Kansas Department of Agriculture
Division of Water Resources
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CERTIFIED WATER FLOWMETERS

(Implementing Kansas Administrative Regulation 5-1-12)

January 31, 2019

State of Kansas

The following water flowmeters have been certified by their manufacturers to be in compliance with the Kansas specifications for water flowmeters as defined in Kansas Administrative Regulation (K.A.R.) 5-1-4. These flowmeters are acceptable for use where the Chief Engineer has required a water flowmeter pursuant to K.A.R. 5-1-7. In addition, if the Chief Engineer has required a water flowmeter, the flowmeter must be installed to conform with specifications in K.A.R. 5-1-6 and maintained in compliance (see K.A.R. 5-1-8 and 5-1-9).

Note: Certification of a water flowmeter model does not indicate endorsement by the Chief Engineer, the Division of Water Resources, or the Department of Agriculture.

Badger Meter, Inc.		
Model Number	Type and Size	DWR Requirements
160	Turbine 1½”	
200	Turbine 2"	
450	Turbine 3"	
1000	Turbine 4"	
2000	Turbine 6"	
3500	Turbine 8"	
5500	Turbine 10"	
6200	Turbine 12"	
6600	Turbine 16"	
10000	Turbine 20"	
M1000	Electromagnectic (1/4" through 8")	Meters will be shipped with a seal in place with only an administrative level password which the user will not have access to; no user or service level password. If additional setup needed, a Badger sales representative will perform and then lock with administrative password and attach seal screw kit (lead seal with wire seal). Seal kit will be easily identified as a Badger Meter product. Administrative password will be retained only by Badger Meter and will in no case be revealed to the user.
M2000	Electromagnectic (1/4" through 54")	Meters will be shipped with a seal in place with only an administrative level password which the user will not have access to; no user or service level password. If additional setup needed, a Badger sales representative will perform

		and then lock with administrative password and attach seal screw kit (lead seal with wire seal). Seal kit will be easily identified as a Badger Meter product. Administrative password will be retained only by Badger Meter and will in no case be revealed to the user.
M5000	Electromagnectic (1/2" through 24")	Meters will be shipped with a seal in place with only an administrative level password which the user will not have access to; no user or service level password. If additional setup needed, a Badger sales representative will perform and then lock with administrative password and attach seal screw kit (lead seal with wire seal). Seal kit will be easily identified as a Badger Meter product. Administrative password will be retained only by Badger Meter and will in no case be revealed to the user.
Recordall 170	Positive Displacement 2"	w/wire seal per drawing S-907

Bermad, Inc.		
Model Number	Type and Size	DWR Requirements
Euromag MUT2300 with MC406 converter	Full-bore Electromagnetic (2” through 12”)	Shipped with a wire passed tightly around the clamp and pipe stem on the meter sensor which holds the converter to the meter sensor body. The wire will be tight enough that there is insufficient slack to be able to remover the converter from the sensor body without cutting the wire. The wire will be secured with a seal which bears the Bermad name.
Euromag MUT1100J with MC406 converter	Full-bore Electromagnetic (1” through 6”)	Shipped with a wire passed tightly around the clamp and pipe stem on the meter sensor which holds the converter to the meter sensor body. The wire will be tight enough that there is insufficient slack to be able to remover the converter from the sensor body without cutting the wire. The wire will be secured with a seal which bears the Bermad name.
Euromag MUT2200EL with MC406 converter	Full-bore Electromagnetic (1/2” through 80”)	Shipped with a wire passed tightly around the clamp and pipe stem on the meter sensor which holds the converter to the meter sensor body. The wire will be tight enough that there is insufficient slack to be able to remover the converter from the sensor body without cutting the wire. The wire will be secured with a seal which bears the Bermad name.

Carlon Meter, Inc.		
Model Number	Type and Size	DWR Requirements
Carlon Cold Water Turbine	Turbine 2” to 8”	Register must be sealed to one of the bolts on top of the meter with a wire and lead seal.

Elster\AMCO\ABB\Kent Water Metering Systems		
Model Number	Type and Size	DWR Requirements
Watermaster FEV111, FEV121, FEV181, FEV191	Full-Bore Electromagnetic 1½” to 12”	Read only MID switch set to “on”
Watermaster FEW321	Full Bore Electromagnetic 1 1/2" to 96"	Read Only MID switchset to "ON" by vendor. Converter/register equipped with two tabs with holes for seal wire. Replaces FEF and FEV models
Watermaster FEW325	Full Bore Electromagnetic 1 1/2" to 96"	Read Only MID switchset to "ON" by vendor. Converter/register equipped with two tabs with holes for seal wire. Replaces FEF and FEV models
Watermaster FEF121, FEF181	Full-Bore Electromagnetic 10” to 84”	Read only MID switch set to “on”
SM700	Fluidic Oscillator 5/8” to 1”	Meter does not require straightening vanes and there are no upstream/downstream spacing requirements
T-3000	Turbine 1½” to 8"	
T-4000	Turbine 1½” to 12”	
TS-4000	Turbine 1½” to 12”	
H-3000	Turbine 3"	
HT-4000	Turbine 3”	
C-3000	Compound 2", 3", 6", 8"	
C-4000	Compound 2” to 4”	
C-700	Positive displacement 5/8" to 2"	
M-700	Multijet 5/8” to 2”	
MFE w/MRE4 register	Full Bore Electromagnetic ½” to 24"	vendor provided cover bolt w/ hole
MFF w/MFE4 register	Full Bore Electromagnetic 28” to 84"	vendor provided cover bolt w/ hole
Aquamaster Electronic Water Meter	Full Bore Electromagnetic 5/8” to 24"	
evoQ4	Full Bore Electromagnetic 2” to 12”	

Emerson\Dieterich Standard\Rosemount		
Model Number	Type and Size	DWR Requirements
Probar, PBR+25S HAMSO MP4C0 2 A 1 A M T1 QD1	Differential Pressure Insertion tubes, 4” to 42"	Totalizer by M&D Controls, Flowtube w/ Straightening Vanes
Probar, PNF+10S HVMS0 FAS 2 A 1 A M T1 QD1	Differential Pressure Insertion tubes, ½” to 2"	Totalizer by M&D Controls, Flowtube w/ Straightening Vanes

ES Pro, PSR+26S MM4C0 2 2 MD4C0 QD1 QD2 QS1 T1	Differential Pressure Insertion tubes, 4 to 42"	Totalizer by M&D Controls, Flowtube w/ Straightening Vanes
8700 Series w/8712 remote register	Full Bore Electromagnetic .5" to 36"	equipped w/ Integral Tamperproof Kit, part# 08721-0547-0001
8700 Series w/8732 C integral register	Full Bore Electromagnetic .5" to 36"	T-1non-volatile config only and equipped w/ Integral Tamperproof Kit, part# 08721-0547-0001
8700 Series w/8732 E integral transmitter	Full Bore Electromagnetic .5" to 36"	Equipped w/ Integral Tamperproof Kit, part# 08721-0547-0001

Endress + Hauser, Inc.		
Model Number	Type and Size	DWR Requirements
Proline Promag 50W	Full Bore Electromagnetic 1" to 78"	
Proline Promag 50P	Full Bore Electromagnetic ½" to 24"	
Proline Promag 50H	Full Bore Electromagnetic 1/12" to 4"	
Promag 10W	Full Bore Electromagnetic 1" to 78"	*Custody mode
Promag 10P	Full Bore Electromagnetic ½" to 24"	*Custody mode
Promag 10H	Full Bore Electromagnetic 1/12" to 4"	*Custody mode
Promag 23W	Full Bore Electromagnetic 1" to 78"	*Custody mode
Promag 23P	Full Bore Electromagnetic ½" to 24"	*Custody mode
Promag 23H	Full Bore Electromagnetic 1/12" to 4"	*Custody mode
Promag 53W	Full Bore Electromagnetic 1" to 78"	*Custody mode
Promag 53P	Full Bore Electromagnetic ½" to 24"	*Custody mode
Promag 53H	Full Bore Electromagnetic 1/12" to 4"	*Custody mode
Promag D400	Full-bore Electromagnetic 1" to 4"	Write-protected by internal hardware switch, cross-drilled screws to secure transmitter.
Promag L400	Full-bore Electromagnetic 2" to 90"	Write-protected by internal hardware switch, cross-drilled screws to secure transmitter.
Promag W400	Full-bore Electromagnetic 1" to 78"	Write-protected by internal hardware switch, cross-drilled screws to secure transmitter.
Prosonic 92F	Ultrasonic (1" through 12")	Internal switch set to Write Protection On, transmitter housing secured with tamper-evident wire seal. The wire seals must have a tag that bears the name of the vendor and the date the seal was applied. Note: These are accepted under a waiver of the requirement for straightening vanes.
Prosonic 93C	Ultrasonic (12" through 80")	Internal jumper positioned to Write Protection On, optical buttons hidden by paint on the display cover, display cover secured with tamper-evident wire seal, transmitter housing secured with tamper-evident wire seal. The wire seals must have a tag that bears the name of the vendor and the date the seal was applied. Note: These are

		accepted under a waiver of the requirement for straightening vanes.
Prosonic 93W	Ultrasonic (1/2" through 160")	Internal jumper positioned to Write Protection On, optical buttons hidden by paint on the display cover, display cover secured with tamper-evident wire seal, transmitter housing secured with tamper-evident wire seal. Spacing of transducers must be clearly and indelibly indicated on the pipe and transducers must be secured such that it would be obvious if someone attempted to move them. The wire seals must have a tag that bears the name of the vendor and the date the seal was applied. Note: These are accepted under a waiver of the requirement for straightening vanes.
***Custody mode:** Internal jumpers placed to prevent totalizer reset. Cross-drilled screws to secure transmitters. Blanking plate inside transmitter cover to prevent access to buttons to reset totalizers.		

Hersey Meters		
Model Number	Type and Size	DWR Requirements
Horizon	Turbine 1½", 2", 3", 4", 6", 8", 10"	
MVR 30	Vertical turbine 3/4" x ½"	
MVR 30A	Vertical turbine 3/4"	
MVR 30B	Vertical turbine 3/4" x 1"	
MVR 50	Vertical turbine 1"	
MVR 100	Vertical turbine 1½"	
MVR 160	Vertical turbine 2"	
MVR 350	Vertical turbine 3"	
MVR 650	Vertical turbine 4"	
MVR 1300	Vertical turbine 6"	
430IIS	Positive Displacement (5/8")	
442IIS	Positive Displacement (3/4")	
452IIS	Positive Displacement (1")	
562IIS	Positive Displacement (1½")	
572IIS	Positive Displacement (2")	
HbMag	Full-bore electromagnetic	Internal register must be secured with drilled screws used on either side of the display so a seal wire can be used. Remote register must be secured with drilled screws used on either side of the display so a seal wire can be used and the display housing must be supplied with drilled screws so that a seal wire can be used to provide evidence of any attempt to unhook the cables.

420 Composite	Positive Displacement 5/8x1/2" and 5/8x3/4"	Register housing must be secured to the meter body by means of a seal wire through the register and around the meter spud.
420 Low lead bronze	Multi-jet 5/8x3/4 through 2"	Register housing must be secured to the meter body by means of a seal wire through the register and around the meter spud. Base plate must be secured to the meter body by at least two cross-drilled bolts through which a seal wire can be passed.

Invensys\Foxboro		
Model Number	Type and Size	DWR Requirements
9100A w/integral or remote mount IMT25 transmitter	Full Bore Electromagnetic 1" to 78"	(ECEP 14356 configuration, sealed by FoxBoro rep)
9200A w/integral or remote mount IMT25 transmitter	Full Bore Electromagnetic 1" to 78"	(ECEP 14356 configuration, sealed by FoxBoro rep)
9300A w/integral or remote mount IMT25 transmitter	Full Bore Electromagnetic 1" to 78"	(ECEP 14356 configuration, sealed by FoxBoro rep)

Kamstrup A/S		
Model Number	Type and Size	DWR Requirements
flowIQ 2100	Ultrasonic 5/8”x1/2”, 5/8”x3/4”, 3/4”	Register is integral to meter body in which tranducers and electronics are installed and is factory sealed and visually tamper-evident. Software for the register is not accessible to end users so changes to calibration or totalizers cannot be made. Battery cannot be replaced without raising a tamper flag and breaking the vacuum seal.
flowIQ 3101	Ultrasonic 1”, 1-1/2”, 2”	Register is integral to meter body in which tranducers and electronics are installed and is factory sealed and visually tamper-evident. Software for the register is not accessible to end users so changes to calibration or totalizers cannot be made. Battery cannot be replaced without raising a tamper flag and breaking the vacuum seal.

Krohne, Inc.		
Model Number	Type and Size	DWR Requirements
IFS 4000 KC (Environmag) w/IFC 010K signal converter	Full Bore Electromagnetic 1” to 12”	
Enviromag 2000/IFC 100 or IFC 300	Full Bore Electromagnetic 1/10” to 120”	Converter housing with 2 predrilled holes and passcode protected programing.
Optiflux 2000 with IFC100 and IFC300 Signal Converter	Full Bore Electromagnetic 1" to 120"	Converter configured with forward only option. CT Lock Jumper inside register head set so that even with a password user cannot alter totalizer or any calibration factors. Vender will seal register after installation and startup. Seal tag bearing vendors name and date seal was applied will be affixed.
Optiflux 4000 with IFC100 and IFC300 Signal Converter	Full Bore Electromagnetic 1" to 120"	Converter configured with forward only option. CT Lock Jumper inside register head set so that even with a password user cannot alter totalizer or any calibration factors. Vender will seal register after installation and startup. Seal tag bearing vendors name and date seal was applied will be affixed.
Waterflux 3070 with IFC070 Signal Converter	Full Bore Electromagnetic 1" to 24"	Converter configured with forward only option. CT Lock Jumper inside register head set so that even with a password user cannot alter totalizer or any calibration factors. Vender will seal register after installation and startup. Seal tag bearing vendors name and date seal was applied will be affixed.
Waterflux 3100 with IFC100 Signal Converter	Full Bore Electromagnetic 1" to 24"	Converter configured with forward only option. CT Lock Jumper inside register head set so that even with a password user cannot alter totalizer or any calibration factors. Vender will seal register after installation and startup. Seal tag bearing vendors name and date seal was applied will be affixed.
Waterflux 3300 with IFC300 Signal Converter	Full Bore Electromagnetic 1" to 24"	Converter configured with forward only option. CT Lock Jumper inside register head set so that even with a password user cannot alter totalizer or any calibration factors. Vender will seal register after installation and startup. Seal tag bearing vendors name and date seal was applied will be affixed.

Lindsay		
Model Number	Type and Size	DWR Requirements
Growsmart IM3000	Full Bore Electromagnetic 4”, 6”,8”,10”, 12”	Meter must be provided with two wires with seals installed on sides of the meter face plate.

Master Meter, Inc.		
Model Number (Beginning Catalog Numbers)	Type and Size (Body Markings)	DWR Requirements
MJ04 or B11	MM2, MM2FP or BL04	Multi-jet 5/8” x ½”
MJ05 or B12	MM3 or BL05	Multi-jet 5/8” x ¾”
MJ06 or B13	MM4 or BL06	Multi-jet ¾” to 7½” long
MJ07 or B14	BL07	Multi-jet ¾” to 9” long
MJ08 or B15	BL08	Multi-jet ¾” x 1”
MJ09 or B16	MM5, MM5FP or BL09	Multi-jet 1”
MJ10 or E25 or M25	MM6T or 1-1/2”	Multi-jet 1½” threaded end
MJ11 or E21 or M21	MM6F or 1-1/2”	Multi-jet 1½” flanged end
MJ12 or E24 or M24	MM7T OK	Multi-jet 2” threaded end
MJ13 or E23 or M23	MM7F OK	Multi-jet 2” flanged end
TM11 (No longer available)	1½” MMT (No longer available)	Turbine 1½” NA
TM13 or T31	2” MMT, 2” MMTII OK	Turbine 2”
TM14 or T32	3” MMT OK	Turbine 3”
TM15 or T33	4” MMT OK	Turbine 4”
TM16 or T34	6” MMT OK	Turbine 6”
TM17 or T35	8” MMT OK	Turbine 8”
Octave	Ultrasonic 2”, 3”, 4”, 6” and 8”	Cross-drilled flange bolts. Note: These are accepted under a waiver of the requirement for straightening vanes.
WST	Turbine 2” to 8”	

McCrometer		
Model Number	Type and Size	DWR Requirements
FC100	Electronic Register for listed propeller meters	Must be mounted directly on the meter sensor housing and such mounting must be equipped with cross-drilled screws so that a sealing wire secured with a lead seal bearing either a Great Plains Meters stamp or a McCrometer stamp can be installed. Internal reed switch needed for programming the FC100 must be internally disabled on the FC100 circuit board. Register enclosure must be equipped with cross-drilled screws so that a

		sealing wire secured with a lead seal bearing either a Great Plains Meters stamp or a McCrometer stamp can be installed. Only McCrometer, Inc., or Great Plains Meters will be allowed to calibrate, repair, or otherwise work on the FC100.
FC500, FC501	FlowConnect	Must be used with an approved McCrometer meter and be mounted directly on the meter sensor housing. The base plate must be equipped with a cross-drilled screw and tamper-evident wire seal. The register must be equipped with a cross-drilled screw and tamper-evident wire seal. If the FC100 digital register is used, the internal reed switch needed to program the FC100 must be internally disabled on the FC100 circuit board.
MF100	Propeller 2” to 12”	with straightening vanes insert
MG100	Propeller 3” to 24”	with straightening vanes insert
ML100	Propeller 6” to 12”	with straightening vanes insert
MS100	Propeller 3” to 24”	with straightening vanes insert
MT100	Propeller 3” to 4”	with straightening vanes insert
MO300 *(See GPM approved flowtube section)	Propeller 4” to 16”	mounted in flowtube with straightening vanes
MD300 *(See GPM approved flowtube section)	Propeller 4” to 16”	mounted in flowtube with straightening vanes
MW500	Propeller 2” to 24”	
MZ500	Propeller 2” to 24”	
QW500	Propeller 2” to 24”	
QZ500	Propeller 2” to 24”	
SW500	Propeller 4” to 36”	
SZ500	Propeller 4” to 36”	
MM800	Propeller 3” to 24”	
MW800	Propeller 3” to 24”	
MG900	Propeller 2” to 24”	
MT900	Propeller 2” to 24”	
MW900	Propeller 2” to 24”	
M1400	Propeller 18” to 36”	Mounted in flowtube with straightening vanes
V2150	Differential Pressure 4” to 18”	V2-KS-Spec
V2300	Differential Pressure 4” to 18”	V2-KS-Spec
Dura Mag	Full Bore Electromagnetic, 4" to 12"	Register must be equipped with a cross-drilled screw and tamper-evident wire seal

Metron-Farnier

Model Number	Type and Size	DWR Requirements
S30D	Single-jet 5/8"x3/4" and 3/4"	OER or innov8 registers. Innov8 register must be supplied as read-only. Registers must be secured to meter bodies by means of at least two cross-drilled screws or bolts. Flanged meter bodies must contain a hole or cross-drilled bolt and the flange must contain at least two cross-drilled bolts. Threaded end meter bodies must contain a hold or cross-drilled bolt and the couping must contain a hole through which a wire with a seal can be passed.
S50D	Single-jet 1"	OER or innov8 registers. Innov8 register must be supplied as read-only. Registers must be secured to meter bodies by means of at least two cross-drilled screws or bolts. Flanged meter bodies must contain a hole or cross-drilled bolt and the flange must contain at least two cross-drilled bolts. Threaded end meter bodies must contain a hold or cross-drilled bolt and the couping must contain a hole through which a wire with a seal can be passed.
S88D	Single-jet 1.5"	OER or innov8 registers. Innov8 register must be supplied as read-only. Registers must be secured to meter bodies by means of at least two cross-drilled screws or bolts. Flanged meter bodies must contain a hole or cross-drilled bolt and the flange must contain at least two cross-drilled bolts. Threaded end meter bodies must contain a hold or cross-drilled bolt and the couping must contain a hole through which a wire with a seal can be passed.
S130D	Single-jet 2"	OER or innov8 registers. Innov8 register must be supplied as read-only. Registers must be secured to meter bodies by means of at least two cross-drilled screws or bolts. Flanged meter bodies must contain a hole or cross-drilled bolt and the flange must contain at least two cross-drilled bolts. Threaded end meter bodies must contain a hold or cross-drilled bolt and the couping must contain a hole through which a wire with a seal can be passed.
S175D	Single-jet 3"	OER or innov8 registers. Innov8 register must be supplied as read-only. Registers must be secured to meter bodies by means of at least two cross-drilled screws or bolts. Flanged meter bodies must contain a hole or cross-drilled bolt and the flange must contain at

		least two cross-drilled bolts. Threaded end meter bodies must contain a hold or cross-drilled bolt and the couping must contain a hole through which a wire with a seal can be passed.
2800-D	Single-jet 6" and 8" (Enduro Meters)	OER or innov8 registers. Innov8 register must be supplied as read-only. Registers must be secured to meter bodies by means of at least two cross-drilled screws or bolts. Flanged meter bodies must contain a hole or cross-drilled bolt and the flange must contain at least two cross-drilled bolts. Threaded end meter bodies must contain a hold or cross-drilled bolt and the couping must contain a hole through which a wire with a seal can be passed.

Neptune Technology * E-Coder Absolute Encoder. Register is an acceptable register for these models.		
Model Number	Type and Size	DWR Requirements
T-10 *	Positive displacement 5/8” to 2”	
T-10 Double Check *	Positive displacement 5/8”	
HP Turbine *	Turbine 1½” to 20”	Install with optional strainer upstream and with minimum 2 special order SB44 bolts
HP Fire Service Turbine *	Turbine 3” to 10”	Install with optional strainer upstream and with minimum 2 special order SB44 bolts
TRU/FLO Compound *	Positive displacement/turbine 2” to 8”	Install with optional strainer upstream and with minimum 2 special order SB44 bolts

Netafim USA \ ARAD		
Model Number	Type and Size	DWR Requirements
WT	Turbine 2" to 12"	
WMR	Turbine 2"	
WST	Turbine 2" to 8"	Continuous acting air vent of proper size and type must be installed upstream of meter sensor.
Octave	Ultrasonic 2", 3",4",6",8",10" and 12"	Cross-drilled flange bolts. Note: These are accepted under a waiver of the requirement for straightening vanes. Air relief vent must be installed upstream of the meter.

RG3 Meter Company		
Model Number	Type and Size	DWR Requirements
PD15	Positive Displacement 1½”	Shipped with register sealed to meter body with wire passing through hole in register and hole in one of the bolts securing the top of the meter body to the lower meter body. A seal with a unique serial number will be placed on the wire.

SeaMetrics, Inc.		
Model Number	Type and Size	DWR Requirements
AG1000 w/built in register display	Full Bore Electromagnetic 4" to 12"	
AG1100 w/built in register display	Full Bore Electromagnetic 4" to 12"	
AG2000 w/built in register display	Full Bore Electromagnetic 4" to 12"	Must be properly grounded and installed turned 45 degrees according to manufacturer recommendations.
AG2100 w/built in register display	Full Bore Electromagnetic 4" to 12"	
AG3000	Full-bore Electromagnetic (4” through 12”)	Shipped pre-calibrated for the correct pipe size. Access to the converter will be secured with a wire passed through one of two holes in the converter housing and the wire will be secured with a Seametrics seal bearing a non-repeatable indentifying number..Meter must be properly grounded and installed turned 45 degrees according to manufacturer recommendations.
WMP104	Full Bore Electromagnetic 1” and 2”	With tamper-evident seal and cross-drilled screws to prevent register from being removed from sensor without evidence. Must have two C lithium batteries. Must be installed turned 45 degrees according to manufacturer recommendations.
MJT, MJR, MJE	Multi-jet, sizes 3/4", 1", 1-1/2", 2"	Tamper-evident seal and wire between calibration plug and meter body.
MJNT, MJNR, MJNE	Multi-jet, sizes 3/4", 1", 1-1/2", 2"	Tamper-evident seal and wire between calibration plug and meter body.

Sensus Metering\Invensys\Precision\Rockwell		
Model Number	Type and Size	DWR Requirements
101	Propeller 3" to 36"	
SRH compound	Compound turbine, piston 2" to 6"	
Series W	Turbo 1½” to 16"	
PMX	Multi-jet 5/8" to 2"	

PMM	Multi-jet 5/8" to 2"	
Magnum II Type-C	Turbine 2" to 12"	
Magnum II Type-S	Turbine 1½" to 8"	
Omni T^2	Turbine 1½", 2", 3", 4", 6", 8", 10"	
Omni C^2	Turbine 1½", 2", 3", 4", 6", 8", 10"	
Omni F^2	Turbine 1½", 2", 3", 4", 6", 8", 10"	
Omni R^2	Turbine 1½" and 2"	Must be equipped with sealing wires and lead seals which will seal the register to the top plate and the top plate to the meter body.
accuMag	Full Bore Electromagnetic 3", 4", 6", 8", 10", 12", 14", 16", 18", 20", 24"	Register capabilities locked and wire seal to prevent register from being opened without evidence.
SR	Displacement 5/8" to 2"	Drilled cap screws
SRII	Displacement 5/8" to 1"	Drilled cap screws
SR accuStream (SR-A)	Displacement 5/8" to 1"	Drilled cap screws
iPERL	Electromagnetic 5/8", 3/4" and 1"	

Siemens		
Model Number	Type and Size	DWR Requirements
MAG 3100 w/5000CT transmitter	Full Bore Electromagnetic ½" to 78"	Configured in the custody transfer cold water pattern approval (PTB OIML R49) and wire sealed
MAG 3100 w/6000CT transmitter	Full Bore Electromagnetic ½" to 78"	Configured in the custody transfer cold water pattern approval (PTB OIML R49) and wire sealed
MAG 5100 w/5000CT transmitter	Full Bore Electromagnetic 1" to 48"	Configured in the custody transfer cold water pattern approval (PTB OIML R49) and wire sealed
MAG 5100 w/6000CT transmitter	Full Bore Electromagnetic 1" to 48"	Configured in the custody transfer cold water pattern approval (PTB OIML R49) and wire sealed
MAG 8000	Full Bore Electromagnetic 1" to 24"	

Signet		
Model Number	Type and Size	DWR Requirements
4-3150-31-K, 4-3150-32-K, 4-3150-33-K Ag Rotor	Propeller 6" to 12"	The register cover must be sealed to the flowmeter body with a tamper-evident wire seal. The flowmeter head must be sealed to the internal housing with tamper-evident wire seal. The flowmeter must be provided with two cross-drilled flange bolts and a measuring chamber. The flowmeter must be calibrated to the measuring chamber at the factory. The measuring chamber shall have a label

		bearing the model and serial number, direction of flow and calibration factor. Any user-level passwords must be disabled. Factory level passwords shall not be provided to the user. The meter must be installed with both battery and a permanent power supply.

Sparling		
Model Number	Type and Size	DWR Requirements
FM 102 w/FT190, FT191 or FT193 totalizer	Propeller 4" to 14"	4" pipe size must have bolt in vanes in tube
FM 103 w/FT190, FT191 or FT193 totalizer	Propeller 4" to 14"	4" pipe size must have bolt in vanes in tube
FM 104 w/FT194 totalizer	Propeller 4" to 14"	4" pipe size must have bolt in vanes in tube
FM 182 w/FT190, FT191 or FT193 totalizer	Propeller 16" to 72"	
FM 183 w/FT190, FT191 or FT 193 totalizer	Propeller 16" to 30"	
FM 184 w/FT194 totalizer	Propeller 16" to 72"	
FM 312 w/FT190, FT191 or FT193 totalizer	Propeller 4" to 14"	4" pipe size must have bolt in vanes in tube measuring chambers from the companies on the Flow Tube Manufacturers list meeting Specification 07/02 are acceptable.
FM 314 w/FT194 totalizer	Propeller 4" to 14"	4" pipe size must have bolt in vanes in tube measuring chambers from the companies on the Flow Tube Manufacturers list meeting Specification 07/02 are acceptable.
FM 676 BlueWater	Full Bore Electromagnetic 3" to 14"	The front and rear covers must be sealed with a tamper-evident wire seal. Flowmeters must be properly grounded according to manufacturer recommendations. Must be installed with a minimum of two cross-drilled flange bolts.
Tigermag EP FM 626	Full Bore Electromagnetic 0.1" to 4"	EP models must be ordered with custom password
Tigermag EP FM 627	Full Bore Electromagnetic 1" to 4"	EP models must be ordered with custom password
Tigermag EP FM 656	Full Bore Electromagnetic 0.5" to 72"	EP models must be ordered with custom password
Tigermag EP FM 657	Full Bore Electromagnetic 6" to 48"	EP models must be ordered with custom password

Toshiba		
Model	Type and Size	DWR Requirements
GF630 Detector with LF620 Integral Converter	Full Bore Electromagnetic 0.5" through 24"	Converters must be password protected (password retained solely by vendor). Conveter housing secured with stainless steel screws with eyelets through which a wire seal can be placed.
GF632 Detector with LF622 Remote Converter	Full Bore Electromagnetic 0.5" through 24"	Converters must be password protected

		(password retained solely by vendor). Conveter housing secured with stainless steel screws with eyelets through which a wire seal can be placed.
LF654 Detector with LF620 Integral Converter	Full Bore Electromagnetic 0.5" through 18"	Converters must be password protected (password retained solely by vendor). Conveter housing secured with stainless steel screws with eyelets through which a wire seal can be placed.
LF654 Detector with LF622 Remote Converter	Full Bore Electromagnetic 0.5" through 18"	Converters must be password protected (password retained solely by vendor). Conveter housing secured with stainless steel screws with eyelets through which a wire seal can be placed.
LF664 Detector with LF622 Remote Converter	Full Bore Electromagnetic 20" through 78"	Converters must be password protected (password retained solely by vendor). Conveter housing secured with stainless steel screws with eyelets through which a wire seal can be placed.

Valmont Industries		
Model Number	Type and Size	DWR Requirements
Valley 3000	Full-bore Electromagnetic (4” through 12”)	Shipped pre-calibrated for the correct pipe size. Access to the converter will be secured with a wire passed through one of two holes in the converter housing and the wire will be secured with a Seametrics seal bearing a non-repeatable identifying number. Note: Same meter as Seametrics AG3000.

Water Specialties, Inc.		
Model Number	Type and Size	DWR Requirements
Digital Registers: Model numbers with a D at the end indicate that the meter is equipped with an FC100 digital register.	Electronic Register for Model Numbers with a D.	Must be mounted directly on the meter sensor housing and such mounting must be equipped with cross-drilled screws so that a sealing wire secured with a lead seal bearing either a McCrometer Great Plains stamp or a McCrometer stamp can be installed. Internal reed switch needed for programming the FC100 must be internally disabled on the FC100 circuit board. Register enclosure

		must be equipped with cross-drilled screws so that a sealing wire secured with a lead seal bearing either a McCrometer Great Plains stamp or a McCrometer stamp can be installed. Only McCrometer, Inc., or McCrometer Great Plains will be allowed to calibrate, repair, or otherwise work on the FC100.
LP-31 and LP-31-D	Propeller 4" to 20"	Flowtube & straightening vane insert
LP-32 and LP-32-D	Propeller 6" to 20"	Flowtube & straightening vane insert
LP-03	Propeller 4" to 16"	
LP-04 and LP-04-D	Propeller 4" to 16"	
LP-11	Propeller 4" to 12"	
LP-12 and LP-12-D	Propeller 4" to 16"	
ML-03	Propeller 3" to 48"	
ML-04 and ML-04-D	Propeller 3" to 48"	
ML-07	Propeller 3" to 48"	
ML-08 and ML-08-D	Propeller 3" to 48"	
ML-11	Propeller 3" to 48"	
ML-12 and ML-12-D	Propeller 3" to 48"	
VF-29	Propeller 4" to 20"	
VF-30 and VF-30-D	Propeller 4" to 20"	
UltraMag UM-06	Full Bore Electromagnetic 2" to 48"	
UltraMag UM-08	Full Bore Electromagnetic 2" to 20"	

Yokogawa Corp.		
Model Number	Type and Size	DWR Requirements
Digital Yewflo(DYxx)	Vortex 0.5" to 12"	with straightening vanes
Yewflo YF100, style E	Vortex 0.5" to 12"	with straightening vanes
Admag AE series	Full Bore Electromagnetic 0.1" to 16"	
Admag AM series	Full Bore Electromagnetic 0.1" to 8"	
Admag AXF w/integral or remote AXFA14 or AXF11 converter	Full Bore Electromagnetic 0.1 to 104"	Admag AXF & SE models must be tagged and password protected by vendor
Admag AXR	Full Bore Electromagnetic 1" through 8"	Converter must have pre-drilled holes in the front and back covers to allow for a seal wire. The wire seal must have a tag that bears the name of the contractor or vendor and the date the seal was applied. The converter must also be set up with both a hardware and software lock so that neither the set up parameters nor totalizer may be altered by the water user. These locks are to be

		applied at the factory.
Admag AXW w/integral or remote AXFA14 or AXFA11 converter	Full Bore Electromagnetic 20" to 72"	Admag AXW models must be tagged and password protected by vendor
Admag SE w/SE14 converter	Full Bore Electromagnetic 0.5" to 104"	Admag AXF & SE models must be tagged and password protected by vendor

Zenner Performance 2		
Model Number	Type and Size	DWR Requirements
PMT or ZTM	Turbine 2" through 8"	Large mounting plate bolt cross-drilled and one of the small register retaining ring Allen Head screws cross-drilled. External measuring chamber calibration adjustment screw will have tamper wire and seal. Flange mounting hardware will have at least two bolts per flange cross-drilled.
Nitro II	Positive Displacement 5/8x3/4 through 2"	At least two bottom plate bolts cross-drilled and a standard Allen Head screw with cross-drilled head through which to run a wire to the register shroud. Oval flanges (1-1/2" and 2") will be supplied with four mounting bolts cross-drilled. Threaded couplings (5/8, 3/4 and 1") will have at least one tamper wire hole in the coupling nut through which to run a wire to one of the cross-drilled bottom plate bolts.
Nitro	Multi-jet 5/8x3/4 through 2"	At least two bottom plate bolts cross-drilled and a standard Allen Head screw with cross-drilled head through which to run a wire to the register shroud. Oval flanges (1-1/2" and 2") will be supplied with four mounting bolts cross-drilled. Threaded couplings (5/8, 3/4 and 1") will have at least one tamper wire hole in the coupling nut through which to run a wire to one of the cross-drilled bottom plate bolts.

FLOW TUBE MANUFACTURERS

Manufacturers approved by Great Plains Meter, Inc. (GPM) to construct **aluminum and steel** flow tubes (Measuring Chamber), conforming to GPM Specification 07/02. The following tubes have been approved for **use with McCrometer MD300 and MO300 saddle type propeller meters**. The inside diameter of the tube must match the inside diameter that the propeller meter was calibrated to. A properly located straightening vane insert is a required component of the final meter/tube assembly. The flow tube will be labeled with an identification tag indicating the manufacturer's name, direction of flow and that the tube has been constructed to meet GPM specification 07/02.

Manufacturing Company	**Location**
T-L Irrigation	Hastings, NE
Republican Valley Irrigation	Clay Center KS
Ace Irrigation and Manufacturing	Kearney, NE
GLB Meters	Hugoton, KS
Central Valley Irrigation, Inc	Holdrege, NE
Vitus Service Center	Hoxie, KS
Western Irrigation, Inc.	Garden City, KS
Schumacher Irrigation, Inc.	Platte Center, NE
Riggs Irrigation, LLC	Sumner, KS
Farm Land Irrigation	Grand Island, NE
The Garden City Company	Garden City, KS (steel tubes only)
ABC Welding and Fabrication	Aurora, NE
Gus Irrigation and Excavation	Garden City, KS
Holdrege Irrigation	Holdrege, NE (steel tubes only)
Gaylord Irrigation	Gaylord, KS
Sargent Irrigation	Grant, NE (galvanized steel tubes only)

Manufacturers approved by Great Plains Meter, Inc. (GPM) to construct **PVC** flow tubes (Measuring Chamber), conforming to GPM Specification 07/02. The following tubes have been approved for **use with McCrometer MD300 and MO300 saddle type propeller meters only in situations where the water being metered would corrode a metal flow tube**. The inside diameter of the tube must match the inside diameter that the propeller meter was calibrated to. A properly located bolt-on straightening vane is a required component of the final meter/tube assembly. The flow tube will be labeled with an identification tag indicating the manufacturer's name, direction of flow and that the tube has been constructed to meet GPM specification 07/02.

Manufacturing Company	**Location**
Teeter Irrigation	Garden City, KS
Western Irrigation, Inc.	Garden City, KS

Pivot Riser Manufacturers

Manufacturers listed below have met Great Plains Meter, Inc. standards of quality and consistency for the construction of pivot risers. The pivot risers they manufacturer are considered acceptable for use as a GPM approved water flowmeter measurement chamber.

A **standard decal** issued by GPM must be **visibly located and permanently attached** to the pivot riser. The decal shall identify the installed vertical meter's **model and serial number**, the **outside and inside diameter** of the riser pipe, and the **pivot riser manufacturer**.

Only **bolt in style straightening vanes** are acceptable for use in these pivot riser installations and must be installed within five pipe diameters upstream of the water flowmeter sensor.

Pivot Riser Manufacturing Company
Valmont Industries
Lindsay Manufacturing
Reinke Manufacturing
Pierce Corporation
Universal Irrigation
T-L Irrigation
Olsen Irrigation

MCCROMETER APPROVED FLOW TUBE MANUFACTURERS
Manufacturers of flow tubes approved by McCrometer Inc.

Manufacturing Company	Location	Date Approved
Reinke Manufacturing	Deshler, NE	8/25/2017