

HP-7-10 SM

Industrial/Pharmaceutical RO Systems



Featured 7 gallon/minute RO unit
Systems available 1 to 100 gallon/minute
Manufactured by Hydro, Inc., Atlanta, GA

(800) 579-6869

Service Centers:

Atlanta, GA
Tampa, FL
Charlotte, NC

Coming Soon:

Nashville, TN
Mobile, AL

admin@hydroinc.net

www.hydroinc.net

HYDR  **INC.**
Since 1984

The Southeast's Water Quality Specialist

Built to YOUR Specifications



Conductivity and Resistivity Chart (NaCl and CaCO₃ 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 ₂ 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

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

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

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Equipment (Standard):

Controller: Micro Process Digital Display
RO System: 10,000 gallon per day production
RO Concentrate: Recycle valve for water conservation
Membrane: TFC low energy (6) 4 x 40
Low pressure protection
High tank/Low tank Auto Off/On
Flow Meter: (3) Product/Concentrate/Recycle
316ss Stainless Pressure Pump
Auto flush system
Pre-filter round 10" stainless housing

Specifications:

Net weight: 680 lbs dry
Dimensions: 260" X 30"S X 76" H powder coat frame
Duty Cycles: Continuous with programmable options
Voltage: Optional 120V 1PH 208/230V 1PH/3PH 30 amp
Feed Water Supply: 15 gpm minimum
Feed Water Temp: 45° - 90° F
Drain: 18 gpm minimum
Product Flow Rate: 7 gpm
Quality: TDS Micromho 98% rejection (initial)
RO make-up: 420 gallon per hour

Hydro, Inc. manufactures RO systems as stand alone or as pre-treatment to our ultra-pure water systems. Required RO pre-treat equipment; softeners/carbon/anti-scalant/de-chlor and storage tanks/pumps are also provided through Hydro.