



شركة السمرا لتوليد الكهرباء
Samra Electric Power Co. [SEPCO]

Samra Electric Power Company (SEPCO)

No.	Specifications	U.T	QTY
1	4330.304.0012.01 WTP3 Ro Membrane, Model: CPA 5 LD, RO Membrane vessel #1, (120 Pcs), Dimensions (L: 1016 mm, D: 200, Inlet Feed: 28.6 mm, Membrane Active Area: 37.1 m ² , KKS: 30GCF251,252,281,282	Each	85
2	4330.304.0013.01 WTP3 Ro Membrane, Model: CPA 3, RO Membrane vessel #2, (48 Pcs), Dimensions (L: 1016 mm, D: 200, Inlet Feed: 28.6 mm, Membrane Active Area: 37.1 m ² , KKS: 30GCF321,322,341,342	Each	18



Membrane Element

CPA3

Performance:	Permeate Flow:	11,000 gpd (41.6 m ³ /d)
	Salt Rejection:	99.7% (99.6% minimum)
Type	Configuration:	Spiral Wound
	Membrane Polymer:	Composite Polyamide
	Membrane Active Area:	400 ft ² (37.1 m ²)
	Feed Spacer:	31 mil (0.787mm)

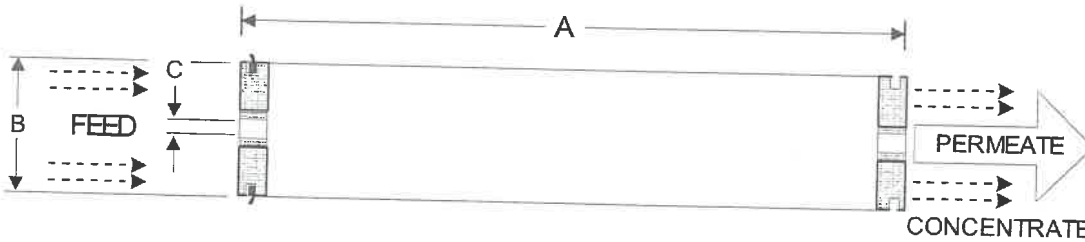
Application Data*	Maximum Applied Pressure:	600 psig (4.16 MPa)
	Maximum Chlorine Concentration:	< 0.1 PPM
	Maximum Operating Temperature:	113 °F (45 °C)
	pH Range, Continuous (Cleaning):	2-10.8 (1-12.5)*
	Maximum Feedwater Turbidity:	1.0 NTU
	Maximum Feedwater SDI (15 mins):	5.0
	Maximum Feed Flow:	75 GPM (17.0 m ³ /h)
	Minimum Ratio of Concentrate to Permeate Flow for any Element:	5:1
Maximum Pressure Drop for Each Element:	10 psi	

* The limitations shown here are for general use. For specific projects, operating at more conservative values may ensure the best performance and longest life of the membrane. See Hydranautics Technical Bulletins for more detail on operation limits, cleaning pH, and cleaning temperatures.

Test Conditions

The stated performance is initial (data taken after 30 minutes of operation), based on the following conditions:

1500 PPM NaCl solution
 225 psi (1.55 MPa) Applied Pressure
 77 °F (25 °C) Operating Temperature
 15% Permeate Recovery
 6.5 - 7.0 pH Range



A, inches (mm)	B, inches (mm)	C, inches (mm)	Weight, lbs. (kg)
40.0 (1016)	7.89 (200)	1.125 (28.6)	36 (16.4)

Notice: Permeate flow for individual elements may vary ± 15 percent. Membrane active area may vary $\pm 4\%$. All membrane elements are supplied with a brine seal, interconnector, and o-rings. Elements are enclosed in a sealed polyethylene bag containing less than 1.0% sodium meta-bisulfite solution, and then packaged in a cardboard box.

Hydranautics believes the information and data contained herein to be accurate and useful. The information and data are offered in good faith, but without guarantee, as conditions and methods of use of our products are beyond our control. Hydranautics assumes no liability for results obtained or damages incurred through the application of the presented information and data. It is the user's responsibility to determine the appropriateness of Hydranautics' products for the user's specific end uses.

11/01/11



Membrane Element

CPA5-LD (Low Fouling Technology)

Performance:	Permeate Flow:	11,000 gpd (41.6 m ³ /d)
	Salt Rejection:	99.7 % (99.6 % minimum)

Type	Configuration:	Low Fouling Spiral Wound
	Membrane Polymer:	Composite Polyamide
	Membrane Active Area:	400 ft ² (37.1m ²)
	Feed Spacer:	34 mil (0.864 mm) with biostatic agent

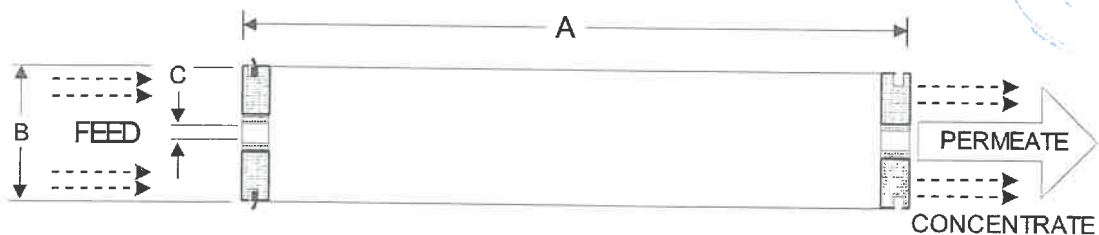
Application Data*	Maximum Applied Pressure:	600 psig (4.16 MPa)
	Maximum Chlorine Concentration:	< 0.1 PPM
	Maximum Operating Temperature:	113 °F (45 °C)
	pH Range, Continuous (Cleaning):	2-11 (1-13)*
	Maximum Feedwater Turbidity:	1.0 NTU
	Maximum Feedwater SDI (15 mins):	5.0
	Maximum Feed Flow:	75 GPM (17.0 m ³ /h)
	Minimum Ratio of Concentrate to Permeate Flow for any Element:	5:1
	Maximum Pressure Drop for Each Element:	10 psi

* The limitations shown here are for general use. For specific projects, operating at more conservative values may ensure the best performance and longest life of the membrane. See Hydranautics Technical Bulletins for more detail on operation limits, cleaning pH, and cleaning temperatures.

Test Conditions

The stated performance is initial (data taken after 30 minutes of operation), based on the following conditions:

1500 PPM NaCl solution
225 psi (1.55 MPa) Applied Pressure
77 °F (25 °C) Operating Temperature
15% Permeate Recovery
6.5 - 7.0 pH Range



A, inches (mm)	B, inches (mm)	C, inches (mm)	Weight, lbs. (kg)
40.0 (1016)	7.89 (200)	1.125 (28.6)	36 (16.4)

Notice: Permeate flow for individual elements may vary ± 15 percent. Membrane active area may vary ± 4 %. All membrane elements are supplied with a brine seal, interconnector, and o-rings. Elements are enclosed in a sealed polyethylene bag containing less than 1.0% sodium meta-bisulfite solution, and then packaged in a cardboard box.

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Membrane Element

SWC4 MAX

Performance:	Permeate Flow:	7,200 gpd (27.3 m ³ /d)
	Salt Rejection:	99.8 % (99.7 % minimum)
	Boron Rejection (Typical):	93.0% [†]

Type	Configuration:	Spiral Wound
	Membrane Polymer:	Composite Polyamide
	Membrane Active Area:	440 ft ² (40.8m ²)

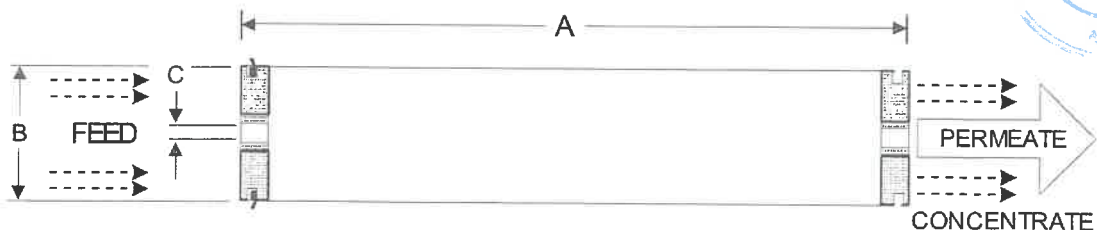
Application Data*	Maximum Applied Pressure:	1200 psig (8.27 MPa)
	Maximum Chlorine Concentration:	< 0.1 PPM
	Maximum Operating Temperature:	113 °F (45 °C)
	pH Range, Continuous (Cleaning):	2-11 (1-13)*
	Maximum Feedwater Turbidity:	1.0 NTU
	Maximum Feedwater SDI (15 mins):	5.0
	Maximum Feed Flow:	75 GPM (17.0 m ³ /h)
	Minimum Ratio of Concentrate to Permeate Flow for any Element:	5:1
	Maximum Pressure Drop for Each Element:	10 psi

* The limitations shown here are for general use. For specific projects, operating at more conservative values may ensure the best performance and longest life of the membrane. See Hydranautics Technical Bulletins for more detail on operation limits, cleaning pH, and cleaning temperatures.

Test Conditions

The stated performance is initial (data taken after 30 minutes of operation), based on the following conditions:

32,000 ppm NaCl
 800 psi (5.5 MPa) Applied Pressure
 77 °F (25 °C) Operating Temperature
 10% Permeate Recovery
 6.5 - 7.0 pH Range



A, inches (mm)	B, inches (mm)	C, inches (mm)	Weight, lbs. (kg)
40.0 (1016)	7.89 (200)	1.125 (28.6)	36 (16.4)

Notice: Permeate flow for individual elements may vary + or - 15 percent. Membrane active area may vary +/-4%. All membrane elements are supplied with a brine seal, interconnector, and o-rings. Elements are enclosed in a sealed polyethylene bag containing less than 1.0% sodium meta-bisulfite solution, and then packaged in a cardboard box.

[†] When tested at standard test conditions with 5.0ppm Boron in feed solution.

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