINCE 2008.

AG-OPTIMISTS, LLC

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WATER TECHNOLOGIES · MADE IN USA

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BBB ACCREDITED BUSINESS