

**Approved List of Propeller Flow Meters  
Lower Platte North Natural Resources District (LPNNRD)  
Effective: October 5, 2017**



**Approved List of Propeller Flow Meters and Required Conditions**

**LPNNRD requirements for all propeller flow meters:**

- Anti-reverse flow feature to prevent backflow.
- Follow manufactures installation recommendations taking into account in-pipe jetting or non-jetting flow conditions. (Correct installation of the flow meter is critical to getting an accurate reading. Most meters require a straight pipe before and after the flow meter that is at least equivalent to five times the pipe diameter in order to obtain an accurate flow measurement. Doing the installation correctly the first time saves money in the long run).
- Straightening vanes are required according to manufacturer’s installation recommendations for in-pipe jetting or non-jetting flow conditions.
- Meter must be positioned to ensure water totally fills the pipe, such as a level pipe or positioned on a riser.
- Meter must be configured: to inside and outside diameter of the pipe, material of the pipe, meter used that will operate within minimum and maximum output flow rates of the well, horizontal or vertical installations, and unobstructed straight run distance upstream and downstream of meter and in most cases straightening vanes (or other flow straightener) will be necessary.
- Meter totalizes flow in acre inches and flow meter dial is in gallons per minute.
- A flow meter must be dedicated to each individual well. (Exceptions will be made if several wells are used to provide enough water to operate a single irrigation system such as a pivot or gated pipe. In these situations a flow meter placed at the central location where all water can be metered is acceptable).

<b>Manufacturer</b>	<b>Model</b>	<b>Notes</b>
McCrometer	McPropeller	All propeller models
Sparling	Propeller saddle meter	Model 312 propeller meter
ARAD Group	Saddle Water meter	Meter for irrigation applications
Geyser	Saddle meter	All propeller models for Farmland Irrigation
Senninger	Ag Rotor meter	Propeller model

**LPNNRD prefers the following added features for all propeller flow meters:**

- Over-run bearing (or extra bearing) for smother operation and to extend life of the meter
- Canopy cover to protect meter

LPNNRD will inspect systems for proper installation of flow meters.



**Approved List of Magnetic Flow Meters**  
**Lower Platte North Natural Resources District (LPNNRD)**  
**Effective: October 5, 2017**

**Approved List of Magnetic Flow Meters and Required Conditions**

**LPNNRD requirements for all magnetic flow meters:**

- Anti-reverse flow feature to prevent backflow measurements.
- Only can be located where water discoloration is not an issue.
- Follow manufactures installation recommendations taking into account in-pipe jetting or non-jetting flow conditions. (Correct installation of the flow meter is critical to getting an accurate reading. Most meters require a straight pipe before and after the flow meter that is at least equivalent to five times the pipe diameter in order to obtain an accurate flow measurement. Doing the installation correctly the first time saves money in the long run).
- Straightening vanes are required according to manufacturer’s installation recommendations for in-pipe jetting or non-jetting flow conditions.
- Meter must be positioned to ensure water totally fills the pipe, such as a level pipe or positioned on a riser. Magnetic meters are sensitive to air bubbles and sediment so many of these should be installed at a 45 degree angle on the pipe to avoid air bubbles or sediment from directly hitting the sensors. Follow recommendations of the manufacturer.
- Meter must be configured: to inside and outside diameter of the pipe, material of the pipe, meter used that will operate within minimum and maximum output flow rates of the well, horizontal or vertical installations, and unobstructed straight run distance upstream and downstream of meter and in many cases straightening vanes (or other flow straightener) may be necessary.
- Meter totalizes flow in acre inches.
- A flow meter must be dedicated to each individual well. (Exceptions will be made if several wells are used to provide enough water to operate a single irrigation system such as a pivot or gated pipe. In these situations a flow meter placed at the central location where all water can be metered is acceptable).
- Chemigation also affects proper location of magnetic flow meters. These flow meters should be installed upstream of the chemigation injection point or far enough downstream that complete mixing occurs before the chemigation solution reaches the meter. In some cases this maybe at least 10 pipe diameters downstream of the injection point. Again follow manufacture’s recommendations.
- Magnetic meters have minimum fluid conductivity restrictions so make sure the meter is within the conductivity tolerances of the water being measured (fresh water vs brackish water).
- Battery life should be at least 3 years with a backup that will store the latest information if the main battery should fail.

<b>Manufacturer</b>	<b>Model</b>	<b>Notes</b>
McCrometer	Mc Mag 3000	
McCrometer	Dura Mag	
Lindsay	Growsmart IM3000	All IM3000 models
Senninger	Magmeter 2551	
Seametrics	Magmeter AG2000	
Sparling	Bluewater FM676	

LPNNRD will inspect systems for proper installation of flow meters.