

Defining Water Purification Standards

The **XP150**, definitive by design, is the most cost effective, high quality, laboratory point-of-use purification system you will find. Constructed of polypropylene materials housed in a formed acrylic casing, this unit will produce 100 gallons per day, HPLC grade water. Product water meets Type I Laboratory requirements set by ASTM CAP/NCCLS as well as exceeds USP standards.

The **XP150's** compact design allows for shelf mount, wall mount or counter-top placement. It comes standard with a three (3) gallon conical polypro storage tank, but can be retrofitted to any larger tank to fit your needs. The system can be upgraded to produce 200 gallons per day, and may be plumbed for dispensing at various locations, depending on proximity. It works as stand-alone or may be fitted for polishing larger central water purification systems.

If your laboratory demands a high quality production of purified water for tissue/cell culture, chromatographic procedures (HPLC), media preparation, DNA, RNase, plating and glassware rinse, then you need the micro-process controlled **XP150**.

Contact us for complete specifications. You will be surprised by the **XP150's** price, performance and low cost maintenance compared to conventional systems on the market today.



Jence/XP150

Manufactured by Hydro, Inc. Atlanta GA

(800) 579-6869

Service Centers:

Atlanta, GA
Tampa, FL
Charlotte, NC

Coming Soon:

Nashville, TN
Mobile, AL

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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

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

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

Jencel XP150

Equipment (Standard): * unless noted

Controller: Micro Process Digital Display
 RO System: 126 liters per day production (8 hour)
 RO Concentrate: Recycle valve for water conservation
 Membrane: TFC (1 - 100 gpd 24 hr) Low energy
 Ultra-filtration system (2)
 Low pressure protection RO/Recirc systems
 High tank level auto shut-off RO
 Flow Meters (5) product/concentrate/recycle/UF product, UF recycle
 Semi-Automatic sanitization
 Ultraviolet lamp (1) with dual wave length, 185 NM
 Polypro membrane housing (2)
 Stainless pumps (2) - one RO/one recirc
 Pre-filtration 10" depth 10" GAC carbon
 Water softener (optional adder - not included) * Needed only in certain parts of US
 Re-circulating point of use dispensing gun
 POU - Carboy fill station * (Optional)
 Auto flush system
 Pressure reduction valve
 24 hour continuous recirculation

Specifications:

Net weight: 63 lbs wet
 Enclosure: Molded Acrylic
 Dimensions: L 22" X W 12" X H 18" (add 14" to H for tank)
 Shelf Dimensions: L 24" X W 12"
 Duty Cycles: Continuous with programmable options
 Voltage: 110V, 60 Hz, 10 Amp
 Feed Water Flow: 2 gpm minimum
 Feed Water Pressure: 20 psi minimum, 60 psi maximum
 Feed Water Temp: 50 - 95° F
 Drain: 2 gpm minimum
 Product Flow Rate: 2.1 lpm with optional .22 hollow fiber filtration POU
 Quality: (Resistivity) 17.5 - 18.2 megohm
 RO make-up: 378 liters/day
 Bacteria: < 1 cfu/ml with monthly sanitization
 TOC: < 500ppb
 Ultra-Filter: 10,000 wc
 UV Dual Wave Length: 185 and 254 nm
 RO Storage Construction: polypropylene/3 gallon capacity/12" X 12"
 Deionization cartridge (2): 25" X 14" 1800 grc disposable mixed bed