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**WATERITE INC.
PRODUCT SPECIFICATION SHEET
RO-SYS-020 R2**

**VECTAMAXX™ RSL COMMERCIAL
HIGHER PRESSURE REVERSE OSMOSIS SYSTEMS
FOR BRACKISH WATER**

A. GENERAL SPECIFICATIONS

TYPE: Standard pressure RO, spiral wound membrane(s) in series, recirculation loop
VOLTAGE: 220VAC/60Hz (*Other voltages available upon request*)

SERVICE AMPS: **230/208VAC**
RSL HP 2400 10.3/11.3
RSL HP 4800 10.3/11.3
RSL HP 7200 10.3/11.3
RSL HP 9600 10.3/11.3

CERTIFICATIONS Certified by INTERTEK to CSA22.2 and conforms to ANSI / UL Standard 979 for INDOOR USE ONLY

FEED WATER PRESSURE: 30 PSI minimum, 70 PSI maximum
FEED WATER TEMP: 40° C maximum

B. MATERIAL SPECIFICATIONS:

FRAME COLOUR: White powder coat
FRAME MATERIAL: Aluminum 1" square tube, c/w leveling feet
FRAME DIMENSIONS:
Height 50" (127cm)
Width 31" (79cm)

SPEC RO-SYS-020 R02

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Depth	24.0" (62cm)
OPERATING PRESSURE:	230 PSI (15.9 bar)
MEMBRANE:	<i>BLACK MAX®</i> , spiral wound TFC, BME4040S, 2000 USGPD permeate @ 2000 mg/l NaCl, 225 PSI, 25°C feed
UNIT DRY WEIGHT:	RSL2400: 127 lbs. (57.6 kg) RSL4800: 145 lbs. (65.7 kg) RSL7200: 163 lbs. (74 kg) RSL9600: 181 lbs. (82.1 kg)
RO CONTROLLER	Powers up to 2HP Motors @ 240VAC (1HP @ 120VAC) Optional auto flush Pre-treatment lock out connection Level and pressure control connections LED indication
INLET SOLENOID:	220VAC/60Hz, normally closed, 0.5-230 PSI differential, 316 SS
LOW PRESSURE SWITCH:	220VAC/60Hz, cut-out @ 15 PSI (adjustable)
DRIVE PUMP MOTOR:	220VAC/60Hz, type 56J frame, 3450 RPM, threaded shaft, ball bearing
DRIVE PUMP:	Multi-stage 416 SS, stainless discharge, housing and bracket, Noryl impellers and stages, SS bearings, wear rings, couplings and pump shaft. RSL2400: 10.0 USGPM (37.8 LPM) @ 200 PSI RSL4800: 10.0 USGPM (37.8 LPM) @ 200 PSI RSL7200: 13.0 USGPM (49.2 LPM) @ 200 PSI RSL9600: 13.0 USGPM (49.2 LPM) @ 200 PSI <i>(Based on 0 PSI inlet pressure)</i>
CONCENTRATE VALVE:	304 SS needle valve, internally bypassed, metal seated, o-ring packing
RECIRCULATION VALVE:	304 SS needle valve, metal seated, o-ring packing
SYSTEM FITTINGS:	High pressure: 304 SS corrugated connectors with NPT tailpieces, burst pressure 600 PSI. Class 150-304 SS cast NPT fittings, burst pressure 450 PSI
LOW PRESSURE FITTINGS:	SS push-on or standard pressure push-on

- LOW PRESSURE TUBING:** 1/2" HDPE, clear
- PRE-FILTRATION HOUSING:** 1 x polypropylene, 20", 125 PSI rated, o-ring seated with threaded cap, pressure release, 1" inlet/outlet, full flow, 20 USGPM maximum
- FILTER CARTRIDGE:** Polypropylene, 5-micron
- MEMBRANE HOUSING:** 304 SS body, polyethylene caps, band clamp closure, 3/4" FNPT concentrate ports, 1/2" permeate port
- PRESSURE GAUGES:** Glycerin filled, stainless body, 2 1/2".0-100 PSI pre/post filter pressure, 0-300 PSI system pressure
- FLOW METERS:** King-style panel mounted, 0.5-5.0 USGPM or 1.0 - 10.0 USGPM, dependent on model
- HIGH PRESSURE RELIEF VALVE:**
Watts model 530C, bronze body, set at 250 PSI

C. PERFORMANCE SPECIFICATIONS

PERMEATE PRODUCTION

RATE:	RSLHP 2400	1.4 USGPM (5.3 LPM)
	RSLHP 4800	2.8 USGPM (10.6 LPM)
	RSLHP 7200	4.2 USGPM (15.9 LPM)
	RSLHP 9600	5.6 USGPM (21.2 LPM)

Calculated production rate @ feed water of 500 mg/l NaCl, 25°C, average system pressure @ 235 PSI, 60 % recovery, inlet pressure of 50 PSI.

WASTE PRODUCTION RATE:

Recovery Rate @ 60%

Feed Water <1000 TDS	RSLHP 2400	0.93 USGPM (3.5 LPM)
	RSLHP 4800	1.86 USGPM (7.0 LPM)
	RSLHP 7200	2.8 USGPM (10.6 LPM)
	RSLHP 9600	3.7 USGPM (14 LPM)

Recovery Rate @ 40%

Feed Water >1000 TDS	RSLHP 2400	2.1 USGPM (7.9 LPM)
	RSLHP 4800	4.2 USGPM (15.9 LPM)
	RSLHP 7200	6.3 USGPM (23.8 LPM)
	RSLHP 9600	8.4 USGPM (31.8 LPM)

MEMBRANE CROSSFLOW: <i>Shows crossflow by element in series order. Based on Inlet pressure of 40 PSI Pressure drop 15 PSI per element.</i>	RSLHP 2400:	(1) 12 USGPM (45.4 LPM)
	RSLHP 4800:	(1) 12 USGPM (45.4 LPM) (2) 10.6 USGPM (40.1 LPM)
	RSLHP 7200:	(1) 8 USGPM (30.3 LPM) (2) 8 USGPM (30.3 LPM) (3) 13.2 USGPM (50 LPM)
	RSLHP 9600:	(1) 8 USGPM (30.3 LPM) (2) 8 USGPM (30.3 LPM) (3) 6.6 USGPM (25 LPM) (4) 6.6 USGPM (25 LPM)

RSL9600 uses two parallel banks of twin elements in series.

D. RECOMMENDED FEED WATER PRETREATMENT SPECIFICATIONS:

TDS:	< 4000 TDS
HARDNESS:	< 6 GPG (103 mg/l)
TOTAL IRON:	< .05 PPM
TANNIN:	< .5 PPM
CHLORINE:	< .1 PPM
pH:	5.5 – 9.5
ORGANIC/MICROBIOLOGICAL ACTIVITY:	0
MANGANESE:	<.05 PPM
HYDROGEN SULPHIDE:	0
TURBIDITY:	1 NTU
SDI	< 5.0

E. FEED WATER REQUIREMENTS:

RSL HP 2400: 3.5 USGPM (13.3LPM) minimum	
RSL HP 4800: 7.0 USGPM (26.6 LPM) minimum	
RSL HP 7200: 10.5 USGPM (40.2 LPM) minimum	
RSL HP 9600: 14 USGPM (53.5LPM) minimum	<i>includes 10% safety factor on feed water exceeding 3000 TDS.</i>

F. OPTIONAL EQUIPMENT

- Panel mount permeate TDS monitor
- Panel mount dual TDS monitor (feed/permeate)

All materials and components used to fabricate RSL HP Series systems meet or exceed requirements specified by NSF Standard 61.