

H200 & H200HF SERIES

WATER CONDITIONERS



For Commercial & Industrial Applications

Apartment Buildings
Boiler Water Treatment
Car Washes
Commercial Buildings
Condominiums
Factories
Hospitals

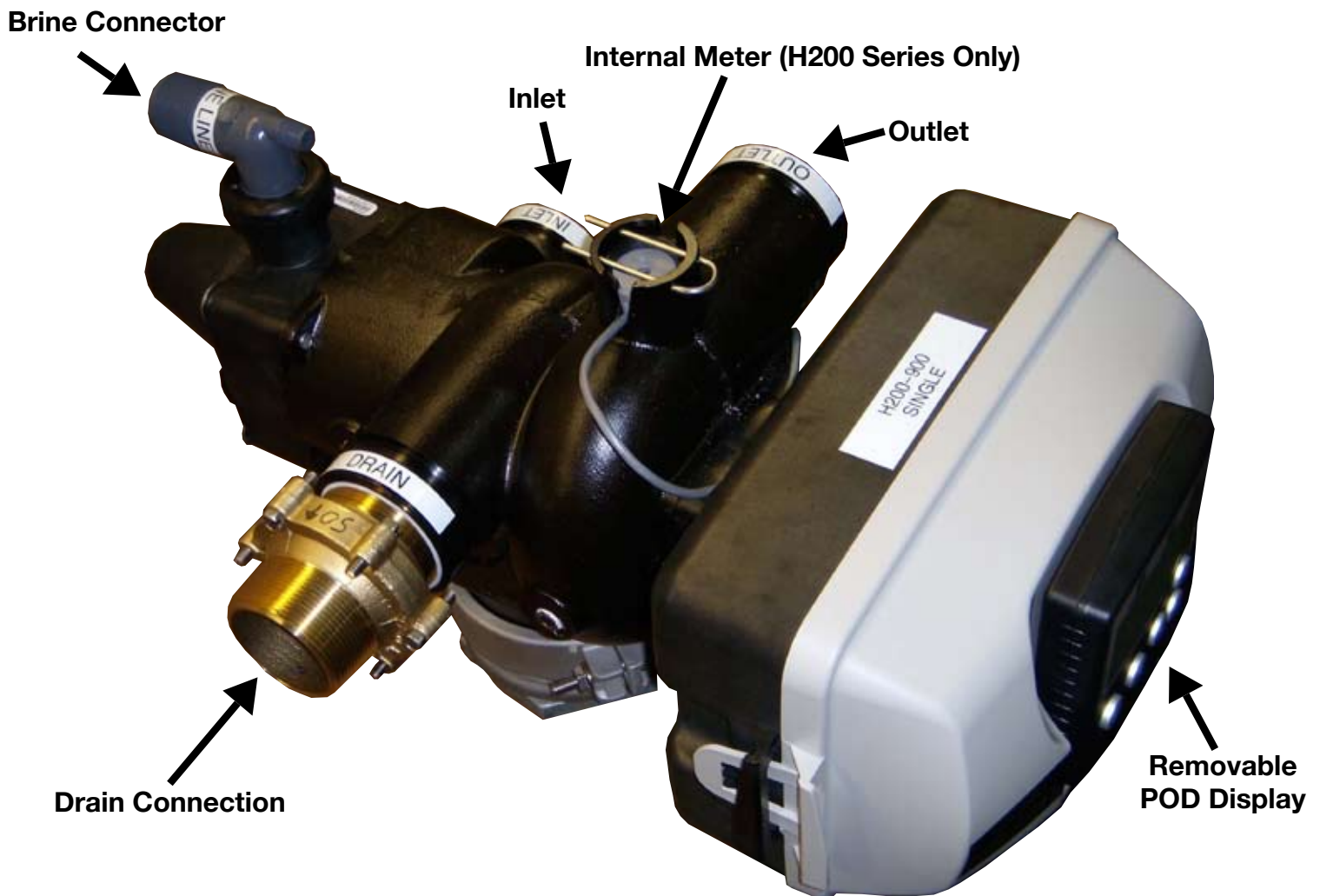
Laundries
Mobile Home Parks
Motels and Hotels
Nursing and Rest Homes
Office Buildings
Restaurants
Schools

Hellenbrand
Treat Yourself To Hellenbrand

Hellenbrand Means Quality and Reliability

Since 1967, Hellenbrand, Inc. has provided water solutions to the water treatment industry in the U.S. and around the world. Our growth in the water treatment industry is a direct result of providing high quality products and supporting the applications for those products with over 200+ years of industry knowledge before, during and after the sale, which has resulted in multiple applications over the years with the same customers.

H200 & H200HF Series Conditioners may either be top-mounted using a flange design or side-mounted using a side-mounted adapter, with either fiberglass or steel tanks. The H200 inlet/outlet opening is a two-inch FPT or 2.5" Victaulic. The H200HF "High Flow" Series uses a side-mount design with 2.5", 3" or 4" high flow service valves to provide higher flow rates with minimal pressure loss. The lead free brass valve body has an NSF Approved Food Grade Electro-Deposited Epoxy Coating to protect against corrosion, both internally and externally. Utilizing the proven technology of a piston and seal/spacer stack assembly and the powerful H200 micro-processor you can operate up to four tanks in parallel, alternating or demand recall/stage by flow and choose up to nine regeneration cycles in any order with a wide range of values for backwash, brine draw, slow rinse, fast rinse, refill and service allowing you to customize the H200/H200HF system for your particular application.



The H200 / H200HF is powerful, easy to use and packed with benefits

- Solid state microprocessor can control from one to four units allowing you system add on capabilities as your needs grow.
- Regeneration may be initiated with a time clock, meter delayed or meter immediate.
- Up to nine fully programmable cycle times, that can be moved around and repeated in various orders for your particular application needs.
- Soft water brine refill reduces build up in brine tank from hardness and iron present in the raw water supply.
- Easy to use user screen shows Time of Day, Current Flow Rate, Total Gallons Processed and Volume/Days until Regeneration.
- Solid state microprocessor has a removable POD display allowing you to remote mount the POD on top-mounted systems for easy access.
- Economical built-in electronic meter on H200 Series requires no extra piping.
- Economical remote mount electronic meters are available in a wide variety of sizes for the H200HF Series.
- Both two-inch FPT and 2.5" Victaulic Inlet/Outlet are standard on the H200 Series.
- Lead free brass body with NSF Approved Food Grade Electro-Deposited Epoxy Coating to protect internally and externally against corrosion.
- Corrosion free Noryl® backplate.
- Nema 3 Enclosure
- Optional Calendar Day Override from 1-28 days.
- 24-Volt output AC adapter is safe, comes with a 15-foot cord for easy installation.
- Reliable and proven DC drive from our family of H-Series Systems.
- Capacitor back-up with up to 24-hour power carry over.
- Optional System Control Board enables the addition of a third and fourth unit to be implemented into the system design. In addition the system board can be utilized to operate external devices like chemical feed pumps, booster pumps, and to lock out an R.O. system. The available two sets of normally open & normally closed auxiliary outputs can be activated after the start of a regeneration, after the start of a specified regeneration cycle, on a set number of gallons during service, on a set number of gallons during service & regeneration mode, while in standby & regeneration mode with a multi-tank system, or if a unit would be in an Error Mode.
- Motorized Alternating Valve "MAV" Provides:
 - Twin Alternating for H200 Top or Side Mount Systems.
 - Provides for no Raw Water By-Pass during regeneration for H200 Top or Side Mount Systems.
 - Provides choices of treated or non-treated water for regeneration.
 - Separate source regeneration.



Removable POD Display

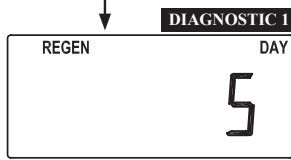


**2" Motorized Alternating Valve "MAV"
Requires System Board For Operation**

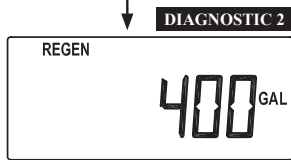
H200/H200HF Diagnostic and History Screens provide the water treatment operator with a wealth of information.

Diagnostic Screens

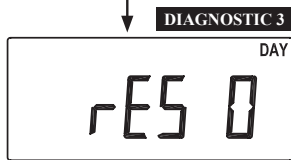
Accessed by pressing UP and DOWN simultaneously for >3 seconds.



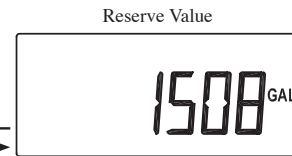
DIAGNOSTICS 1
Days since the last regeneration.



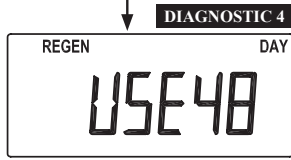
DIAGNOSTICS 2
Gallons or Liters x1000 since the last regeneration.



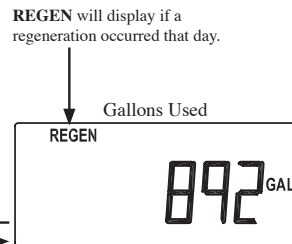
DIAGNOSTICS 3
Reserve history. This screen only appears if valve is set to calculate Reserve in System Setup 7. Use arrows to select a day.
0 = Today
1 = Yesterday
6 = 6 days ago (max.)



Automatically Toggles



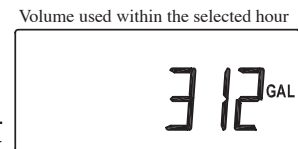
DIAGNOSTICS 4
History of volume used. Use arrows to select a day.
0 = Today
1 = Yesterday
63 = 63 days ago (max.)



Automatically Toggles



DIAGNOSTICS 4-B
Hourly history of volume use. Use the UP and DOWN arrow to select the hours of the day from screen 4.



Automatically Toggles



Simultaneously press UP and DOWN.

Diagnostic 4

Returns to normal operation after 5 minutes.

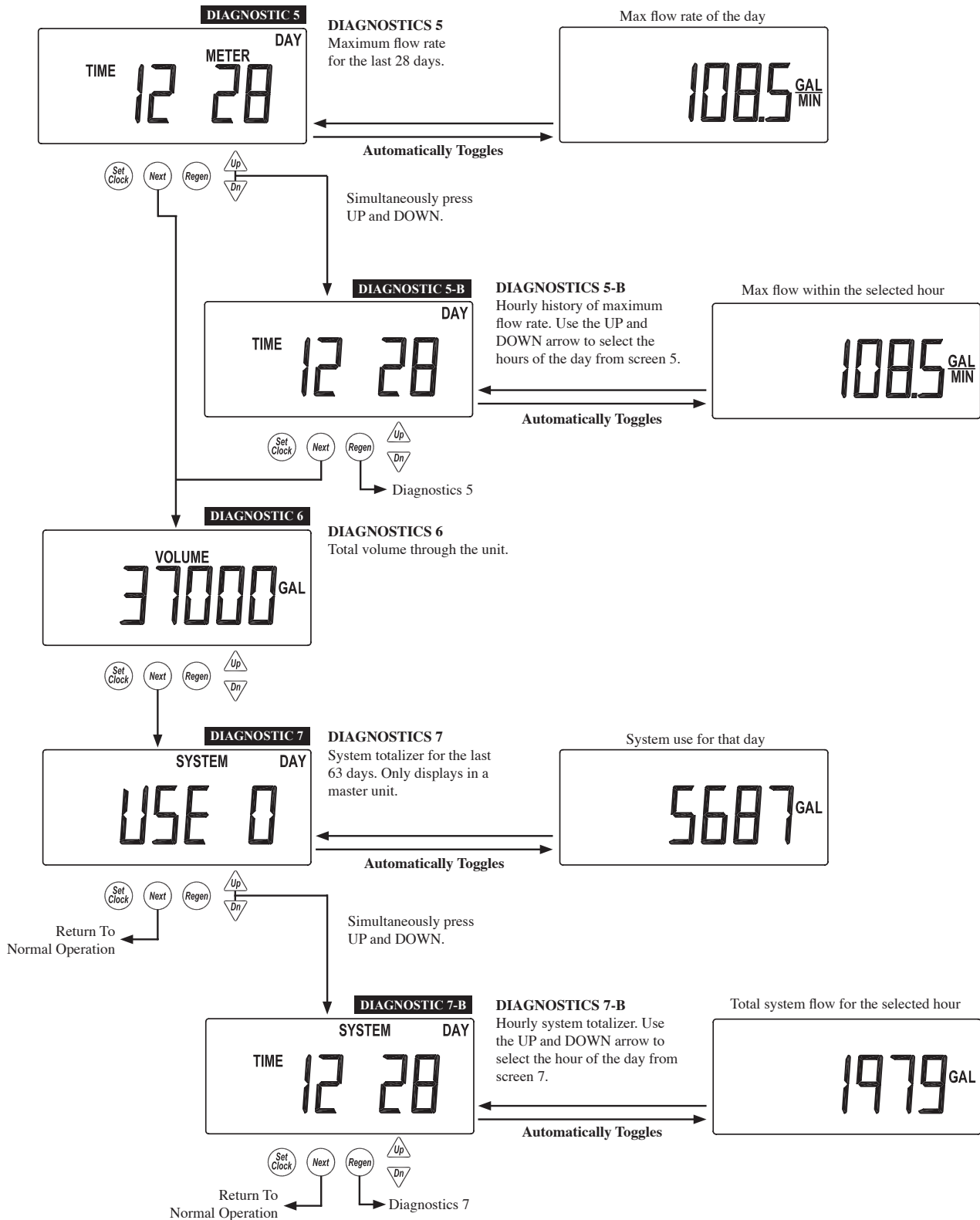
Diagnostic Screens

- Days since last regeneration
- Total volume treated since last regeneration
- Reserve history for the current day and previous six-days
- Usage history by the hour for each of the last 63 days
- Maximum flow rate and hour it occurred
- Maximum flow rate per unit by hour and day it occurred
- Total volume through the unit since it was installed

All Diagnostic History screens are resettable with the History Reset sequence while in the Diagnostics1 screen. Holding the Set Clock and Regen buttons for >3 seconds initiates a totalizer or history reset.

H200/H200HF Diagnostic and History Screens provide the water treatment operator with a wealth of information.

Diagnostic Screens (continued)

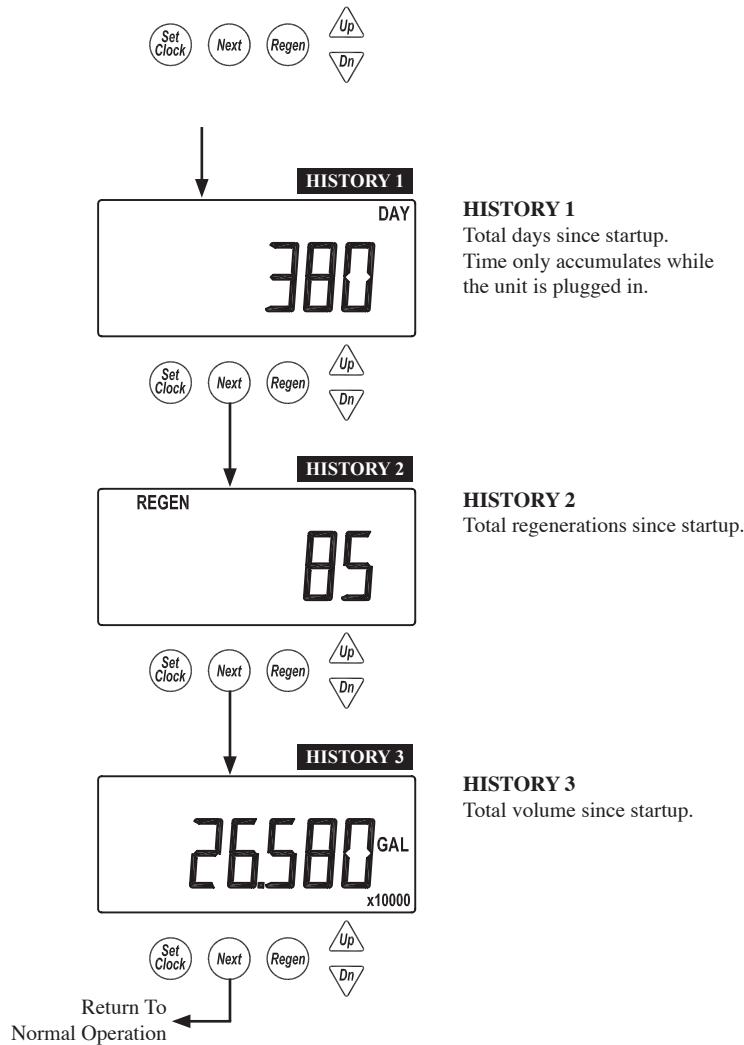


H200/H200HF Diagnostic and History Screens provide the water treatment operator with a wealth of information.

Valve History Screens

- Total days in operation
- Total regenerations since start-up
- Total volume of treated water

Accessed by pressing UP and DOWN simultaneously for >3 seconds, then by pressing UP and DOWN simultaneously again for >3 seconds.



Returns to normal operation after 5 minutes. Non-Resettable.

Modes of Regeneration

Time Clock - 7 or 28 day calendar clock shall initiate regeneration at a pre-set time of day.

Parallel Individual Meters - All units are in service at the same time with either delayed or immediate re-generation. A lockout feature or offsetting time of regeneration prevents more than one unit to regenerate at a time. Units may use either a fixed or variable reserve for operation.

This is used where the flow rate of one unit is not enough and there is sufficient down time for conditioned water to allow one unit to regenerate and the additional unit(s) to handle the flow rates during the regeneration time of the other unit, during off peak times.

Alternating Systems - This is the most efficient type of system in terms of maximizing operating costs for salt and water as it uses up all of the available capacity prior to regeneration.

Alternating One Meter - Twin units, one meter. When all of the available capacity is used the unit on stand-by will come on line and the unit in service will go into regeneration. Regeneration may occur immediate or during preset windows of time. Note: H200 Series have built-in internal meters on each unit.

Alternating Individual Meters - Twin, tri-plex or four-plex designs. One unit is always in service and the remaining units are either in service, stand-by or regeneration. Only one unit may regenerate at a time.

Regeneration will occur immediately when one unit reaches exhaustion.

Demand Recall - Each unit has its own meter and only the primary unit is in service "on line". As the gpm flow rate increases past a pre-set set point the second unit will come on line. If the flow rate increases beyond the second pre-set set point and you have a tri-plex or four-plex system a third unit will come on line, and should the flow rate increase beyond a third pre-set set point a fourth unit will come on line with a four-plex system. As the flow rate decreases, units will go back on stand-by accordingly. When the primary unit goes into regeneration the next unit in sequence becomes the primary unit. Multiple set-points are multiples of the first set point. Example: 50, 100 & 150 GPM.

This is used where the flow rate for peak gpm usage may occur randomly such as a process application for CIP at shift change or where the supply fixture counts for plumbing code requirements for certain types of applications more than likely will never occur, yet they need to meet plumbing code requirements for schools, office buildings, medical complex's . . . etc. In these types of applications the system may very well function as an alternating design most of the time.

System Designs	Single	Twin	Tri-Plex	Four-Plex
Time Clock	X	X	X	X
Variable Reserve	X	X	X	X
Parallel, Individual Meters		X	X	X
Demand Recall		X	X	X
Alternating, One Meter		X		
Alternating Individual Meters		X	X	X

Meter Initiated Options:

Immediate - Regeneration shall occur immediately when the unit reaches exhaustion, zero gallons remaining.

Delayed - Regeneration occurs during off peak usage with a fixed reserve capacity

Variable Reserve - System automatically adjusts to changing water usage patterns and adjusts the reserve capacity accordingly by day of the week. Regeneration occurs on a delayed basis.

H200 Series

- A. MINERAL TANK: Fiberglass tank with Polyethylene Inner Shell and Fiberglass Roving Manufactured to Operate at 150 psi. NSF Approved.
- B. DISTRIBUTOR SYSTEM: Two-Inch Hub & Lateral Distributor for Maximum Service Flow and Minimal Pressure Loss.
- C. MINERAL: High Capacity Ion Exchange Resin. Uniform and stable beads assure long life, high salt efficiency, and maximum hardness removal.
- D. UNDERBEDDING: Multi-Layered Gravel Underbedding assures full usage of mineral bed and allows for a smooth and constant water flow for service and regeneration.
- E. BRINE TANK: Rotationally Molded Polyethylene with Dust-Tight Cover.
- F. GRID PLATE: Grid plate allows for dry salt storage. Available in various sizes and heights.
- G. OPTIONAL SAFETY BRINE VALVE: Acts as a Secondary Shut-Off for Timed Brine and may be used as a Primary Shut-Off without Timed Brine.

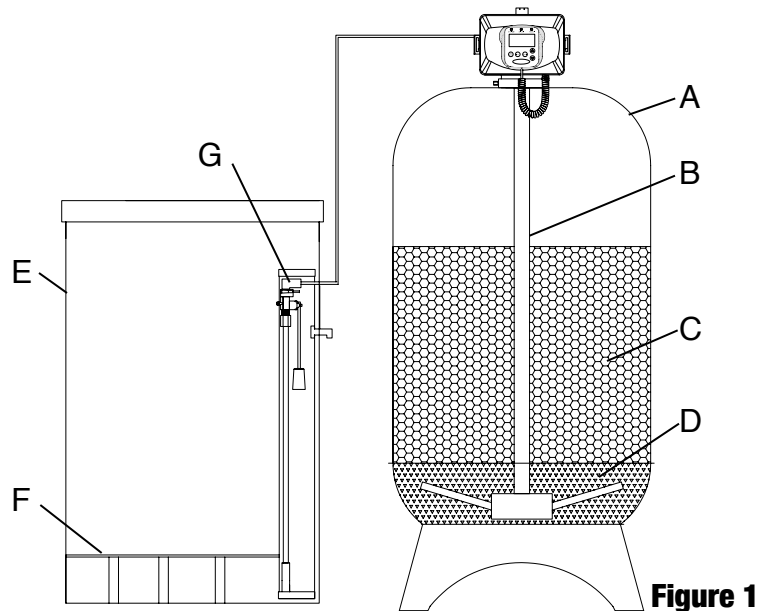


Figure 1

H200 Typical Single Tank Installation-Top Mount

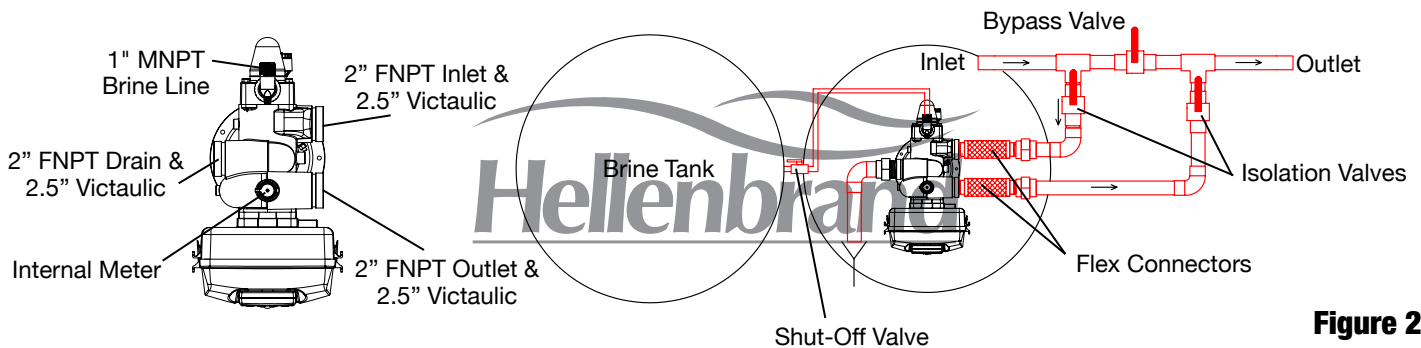


Figure 2

NOTE:

System connections to the tank must accommodate longitudinal movement between side, top and bottom openings, flexibility in piping or flex connectors are recommended.

Red colored piping, fittings, and connectors are for reference only and are not included. Must be furnished by others.

Union type connectors are recommended on the inlet and outlet connections.

1" Brine Line must be hard-piped, secured and supported for proper operation. CPVC or Schedule 80 PVC recommended.

H200 Twin Alternating Tank Installation - Top Mount

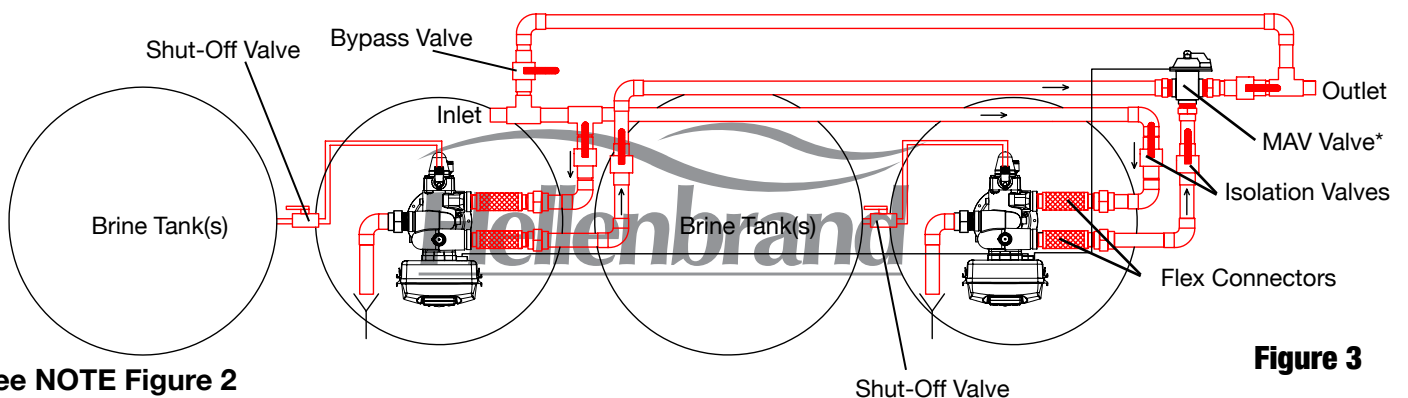


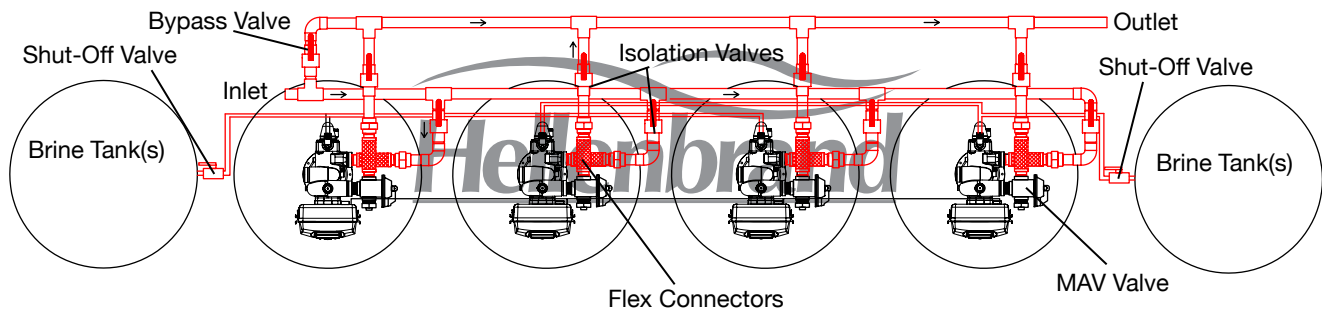
Figure 3

See NOTE Figure 2

MAV = Motorized Alternating Valve.

H200 Twin/Triplex/Fourplex Installation Top-Mount - First-in, Last-Out Piping Arrangement.

"MAV" Shown for demand recall. Four Plex shown for reference only.



See NOTE Figure 5

MAV = Motorized Alternating Valve.

Figure 4

H200 Single Installation - Side Mount

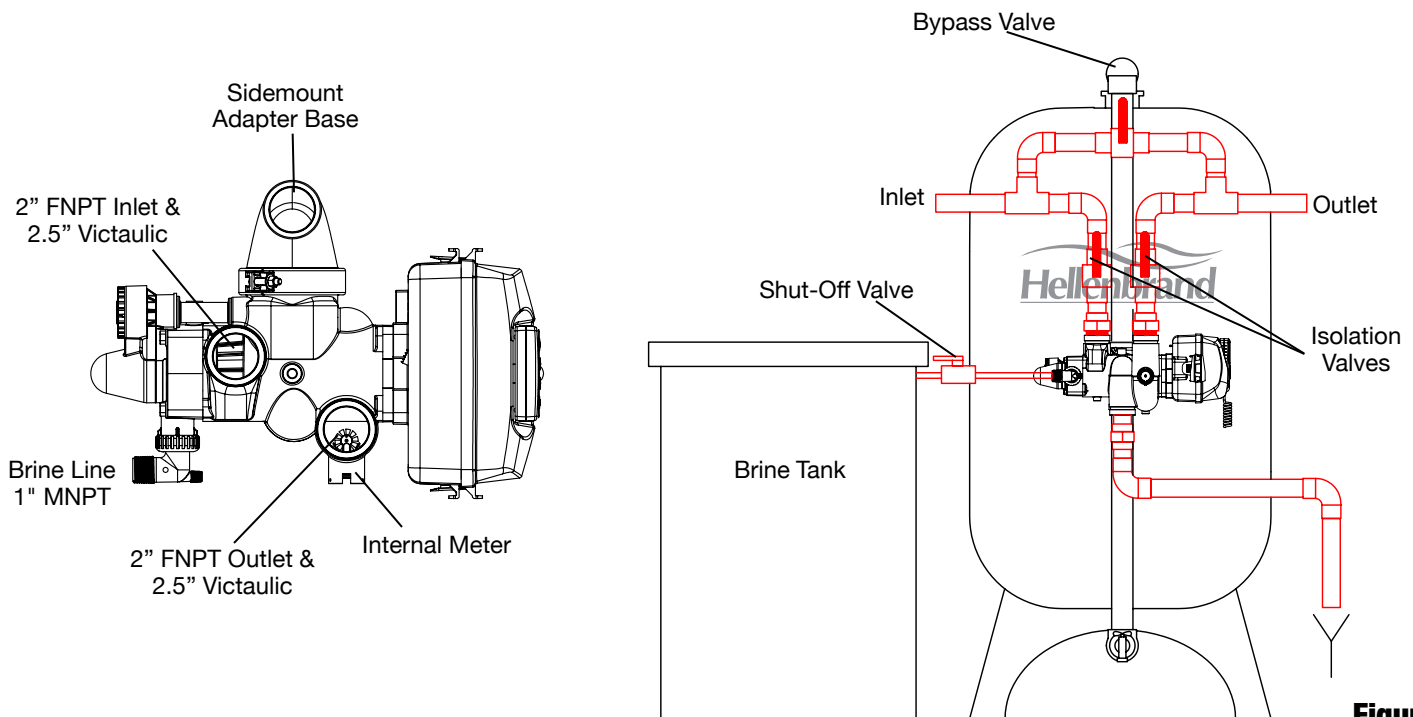


Figure 5

NOTE:

System connections to the tank must accommodate longitudinal movement between side, top and bottom openings, flexibility in piping or flex connectors are recommended.

Red colored piping, fittings, and connectors are for reference only and are not included. Must be furnished by others.

Union type connectors are recommended on the inlet and outlet connections.

1" Brine Line must be hard-piped, secured and supported for proper operation. CPVC or Schedule 80 PVC recommended.

MAV = Motorized Alternating Valve.

H200 Twin Alternating - Side Mount

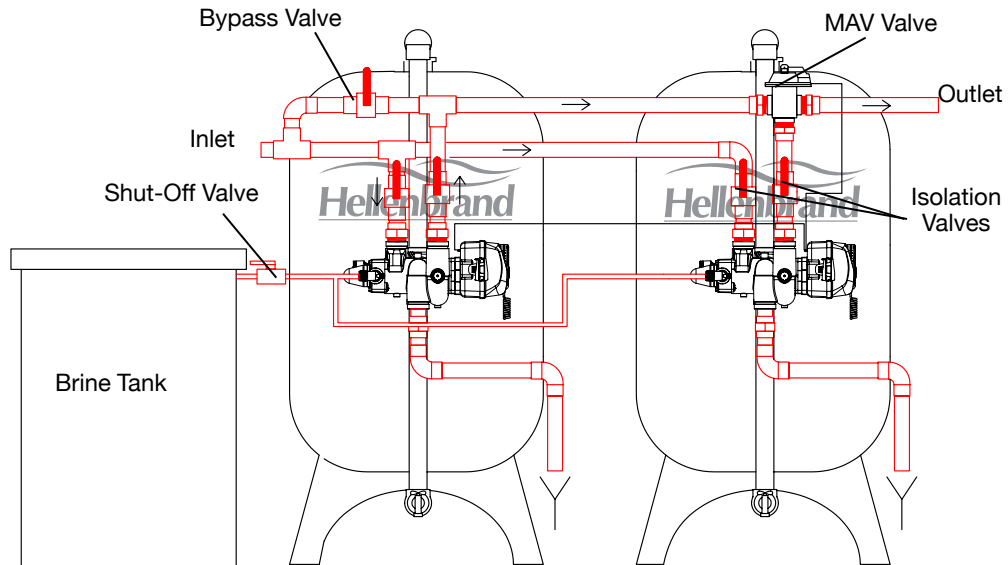


Figure 6

See NOTE Figure 7

MAV = Motorized Alternating Valve.

H200 Twin/Triplex/Fourplex Installation - Side Mount First-in, Last-Out Piping Arrangement.

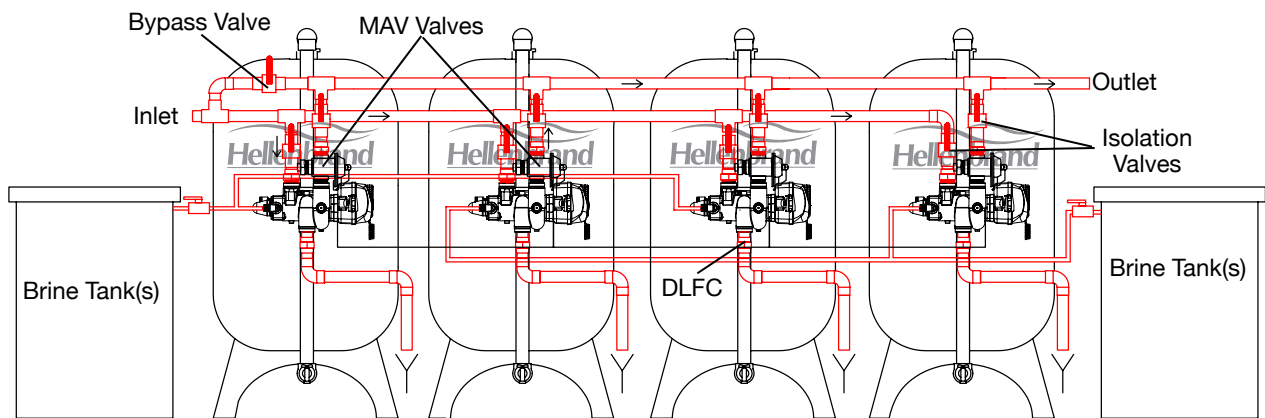


Figure 7

NOTE:

System connections to the tank must accommodate longitudinal movement between side, top and bottom openings, flexibility in piping or flex connectors are recommended.

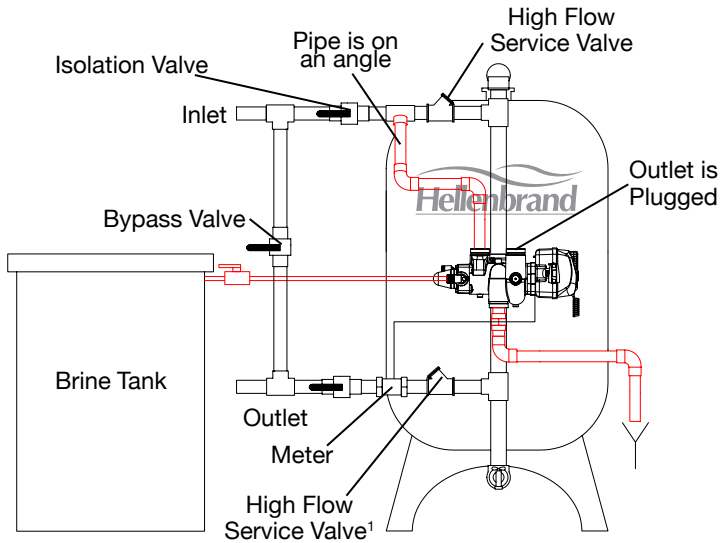
Red colored piping, fittings, and connectors are for reference only and are not included. Must be furnished by others.

Union type connectors are recommended on the inlet and outlet connections.

1" Brine Line must be hard-piped, secured and supported for proper operation. CPVC or Schedule 80 PVC recommended.

MAV = Motorized Alternating Valve.

H200 HF Single Tank Installation

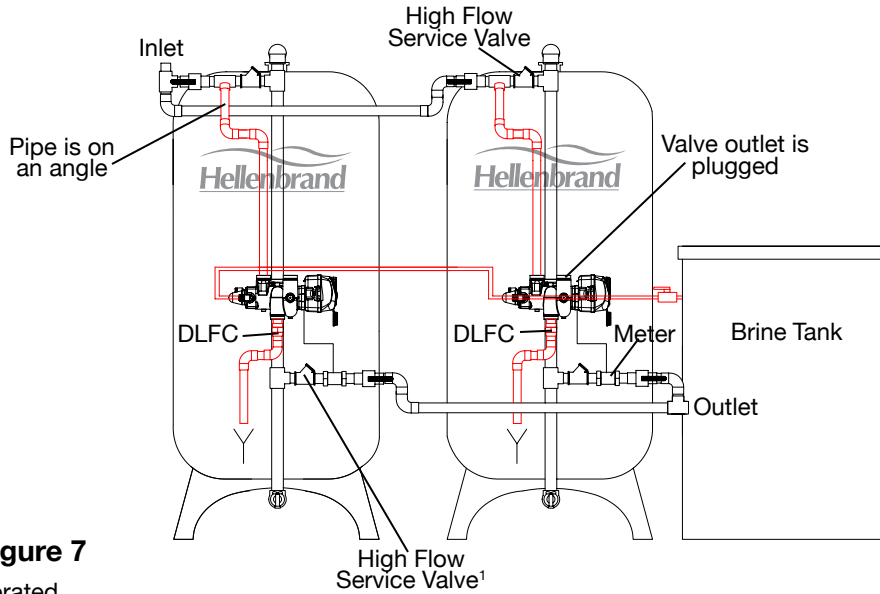


See NOTE Figure 7

¹Air or water operated

Figure 8

H200 HF Twin Alternating Installation

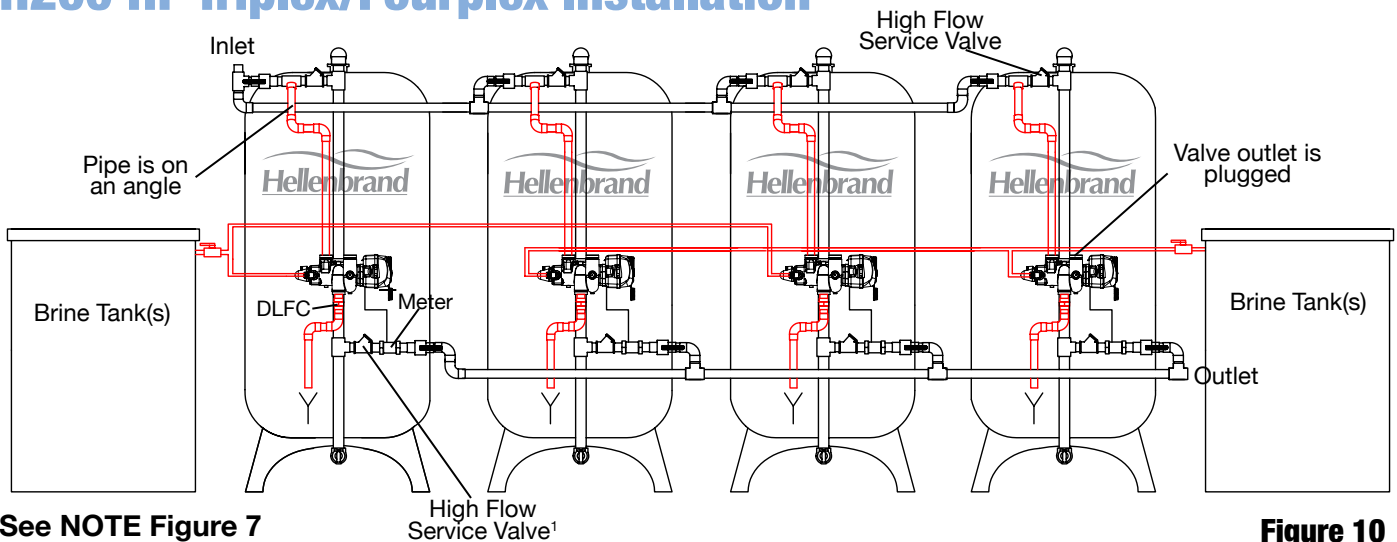


See NOTE Figure 7

¹Air or water operated

Figure 9

H200 HF Triplex/Fourplex Installation



See NOTE Figure 7

¹Air or water operated

Figure 10

H200 Physical Specifications

Mineral tank sizes shown are with polyglass tanks.

MODEL	PIPE SIZE (INCHES)	MINERAL TANK (INCHES)	RECOMMENDED BRINE TANK		APPROXIMATE SHIPPING WEIGHT-TOP MOUNT	
			SIZE (INCHES)	SALT STORAGE (LBS)	SINGLE	TWIN
H200-240	2	24 X 72	24 X 50	715	674	1325
H200-300-24	2	24 X 72	24 X 50	715	776	1529
H200-300-30	2	30 X 72	30 X 50	1,110	1059	2064
H200-450-30	2	30 X 72	39 X 48	2,030	1333	2593
H200-450-36	2	36 X 72	39 X 48	2,030	1393	2653
H200-600	2	36 X 72	39 X 48	1,640	1751	3426
H200-750	2	42 X 72	42 X 60	2,580	2535	4954
H200-900	2	42 X 72	50 X 60	4,130	2922	5750
H200-1200	2	48 X 72	50 X 60	4,130	3600	6900

H200 Capacity Ratings

MODEL	RESIN CU.FT.	RATED CAPACITY			FLOW RATES (gpm)		BKW GPM
		LOW SALT GRAINS/LBS	MEDIUM SALT GRAINS/LBS	HIGH SALT GRAINS/LBS	15 PSI	25 PSI	
H200-240	8	152,000/48	224,000/80	256,000/120	77	100	12
H200-300-24	10	190,000/60	280,000/100	320,000/150	75	97	12
H200-300-30	10	190,000/60	280,000/100	320,000/150	92	120	20
H200-450-30	15	285,000/90	420,000/150	480,000/225	88	113	20
H200-450-36	15	285,000/90	420,000/150	480,000/225	100	130	30
H200-600	20	380,000/120	560,000/200	640,000/300	97	126	30
H200-750	25	475,000/150	700,000/250	800,000/375	106	137	40
H200-900	30	570,000/180	840,000/300	960,000/450	104	130	40
H200-1200	40	760,000/240	1,120,000/400	1,280,000/600	105	135	50

1. Steel tank design configurations available up through 60" tank diameters. Consult factory for details.

OPERATING CONDITIONS

1. Water Pressure 30 - 100 psi.
2. Water temperature is not to exceed 110°F and the unit cannot be subject to freezing conditions. Consult factory for higher water temperature applications.
3. Limit of 2 ppm of Ferrous Iron. Add 3 grains per gallon of hardness for each ppm of iron present.
4. Flex connectors and vacuum breakers are required when using the PolyGlass Composite mineral tanks.
5. Backwash flow rates are calculated at 4 gpm per sq. ft. of bed area and rounded off based on 50°F water temperature.

H200 Series Top Mount Dimensions

MODEL	SYSTEM HEIGHT	OUTLET HEIGHTS	INLET HEIGHTS	DRAIN HEIGHTS	MINERAL TANK	BRINE TANK
H200-300	89.4	86.7	83.1	85.4	24x72	24x50
H200-300-30	86.2	83.5	79.9	82.2	30x72	30x50
H200-450	86.2	83.5	79.9	82.2	30x72	39x48
H200-600	87.2	84.5	80.9	83.2	36x72	39x48
H200-750	104.5	101.8	98.2	100.5	42x72	42x60
H200-900	104.5	101.8	98.2	100.5	42x72	50x60
H200-1200	104.5	101.8	98.2	100.5	48x72	50x60

H200 Series Side Mount Dimensions

MODEL	SYSTEM HEIGHT	OUTLET HEIGHTS	INLET HEIGHTS	DRAIN HEIGHTS	MINERAL TANK	BRINE TANK
H200-300-SM	95.6	54.6	51	53.3	24x72	24x50
H200-300-30-SM	94.6	54.6	51	53.3	30x72	30x50
H200-450-SM	94.6	54.6	51	53.3	30x72	39x48
H200-600-SM	95.3	54.6	51	53.3	36x72	39x48
H200-750-SM	100.9	54.6	51	53.3	42x72	42x60
H200-900-SM	100.9	54.6	51	53.3	42x72	50x60
H200-1200-SM	100.9	54.6	51	53.3	48x72	50x60

All dimensions ±2" and are subject to change without notice. Use as reference only. Call factory for optional tank & dimensional configurations.

Product Improvement designs are subject to change without notice.



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H200HF Physical Specifications

Mineral tank sizes shown are with polyglass tanks.

MODEL	PIPE SIZE (INCHES)	MINERAL TANK (INCHES)	SIZE (INCHES)		SALT STORAGE (LBS)		APPROXIMATE SHIPPING WEIGHT	
			SIZE (INCHES)	SALT STORAGE (LBS)	SINGLE	TWIN		
H200HF-300-24-3	3	24 X 72	30 X 50	1,110	1,200	2,300		
H200HF-300-30-3	3	30 X 72	30 X 50	1,110	1,400	2,700		
H200HF-450-30-3	3	30 X 72	39 X 48	2,030	1,700	3,300		
H200HF-450-36-3	3	36 X 72	39 X 48	2,030	1,900	3,700		
H200HF-600-3	3	36 X 72	39 X 48	1,640	2,100	4,100		
H200HF-750-3	3	42 X 72	42 X 60	2,580	2,900	5,600		
H200HF-900-3	3	42 X 72	50 X 60	4,130	3,350	6,400		
H200HF-1200-3	3	48 X 72	50 X 60	4,130	3,850	7,500		
H200HF-1200-4	4	48 X 72	50 X 60	4,130	—	—		
H200HF-1500-3	3	54 X 72	60 X 64	4,000	—	—		
H200HF-1500-4	4	54 X 72	60 X 64	4,000	—	—		
H200HF-1950-3	3	60 X 72	72 X 54	4,800	—	—		
H200HF-1950-4	4	60 X 72	72 X 54	4,800	—	—		

H200HF Capacity Ratings

MODEL	RESIN CU.FT.	RATED CAPACITY			FLOW RATES (gpm)		BKW GPM
		LOW SALT GRAINS/LBS	MEDIUM SALT GRAINS/LBS	HIGH SALT GRAINS/LBS	15 PSI	25 PSI	
					15 PSI	25 PSI	
H200HF-300-24-3	10	190,000/60	280,000/100	320,000/150	120	170	12
H200HF-300-30-3	10	190,000/60	280,000/100	320,000/150	175	225	20
H200HF-450-30-3	15	285,000/90	420,000/150	480,000/225	158	212	20
H200HF-450-36-3	15	285,000/90	420,000/150	480,000/225	200	278	30
H200HF-600-3	20	380,000/120	560,000/200	640,000/300	189	257	30
H200HF-750-3	25	475,000/150	700,000/250	800,000/375	212	280	40
H200F-900-3	30	570,000/180	840,000/300	960,000/450	200	268	50
H200F-1200-3	40	760,000/240	1,120,000/400	1,280,000/600	213	280	70
H200HF-1200-4	40	760,000/240	1,120,000/400	1,280,000/600	310	445	70
H200HF-1500-3	50	950,000/300	1,400,000/500	1,600,000/750	225	307	90
H200HF-1500-4	50	950,000/300	1,400,000/500	1,600,000/750	340	495	90
H200HF-1950-3	65	1,235,000/390	1,820,000/650	2,080,000/975	235	325	110
H200HF-1950-4	65	1,235,000/390	1,820,000/650	2,080,000/975	445	650	110

- H200HF-300-24-34 through H200HF-1200-4 are shown with fiberglass mineral tanks. All of these are also available with steel tanks.
- H200HF-1500-3 through H200HF-1950-4 are available with steel tanks.

OPERATING CONDITIONS

- Water Pressure 30 - 100 psi.
- Water temperature is not to exceed 110°F and the unit cannot be subject to freezing conditions. Consult factory for higher water temperature applications.
- Limit of 2 ppm of Ferrous Iron. Add 3 grains per gallon of hardness for each ppm of iron present.
- Flex connectors and vacuum breakers are required when using the PolyGlass Composite mineral tanks.
- Backwash flow rates are calculated at 4 gpm per sq. ft. of bed area and rounded off based on 50°F water temperature.

H200HF Series Side Mount Dimensions-Fiberglass Tanks

MODEL	SYSTEM HEIGHT	OUTLET HEIGHTS	INLET HEIGHTS	DRAIN HEIGHTS	MINERAL TANK	BRINE TANK
H200HF-300	92.8	17	85.5	--	24x72	24x50
H200HF-300-30	95.6	17	85.5	--	30x72	30x50
H200HF-450	95.6	17	85.5	--	30x72	39x48
H200HF-600	96.3	17	85.5	--	36x72	39x48
H200HF-750	101.9	17	85.5	--	42x72	42x60
H200HF-900	101.9	17	85.5	--	42x72	50x60
H200HF-1200	100.9	17	85.5	--	48x72	50x60

All dimensions ±1" and are subject to change without notice. Use as reference only. Call factory for optional tank & dimensional configurations.

Product Improvement designs are subject to change without notice.



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