

# HP 200 SM

Manufactured by Hydro, Inc. Atlanta GA

## Laboratory Purification Systems Central RO/DI Systems

Meeting the demand of high quality, high volume purified water, in a confined environment, the **HP 200 SM** Central System answers the call. In its most compact design, the **HP 200 SM** can produce up to 9.5 liters per minute, Type I water, with a distribution system feeding multiple points-of-use, up to 26.5 liters per minute, from the 227 liter recirculating PE conical storage.

**HP 200 SM** can distribute Type I laboratory grade water as specified by ASTM, CAP/NCCLS and USP to various point of use within your laboratory. Systems production capacity may also be increased, within limitation, to meet your demand.

If you are in need of a central RO/DI System and customer satisfaction is just as important to you as it is to us, then the **HP 200 SM** by Hydro is the clear choice. Call for complete specifications.



(800) 579-6869

#### Service Centers:

Atlanta, GA  
Tampa, FL  
Charlotte, NC

#### Coming Soon:

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[admin@hydroinc.net](mailto:admin@hydroinc.net)

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# HYDR INC.

Since 1984

# The Southeast's Water Quality Specialist

## Built to YOUR Specifications



### Conductivity and Resistivity Chart (NaCl and CaCO<sub>3</sub> Solutions at 25° C)

GRAINS/Gal as CaCO	PPM as CaCO	PPM NaCl	CONDUCTIVITY microhms/cm	RESISTIVITY megohms/cm
99.3	1700	2000	3860	0.00026
74.5	1275	1500	2930	0.00034
49.6	850	1000	1990	0.0005
24.8	425	500	1020	0.00099
9.93	170	200	415	0.0024
7.45	127.5	150	315	0.0032
4.96	85	100	210	0.0048
2.48	42.5	50	105	0.0095
0.992	17	20	42.7	0.023
0.742	12.7	15	32.1	0.031
0.496	8.5	10	21.4	0.047
0.248	4.25	5	10.8	0.093
0.099	1.7	2	4.35	0.023
0.074	1.27	1.5	3.28	0.3
0.048	0.85	1	2.21	0.45
0.025	0.42	0.5	1.13	0.88
0.0099	0.17	0.2	0.49	2.05
0.0076	0.13	0.15	0.38	2.65
0.005	0.085	0.1	0.27	3.7
0.0025	0.042	0.05	0.16	6.15
0.00099	0.017	0.02	0.098	10.2
0.0007	0.012	0.015	0.087	11.5
0.00047	0.008	0.01	0.076	13.1
0.00023	0.004	0.005	0.066	15.2
0.00012	0.002	0.002	0.059	16.9
0.00006	0.001	0.001	0.057	17.6
none	none	none	0.055	18.3

### American Society for Testing and Materials (ASTM) Standard Specification for Reagent Grade Water

	Type I	Type II	Type III	Type IV
Electrical Conductivity Max (pS/cm @ 25° C)	0.056	1.0	0.25	5.0
Electrical Resistivity Min. (MΩ-cm @ 25° C)	18	1.0	4.0	0.2
pH @ 25° C	-	-	-	5.0 - 8.0
TOC max. (µg/L)	100	50	200	No limit
Sodium max. (µg/L)	1	5	10	50
Silica max. (µg/L)	3	3	500	No limit
Chloride max. (µg/L)	1	5	10	50

When bacterial levels need to be controlled, reagent grade types should be further discussed as follows:

	Type A	Type B	Type C
Total Bacterial Count Max. CFU/100ml	1	10	1000
Endotoxin max. IU.ml	0.03	0.25	-

### National Committee for Clinical Laboratory Standards (NCCLS)

	Type I	Type II	Type III
Bacteria (CFU/ml)	< 10	< 1000	NA
pH	NA	NA	5.0 - 8.0
Resistivity (MΩ-cm @ 25° C)	> 10	> 1	> 0.1
SiCO <sub>2</sub> mg/L	< 0.05	< 0.1	< 1
Total Solids mg/L	0.1	1	5
Total Oxizable Organic Carbon mg/L	< 0.05	< 0.2	< 1

Type I water must be free of particulate matter larger than 0.2µm

17.1 ppm = 1 grain per gallon  
1 US gallon = 3.785 Liters

$$1 - \left( \frac{\text{Product TDS}}{\text{Feed TDS}} \right) \times 100 = \% \text{ Rejection}$$

$$\left( \frac{\text{Product GPM}}{\text{Feed GPM}} \right) \times 100 = \% \text{ Recovery}$$

## HP 200 SM

### Equipment (Standard): \*Unless Noted

Controller: Micro Process Digital Display  
 RO System: 800-11,520 liters per day production (24 hr)  
 RO Concentrate: Recycle valve for water conservation  
 Membrane: TFC/Cold water/Low energy  
 Ultra-Filtration System: Optional UF\* - Standard .22  
 Low Pressure Protection: RO/Recirc systems  
 High tank level auto shut-off RO  
 Flow Meters (4+5) product/concentrate/recycle/UF product/UF recycle  
 Semi-Automatic sanitization  
 Ultraviolet system (1) 254 nm. Optional\* 185 nm  
 PVC membrane housing (1-2) 2540/4040  
 Stainless pumps (2) One RO/One Recirc  
 Pre-filtration 20" depth 20" GAC carbon  
 Water softener \*(optional adder-not included) needed only in certain parts of US  
 Re-circulating point-of-use dispensing gun/faucet \*(optional adder)  
 POU carboy fill station \*(optional added)  
 Auto flush system  
 Pressure reduction valve  
 24 hour continuous recirculation

### Specifications:

Net weight: 520 lb dry / 870 lb wet  
 Enclosure: Powder coat steel frame/Molded acrylic  
 Dimensions: L48" X W26" X H74" (Physical Unit)  
 Floor Space Required: L84" X W50" X H84"  
 Duty Cycles: Continuous with programmable options  
 Voltage: 208V, 1PH/60Hz/20 Amp (dedicated circuit)  
 Feed Water Flow: 9 gpm minimum  
 Feed Water Pressure: 20 psi minimum, 60 psi maximum  
 Drain: 9 gpm minimum  
 Product Flow Rate: 6-20 liters per minute  
 Quality: Resistivity 17.5 - 18.2 megohm  
 Distribution: 1.5-5 gpm (loop)  
 RO make-up: 800-11,500 liters per day  
 Bacteria: < 1 cfu/ml with monthly sanitization  
 TOC: < 500 ppb  
 Ultra-Filter: 10,000 mwc. Optional\* .22 Standard  
 UV Dual Wave Length: 254 nm. Optional\* 185 nm  
 RO Storage: PE conical/Conical/240Liter Capacity  
 Deionization: (2) Service exchange Mixed Bed