

Electromagnetic Flow Meters

Chemical Compatibility Chart

Table Key:

A = Recommended
B = Use with caution
X = Not recommended
Blank = No data available

	Hard/Soft Rubber	PTFE	Halar	316 Stainless Steel	Hastelloy C	Gold/Platinum Plated	Tantalum	Platinum/Rhodium
	Liners			Electrode Materials				
Acetaldehyde	X	A		A	A	A	A	A
Acetic acid (70% max)	X	A		A	A	A	A	A
Alumina slurry		X	A	X	A	X	A	A
Aluminium bicarbonate (50% max)		A				A	A	
Aluminium chloride (20% max)	B	A	A	B	A	A	A	
Aluminium fluoride	X	A	A	X	X	A	X	
Aluminium nitrate	B	A		X	X		X	A
Aluminium potassium sulfate	B	A	A		B	A	A	
Aluminium sulfate (50% max)	X	A	A	B	A	A	A	
Ammonium bicarbonate (50% max)	X	A				A	A	A
Ammonium bifluoride (50% max)	X	A	A	X	B	A	X	
Ammonium carbamate (50% max)	X	A			B			
Ammonium carbonate (50% max)	X	A	A		B	A	A	
Ammonium chloride (25% max)	A	A	A	B	B	A	A	A
Ammonium fluoride (10% max)	X	A	A	X		A	X	A
Ammonium hydroxide (30% max)	A	A	A	B	B	A	X	A
Ammonium nitrate	B	A	A	B	B	A	A	
Ammonium persulfate	X	A	A	X	X	A	A	
Ammonium phosphate	X	A	A	X		A	A	
Ammonium sulfate	B	A	A	X	A	A	A	
Aqua regia	X	A	A	X	X		A	A
Arsenic acid	B	A	A	X	X		A	A
Barium chloride (30% max)	A	A	A		B	A	A	
Barium hydroxide (50% max)	A	A	A	A	B	A	A	A
Barium sulfate		A	A	X	X	A	A	A
Beer		A	A	A	A	A	A	
Black liquor	X	A	A	A	B	A	X	
Boric acid (50%)	A	A	A	A	A	A	A	
Brine	A	A	A	A	A	A	A	
Cadmium chloride	B			X	X		A	B
Calcium bisulfite	A	A	X	A	X	A	A	
Calcium carbonate	A	A	A	A	B	A	A	
Calcium chlorate (30% max)	A	A	A	B	B	A	B	
Calcium chloride (50% max)	A	A	A	B	A	A	A	A
Calcium hydroxide (50% max)	B	A	A	B	A		A	
Calcium hypochlorite	B	A	A	B	X	A	A	
Calcium nitrate (10% max)	B	A	A	B	B	A	A	
Calcium sulfate (10% max)	B	A	A	A		A	A	
Carbonic acid (60% max)	B	A	A	A	X	A	A	
Caustic soda (50% max)	X	A	A	A	B	A	X	A
Chlorine dioxide (15% max)	X	A		B			A	
Chlorine water (2500 ppm)	A	A	A	B	A	A	A	
Chromic acid (50% max)	X	A	A	X	B	A	A	

Electromagnetic Flow Meters Chemical Compatibility Chart

Table Key:

- A** = Recommended
- B** = Use with caution
- X** = Not recommended
- Blank** = No data available

	Hard/Soft Rubber	PTFE	Halar	316 Stainless Steel	Hastelloy C	Gold/Platinum Plated	Tantalum	Platinum/Rhodium
	Liners			Electrode Materials				
Chromium sulfate				B	B		A	A
Citric acid	A	A	A	A	A	A	A	
Clay slurry	A	A		A	A	A	A	
Coffee extract		A		A	A	A	A	
Cola syrup		A		A	A	A	A	
Copper chloride (50% max)		A	A		A		A	
Copper cynide		A	A	B	B		A	A
Copper nitrate (50% max)		A	A	B	X	A	A	
Copper sulfate (70% max)		A	A	B	A	A	A	
Copper sulfide		A		B	B		A	A
Cupric chloride	A	A	A	X	X	A	A	
Ferric chloride (50% max)	A	A	A	X	B	A	A	X
Ferric nitrate (10% max)	A	A	A	B	X	A	A	
Ferric sulfate (10% max)	A	A	A	X	B	A	A	A
Ferrous chloride (10% max)	A	A	A	X	X		A	A
Ferrous sulfate (50% max)	A	A	A	B	X	A	A	
Fluoroboric acid			B	X		X	A	
Fluosilicic acid	A	A	A	B	X	A	X	A
Formaldehyde (35% max)	B	A	A	A	B	A	A	
Formic acid (80%)	X	A	A	X	A	A	A	A
Fruit juices	X	A	A	A	A	A	A	
Glycerin	A	A	A	A		A	A	
Green liquor		A			B	A	A	
Hydrobromic acid (50%)			A	X	X		A	X
Hydrochloric acid (amb. temp. 37%)	B	A	A	X	X	A	A	A
Hydrocyanic acid (10% max)	B	A	A	B		A	A	A
Hydrofluoric acid (70% max)	X	A	A	X	X	A	X	X
Hydrogen cyanide		A		A	B			A
Hydrogen peroxide (50% max)	B	A	A	B	A		A	A
Hypochlorous acid	X	A	A	X	X	A	A	A
Latex	A	A		A		A	A	
Lead nitrate (60% max)	B	A	A	B	B	A	A	
Lime slurry (calcium oxide)	X	A	A	A	A	A	A	
Lithium chloride	A		B	A	A	A		
Magnesium carbonate (10% max)		A	A	B	B		A	
Magnesium chloride (40% max)	B	A	A	B	A		A	A
Magnesium nitrate	B	A	A	B	B		A	
Magnesium sulfate (40% max)	B	A	A	A	A	A	A	A
Mercuric chloride (60% max)	A	A	A	X	X	A	A	A
Milk	X	A	A	A		A	A	
Molasses	X	A	A	A		A		
Monomers				A				
Nickel chloride (20% max)	A	A	A	B	X		A	
Nickel nitrate (10% max)	A	A	A	B	B		A	
Nickel sulfate (20% max)	A	A	A	B	B		A	
Nitric acid (amb temp)	X	A	A	X	X	A	A	A
Oleum	X	A	A		B	A	X	
Oxalic acid	X	A	A	B	B	A	A	
Phosphoric acid (85% max)	B	A	A	B	X	A	A	A
Photographic emulsion	A	A	B			A		
Polymers				A				

Table Key:

A = Recommended
B = Use with caution
X = Not recommended
Blank = No data available

	Hard/Soft Rubber	PTFE	Halar	316 Stainless Steel	Hastelloy C	Gold/Platinum Plated	Tantalum	Platinum/Rhodium
	Liners			Electrode Materials				
Potassium bicarbonate (30% max)	A	A		A	B		A	A
Lead nitrate (60% max)	B	A	A	B	B	A	A	
Lime slurry (calcium oxide)	X	A	A	A	A	A	A	
Lithium chloride	A		B	A	A	A		
Magnesium carbonate (10% max)		A	A	B	B		A	
Magnesium chloride (40% max)	B	A	A	B	A		A	A
Magnesium nitrate	B	A	A	B	B		A	
Magnesium sulfate (40% max)	B	A	A	A	A	A	A	A
Mercuric chloride (60% max)	A	A	A	X	X	A	A	A
Milk	X	A	A	A		A	A	
Molasses	X	A	A	A		A		
Monomers				A				
Nickel chloride (20% max)	A	A	A	B	X		A	
Nickel nitrate (10% max)	A	A	A	B	B		A	
Nickel sulfate (20% max)	A	A	A	B	B		A	
Nitric acid (amb temp)	X	A	A	X	X	A	A	A
Oleum	X	A	A		B	A	X	
Oxalic acid	X	A	A	B	B	A	A	
Phosphoric acid (85% max)	B	A	A	B	X	A	A	A
Photographic emulsion	A	A	B			A		
Polymers				A				
Potassium bicarbonate (30% max)	A	A		A	B		A	A
Potassium carbonate	A	A	A	B	A	A	A	A
Potassium chloride (30% max)	A	A	A	A	A		A	A
Potassium dichromate (60% max)	A	A	A	A	B	A	A	
Potassium hydroxide (50% max)	X	A	A	B	B	A	B	A
Potassium hypochlorite (40% max)	X	A		X	B		B	
Potassium nitrate (80% max)	A	A		B	A		B	A
Potassium permanganate (10% max)	B	A	A	B	B		B	
Potassium persulfate (10% max)	X	A	A	A	X	A	A	
Potassium sulfate (20% max)	A	A	A	A	A	A	A	
Potassium sulfide (10% max)	A	A		B			B	
Salicylic acid	X	A		B		A	A	
Sea water	A	A		A		A		
Sewage, raw	A	A		A	A	A	A	
Silver nitrate (50% max)	A	A	A	B	B		B	
Sludge, activated	A	A		A		A	A	
Potassium carbonate	A	A	A	B	A	A	A	A
Potassium chloride (30% max)	A	A	A	A	A		A	A
Potassium dichromate (60% max)	A	A	A	A	B	A	A	
Potassium hydroxide (50% max)	X	A	A	B	B	A	B	A
Potassium hypochlorite (40% max)	X	A		X	B		B	
Potassium nitrate (80% max)	A	A		B	A		B	A
Potassium permanganate (10% max)	B	A	A	B	B		B	
Potassium persulfate (10% max)	X	A	A	A	X	A	A	
Potassium sulfate (20% max)	A	A	A	A	A	A	A	
Potassium sulfide (10% max)	A	A		B			B	
Salicylic acid	X	A		B		A	A	
Sea water	A	A		A		A		
Sewage, raw	A	A		A	A	A	A	
Silver nitrate (50% max)	A	A	A	B	B		B	

Electromagnetic Flow Meters Chemical Compatibility Chart

Table Key:

A = Recommended
B = Use with caution
X = Not recommended
Blank = No data available

	Hard/Soft Rubber	PTFE	Halar	316 Stainless Steel	Hastelloy C	Gold/Platinum Plated	Tantalum	Platinum/Rhodium
	Liners			Electrode Materials				
Sludge, activated	A	A		A		A	A	
Potassium permanganate (10% max)	B	A	A	B	B		B	
Potassium persulfate (10% max)	X	A	A	A	X	A	A	
Potassium sulfate (20% max)	A	A	A	A	A	A	A	
Potassium sulfide (10% max)	A	A		B			B	
Salicylic acid	X	A		B		A	A	
Sea water	A	A		A		A		
Sewage, raw	A	A		A	A	A	A	
Silver nitrate (50% max)	A	A	A	B	B		B	
Sludge, activated	A	A		A		A	A	
Sludge, primary	A	A		A	A	A	A	
Soap, solutions	A	A	A	A	A	A		
Sodium acetate	A	A	A	B	A	A	A	A
Sodium bicarbonate (20% max)	A	A	A	A	A	A	A	A
Sodium bisulfate (40% max)	A	A	A	B	X	A	A	
Sodium bisulfite (40% max)	A	A	A	B	B	A	A	
Sodium borate	A	A			B		B	
Sodium bromide	A	A	A	B	X		A	
Sodium carbonate	A	A	A	A	A	A	B	A
Sodium chlorate (40% max)	A	A	A	B	A		A	A
Sodium chloride (30% max)	A	A	A	B	B	A	A	A
Sodium chromate	A	A		A	A	A	A	A
Sodium cyanide	B	A	A	B	X	A	A	X
Sodium hydroxide (10% max)	X	A	A	A	B	A	X	A
Sodium hydroxide (50% max)	X	A	A	A	B	A	X	A
Sodium hypochlorite (20% max)	A	A	A	X	A	A	A	A
Sodium nitrate (40% max)	A	A	A	A	B	A	A	A
Sodium nitrite (40% max)	A	A	A	A	A	A	A	A
Sodium phosphate	B	A	A	B	A	A	A	
Sodium phosphate (tri-basic)	A	A		A	A	A	A	
Sodium silicate	B	A	A	A	B	A	A	
Sodium sulfate (30% max)	B	A	A	B	B	A	A	A
Sodium sulfide (40% max)	B	A	A	B	X	A	A	A
Sodium sulfite (30% max)	A	A	A	A	X	A	A	A
Sulfuric acid (1-20%)	X	A	A	A	A	A	A	A
Sulfuric acid (21-40%)	X	A	A	B	A	A	A	A
Sulfuric acid (41-70%)	X	A	A	X	A	A	A	A
Sulfuric acid (71-100%)	X	A	A	X	A	A	A	A
Sulfurous acid	X	A	A	B	B	A	A	A
Sugar juice	A	A		A	A	A	A	
Tannic acid	B	A	A	A		A	A	
Tartaric acid	A	A	A	A	A	A	A	
Titanium dioxide	B	A		A	A	A	A	
Trisodium phosphate	A	A	A		A	A	A	
Urea (50% max)	B	A	A	B				
Water, clean or dirty	A	A	A	A	A	A	A	
White liquor	B	A	A	A	X	A	X	
Zinc chloride (20% max)	X	A	A	X	B	B	A	A
Zinc sulfite (30% max)	B	A	A	B	B	A	A	

Control. Manage. Optimize.

M-Series is a registered trademark of Badger Meter, Inc. Other trademarks appearing in this document are the property of their respective entities. Due to continuous research, product improvements and enhancements, Badger Meter reserves the right to change product or system specifications without notice, except to the extent an outstanding contractual obligation exists. © 2020 Badger Meter, Inc. All rights reserved.