

Laboratory Purification Systems

Adding a little flare to the analytical world. Jencel's MX3 is designed to meet all water specifications required for your analyzer. The cost effective MX3 has a high quality production of purified water for tissue/cell culture, chromatographic procedures (HPLC), media preparation, DNA RNase, plating, glassware rinse and blood analytical systems.

MX3 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.

Contact us for complete specifications.

You will be surprised by the Jencel's MX3's price, performance and low cost maintenance compared to conventional systems on the market today. Ask about the complete line of Jencel laboratory purification systems and how we can provide your lab with 0 cfu/ml bacteria counts.

Jencel MX3

(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 Oxidizable 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 MX3

Equipment (Standard):

Controller: Micro Process Digital Display
 RO System: 2,271 liters per day production (24 hrs)
 RO Concentrate: Recycle valve for water conservation
 Membrane: TFC (1-600 gpd)
 Ultra-filtration system
 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 lamps (2) with dual wave length 185 nm
 PolyPro membrane housing (1)
 Stainless (316L) pumps (2) - one RO/one Recirc
 Pre-filtration 20" depth 20" GAC carbon
 Water softener WCI-15,000 gpg
 POU - Carboy fill station *(optional)
 Laboratory Recirc faucet *(optional)
 Auto flush system
 Pressure reduction valve
 24 hour continuous recirculation

Specifications:

Net weight: 428 lbs
 Enclosure: Molded acrylic casing metal ribbed
 Dimensions: Diameter 36" X 72" Height
 Floor Space: 60"L X 60"W X 84"H
 Duty Cycles: Continuous with programmable options
 Voltage: 110V, 60 Hz, 20 Amp
 Feed Water Flow: 5 gpm minimum
 Feed Water Pressure: 20 psi minimum, 60 psi maximum
 Feed Water Temp: 38° F - 80° F
 Drain: 5 gpm minimum
 Product Flow Rate: RO 22 gph 100 psi/UF 1-3 gpm
 Quality: (Resistivity) 17.5 - 18.2 megohm
 RO make-up: 200 gpd (8hr)
 Bacteria: < 1 cfu/ml with monthly sanitization
 TOC: < 5 ppb
 Ultra-Filter: 3 gpm 10,000 mwc
 UV Dual Wave Length: 185 nm and 254 nm
 RO Storage Construction: polypropylene/30 gallon
 Deionization cartridge (2): 8" X 44" 12,000 gpg each Regenerable