



WATER SOFTENERS

Water King

DELIVERING EXPERIENCE, QUALITY, AND SERVICE SINCE 1934



Water King

Since 1934, Water King has been delivering experience, quality, and service to meet the needs of the water treatment industry. We take pride in our ability to deliver a complete, packaged product. Our products are reliable, long-lasting, and easy to install. We provide the best technical support in the industry, delivering experience with integrity.

Water King treatment equipment can be designed and manufactured for a variety of applications, large or small. We specialize in pressure softeners and filters with steel and fiberglass tanks and our exclusive Task Master control valve. We routinely build custom skid mounted packages, pre-piped, and wired, which require minimal installation work. Boiler water treatment and industrial softening applications are a mainstay.

Let us work for you and show you how experience, quality and service results in the best water treatment equipment.



MF SERIES

Coated steel vessels featuring side mount Task Master IV 5-cycle valve in super flow configuration. Commonly used in applications requiring robust equipment and larger sizes.

APPLICATIONS

Boiler Feed Water
Food Processing
Petrochemical
Cooling Towers
Power Plants
Carwashes & Laundrymats
Prisons
Schools & Universities
Hotels, Apartment Complexes, & Casinos
Pharmaceuticals & Hospitals

STANDARD FEATURES

Inlet/Outlet: 1-1/2", 2", 3", 4"
Task Master IV - Five Cycle 316SS Valve
ERCT Electronic Timer
Carbon Steel Mineral Tanks - 100psi
Galvanized Steel Face Piping
PVC Internals
Multipoint ABS Distributors
Accumatic Brine System
WK-100 Cation Resin - 8% DVB Crosslink
110V 60Hz, Single Phase

OPTIONAL FEATURES

ASME Code Vessels
High Pressure / High Temperature
Single, Twin, Triplex, Quad Mineral Tanks
304 / 316 Stainless Steel Face Piping
304 / 316 Stainless Steel Internals
Stainless Steel Valves
Pressure Gauge and Test Tap Kit



Shut Off Kit

Skid Mounting

Pipe Racks

Demand Regeneration

PW 1-1/2", 2", 3" Flow Meter 316SS

Signet Flow Meter w/ Saddle

Graded Gravel Bed

10% DVB Crosslink Resin

Centurion III Lead Lag Control

Custom PLC Options

Brine Reclaim

Hydraulic or Pneumatic Operated Pilot Valves

Performance

Model	Mineral Tank Dia x SS	Resin Vol	Capacity	Brine Tank Dia x Ht	Salt Storage	Salt Per Regen	1-1/2" Cont [Peak] Flow	2" Cont [Peak] Flow	3" Cont [Peak] Flow	4" Cont [Peak] Flow	BW Rate
	in	cu ft	kgr	in	lbs	lbs	gpm	gpm	gpm	gpm	gpm
MF-150	20x54	5	153	24x50	710	66	48 [63]	94 [130]	-	-	10
MF-180	20x54	6	180	24x50	710	66	47 [62]	88 [124]	-	-	10
MF-210	20x54	7	210	24x50	710	66	46 [61]	83 [117]	-	-	10
MF-240	24x54	8	245	24x50	640	106	50 [65]	102 [139]	154 [220]	-	15
MF-270	24x54	9	270	24x50	640	106	49 [65]	99 [135]	152 [218]	-	15
MF-300	24x60	10	293	24x50	640	106	49 [65]	96 [132]	207 [283]	-	15
MF-450	30x60	15	432	30x50	900	145	52 [68]	115 [154]	191 [270]	-	25
MF-600	36x60	20	594	39x50	2000	204	54 [70]	124 [164]	225 [308]	-	35
MF-750	36x72	25	731	39x50	2000	244	54 [70]	120 [160]	211 [291]	257 [365]	35
MF-900	42x72	30	837	42x60	2370	274	-	129 [169]	249 [337]	328 [455]	50
MF-1200	48x72	40	1170	50x60	3360	388	-	133 [173]	264 [353]	357 [488]	60
MF-1500	48x72	50	1500	50x60	3000	510	-	131 [170]	253 [341]	335 [462]	60
MF-1920	54x72	64	1920	60x60	4800	559	-	134 [174]	267 [355]	362 [490]	70

- Continuous flow at 15 psi head loss. Peak flow at 25 psi head loss. Flow rates are shown per tank.
- Operating Conditions: 25 to 100 psi; 100°F Max Temperature
- Other sizes and configurations are available. Contact Water King for assistance.



PROVEN IN PRACTICE





MF FG SERIES

Composite vessels featuring side mount Task Master IV 5-cycle valve in super flow configuration. Commonly used in applications requiring economical corrosion resistant equipment and larger sizes.

APPLICATIONS

Boiler Feed Water
Food Processing
Petrochemical
Cooling Towers
Power Plants
Carwashes & Laundrymats
Prisons
Schools & Universities
Hotels, Apartment Complexes, & Casinos
Pharmaceuticals & Hospitals

STANDARD FEATURES

Inlet/Outlet: 1-1/2", 2", 3"
Task Master IV - Five Cycle 316SS Valve
ERCT Electronic Timer
Composite Mineral Tanks - 150psi
PVC SCH80 Face Piping
PVC Internals
Multipoint ABS Distributors
Accumatic Brine System
WK-100 Cation Resin - 8% DVB Crosslink
110V 60Hz, Single Phase

OPTIONAL FEATURES

High Pressure / High Temperature
Single, Twin, Triplex, Quad Mineral Tanks
Galvanized SCH40 Steel Piping
304 / 316 Stainless Steel Face Piping
304 / 316 Stainless Steel Internals
Stainless Steel Valves
Pressure Gauge and Test Tap Kit



Shut Off Kit

Steel/Composite Skid Mounting

Pipe Racks

Demand Regeneration

PW 1-1/2", 2", 3" Flow Meter 316SS

Signet Flow Meter w/ Saddle

Graded Gravel Bed

10% DVB Crosslink Resin

Centurion III Lead Lag Control

Custom PLC Options

Brine Reclaim

Hydraulic or Pneumatic Operated Pilot Valves

Performance

Model	Mineral Tank Dia x Ht	Resin Vol	Capacity	Brine Tank Dia x Ht	Salt Storage	Salt Per Regen	1-1/2" Cont [Peak] Flow	2" Cont [Peak] Flow	3" Cont [Peak] Flow	4" Cont [Peak] Flow	BW Rate
	in	cu ft	kgr	in	lbs	lbs	gpm	gpm	gpm	gpm	gpm
MFFG-120	16x65	4	120	24x50	780	51	-	74 [111]	-	-	6
MFFG-150	21x62	5	153	24x50	710	66	48 [65]	87 [120]	-	-	10
MFFG-180	21x62	6	180	24x50	710	66	48 [64]	82 [114]	-	-	10
MFFG-210	21x62	7	210	24x50	710	66	48 [64]	85 [118]	-	-	10
MFFG-240	24x72	8	245	24x50	640	91	51 [67]	94 [128]	154 [220]	-	15
MFFG-270	24x72	9	270	24x50	640	91	51 [67]	92 [125]	152 [218]	-	15
MFFG-300	24x72	10	293	24x50	640	91	53 [70]	90 [122]	207 [283]	-	15
MFFG-450	30x72	15	432	30x50	900	145	53 [70]	104 [139]	181 [254]	-	25
MFFG-600	36x72	20	594	39x50	2000	204	55 [72]	112 [147]	211 [287]	-	35
MFFG-750	42x72	25	731	39x50	2000	244	55 [71]	109 [144]	198 [273]	-	50
MFFG-900	48x72	30	837	42x60	2370	274	56 [73]	116 [154]	231 [310]	-	60
MFFG-1200	48x72	40	1170	50x60	3360	388	57 [74]	119 [155]	244 [324]	-	60

- Continuous flow at 15 psi head loss. Peak flow at 25 psi head loss. Flow rates are shown per tank.
- Operating Conditions: 25 to 150 psi; 120°F Max Temperature
- Other sizes and configurations are available. Contact Water King for assistance.

PROVEN IN PRACTICE





VN SERIES

Coated steel vessels utilizing a diaphragm valve nest configuration. These robust systems scale from moderate to the largest sizes available.

APPLICATIONS

Boiler Feed Water
Municipal Softening
Petrochemical
Cooling Towers
Power Plants
Prisons
Hotels and Casinos
Hospitals
Apartment Complexes

STANDARD FEATURES

Inlet/Outlet: 2", 3", 4", 6"
Diaphragm Valves 230psi Cast Iron PE
Sentry Softener Control Unit
Carbon Steel Mineral Tanks - 100psi
Galvanized Steel Face Piping
PVC Internals
Multipoint ABS Distributors
Accumatic Brine System
WK-100 Cation Resin - 8% DVB Crosslink
110V 60Hz, Single Phase

OPTIONAL FEATURES

ASME Code Vessels
High Pressure / High Temperature
Single, Twin, Triplex, Quad Mineral Tanks
304 / 316 Stainless Steel Face Piping
304 / 316 Stainless Steel Internals
Stainless Steel Valves
Pressure Gauge and Test Tap Kit



Shut Off Kit

Skid Mounting

Pipe Racks

Demand Regeneration

PW 2", 3" Flow Meter 316SS

Signet Flow Meter w/ Saddle

Graded Gravel Bed

10% DVB Crosslink Resin

Centurion III Lead Lag Control

Custom PLC Options

Brine Reclaim

Manual Operation

Hydraulic or Pneumatic Operated Pilot Valves

Performance

Model	Mineral Tank Dia x SS	Resin Vol	Capacity	Brine Tank Dia x Ht	Salt Storage	Salt Per Regen	2" Cont [Peak] Flow	3" Cont [Peak] Flow	4" Cont [Peak] Flow	6" Cont [Peak] Flow	BW Rate
	in	cu ft	kgr	in	lbs	lbs	gpm	gpm	gpm	gpm	gpm
VN-150	20x54	5	153	24x50	710	66	94 [130]	-	-	-	10
VN-180	20x54	6	180	24x50	710	66	88 [124]	-	-	-	10
VN-210	20x54	7	210	24x50	710	66	83 [117]	-	-	-	10
VN-240	24x54	8	245	24x50	640	106	102 [139]	154 [220]	-	-	15
VN-270	24x54	9	270	24x50	640	106	99 [135]	152 [218]	-	-	15
VN-300	24x54	10	293	24x50	640	106	96 [132]	207 [283]	-	-	15
VN-450	30x60	15	432	30x50	900	145	115 [154]	191 [270]	-	-	25
VN-600	36x60	20	594	39x50	2000	204	124 [164]	225 [308]	-	-	35
VN-750	36x72	25	731	39x50	2000	244	120 [160]	211 [291]	257 [365]	-	35
VN-900	42x72	30	837	42x60	2370	274	129 [169]	249 [337]	328 [455]	-	50
VN-1200	48x72	40	1170	50x60	3360	388	133 [173]	264 [353]	357 [488]	400 [600]	65
VN-1500	48x72	50	1500	50x60	3000	510	131 [170]	253 [341]	335 [462]	350 [485]	60
VN-1920	54x72	64	1920	60x60	4800	559	134 [174]	267 [355]	362 [490]	380 [520]	70

- Continuous flow at 15 psi head loss. Peak flow at 25 psi head loss. Flow rates are shown per tank.
- Operating Conditions: 25 to 100 psi; 100°F Max Temperature
- Other sizes and configurations are available. Contact Water King for assistance.



Performance

Model	Mineral Tank Dia x SS	Resin Vol	Capacity	Brine Tank Dia x Ht	Salt Storage	Salt Per Regen	2" Cont [Peak] Flow	3" Cont [Peak] Flow	4" Cont [Peak] Flow	6" Cont [Peak] Flow	BW Rate
	in	cu ft	kgr	in	lbs	lbs	gpm	gpm	gpm	gpm	gpm
VN-2340	60x72	78	2340	60x60	4840	559	-	-	433 [587]	710 [1027]	100
VN-2850	66x72	95	2850	72x60	6970	805	-	-	455 [610]	786 [1118]	120
VN-3300	72x72	110	3300	72x60	6970	805	-	-	476 [632]	862 [1208]	140
VN-3900	78x72	130	3900	72x60	6600	1053	-	-	490 [647]	921 [1274]	165
VN-4500	84x72	150	4500	90x59	10000	1217	-	-	502 [660]	971 [1333]	195
VN-5250	90x72	175	5250	90x59	10000	1431	-	-	511 [669]	1011 [1376]	220
VN-6000	96x72	200	6000	90x59	10000	1574	-	-	519 [677]	1051 [1416]	250
VN-6750	102x72	225	6750	96x70	15000	1791	-	-	527 [684]	1082 [1453]	285
VN-7500	108x72	250	7500	96x70	15000	2036	-	-	533 [691]	1116 [1483]	320
VN-8400	114x72	280	8400	108x57	14000	2164	-	-	538 [696]	1136 [1511]	355
VN-9000	120x72	300	9000	108x83	24000	2473	-	-	542 [700]	1166 [1539]	395

- Continuous flow at 15 psi head loss. Peak flow at 25 psi head loss. Flow rates are shown per tank.
- Operating Conditions: 25 to 100 psi; 100°F Max Temperature
- Other configurations are available. Contact Water King for assistance.



PROVEN IN PRACTICE



RF SERIES

Composite vessels featuring the top mount Task Master IV 5-cycle valve. Economical high corrosion resistant applications.

APPLICATIONS

Boiler Feed Water
Restaurants
Laboratories
Large Offices
Large Residential
Schools & Universities
Truck Stops
Carwash & Laundrymats
Convenient Stores

STANDARD FEATURES

Inlet/Outlet: 1-1/2" & 2"
Task Master IV - Five Cycle 316SS Valve
ERCT Electronic Timer
Polyglass Mineral Tanks - 150psi
PVC Internals
Single Point ABS Distributors / Hub & Lateral
Accumatic Brine System
WK-100 Cation Resin - 8% DVB Crosslink
110V 60Hz, Single Phase

OPTIONAL FEATURES

Single, Twin, Triplex, Quad Mineral Tanks
PVC SCH80 Piping
Galvanized SCH40 Piping
304 / 316 Stainless Steel Piping
304 / 316 Stainless Steel Internals
Stainless Steel Valves
Pressure Gauge and Test Tap Kit



Shut Off Kit

Tank Bottom Drain

Skid Mounting

Pipe Racks

Demand Regeneration

PW 1-1/2" & 2" Flow Meter 316SS

Signet Flow Meter w/ Saddle

10% DVB Crosslink Resin

Centurion III Lead Lag Control

Custom PLC Options

Brine Reclaim

Stainless Steel Pilot Valve Tubing

Hydraulic or Pneumatic Operated Pilot Valves

Performance

Model	Mineral Tank Dia x Ht	Resin Vol	Capacity	Brine Tank Dia x Ht	Salt Storage	Salt Per Regen	1-1/2" Cont [Peak] Flow	2" Cont [Peak] Flow	3" Cont [Peak] Flow	4" Cont [Peak] Flow	BW Rate
	in	cu ft	kgr	in	lbs	lbs	gpm	gpm	gpm	gpm	gpm
RF-50	12x52	1-1/2	49	18x40	320	29	37 [51]	39 [54]	-	-	4
RF-70	13x54	2-1/4	69	18x40	320	29	36 [50]	38 [53]	-	-	4
RF-100	14x65	3-1/4	100	18x40	320	29	36 [49]	37 [52]	-	-	5
RF-120	16x65	4	120	24x50	780	51	39 [53]	42 [56]	-	-	6
RF-150	21x62	5	153	24x50	710	66	46 [60]	49 [64]	-	-	10
RF-180	21x62	6	180	24x50	710	66	45 [59]	48 [63]	-	-	10
RF-210	21x62	7	210	24x50	710	66	44 [58]	47 [62]	-	-	10
RF-240	24x72	8	245	24x50	640	91	46 [60]	49 [65]	-	-	15
RF-270	24x72	9	270	24x50	640	91	46 [60]	49 [64]	-	-	15
RF-300	24x72	10	293	24x50	640	91	45 [59]	48 [64]	-	-	15
RF-450	30x72	15	432	30x50	900	145	49 [64]	53 [69]	-	-	25
RF-600	36x72	20	594	39x50	2000	204	50 [65]	55 [70]	-	-	35
RF-750	42x72	25	731	39x50	2000	244	51 [66]	56 [71]	-	-	50

- Continuous flow at 15 psi head loss. Peak flow at 25 psi head loss. Flow rates are shown per tank. Head loss includes SOK.
- Operating Conditions: 25 to 100 psi; 100°F Max Temperature
- Other sizes and configurations are available. Contact Water King for assistance.

PROVEN IN PRACTICE





BF SERIES

Polyglass vessels utilizing the top mount Performa control valve. Light Commercial and Residential applications.

APPLICATIONS

Boiler Feed Water

Restaurants

Laboratories

Offices

Residential

STANDARD FEATURES

Inlet/Outlet: 3/4" & 1"

268 Performa Control Valve

ERCT Electronic Timer

Polyglass Mineral Tanks - 150psi

PVC Internals

Single Point ABS Distributor

Accumatic Brine System

WK-100 Cation Resin - 8% DVB Crosslink

110V 60Hz, Single Phase

OPTIONAL FEATURES

Single or Twin Mineral Tanks

Pressure Gauge and Test Tap Kit

Skid Mounting

Demand Regeneration

PW 3/4" Composite Flow Meter

10% DVB Crosslink Resin



Tank Bottom Drain

Performance

Model	Mineral Tank Dia x Ht	Resin Vol	Capacity	Brine Tank Dia x Ht	Salt Storage	Salt Per Regen	3/4" Cont [Peak] Flow	1" Cont [Peak] Flow	BW Rate	Simplex Weight	Twin Weight
	in	cu ft	kgr	in	lbs	lbs	gpm	gpm	gpm	lbs	lbs
BF-50	12x52	1-1/2	49	18x40	320	29	15 [23]	15 [23]	4	160	300
BF-70	13x54	2-1/4	69	18x40	320	29	23 [34]	23 [34]	4	225	430

- Continuous flow at 15 psi head loss. Peak flow at 25 psi head loss. Flow rates are shown per tank.
- Operating Conditions: 25 to 100 psi; 100°F Max Temperature
- Other sizes and configurations are available. Contact Water King for assistance.



SKID MOUNTING

Custom designed carbon steel epoxy coated skids allow water treatment equipment to be firmly mounted, piped, wired, and hydro tested prior to shipping.

STANDARD FEATURES

Epoxy Coated, Carbon Steel Skid Base

Galvanized Steel Piping

Pre-Wired using non-metallic liquid-tite flex conduit

Ubolts firmly secure equipment to base

Brine tank and brine line mounted

SCH 80 PVC drain line

Pressure Gauge and Test Taps installed

Controllers pre-programmed

Hydro-tested for 1 hr

Inlet and Outlet isolation valves installed

Bypass installed for each tank

Slots in skid for forklift tines

Single point electrical connection

Meters installed

OPTIONAL FEATURES

Single, Twin, Triplex, Quad Equipment

Fiberglass or Steel Tanks

Stainless steel tank straps

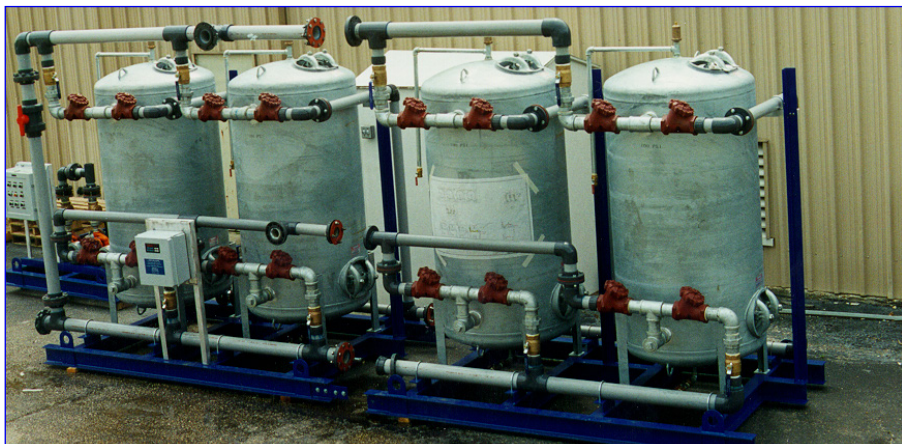
PVC SCH80 Piping

Galvanized SCH40 Piping

304 / 316 Stainless Steel Piping

Steel plate support

Pipe supports for fiberglass tanks



Fiberglass base/ Grating

Design for space restrictions

Brine tank separated from skid

Pipe rack design

Installation of Centurion/ Sentry control package

Mount, pre-pipe, and pre-wire multiple types of equipment in-line

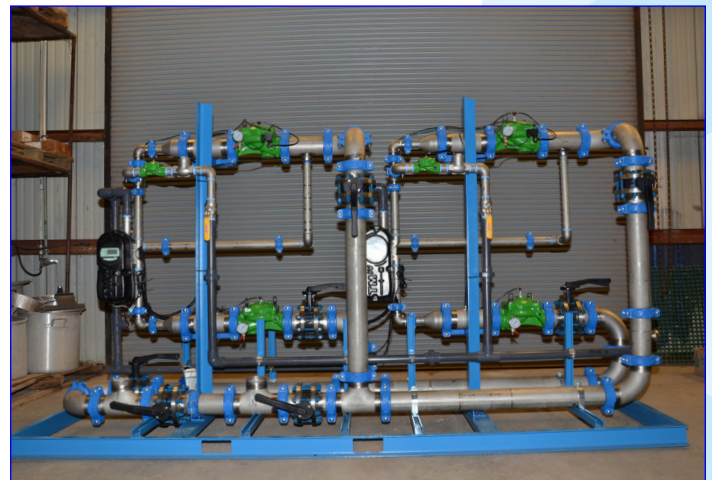
RO Equipment skids available

Custom design to include pumps and chemical treatment

Large skids designed to disconnect for shipping and assembly on site

Made in USA





Pipe Rack Design shown with tanks

Pipe Rack Design shown without tanks

TASK MASTER IV VALVE

The Task Master Valve is an Industrial quality stainless steel water treatment control valve. It is well designed, mechanically simplistic, easy to service, and extremely durable. Manufactured by Water King in Louisiana, USA.

STANDARD FEATURES

Cast and Machined from 316 Stainless Steel

Five cycle, Water Softener control

Compatible with Filter cycles

Only one moving part - the piston

Top mount and Side mount configurations available

Brine ejector cast into the valve body for efficient operation

Motor driven piston is not dependent on water pressure for operation, allowing smooth transition between cycles

Valve design assures synchronization of the drive assembly with the electronic timer and optical sensors

Includes ERCt 99 day electronic timer with the ability to independently program each cycle time

ERCd available for twin alternating systems

NEMA 4 rated electrical enclosure

Designed to provide on/off signals and dry contacts for external electrical functions

Detachable cover allows for quick access to the valve body

ERCd mount within the valve body for ease of operations when servicing the valve

Configured to allow pistons to be removed and reinstalled quickly

Heavy back plate for durability

Temperature rating of 180 degrees

Maximum Operating Pressure of 125 psi

71 gpm backwash rate (at 25 psi head loss)



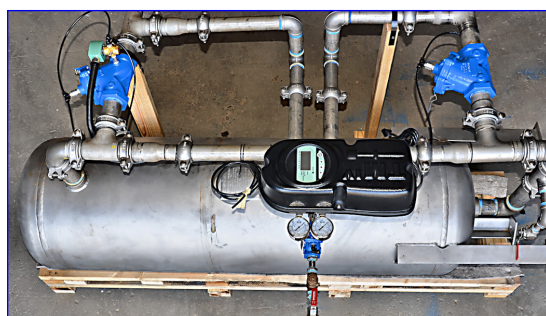
TMIV PART NUMBERS

Valve part numbers are specific to application and size of treatment equipment.

Options for Valve Base							
Part No. 707170		Part No. 707171		Part No. 707172		Part No. 707173	
Thread Type:	NPT	Thread Type:	BSPT	Thread Type:	BSPT	Thread Type:	NPT
Motor:	110 VAC	Motor:	220 VAC	Motor:	110 VAC	Motor:	220 VAC
Circuit Board:	110/220VAC	Circuit Board:	110/220VAC	Circuit Board:	100/200 VAC	Circuit Board:	110/220VAC

707170-WXYZ(ZZ)

Controllers			Injectors		Drain Casting			Language/ Location				Tank Adaptor	
W			X		Y			Z				(ZZ)	
1	Filter	Timed	A	Yellow		BW, gpm	Size			VAC	Hz	S	Side Mount
2	Filter	Demand	B	Orange	3	3	3/4	A	Australia	220	50	T	Top Mount
3	Softener	Timed	C	Gold	4	4	3/4	E	Europe	220	50		
4	NA	NA	D	Brown	5	5	3/4	C	UK Hong Kong	220	50		
5	Softener	Demand	F	Blank (Filter)	6	6	3/4	N	N America	110	60		
6	Softener	Secondary	N	None	7	7	3/4	J	Japan	100	50 60		
			R	Green	8	8	3/4						
			W	White	9	9	3/4						
			X	Dark blue	A	10	1-1/2						
			Y	Lt blue	B	15	1-1/2						
			Z	Red	C	20	1-1/2						



D	25	1-1/2
E	30	1-1/2
F	35	1-1/2
G	12	1-1/2
H	40	1-1/2
I	50	1-1/2
J	60	1-1/2
N	Open	3/4
O	Open	1-1/2
U	70	1-1/2
T	30	3/4
V	20	3/4
W	10	3/4
X	12	3/4
Y	15	3/4
Z	25	3/4

WK-100 RESIN

Standard softener resin consisting of spherical polystyrene beads 8% cross linked with divinylbenzene. WK100 is a multipurpose, premium grade, sodium form, strong acid cation exchange resin with excellent physical/chemical stability and operating conditions. WK100 is suited for softening and chemical processing applications. It is ideally suited for use in a wide range of pH and temperature conditions.



P/N: 480000

OPERATING CONDITIONS

Maximum Operating Temperature:	280°F (140°C) in Na+ Form
Resin Bed Depth:	24-36" (600-900mm)
Maximum Service Flow:	15 gpm/ft ³ (120 m ³ /hr/m ³)
Backwash Expansion Space:	40-75%
Backwash Flow Rate, 77°F (25°C):	4-10 gpm/ft ² (9-25 m ³ /hr/m ²)
Regenerant:	NaCl for Na+ form
Regeneration Level:	3.7-10.0 lbs NaCl/ft ³ (60-160g NaCl/L)
Regenerant Concentration:	5.0-15.0% for NaCl
Regeneration Flow Rate:	0.25-2 gpm/ft ³ (2-16 m ³ /hr/m ³)
Regeneration Time:	20-60 minutes
Fast Rinse:	At Service Flow Rate
Slow Rinse:	At Regeneration Flow Rate
Rinse Volume:	25-40 gal/ft ³ (3-5 m ³ /m ³)
Free Chlorine:	Not Traceable
Turbidity:	Less than 2 N.T.U.
Iron and Heavy Metals:	Less than 0.1 ppm

CHARACTERISTICS

Type	Strong Acid Cation Exchange Resin
Matrix Structure	Polystyrene 8% Cross Linked with Divinylbenzene
Functional Group	Sulphonic Acid
Appearance	Amber Color Beads
Physical Form	Moist Spherical Beads
Ionic Form	Sodium
Particle Size	0.3-1.2mm
Screen Size USS (wet)	16-50
Total Exchange Capacity	2.0 meq/ml
Swelling (Approximate)	Na+ to H+ 7%
Moisture Content (Aproximate)	45%
Backwash Settled Density	52-55 lbs/ft ³ (840-880 g/L)
Operating pH Range	0-14
Solubility	Insoluble in all common solvents
Shipping Weight	51-53 lbs/ft ³

WK-100X10 RESIN

Heavy-duty softener resin with spherical polystyrene beads 10% cross linked with divinylbenzene. WK100x10 has a higher cross link than WK-100, therefore, is more resistant to chlorine attack and will last longer in high temperature condensate polisher service.



P/N: 480000-1

OPERATING CONDITIONS

Maximum Operating Temperature:	280°F (140°C) in Na+ Form
Resin Bed Depth:	24-36" (600-900mm)
Maximum Service Flow:	15 gpm/ft ³ (120 m ³ /hr/m ³)
Backwash Expansion Space:	40-75%
Backwash Flow Rate, 77°F (25°C):	4-10 gpm/ft ² (9-25 m ³ /hr/m ²)
Regenerant:	NaCl for Na+ form
Regeneration Level:	3.7-10.0 lbs NaCl/ft ³ (60-160g NaCl/L)
Regenerant Concentration:	5.0-15.0% for NaCl
Regeneration Flow Rate:	0.25-2 gpm/ft ³ (2-16 m ³ /hr/m ³)
Regeneration Time:	20-60 minutes
Fast Rinse:	At Service Flow Rate
Slow Rinse:	At Regeneration Flow Rate
Rinse Volume:	25-40 gal/ft ³ (3-5 m ³ /m ³)
Free Chlorine:	Not Traceable
Turbidity:	Less than 2 N.T.U.
Iron and Heavy Metals:	Less than 0.1 ppm

CHARACTERISTICS

Type	Strong Acid Cation Exchange Resin
Matrix Structure	Polystyrene 10% Cross Linked with Divinylbenzene
Functional Group	Sulphonic Acid
Appearance	Amber Color Beads
Physical Form	Moist Spherical Beads
Ionic Form	Sodium
Particle Size	0.3-1.2mm
Screen Size USS (wet)	16-50
Total Exchange Capacity	2.1 meq/ml
Swelling (Approximate)	Na+ to H+ 6%
Moisture Content (Approximate)	48%
Backwash Settled Density	52-55 lbs/ft ³ (840-880 g/L)
Operating pH Range	0-14
Solubility	Insoluble in all common solvents
Shipping Weight	51-53 lbs/ft ³

FILTRATION GRAVEL

Filtration gravel is commonly used as a media support bed in water softening and water filtration. To ensure quality and avoid clogging, all gravel is double scrubbed to remove all clay, shale, and inorganic impurities. Further, filtration gravel has an extremely high pure silica content, greater than 99%.



Typical Chemical Analysis - (530 Dry)

% Cr ₂ O ₃	0.002
% Ni	0.000
% Fe ₂ O ₃	0.094
% Mn	0.000
% CaO	0.009
% MgO	0.009
% TiO ₂	0.035
% Na ₂ O	0.007
% K ₂ O	0.041
% SiO ₂	99.515

Part Number	Gravel Size	Packaging
480138	1/8 x 1/16	1/2 cu ft; 50 lb Bag
480047-50	1/4 x 1/8	1/2 cu ft; 50 lb Bag
480073-50	1/2 x 1/4	1/2 cu ft; 50 lb Bag
480011-50	3/4 x 1/2	1/2 cu ft; 50 lb Bag
480014-50	1-1/2 x 3/4	1/2 cu ft; 50 lb Bag
480012	1/8 x 1/16	1 cu ft; 100 lb Bag
480047	1/4 x 1/8	1 cu ft; 100 lb Bag
480073	1/2 x 1/4	1 cu ft; 100 lb Bag
480011	3/4 x 1/2	1 cu ft; 100 lb Bag
480014-1	1-1/2 x 3/4	1 cu ft; 100 lb Bag



- **WARNING: Contains free silica. Do not breathe dust.**
- Store in a protected environment to prevent bags from tearing. Do not leave exposed to the outside elements.
- Packaging available in bulk, super sacks, and 50-pound bags upon request.
- Density: 100 lb/cu ft

MEDIA PACKS

To ensure continuous softened water, the resin must periodically be replaced. Media packs are a convenient way to ensure that the correct gravel bed and resin quantity is procured for any system. Water King factory measures the proper amounts of gravel and resin and commonly ships them together on wood pallets.

Tank Type	Part Number	Exchange Capacity	Tank Size	Gravel	Resin	Weight
			in	cu ft	cu ft	lbs
Composite	479902	50	12x52	0.15	1-1/2	90
	479903	70	13x54	0.30	2-1/4	150
	479904	100	14x65	0.40	3-1/4	210
	479905	120	16x65	0.55	4	260
	479906	150	21x62	1.4	5	390
	479906-180	180	21x62	1.4	6	440
	479906-210	210	21x62	1.4	7	490
	479907	240	24x72	2	8	600
	479907-270	270	24x72	2	9	650
	479908	300	30x72	2.5	10	750
	479909	450	36x72	3	15	1050
	479910	600	36x72	4.5	20	1450
	479912-1	750	42x72	7	25	1950
	479911	900	48x72	10	30	2500
	479911-1200	1200	48x72	10	40	3000
Steel	479922	150	20x54	1	5	350
	479923	180	20x54	1	6	400
	479923-210	210	20x54	1	7	450
	479926	240	24x54	1.5	8	550
	479926-270	270	24x54	1.5	9	600
	479926-300	300	24x60	2.5	10	750
	479928	450	30x60	2.5	15	1000
	479929	600	36x60	3.5	20	1350
	479930	750	36x72	3.5	25	1600
	479931	900	42x72	5	30	2000
	479932	1200	48x72	11	40	3100
	479932-50	1500	48x72	11	50	3600
	479933-64	1920	54x72	13	64	4500
	479934-78	2340	60x72	16	78	5500
	479935-95	2850	66x72	21	95	6850
	479936-110	3300	72x72	26	110	8100



BRINE SYSTEMS

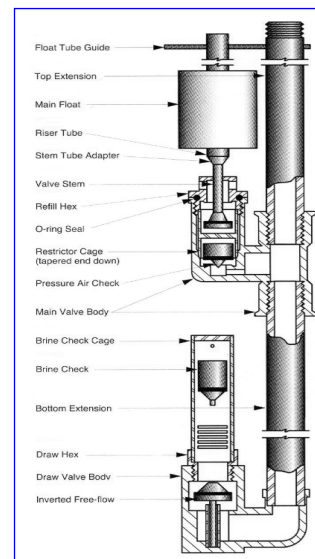
Brine tank assemblies are trademark Accumatic brine systems consisting of a brine valve, brine well, and an overflow assembly. The Accumatic brine systems provide accurate volumetric control of brine draw during regeneration and automatic refill of brine tank. High grid plate design eliminates salt bridging and mushing.

Standard Features	
Material	PE/HDPE
Base	Circular
Color	Black/ Blue
Temperature Range	No extreme conditions
Max Allow. Work Pressure	Atmosphere
Manufacturer's Warranty	1 Year



Standard Brine Assembly System Characteristics								
Stock	Part Number	Size Dia x Ht	Salt Platform Height	Brine Line Dia	Brine Valve Dia	Salt Draw	Salt Storage	Approx. No. of Regens in Storage
		in	in	in	in	lbs	lbs	
•	805061	18x40	11	1/2	3/8	29	320	11
•	805076	24x50	16	1/2	3/8	51	780	15
•	805077	24x50	21	1/2	3/8	66	710	10
•	805078	24x50	24	1/2	3/8	91	640	7
•	805177	30x50	24	1/2	3/8	145	900	6
	805178	39x60	24	1/2	1/2	244	2000	8
	805179	42x60	24	-	1	274	2400	9
	805168	48x60	24	-	1	388	3300	9
	805170	60x60	24	-	1-1/4	559	4800	9
	805071	72x60	24	-	1-1/4	805	7000	9

- Fiberglass brine tank assemblies are available on request.
- Salt not included.



BRINEMAKERS

Brinemakers are recommended for high flow facilities to provide bulk salt storage. The complete salt storage systems are adaptable for various types of industrial salt and come complete with salt fill pipe, water level control, water distributor, and brine collector.

Standard Features	
Material	Fiberglass
Base	Circular
Color	Neutral
Temperature Range	Heat tracing available
Max Allow. Work Pressure	Atmosphere
Manufacturer's Warranty	1 Year



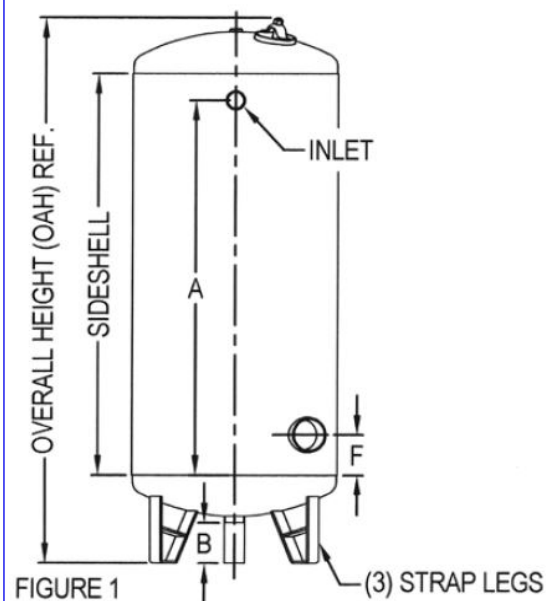
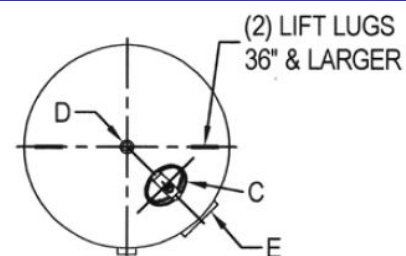
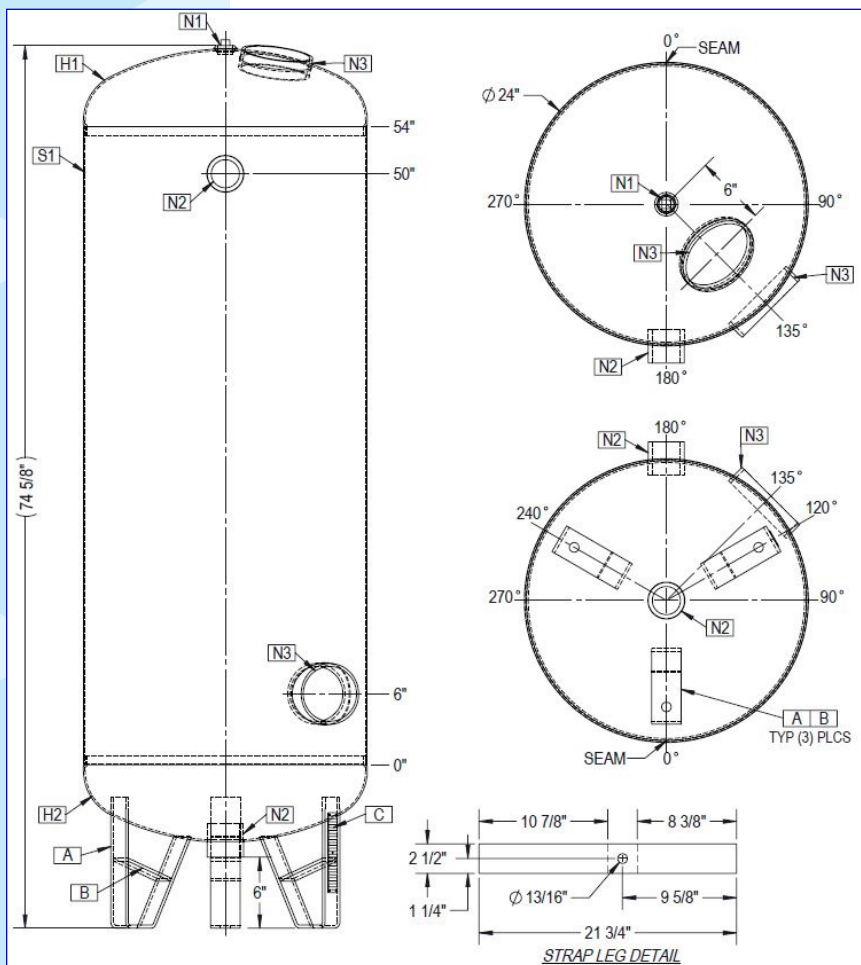
Brinemaker Salt Application								
Model	Diameter	Height	Side Wall Height	Empty Weight	Max Gross Weight	Storage	Maximum Delivery	Area
				lbs	lbs	tons	tons	sq ft
FG-1015	10'-0"	17'-6"	16'-0"	1,800	130,000	36	25	78
FG-1212	11'-6"	12'-0"	10'-6"	2,200	132,000	34	25	111
FG-1215	11'-6"	17'-6"	16'-0"	2,500	180,000	51	40	111
FG-1220	11'-6"	21'-9"	20'-0"	3,000	240,000	72	60	111

- Larger sizes and additional options are available. Contact Water King for assistance.



STEEL TANKS

Economical noncode water tanks are commonly used due to the low pressures and temperatures in typical applications. ASME code water tanks with U1A forms are available. Additional documentation for noncode and ASME code tanks are available. Steel tanks can be engineered to meet custom specification.



Standard Features	
Design	Noncode
Material	A36 Steel or Better
Color	White or Safety Blue
Interior Blasting	SSPC-SP5
Interior Coating	Devoe 233H, NSF 61
Exterior Blasting	SSPC-SP10
Exterior Coating	Tnemec N69F
Temperature Range	32-140°F
Max Allow. Work Pressure	100 psi at 3:1 SF
Hydraulic Leak Test	175% WP
Support	3 Strap Legs

Optional Features	
Design	ASME Code
Max Allow. Work Pressure	up to 150 psi at 3.0 SF
Connection	4"/6" DDDT Flanged
Material	304/316SS Black Iron
Coating	Galvanized
Support	4 Angle Legs

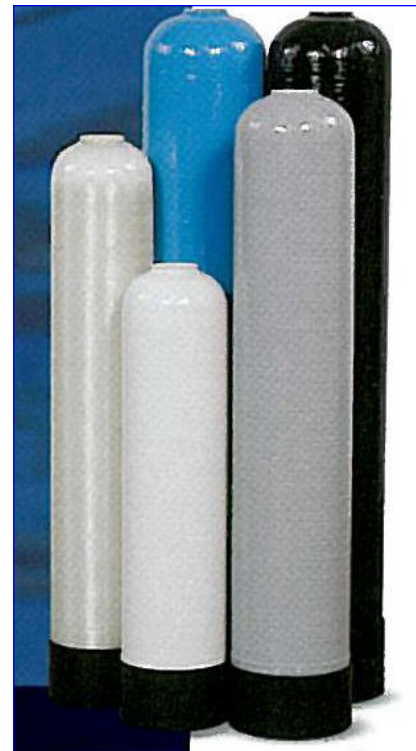
Standard Steel Tank Properties										
Part Number	Size Dia x SS	Inlet/Outlet Full Coupling FNPT	Manhole Top [Side]	Vent Half Coupling FNPT	A	B	F	OAH Noncode [ASME]	Volume Noncode [ASME]	Head Volume Noncode [ASME]
	in	in	in	in	in	in	in	in	gal	cu ft
100123	20x54	2	4x6 [4x6]	1	50	6	6	70 [75]	77 [83]	0.5 [0.8]
100124	20x54	2	4x6 [4x6]	1	50	6	6	72 [77]	113 [122]	0.8 [1.3]
100125	30x60	3	4x6 [6x8]	1	50	6	8	82 [87]	205 [216]	1.9 [2.6]
100127	36x60	3	12x16 [6x8]	1	55-3/4	9	7	89 [90]	298 [321]	3.0 [4.6]
100128	36x72	3	12x16 [6x8]	1	67-3/4	9	7	101 [107]	350 [374]	3.0 [4.6]
100129	42x72	3	12x16 [6x8]	1	67-3/4	9	7	103 [109]	484 [523]	4.6 [7.2]

- Additional vessels and configurations are available. The vessels shown above are the most common.



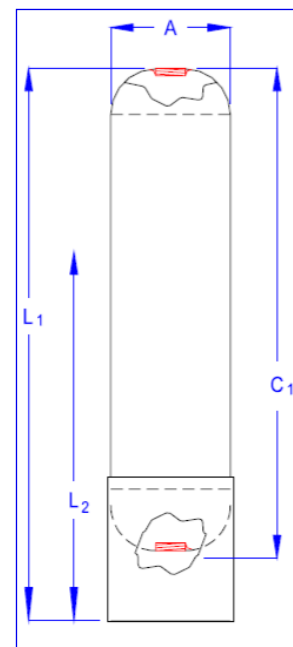
POLYGLASS TANKS

Polyglass tanks are an economical lightweight alternative to steel tanks. Features include limited maintenance and high corrosion resistance. Commonly used in residential and small commercial applications. Each polyglass tank is certified by the WQA and NSF 44. Bottom drains are available upon request and are advisable for freezing conditions and mobile units.



Standard Features	
Design	Noncode
External Material	Polyglass
Internal Material	Polyethylene
Base	Circular
Color	Blue
Temperature Range	32-120°F
Max Allow. Work Pressure	150 psi at 4:1 SF
Vacuum	0 psi
Manufacturer's Warranty	5 years

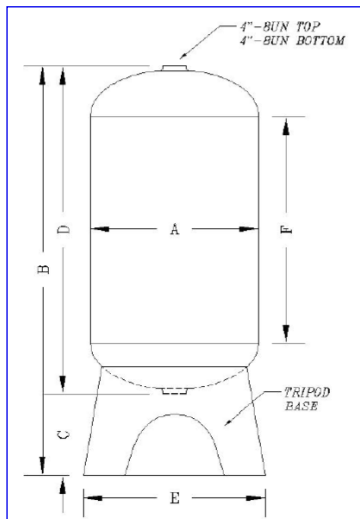
Standard Polyglass Tank Properties								
Stock	Part Number	Size Dia x Ht	Standard Opening Top/Bottom	Tank Height C ₁	Height Standard Base L ₁	Height Extended Base L ₂	Volume	Volume
		in	in	in	in	in	gal	cu ft
	100200	6x18	2.5	18.0	18.8	-	1.8	0.24
	100009	7x44	2.5	43.4	44.0	-	6.7	0.9
	100048	8x44	2.5	44.1	44.5	-	8.7	1.2
	100188	9x48	2.5	47.9	48.7	-	11.8	1.6
	100007	10x40	2.5	40.1	40.3	-	11.5	1.54
	100013	10x54	2.5	54.6	54.4	-	16.4	2.2
•	100044	12x52	4-8UN	52.4	53.4	-	22.2	2.97
•	100046	13x54	4-8UN	54.0	54.9	-	27	3.6
•	100017	14x65	4-8UN	65.0	66.1	-	38	5.1
	100017-1	14x65	4-8UN/4-8UN	65.0	-	70.5	38	5.1
	100087	16x65	4-8UN	65.0	65.9	-	49	6.6
	100087-1	16x65	4-8UN/4-8UN	65.0	-	78.8	49	6.6



COMPOSITE TANKS

Composite tanks are an economical lightweight alternative to steel tanks. Features include limited maintenance and high corrosion resistance. Commonly used in commercial and industrial applications. Composite tanks are tested and certified to NSF/ANSI 61 for material and structural integrity requirements. Bottom drains are available upon request and are advisable for freezing conditions and mobile units.

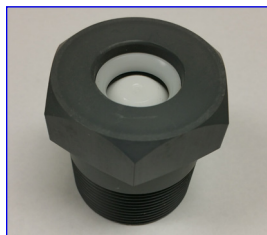
Standard Features	
Design	Noncode
External Material	Fiberglass
Internal Material	Polyethylene
Base	Circular/Tripod
Color	Natural/Blue
Temperature Range	32-120°F Threaded 32-150°F Flanged
Max Allow. Work Pressure	150 psi at 4:1 SF
Vacuum	0 psi
Manufacturer's Warranty	5 years



Standard Composite Tank Properties

Stock	Part Number	Size Dia x Ht	Standard Top Opening	Standard Bottom Opening	Tank Height D	Height Standard Base B ₁	Height Extended Base B ₂	Height Tripod Base B ₃	Volume	Volume
		in	in	in	in	in	in	in	gal	cu ft
•	100089	21x62	4-8UN	-	63.4	67.0	-	-	84.0	11.2
	100089-1	21x62	4-8UN	4-8UN	63.5	-	72.8	-	84.0	11.2
	100089-2	21x62	4-8UN	4-8UN	62.6	-	-	79.8	84.0	11.2
•	100187	24x72	4-8UN	-	70.1	74.2	-	-	118.0	15.8
	100187-1	24x72	4-8UN	4-8UN	70.3	-	80.4	-	119.0	15.9
	100187-3	24x72	4-8UN	4-8UN	70.0	-	-	86.9	119.0	15.9
	100190	30x72	6-8UN	6-8UN	70.2	-	-	85.8	187.0	25.0
	100189	36x72	6-8UN	6-8UN	70.5	-	-	85.0	264.0	35.3
	100191	42x72	6F	6F	73.0	-	-	90.1	345.0	46.1
	100192	48x72	6F	6F	76.0	-	-	91.9	463.0	61.9

- Flexible connections must be installed between hard piping and tank openings. Failure to install flex connection will void the warranty.
- Additional vessels and configurations are available. The vessels shown above are the most common.

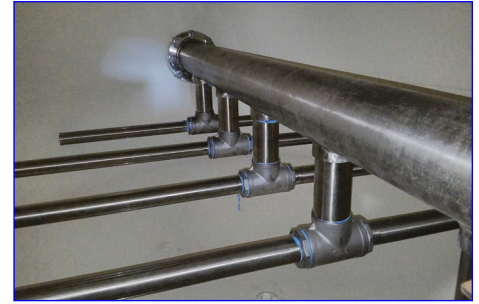


P/N: 410239

Don't forget the vacuum breaker!

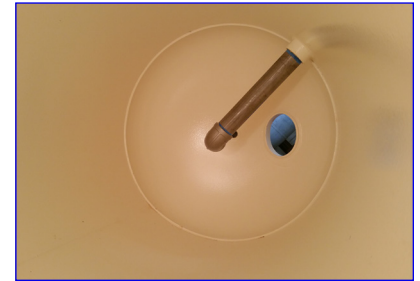
STEEL TANK INTERNALS

Tank internals consisting of upper and lower distributor assemblies, assure proper distribution of fluid in the tanks during all cycles. The upper distributors are open pipes designed to force the inlet flow upward against the tank head. The lower distributors are slotted distributor heads to force even flow distribution during service and backwash.



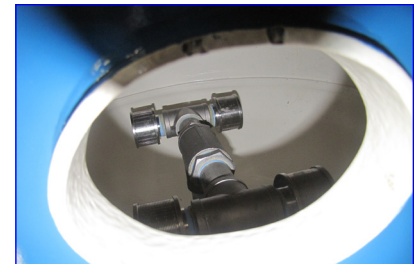
Upper Distributors for Steel Tanks

Part Number	Tank Size Diameter	Type	Pipe Size	Connection
	in		in	
100341	20-30	Single Point	2	NPT
100343	30, 36	Single Point	3	NPT
100344	42	Single Point	3	NPT
100345	42-48	Single Point	4	NPT
100345-1	48	Single Point	4	Flanged
100347	48	Single Point	6	Flanged



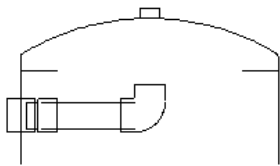
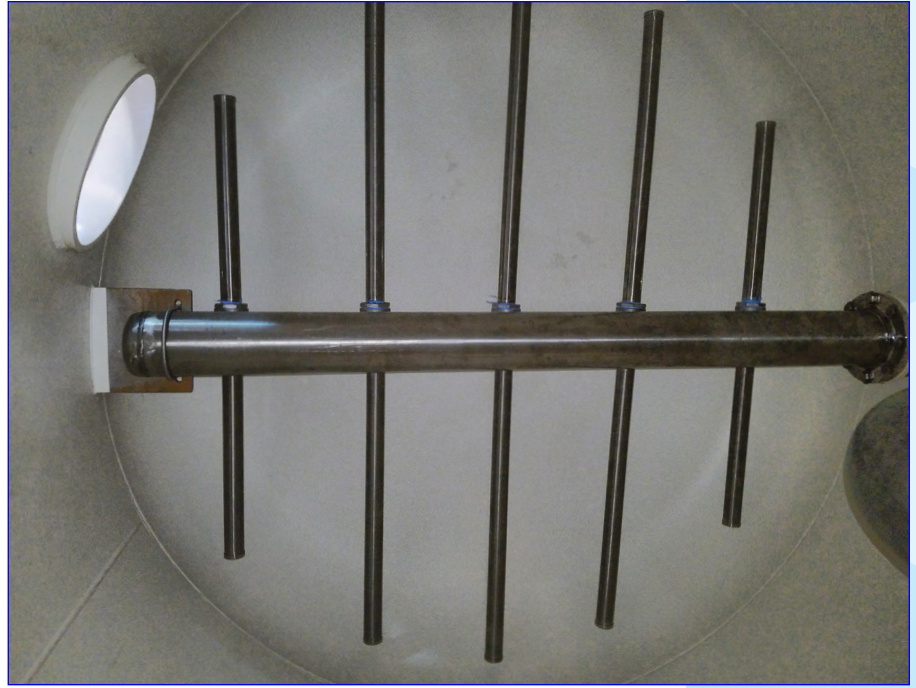
Lower Distributors for Steel Tanks

Part Number	Tank Size Diameter	Type	Pipe Size	Connection
	in		in	
500000-1	20-24	Two Point	2	NPT
500000-2	30	Four Point	2	NPT
500000-3	30-36	Four Point	3	NPT
500000-5	42	Six Point	3	NPT
500000-5-4	40	Six Point	4	NPT
500000-6	48-72	Hub and Lateral	4	NPT
500000-6-4F	48-72	Hub and Lateral	4	Flanged
500000-6-6F	48-72	Hub and Lateral	6	Flanged
500000-7-6F	48-72	Hub and Lateral	6	Flanged

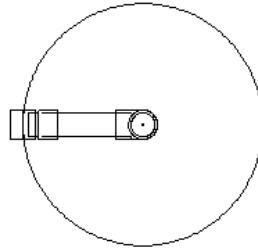


- Additional sizes are available.
- Available material options are PVC, 304 Stainless Steel, and 316 Stainless Steel.

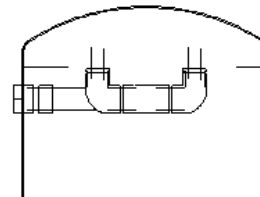




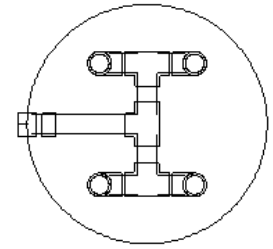
SINGLE POINT UPPER ASSEMBLY
Side View



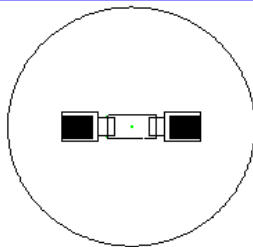
SINGLE POINT UPPER ASSEMBLY
Top View



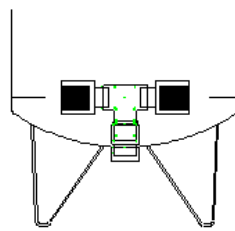
FOUR POINT UPPER ASSEMBLY
Side View



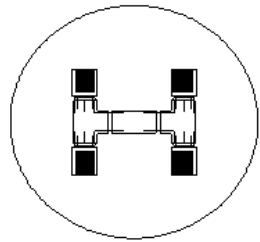
FOUR POINT UPPER ASSEMBLY
Top View



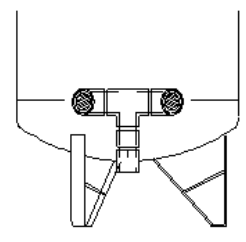
TWO POINT BOTTOM ASSEMBLY
Top View



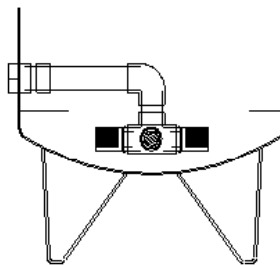
TWO POINT BOTTOM DISTRIBUTOR
Side View



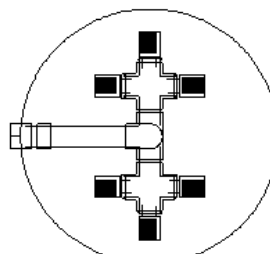
FOUR POINT BOTTOM ASSEMBLY
Top View



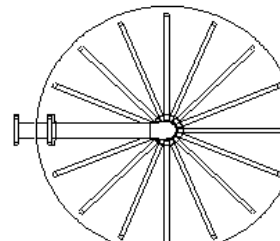
FOUR POINT BOTTOM ASSEMBLY
Side View



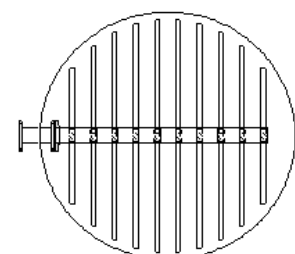
SIX POINT BOTTOM ASSEMBLY
Side View



SIX POINT BOTTOM ASSEMBLY
Top View



HUB AND LATERAL
Top View



HEADER AND LATERAL
Top View

RF INTERNALS

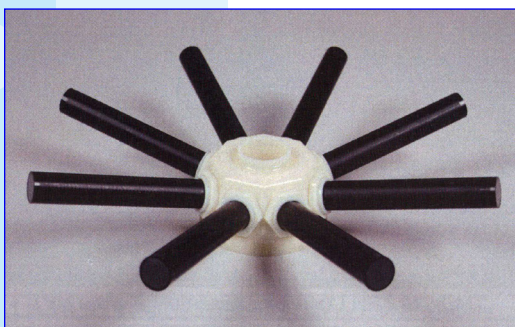
RF systems with top mounted controllers utilize a single point bottom distributor for polyglass vessels up to 24" in diameter. Composite tanks 30" in diameter and above utilize a hub and lateral design.

RF Distributors				
Part Number	Tank Size Diameter	Type	Pipe Size	Connection
	in		in	
703006	12-24	Single Point	1-1/2	SOC
703008	30-42	Hub and Lateral	1-1/2	Flanged



P/N: 703006

Single Point SCH40 Plastic Distributor
2-3/8" diameter and 2" long with 0.012" slots



P/N: 703008

Hub and Lateral Plastic Distributor
1-1/2" diameter SCH40 PVC with 0.012" slots



MF FG INTERNALS

MF FG systems with composite tanks and side mounted controllers utilize upper and lower distributors. Upper distributors are single point design. Lower distributors are hub and lateral design.

MF FG Upper Distributors

Part Number	Tank Size Diameter	Type	Pipe Size	Connection
	in		in	
100346	16-36	Single Point	2	NPT
100343-5	24-48	Single Point	3	Flanged

MF FG Lower Distributors

Part Number	Tank Size Diameter	Type	Pipe Size	Connection
	in		in	
500002-16	16	Hub and Lateral	2	NPT
500002-21	21	Hub and Lateral	2	NPT
500002-24	24	Hub and Lateral	2	NPT
500002-30	30	Hub and Lateral	2	NPT
500002-36	36	Hub and Lateral	2	NPT
500001-16	16	Hub and Lateral	3	Flanged
500001-24	24	Hub and Lateral	3	Flanged
500001-30	30	Hub and Lateral	3	Flanged
500001-36	36	Hub and Lateral	3	Flanged
500001-42	42	Hub and Lateral	3	Flanged
500001-48	48	Hub and Lateral	3	Flanged



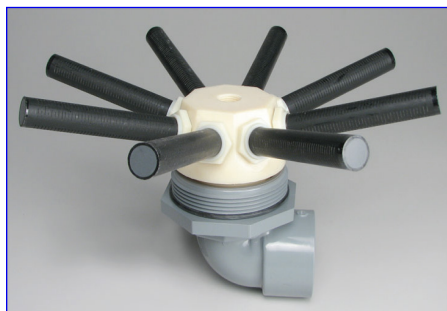
P/N: 100346

Single Point PVC Upper Distributor



P/N: 100343-5

Single Point Sch 40 PVC Upper Slotted Distributor



P/N: 500002-X

Polypropylene Hub and Lateral
8 threaded lateral with 0.008" slot



P/N: 500001-X

Polypropylene Hub and Lateral
8 threaded lateral with 0.008" slot

FLOW METERS

Water King offers a proprietary paddle wheel flow meter, made by Water King in Louisiana, USA. Turbine flow meters and insertion flow meter are also part of our standard designs. Many other types of flow meters are available.



Water King Paddle Wheel Flow Meters

Part Number	Model	Size	Body Material	Electrical Connection	Min Flow Rate	Max Flow Rate	K-Factor
		in			gpm	gpm	
500840	PW075	3/4 MNPT	Noryl	ERC	1	20	245
500860	PW075	3/4 MNPT	Noryl	3 Lead	1	20	245
500842	PW150	1-1/2 FNPT	316SS	ERC	5	140	28
500862	PW150	1-1/2 FNPT	316SS	3 Lead	5	140	28
500844	PW300	3 FNPT	316SS	ERC	20	470	7
500864	PW300	3 FNPT	316SS	3 Lead	20	470	7



Insertion Paddle Wheel Flow Meter

Housing	Glass Filled PP
Paddle	Black PVDF
Shaft	Titanium
Accuracy	± 1%
Maximum Temperature	150°F
Maximum Pressure	180 psi
Connection	Saddle Mount
Saddle Material	PVC/Coated Iron
Electrical Connection	3 Lead

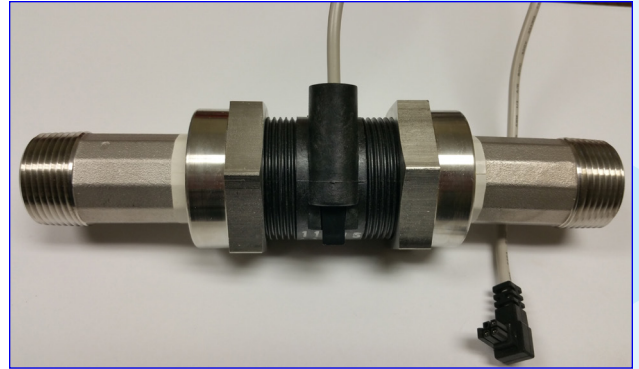


Insertion Paddle Wheel Flow Meters

Part Number	Model	Nominal Pipe Size	Drilled Hole Diameter	Min Flow Rate	Max Flow Rate	K-Factor
		in	in	gpm	gpm	
500867	PW300S	3	1-7/16	7	461	23.22
500868	PW400S	4	1-7/16	12	795	13.26
500869	PW600S	6	2-1/8	27	1804	7.24

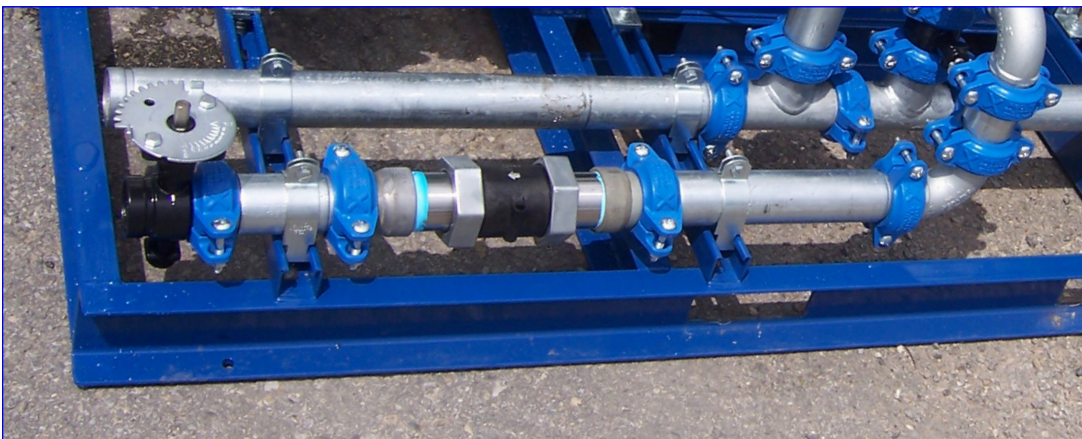
- K-Factor based on SCH40 Galvanized pipe.
- Other connections are available. Contact Water King for assistance.

Turbine Flow Meter	
Housing	Glass Filled PPO
Turbine	Polypropylene
Shaft	302SS
Bearings	Polyimide
Accuracy	± 3%
Maximum Temperature	100°F
Maximum Pressure	100 psi
Electrical Connection	ERC
Maximum Cable Length	1000 ft

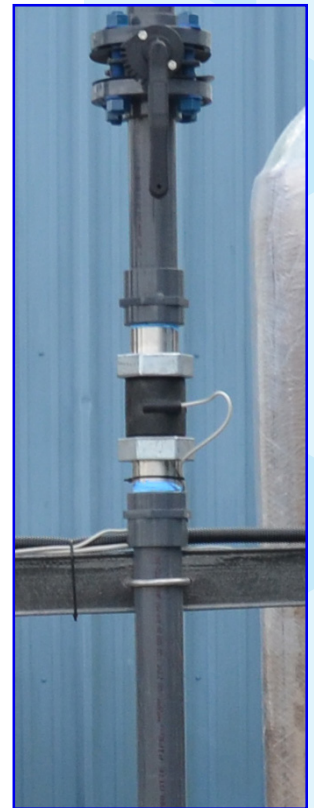


Turbine Flow Meters							
Part Number	Model	Size	Body Material	Electrical Connection	Min Flow Rate	Max Flow Rate	K-Factor
		in			gpm	gpm	
707143-7	TM100	1 MNPT	SS	ERC	0.25	40	64
707143-85	TM150	1-1/2 MNPT	SS	ERC	2	250	15
707143-8	TM200	2 MNPT	SS	ERC	2	250	15

- 4 Lead electrical connection available.



- Additional flow meter models are available. Contact Water King for assistance.



DM DIAPHRAGM VALVES

The DM Series heavy duty diaphragm valves utilize a Y-pattern design with large seat opening and high lift disc to reduce head loss. It has separate flow and control chambers permitting positive closing. Spring assist is available for low pressure or self-draining considerations. All components of this valve are serviceable while on-line. Available with position indicating stem, limit stops, and/or bronze valve body.



Standard Features	
Valve Pattern	Y
Body Material	Cast Iron
Internal Material	Stainless Steel/Brass
Coating Type	Primed
Diaphragm Material	Nitrile (Buna-N) on Nylon
Seals	Buna-N
Temperature Range	150°F
Max Allow. Work Pressure	120 psi
Manufacturer's Warranty	1 year



Diaphragm Valve Properties				
Part Number	Model	Pipe Size	Connection	Position
		in		
320095	DM075	3/4	FNPT	Normally Open
320140	DM075	3/4	FNPT	Normally Closed
320086	DM100	1	FNPT	Normally Open
320141	DM100	1	FNPT	Normally Closed
320106	DM150	1-1/2	FNPT	Normally Open
320142	DM150	1-1/2	FNPT	Normally Closed
320174	DM200	2	FNPT	Normally Open
320175	DM200	2	FNPT	Normally Closed
320560	DM300	3	FNPT	Normally Open
320560-1	DM300	3	FNPT	Normally Closed
320560-2	DM300F	3	Flanged	Normally Open
320095-4	DM400F	4	Flanged	Normally Open
320095-5	DM400F	4	Flanged	Normally Closed
320095-6	DM600F	6	Flanged	Normally Open

- Additional sizes, materials, and temperature ratings are available.
- Diaphragm and Metal Parts available



DMB DIAPHRAGM VALVES

The DMB Series heavy duty diaphragm valves utilize a globe-pattern design and offer a perfectly balanced diaphragm. Diaphragms are not distorted by uneven hydraulic forces on shut off or during regeneration. Stable action during shut off and pressure regulation with no pressure surges or chattering. Drip tight open and close at very low pressures.

Standard Features

Valve Pattern	Globe
Body Material	Brass/Cast Iron
Spring Material	Stainless Steel
Coating Type	Polyester
Diaphragm Material	Nylon fabric reinforced natural rubber
Temperature Range	175°F
Max Allow. Work Pressure	230 psi
Manufacturer's Warranty	1 year



Diaphragm Valve Properties

Part Number	Model	Pipe Size	Connection	Position
		in		
323101	DMB100	1	FNPT	Normally Open
323151	DMB150	1-1/2	FNPT	Normally Open
323205	DMB200G	2	Groove	Normally Open
323305	DMB300G	3	Groove	Normally Open
323405	DMB400G	4	Groove	Normally Open
323605	DMB600G	6	Groove	Normally Open

- Additional sizes, connections, and configurations are available.





102 CHARBONNET RD.
DUSON, LOUISIANA, USA 70529
PHONE: 337-988-2360
FAX: 337-981-7922
WATERKING.COM
SALES@WATERKING.COM