WATER TREATMENT SYSTEM

Product Overview

Want to improve the quality of your drinking water? Want to make your wash down hoses more effective? A proper dosing system is critical.

Add too little and you might risk safety and do an inadequate job. Add too much and you might risk injury and still do an inadequate job. Chemical detergents, disinfectants, and other treatments are expensive, but cutting corners will prove wasteful and maybe even dangerous.

Benefits

Utilizing water treatment has a range of benefits ranging from improved cow health, water color, odor and taste to reducing the iron slime and minerals that can clog pipes, fog nozzles and sprinkler nozzles.

Treated water in wash down hoses can reduce or eliminate iron stains, biofilm, manage odor, and improve traction on milk room and parlor pit floors.

Water treatment will also reduce or eliminate slime in plate coolers and water-cooled condensers.

Options

Lyntech offers a range of dosing controls, pumps, meters, and chemicals suitable to address any dosing task.

Need a simple system to inject iodine detergent into a milk room drop down hose? Take a look at our Smart Pump and 3/4” warm temperature capable, turbine meter.

Need to treat three separate well streams producing high mineral content drinking water full of organic material? Our SAFEWATER TL control series matched with our paddle wheel meters allows you to affordably and accurately treat systems with water flow rates in the hundreds of gallons per minute while at the same time recording and displaying detailed flow total data for the water and for the chemicals. The SAFEWATER TL system can properly dose each location with two separate chemicals; with each chemical dosed at a different rate.

Lyntech has a complete selection of options for your water treatment needs.

WATER TREATMENT SYSTEM

Introduction

Our water treatment control requires the correlation of three components. You will need to choose the pump(s) and meter(s) that work for you along with the level of control you prefer.

You will also have to consider your water pressure, the flow rate and the desired dosage rates. Where you place your meters is also important to an effective system.

Different control levels have varying capabilities and sophistication. They factor in how many locations you want to treat and the type and number of pumps, meters, chemicals your system will utilize.

Page ten lists the specific components available. Our pricing guide lays out pricing tiers for the various levels of control.

Chemicals and Testing

We can provide a selection of chemicals in a variety of concentrations to suit any need, including hydrogen peroxide, blended phosphate LCT5, and iodine udder detergent.

Also available are solutions for testing chemical concentration such as test strips and titration tests. In fact, treating potable water starts with testing to identify what needs to be injected at what rate.

Pump selection

First, verify if the water pressure in the line you will inject chemical into is above or below 25PSI. The pump must create a higher pressure for the chemical than the existing water pressure. While some pumps come with literature that says they'll inject into lines at 100PSI, experience has taught us that 80PSI is a much more reliable expectation. One of our vendors even told us that unless the pump was made and sold by a German company, the stated capabilities of pumps are exaggerated.

Next, understand the peak water flow rate of your system. You will need a pump that can keep up with that speed.

Additionally, consider the PPM dosage rates and concentration of the dosing chemical you plan to use. For example, hydrogen peroxide is often supplied at 35% concentration. You will need to pump three times as much 35% product to reach your desired dosing level than with a 100% concentrated product.

The tables on pages five through nine of this guide can help you determine the gallons per day (gpd) capacity of the pump you will need.

Meter selection

Turbine Meters

- Signal the water treatment control via a dry contact reed switch.
- Typically have an integrated dial showing accumulated flow.
- Have a slower pulse rate, i.e. signal the control once per gallon of flow.

Paddle Wheel Meters

- Signal the water treatment control via a solid-state hall-effect sensor.
- Typically do not have an integrated dial showing accumulated flow.
- Have a much higher pulse rate, i.e. signal the control 15 to 150 times per gallon of flow. (A 2-inch meter provides 50 pulses per gallon; if the water flows at 150 gallons per minute, meter pulses would be eight one-thousandths of a second apart.)

Meters should always be chosen by minimum and maximum expected flow rate, not the size your existing pipe. We have found over time that most often turbines are the most economical choice when a two-inch or smaller meter is required, while paddle wheels are the most economical choice when larger meters are required.

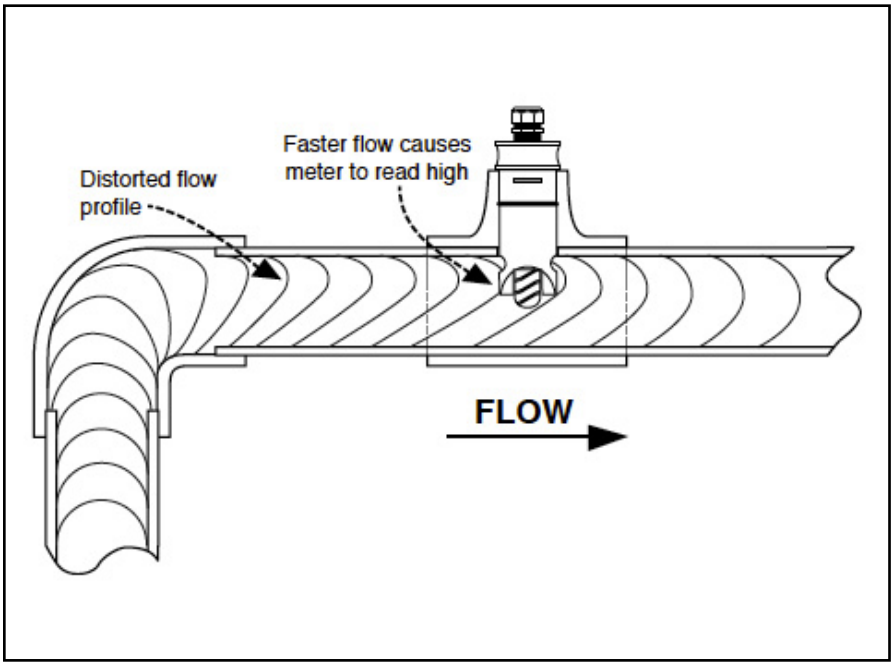
WATER TREATMENT SYSTEM

Meter placement

Flow meters need a sufficient run of straight pipe before and after their location.

The presence of valves, thermowells, chemical injectors and diffusers, and changes in direction of the pipe can introduce turbulence into the flow. This causes errors in the meter readings.

For example, a thermowell can produces errors in the range of 5-10% and a gate or butterfly valve, even a partially closed ball valve 50-60%. Sufficient upstream straight run allows the flow to smooth out.



Cavitation, often caused by trapped air can also introduce errors and potentially damage the rotor of the meter. Insufficient downstream pressure also cause errors. Sufficient downstream straight run reduces cavitation and correlated errors.

The recommended rule of thumb is to significantly reduce errors by having a minimum straight run of 10 diameters of the pipe upstream and 5 diameters downstream.

If providing straight run is not possible, there are ways to work around it and still get meaningful readings from your flow meters. Providing a repeated reading may be enough, even if it isn't 100% accurate.

All meters have a maximum recommended flow rate. Pick a meter that will accurately measure your peak flow rates without introducing too much pressure drop or too much wear in the meter. At the same time, all meters also have a recommended minimum flow rate. In our experience, it is a good practice to double the meter's published minimum for a dosing application. Many meters provide unreliable flow rate measurement when operating near their published minimum.

You may find the best meter for your application is for a smaller diameter pipe than existing pipe you want to install it in. This is okay! Put in a smaller meter, but be sure to install adequate lengths of the smaller diameter pipe before and after the meter for the most reliable operation. You may wonder if this smaller pipe and meter will restrict your water flow too much. Rest assured, if your peak water flow is estimated properly, pressure and flow drop due to smaller pipe will be very, very small.

WATER TREATMENT SYSTEM

Control Selection

Lyntech offers three levels of controls for the treatment of water supplies with chemicals.

Safewater TL

- Can use turbine and/or paddle wheel meter(s). This provides flexibility, and sometimes an existing meter can be used.
- Can treat up to three locations with two pumps at each location providing ability to treat multiple water problems in complex plumbing systems.
- Four totalizers per treatment location: daily, montly, yearly and lifetime. Some models can totalize water flow for three separate dosing locations. Provides a large amount of user information on water usage in easy-to-read display.
- Real-time flow indicator in gallons/minute giving the users information they can use.
- Enter parameters using touch display with parameter names that use English words. It's easy to understand and intuitive to read.
- Provides maintenance counters to remind users to change hoses, etc, so important parts get changed before they break.
- Provides totalizers that monitor chemical usage.
- Requires entering only pump rate, desired dosage, meter k-factor, product concentration and pump run-time parameters. The math is all done in the control. Simplifies setup. Removes math errors
- Premium control maximum amount of information, solves multiple, complex problems. Most costly, but comes with the most options of all the controls.

Safewater Econ

- Can use turbine or paddle wheel water meter or flow switch. Gives maximum water meter choice flexibility and can use relay to run when well pump is running.
- One totalizer for gallons used, viewable on small, low-res LCD display.
- Real-time flow indicator in gallons/minute also viewed in LCD display, allowing user to know if system is running and at what rate.
- Parameters are entered by means of arrows and enter key. Parameter names are 8 characters maximum. More complex to use than the touch display in Safewater TL.
- Requires entering only pump rate, desired dosage, meter k-factor, product concentration and pump run-time parameters. The math is all done in the control. Keypad parameter entry simplifies setup. Removes math errors.
- Solution for small, simple systems or limited needs and budgets. Used for one chemical in one location. Reduces cost, but with limited options.

Smart Pump

- Only usable with dry-contact water meter. Totalizer information of water usage provided on meter.
- No display for totalizers or flowrate.
- Dosing math must be done by user/installer to set pump parameters (speed, run time).
- Parameters set by keypad.
- Can be used for multiple pumps/chemicals using just one meter. Allows for solving multiple water problems with simple control.
- Has small footprint on mounting location so can be mounted in rooms with limited space.
- Lack of touch pad keeps cost down. Lowest cost option, good for limited budgets.

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WATER TREATMENT SYSTEM - Tables

Water Treatment Pump Capacity - 100% Product

Gallons of Water per Minute

PPM	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250
1	0.01	0.03	0.04	0.06	0.07	0.09	0.10	0.12	0.13	0.14	0.16	0.17	0.19	0.20	0.22	0.23	0.24	0.26	0.27	0.29	0.30	0.32	0.33	0.35	0.36
2	0.03	0.06	0.09	0.12	0.14	0.17	0.20	0.23	0.26	0.29	0.32	0.35	0.37	0.40	0.43	0.46	0.49	0.52	0.55	0.58	0.60	0.63	0.66	0.69	0.72
3	0.04	0.09	0.13	0.17	0.22	0.26	0.30	0.35	0.39	0.43	0.48	0.52	0.56	0.60	0.65	0.69	0.73	0.78	0.82	0.86	0.91	0.95	0.99	1.04	1.08
4	0.06	0.12	0.17	0.23	0.29	0.35	0.40	0.46	0.52	0.58	0.63	0.69	0.75	0.81	0.86	0.92	0.98	1.04	1.09	1.15	1.21	1.27	1.32	1.38	1.44
5	0.07	0.14	0.22	0.29	0.36	0.43	0.50	0.58	0.65	0.72	0.79	0.86	0.94	1.01	1.08	1.15	1.22	1.30	1.37	1.44	1.51	1.58	1.66	1.73	1.80
6	0.09	0.17	0.26	0.35	0.43	0.52	0.60	0.69	0.78	0.86	0.95	1.04	1.12	1.21	1.30	1.38	1.47	1.56	1.64	1.73	1.81	1.90	1.99	2.07	2.16
8	0.12	0.23	0.35	0.46	0.58	0.69	0.81	0.92	1.04	1.15	1.27	1.38	1.50	1.61	1.73	1.84	1.96	2.07	2.19	2.30	2.42	2.53	2.65	2.76	2.88
10	0.14	0.29	0.43	0.58	0.72	0.86	1.01	1.15	1.30	1.44	1.58	1.73	1.87	2.02	2.16	2.30	2.45	2.59	2.74	2.88	3.02	3.17	3.31	3.46	3.60
15	0.22	0.43	0.65	0.86	1.08	1.30	1.51	1.73	1.94	2.16	2.38	2.59	2.81	3.02	3.24	3.46	3.67	3.89	4.10	4.32	4.54	4.75	4.97	5.18	5.40
20	0.29	0.58	0.86	1.15	1.44	1.73	2.02	2.30	2.59	2.88	3.17	3.46	3.74	4.03	4.32	4.61	4.90	5.18	5.47	5.76	6.05	6.34	6.62	6.91	7.20
25	0.36	0.72	1.08	1.44	1.80	2.16	2.52	2.88	3.24	3.60	3.96	4.32	4.68	5.04	5.40	5.76	6.12	6.48	6.84	7.20	7.56	7.92	8.28	8.64	9.00
30	0.43	0.86	1.30	1.73	2.16	2.59	3.02	3.46	3.89	4.32	4.75	5.18	5.62	6.05	6.48	6.91	7.34	7.78	8.21	8.64	9.07	9.50	9.94	10.37	10.80
35	0.50	1.01	1.51	2.02	2.52	3.02	3.53	4.03	4.54	5.04	5.54	6.05	6.55	7.06	7.56	8.06	8.57	9.07	9.58	10.08	10.58	11.09	11.59	12.10	12.60
40	0.58	1.15	1.73	2.30	2.88	3.46	4.03	4.61	5.18	5.76	6.34	6.91	7.49	8.06	8.64	9.22	9.79	10.37	10.94	11.52	12.10	12.67	13.25	13.82	14.40
45	0.65	1.30	1.94	2.59	3.24	3.89	4.54	5.18	5.83	6.48	7.13	7.78	8.42	9.07	9.72	10.37	11.02	11.66	12.31	12.96	13.61	14.26	14.90	15.55	16.20
50	0.72	1.44	2.16	2.88	3.60	4.32	5.04	5.76	6.48	7.20	7.92	8.64	9.36	10.08	10.80	11.52	12.24	12.96	13.68	14.40	15.12	15.84	16.56	17.28	18.00
60	0.86	1.73	2.59	3.46	4.32	5.18	6.05	6.91	7.78	8.64	9.50	10.37	11.23	12.10	12.96	13.82	14.69	15.55	16.42	17.28	18.14	19.01	19.87	20.74	21.60
70	1.01	2.02	3.02	4.03	5.04	6.05	7.06	8.06	9.07	10.08	11.09	12.10	13.10	14.11	15.12	16.13	17.14	18.14	19.15	20.16	21.17	22.18	23.18	24.19	25.20
80	1.15	2.30	3.46	4.61	5.76	6.91	8.06	9.22	10.37	11.52	12.67	13.82	14.98	16.13	17.28	18.43	19.58	20.74	21.89	23.04	24.19	25.34	26.50	27.65	28.80
90	1.30	2.59	3.89	5.18	6.48	7.78	9.07	10.37	11.66	12.96	14.26	15.55	16.85	18.14	19.44	20.74	22.03	23.33	24.62	25.92	27.22	28.51	29.81	31.10	32.40
100	1.44	2.88	4.32	5.76	7.20	8.64	10.08	11.52	12.96	14.40	15.84	17.28	18.72	20.16	21.60	23.04	24.48	25.92	27.36	28.80	30.24	31.68	33.12	34.56	36.00
150	2.16	4.32	6.48	8.64	10.80	12.96	15.12	17.28	19.44	21.60	23.76	25.92	28.08	30.24	32.40	34.56	36.72	38.88	41.04	43.20	45.36	47.52	49.68	51.84	54.00
200	2.88	5.76	8.64	11.52	14.40	17.28	20.16	23.04	25.92	28.80	31.68	34.56	37.44	40.32	43.20	46.08	48.96	51.84	54.72	57.60	60.48	63.36	66.24	69.12	72.00
250	3.60	7.20	10.80	14.40	18.00	21.60	25.20	28.80	32.40	36.00	39.60	43.20	46.80	50.40	54.00	57.60	61.20	64.80	68.40	72.00	75.6	79.20	82.80	86.40	90.00
300	4.32	8.64	12.96	17.28	21.60	25.92	30.24	34.56	38.88	43.20	47.52	51.84	56.16	60.48	64.80	69.12	73.44	77.76	82.08	86.40	90.72	95.04	99.36	103.68	108.00
400	5.76	11.52	17.28	23.04	28.80	34.56	40.32	46.08	51.84	57.60	63.36	69.12	74.88	80.64	86.40	92.16	97.92	103.68	109.44	115.20	120.96	126.72	132.48	138.24	144.00
500	7.20	14.40	21.60	28.80	36.00	43.20	50.40	57.60	64.80	72.00	79.20	86.40	93.60	100.80	108.00	115.20	122.40	129.60	136.80	144.00	151.20	158.40	165.60	172.80	180.00
750	10.80	21.60	32.40	43.20	54.00	64.80	75.60	86.40	97.20	108.00	118.80	129.60	140.40	151.20	162.00	172.80	183.60	194.40	205.20	216.00	226.80	237.60	248.40	259.20	270.00
1000	14.40	28.80	43.20	57.60	72.00	86.40	100.80	115.20	129.60	144.00	158.40	172.80	187.20	201.60	216.00	230.40	244.80	259.20	273.60	288.00	302.40	316.80	331.20	345.60	360.00

WATER TREATMENT SYSTEM - Tables

Water Treatment Pump Capacity - 34% Product

Gallons of Water per Minute

PPM	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250
1	0.04	0.08	0.13	0.17	0.21	0.25	0.30	0.34	0.38	0.42	0.47	0.51	0.55	0.59	0.64	0.68	0.72	0.76	0.80	0.85	0.89	0.93	0.97	1.02	1.06
2	0.08	0.17	0.25	0.34	0.42	0.51	0.59	0.68	0.76	0.85	0.93	1.02	1.10	1.19	1.27	1.36	1.44	1.52	1.61	1.69	1.78	1.86	1.95	2.03	2.12
3	0.13	0.25	0.38	0.51	0.64	0.76	0.89	1.02	1.14	1.27	1.40	1.52	1.65	1.78	1.91	2.03	2.16	2.29	2.41	2.54	2.67	2.80	2.92	3.05	3.18
4	0.17	0.34	0.51	0.68	0.85	1.02	1.19	1.36	1.52	1.69	1.86	2.03	2.20	2.37	2.54	2.71	2.88	3.05	3.22	3.39	3.56	3.73	3.90	4.07	4.24
5	0.21	0.42	0.64	0.85	1.06	1.27	1.48	1.69	1.91	2.12	2.33	2.54	2.75	2.96	3.18	3.39	3.60	3.81	4.02	4.24	4.45	4.66	4.87	5.08	5.29
6	0.25	0.51	0.76	1.02	1.27	1.52	1.78	2.03	2.29	2.54	2.80	3.05	3.30	3.56	3.81	4.07	4.32	4.57	4.83	5.08	5.34	5.59	5.84	6.10	6.35
8	0.34	0.68	1.02	1.36	1.69	2.03	2.37	2.71	3.05	3.39	3.73	4.07	4.40	4.74	5.08	5.42	5.76	6.10	6.44	6.78	7.12	7.45	7.79	8.13	8.47
10	0.42	0.85	1.27	1.69	2.12	2.54	2.96	3.39	3.81	4.24	4.66	5.08	5.51	5.93	6.35	6.78	7.20	7.62	8.05	8.47	8.89	9.32	9.74	10.16	10.59
15	0.64	1.27	1.91	2.54	3.18	3.81	4.45	5.08	5.72	6.35	6.99	7.62	8.26	8.89	9.53	10.16	10.80	11.44	12.07	12.71	13.34	13.98	14.61	15.25	15.88
20	0.85	1.69	2.54	3.39	4.24	5.08	5.93	6.78	7.62	8.47	9.32	10.16	11.01	11.86	12.71	13.55	14.40	15.25	16.09	16.94	17.79	18.64	19.48	20.33	21.18
25	1.06	2.12	3.18	4.24	5.29	6.35	7.41	8.47	9.53	10.59	11.65	12.71	13.76	14.82	15.88	16.94	18.00	19.06	20.12	21.18	22.24	23.29	24.35	25.41	26.47
30	1.27	2.54	3.81	5.08	6.35	7.62	8.89	10.16	11.44	12.71	13.98	15.25	16.52	17.79	19.06	20.33	21.60	22.87	24.14	25.41	26.68	27.95	29.22	30.49	31.76
35	1.48	2.96	4.45	5.93	7.41	8.89	10.38	11.86	13.34	14.82	16.31	17.79	19.27	20.75	22.24	23.72	25.20	26.68	28.16	29.65	31.13	32.61	34.09	35.58	37.06
40	1.69	3.39	5.08	6.78	8.47	10.16	11.86	13.55	15.25	16.94	18.64	20.33	22.02	23.72	25.41	27.11	28.80	30.49	32.19	33.88	35.58	37.27	38.96	40.66	42.35
45	1.91	3.81	5.72	7.62	9.53	11.44	13.34	15.25	17.15	19.06	20.96	22.87	24.78	26.68	28.59	30.49	32.40	34.31	36.21	38.12	40.02	41.93	43.84	45.74	47.65
50	2.12	4.24	6.35	8.47	10.59	12.71	14.82	16.94	19.06	21.18	23.29	25.41	27.53	29.65	31.76	33.88	36.00	38.12	40.24	42.35	44.47	46.59	48.71	50.82	52.94
60	2.54	5.08	7.62	10.16	12.71	15.25	17.79	20.33	22.87	25.41	27.95	30.49	33.04	35.58	38.12	40.66	43.20	45.74	48.28	50.82	53.36	55.91	58.45	60.99	63.53
70	2.96	5.93	8.89	11.86	14.82	17.79	20.75	23.72	26.68	29.65	32.61	35.58	38.54	41.51	44.47	47.44	50.40	53.36	56.33	59.29	62.26	65.22	68.19	71.15	74.12
80	3.39	6.78	10.16	13.55	16.94	20.33	23.72	27.11	30.49	33.88	37.27	40.66	44.05	47.44	50.82	54.21	57.60	60.99	64.38	67.76	71.15	74.54	77.93	81.32	84.71
90	3.81	7.62	11.44	15.25	19.06	22.87	26.68	30.49	34.31	38.12	41.93	45.74	49.55	53.36	57.18	60.99	64.80	68.61	72.42	76.24	80.05	83.86	87.67	91.48	95.29
100	4.24	8.47	12.71	16.94	21.18	25.41	29.65	33.88	38.12	42.35	46.59	50.82	55.06	59.29	63.53	67.76	72.00	76.24	80.47	84.71	88.94	93.18	97.41	101.65	105.88
150	6.35	12.71	19.06	25.41	31.76	38.12	44.47	50.82	57.18	63.53	69.88	76.24	82.59	88.94	95.29	101.65	108.00	114.35	120.71	127.06	133.41	139.76	146.12	152.47	158.82
200	8.47	16.94	25.41	33.88	42.35	50.82	59.29	67.76	76.24	84.71	93.18	101.65	110.12	118.59	127.06	135.53	144.00	152.47	160.94	169.41	177.88	186.35	194.82	203.29	211.76
250	10.59	21.18	31.76	42.35	52.94	63.53	74.12	84.71	95.29	105.88	116.47	127.06	137.65	148.24	158.82	169.41	180.00	190.59	201.18	211.76	222.35	232.94	243.53	254.12	264.71
300	12.71	25.41	38.12	50.82	63.53	76.24	88.94	101.65	114.35	127.06	139.76	152.47	165.18	177.88	190.59	203.29	216.00	228.71	241.41	254.12	266.82	279.53	292.24	304.94	317.65
400	16.94	33.88	50.82	67.76	84.71	101.65	118.59	135.53	152.47	169.41	186.35	203.29	220.24	237.18	254.12	271.06	288.00	304.94	321.88	338.82	355.76	372.71	389.65	406.59	423.53
500	21.18	42.35	63.53	84.71	105.88	127.06	148.24	169.41	190.59	211.76	232.94	254.12	275.29	296.47	317.65	338.82	360.00	381.18	402.35	423.53	444.71	465.88	487.06	508.24	529.41
750	31.76	63.53	95.29	127.06	158.82	190.59	222.35	254.12	285.88	317.65	349.41	381.18	412.94	444.71	476.47	508.24	540.00	571.76	603.53	635.29	667.06	698.82	730.59	762.35	794.12
1000	42.35	84.71	127.06	169.41	211.76	254.12	296.47	338.82	381.18	423.53	465.88	508.24	550.59	592.94	635.29	677.65	720.00	762.35	804.71	847.06	889.41	931.76	974.12	1,016.47	1,058.82

WATER TREATMENT SYSTEM - Tables

Water Treatment Product Usage Chart-34% H202

Gallons of Water

PPM	1,000	2,000	3,000	4,000	5,000	7,500	10,000	20,000	40,000	50,000	60,000	70,000	80,000	90,000	100,000	125,000	150,000	175,000	200,000	225,000	250,000	275,000	300,000
1	0.00	0.01	0.01	0.01	0.01	0.02	0.03	0.06	0.12	0.15	0.18	0.21	0.24	0.26	0.29	0.37	0.44	0.51	0.59	0.66	0.74	0.81	0.88
2	0.01	0.01	0.02	0.02	0.03	0.04	0.06	0.12	0.24	0.29	0.35	0.41	0.47	0.53	0.59	0.74	0.88	1.03	1.18	1.32	1.47	1.62	1.76
3	0.01	0.02	0.03	0.04	0.04	0.07	0.09	0.18	0.35	0.44	0.53	0.62	0.71	0.79	0.88	1.10	1.32	1.54	1.76	1.99	2.21	2.43	2.65
4	0.01	0.02	0.04	0.05	0.06	0.09	0.12	0.24	0.47	0.59	0.71	0.82	0.94	1.06	1.18	1.47	1.76	2.06	2.35	2.65	2.94	3.24	3.53
5	0.01	0.03	0.04	0.06	0.07	0.11	0.15	0.29	0.59	0.74	0.88	1.03	1.18	1.32	1.47	1.84	2.21	2.57	2.94	3.31	3.68	4.04	4.41
6	0.02	0.04	0.05	0.07	0.09	0.13	0.18	0.35	0.71	0.88	1.06	1.24	1.41	1.59	1.76	2.21	2.65	3.09	3.53	3.97	4.41	4.85	5.29
8	0.02	0.05	0.07	0.09	0.12	0.18	0.24	0.47	0.94	1.18	1.41	1.65	1.88	2.12	2.35	2.94	3.53	4.12	4.71	5.29	5.88	6.47	7.06
10	0.03	0.06	0.09	0.12	0.15	0.22	0.29	0.59	1.18	1.47	1.76	2.06	2.35	2.65	2.94	3.68	4.41	5.15	5.88	6.62	7.35	8.09	8.82
15	0.04	0.09	0.13	0.18	0.22	0.33	0.44	0.88	1.76	2.21	2.65	3.09	3.53	3.97	4.41	5.51	6.62	7.72	8.82	9.93	11.03	12.13	13.24
20	0.06	0.12	0.18	0.24	0.29	0.44	0.59	1.18	2.35	2.94	3.53	4.12	4.71	5.29	5.88	7.35	8.82	10.29	11.76	13.24	14.71	16.18	17.65
25	0.07	0.15	0.22	0.29	0.37	0.55	0.74	1.47	2.94	3.68	4.41	5.15	5.88	6.62	7.35	9.19	11.03	12.87	14.71	16.54	18.38	20.22	22.06
30	0.09	0.18	0.26	0.35	0.44	0.66	0.88	1.76	3.53	4.41	5.29	6.18	7.06	7.94	8.82	11.03	13.24	15.44	17.65	19.85	22.06	24.26	26.47
35	0.10	0.21	0.31	0.41	0.51	0.77	1.03	2.06	4.12	5.15	6.18	7.21	8.24	9.26	10.29	12.87	15.44	18.01	20.59	23.16	25.74	28.31	30.88
40	0.12	0.24	0.35	0.47	0.59	0.88	1.18	2.35	4.71	5.88	7.06	8.24	9.41	10.59	11.76	14.71	17.65	20.59	23.53	26.47	29.41	32.35	35.29
45	0.13	0.26	0.40	0.53	0.66	0.99	1.32	2.65	5.29	6.62	7.94	9.26	10.59	11.91	13.24	16.54	19.85	23.16	26.47	29.78	33.09	36.40	39.71
50	0.15	0.29	0.44	0.59	0.74	1.10	1.47	2.94	5.88	7.35	8.82	10.29	11.76	13.24	14.71	18.38	22.06	25.74	29.41	33.09	36.76	40.44	44.12
60	0.18	0.35	0.53	0.71	0.88	1.32	1.76	3.53	7.06	8.82	10.59	12.35	14.12	15.88	17.65	22.06	26.47	30.88	35.29	39.71	44.12	48.53	52.94
70	0.21	0.41	0.62	0.82	1.03	1.54	2.06	4.12	8.24	10.29	12.35	14.41	16.47	18.53	20.59	25.74	30.88	36.03	41.18	46.32	51.47	56.62	61.76
80	0.24	0.47	0.71	0.94	1.18	1.76	2.35	4.71	9.41	11.76	14.12	16.47	18.82	21.18	23.53	29.41	35.29	41.18	47.06	52.94	58.82	64.71	70.59
90	0.26	0.53	0.79	1.06	1.32	1.99	2.65	5.29	10.59	13.24	15.88	18.53	21.18	23.82	26.47	33.09	39.71	46.32	52.94	59.56	66.18	72.79	79.41
100	0.29	0.59	0.88	1.18	1.47	2.21	2.94	5.88	11.76	14.71	17.65	20.59	23.53	26.47	29.41	36.76	44.12	51.47	58.82	66.18	73.53	80.88	88.24
150	0.44	0.88	1.32	1.76	2.21	3.31	4.41	8.82	17.65	22.06	26.47	30.88	35.29	39.71	44.12	55.15	66.18	77.21	88.24	99.26	110.29	121.32	132.35
200	0.59	1.18	1.76	2.35	2.94	4.41	5.88	11.76	23.53	29.41	35.29	41.18	47.06	52.94	58.82	73.53	88.24	102.94	117.65	132.35	147.06	161.76	176.47
250	0.74	1.47	2.21	2.94	3.68	5.51	7.35	14.71	29.41	36.76	44.12	51.47	58.82	66.18	73.53	91.91	110.29	128.68	147.06	165.44	183.82	202.21	220.59
300	0.88	1.76	2.65	3.53	4.41	6.62	8.82	17.65	35.29	44.12	52.94	61.76	70.59	79.41	88.24	110.29	132.35	154.41	176.47	198.53	220.59	242.65	264.71
400	1.18	2.35	3.53	4.71	5.88	8.82	11.76	23.53	47.06	58.82	70.59	82.35	94.12	105.88	117.65	147.06	176.47	205.88	235.29	264.71	294.12	323.53	352.94
500	1.47	2.94	4.41	5.88	7.35	11.03	14.71	29.41	58.82	73.53	88.24	102.94	117.65	132.35	147.06	183.82	220.59	257.35	294.12	330.88	367.65	404.41	441.18
750	2.21	4.41	6.62	8.82	11.03	16.54	22.06	44.12	88.24	110.29	132.35	154.41	176.47	198.53	220.59	275.74	330.88	386.03	441.18	496.32	551.47	606.62	661.76
1000	2.94	5.88	8.82	11.76	14.71	22.06	29.41	58.82	117.65	147.06	176.47	205.88	235.29	264.71	294.12	367.65	441.18	514.71	588.24	661.76	735.29	808.82	882.35

WATER TREATMENT SYSTEM - Tables

Water Treatment Product Usage Chart-100% Product

	Gallons of Water																					
PPM	1,000	2,000	3,000	4,000	5,000	7,500	10,000	20,000	40,000	50,000	60,000	70,000	80,000	90,000	100,000	125,000	150,000	175,000	200,000	225,000	250,000	275,000	300,000
1	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.13	0.15	0.18	0.20	0.23	0.25	0.28	0.30
2	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.04	0.08	0.10	0.12	0.14	0.16	0.18	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60
3	0.00	0.01	0.01	0.01	0.02	0.02	0.03	0.06	0.12	0.15	0.18	0.21	0.24	0.27	0.30	0.38	0.45	0.53	0.60	0.68	0.75	0.83	0.90
4	0.00	0.01	0.01	0.02	0.02	0.03	0.04	0.08	0.16	0.20	0.24	0.28	0.32	0.36	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20
5	0.01	0.01	0.02	0.02	0.03	0.04	0.05	0.10	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.63	0.75	0.88	1.00	1.13	1.25	1.38	1.50
6	0.01	0.01	0.02	0.02	0.03	0.05	0.06	0.12	0.24	0.30	0.36	0.42	0.48	0.54	0.60	0.75	0.90	1.05	1.20	1.35	1.50	1.65	1.80
8	0.01	0.02	0.02	0.03	0.04	0.06	0.08	0.16	0.32	0.40	0.48	0.56	0.64	0.72	0.80	1.00	1.20	1.40	1.60	1.80	2.00	2.20	2.40
10	0.01	0.02	0.03	0.04	0.05	0.08	0.10	0.20	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
15	0.02	0.03	0.05	0.06	0.08	0.11	0.15	0.30	0.60	0.75	0.90	1.05	1.20	1.35	1.50	1.88	2.25	2.63	3.00	3.38	3.75	4.13	4.50
20	0.02	0.04	0.06	0.08	0.10	0.15	0.20	0.40	0.80	1.00	1.20	1.40	1.60	1.80	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00
25	0.03	0.05	0.08	0.10	0.13	0.19	0.25	0.50	1.00	1.25	1.50	1.75	2.00	2.25	2.50	3.13	3.75	4.38	5.00	5.63	6.25	6.88	7.50
30	0.03	0.06	0.09	0.12	0.15	0.23	0.30	0.60	1.20	1.50	1.80	2.10	2.40	2.70	3.00	3.75	4.50	5.25	6.00	6.75	7.50	8.25	9.00
35	0.04	0.07	0.11	0.14	0.18	0.26	0.35	0.70	1.40	1.75	2.10	2.45	2.80	3.15	3.50	4.38	5.25	6.12	7.00	7.88	8.75	9.63	10.50
40	0.04	0.08	0.12	0.16	0.20	0.30	0.40	0.80	1.60	2.00	2.40	2.80	3.20	3.60	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00
45	0.05	0.09	0.14	0.18	0.23	0.34	0.45	0.90	1.80	2.25	2.70	3.15	3.60	4.05	4.50	5.63	6.75	7.88	9.00	10.13	11.25	12.38	13.50
50	0.05	0.10	0.15	0.20	0.25	0.38	0.50	1.00	2.00	2.50	3.00	3.50	4.00	4.50	5.00	6.25	7.50	8.75	10.00	11.25	12.50	13.75	15.00
60	0.06	0.12	0.18	0.24	0.30	0.45	0.60	1.20	2.40	3.00	3.60	4.20	4.80	5.40	6.00	7.50	9.00	10.50	12.00	13.50	15.00	16.50	18.00
70	0.07	0.14	0.21	0.28	0.35	0.53	0.70	1.40	2.80	3.50	4.20	4.90	5.60	6.30	7.00	8.75	10.50	12.25	14.00	15.75	17.50	19.25	21.00
80	0.08	0.16	0.24	0.32	0.40	0.60	0.80	1.60	3.20	4.00	4.80	5.60	6.40	7.20	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00	24.00
90	0.09	0.18	0.27	0.36	0.45	0.68	0.90	1.80	3.60	4.50	5.40	6.30	7.20	8.10	9.00	11.25	13.50	15.75	18.00	20.25	22.50	24.75	27.00
100	0.10	0.20	0.30	0.40	0.50	0.75	1.00	2.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	12.50	15.00	17.50	20.00	22.50	25.00	27.50	30.00
150	0.15	0.30	0.45	0.60	0.75	1.13	1.50	3.00	6.00	7.50	9.00	10.50	12.00	13.50	15.00	18.75	22.50	26.25	30.00	33.75	37.50	41.25	45.00
200	0.20	0.40	0.60	0.80	1.00	1.50	2.00	4.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00	55.00	60.00
250	0.25	0.50	0.75	1.00	1.25	1.88	2.50	5.00	10.00	12.50	15.00	17.50	20.00	22.50	25.00	31.25	37.50	43.75	50.00	56.25	62.50	68.75	75.00
300	0.30	0.60	0.90	1.20	1.50	2.25	3.00	6.00	12.00	15.00	18.00	21.00	24.00	27.00	30.00	37.50	45.00	52.50	60.00	67.50	75.00	82.50	90.00
400	0.40	0.80	1.20	1.60	2.00	3.00	4.00	8.00	16.00	20.00	24.00	28.00	32.00	36.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00	110.00	120.00
500	0.50	1.00	1.50	2.00	2.50	3.75	5.00	10.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00	62.50	75.00	87.50	100.00	112.50	125.00	137.50	150.00
750	0.75	1.50	2.25	3.00	3.75	5.63	7.50	15.00	30.00	37.50	45.00	52.50	60.00	67.50	75.00	93.75	112.50	131.25	150.00	168.75	187.50	206.25	225.00
1000	1.00	2.00	3.00	4.00	5.00	7.50	10.00	20.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00	125.00	150.00	175.00	200.00	225.00	250.00	275.00	300.00

WATER TREATMENT SYSTEM - Tables

Turbine Meter Minimum and Maximum Flow Rates				
Gallons per Minute				
	3/4IN	1IN	1-1/2IN	2IN
Minimum	0.22	0.44	0.88	1.98
Maximum	22	52	88	1.32

Paddle Wheel Meter Minimum and Maximum Flow Rates				
Gallons per Minute				
	1-1/2IN	2IN	3IN	4IN
Minimum	1.9	3.1	6.9	12
Maximum	190	314	691	1190

WATER TREATMENT SYSTEM

Catalog

Pumps (120V AC)	Part Number
80PSI	
4.5gpd	VD31896
16gpd	VD31895
30gpd	VD32341
40gpd	VD25912
for 50gpd, 60gpd, 85gpd - use multiple pumps	
25PSI	
4.5gpd	VD31896
16gpd	VD31895
30gpd	VD32341
40gpd	VD25912
50gpd	VD32219
60gpd	VD32220
85gpd	VD32221

Meters	Part Number
Hot Water	
3/4in turbine	VD27156
Cold Water	
3/4in turbine	VD27156
1in turbine	VD27153
1-1/2in turbine	VD27154
2in turbine	VD27155
1-1/2in paddle-wheel with tee assembly	VD27014 & VD27019
2in paddle-wheel with tee assembly	VD27014 & VD27020
3in paddle-wheel with PVC socket tee	VD27014 & VD27021
4in paddle-wheel with PVC socket tee	VD27015 & VD27022

Controls	Part Number
Safewater TL Model 2Meter 4Pump	VD30682
Safewater TL Model 3Meter 6Pump	VD30684
Safewater Econ Model 1Meter 2Pumo	VD30680
Smart Pump	VD31895 or VD31896

Common pumps, meters and control configurations are listed, but please ask about other options.

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WATER TREATMENT SYSTEM

Order Guide Worksheet

Complete the questions below to help identify your water treatment needs.

What is your estimated peak water flow rate? _____

What is your current pipe size and material where the meter will go?

Current Pipe Size _____

Current Pipe Material _____

What is the concentration of the product(s) you want to inject? _____

What is the maximum dosage(s) you expect to inject in parts per million (PPM)?_____

How many separate water sources do you want to treat?_____

Do you want to collect water usage data? _____

Lyntech

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