FURROW PUMP

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pH System Design Information

Before you can put together a pH treatment system, you'll need to understand thoroughly just what you are dealing with. The basic information includes a host of details, but the nature of your water and your working environment are primary considerations.

By the nature of your water, I simply mean everything you can learn about it. For example, how much flow do you have to treat (minimum, maximum, hours per day, temperature…)? – in short, all the physical details you can discover. If you have an existing collection and/or treatment system, what is it (line sizes, lengths, termination points, tank placement and volume, tank inlets and outlets, existing pumps and controls…)? And, by the way, what about the nature of your water's chemistry? Depending upon your treatment goals, can you do your own jar testing (Jar Testing Made Easy), or do you need to send a sample of your water to a testing laboratory? Before laying out a treatment scheme, it would be good to know if the water has suspended solids, sulfur, heavy metals, organic material including protein or oil, or pH buffering chemicals. Now, after all of the above, what is your pH? Also, to design an effective pH treatment system, it's valuable to decide just what chemical you'd like to use to neutralize your water (Choosing A Chemical). The best bet to clarify this is for you or a third party to do the jar testing mentioned previously. You can do this with the chemical you plan to use, or one of our suggested jar test chemicals, and then refer if necessary to Relative pH Solution Strength to help select the right size pump. Knowing the chemical you are using, your pH treatment target, and the pump output, will help you when designing your system mixing and tank reaction/retention time.

The environment you are working in is another important consideration. And I don't mean just the physical questions already covered. Equally important is the circumstance calling for this treatment in the first place. Are you treating this water because you're trying to make the world around you a better place? Or is there maybe some pressure to do the treatment from an environmental authority? Among other things, it can make a difference in the forgiveness you are given for excursions outside of your pH discharge range. We have a few customers who have used up their goodwill, and get no slack at all. They have had to build fail-safe treatment systems (zero tolerance, recorders required), and get fined for any out-of-range discharge. Customers who act before they get threatened frequently get cooperation from the authorities, and some forgiveness for errors, since they know they care and are trying.