

Reverse Osmosis Systems



Plug and Play system

1

Minimal Operation and Maintenance
Costs and use of Chemicals

2

Low Pressure Reverse Osmosis Systems



Overview

WES-L low pressure commercial grade reverse osmosis units combine high quality components with an energy-saving design for a reliable and economical supply of high purity water. The following are just a few of the applications that benefit from the use of RO water.

- Boiler feed
- Drinking Water
- Icemaking
- Greenhouses
- Research and medical labs
- Process make-up water
- Humidification
- Ion exchange pre-treatment

Operating Parameters

- Operating Pressure: 125-245 psig
- Nominal Recovery: 65-75%
- Nominal Salt Rejection: 95-99%
- Operating Temperature: 25-30°C
- Design Temperature: 30° C
- Minimum Inlet Pressure: 30 psig
- Inlet Water Quality: Chlorine-Free/Softened
- Electrical Requirements: 380 VAC, 3-phase, 50/60 Hz.

Materials of Construction

- Frame: Painted carbon steel/Stanless Steel
- Membrane Elements: Thin-film Composite (TFC)
- Membrane Housings: FRP
- Piping: Sch 80 PVC
- Tubing: Polyethylene

Pump and Motor

- Pump: 304/316 SS Multi-Stage Centrifugal
- Motor: ODP, 3800 VAC, 3-phase, 50/60 Hz.

Standard Features

- 5-micron sediment pre-filter housing
- Automatic inlet shut-off valve
- Solid-state digital controller
- Product water conductivity monitor
- Operating pressure gauges
- Product and concentrate flow meters
- Concentrate and recycle flow control valves
- Low inlet pressure switch with shutdown alarm

Optional Equipment Available

- Pressurized storage vessels
- Atmospheric storage tanks with level control and repressurization pump
- Water softeners and carbon filter pretreatment
- Skid mounted packages with pre/post treatment equipment

Product Flow Range up to 100m³/day



Product Flow Range 13- 60m³/day

Model No.	Design (m ³ /hr)	Capacity (m ³ /day)	Element Quantity	RO Feed (m ³ /hr)	RO Reject (m ³ /hr)	System Piping Connections			Nominal Operating Pressure	Pump Hp	Approx. Ship Wt.	Operating Weight	Dimensions		
						Inlet	Product	Reject					Length	Width	Height
WRL-13	0.570	13.7	2	0.76-0.8	0.8-1.3	3/4"	1/2"	1/2" Tube	125 psi	1	170 kg.	195 kg.	56"	17"	57"
WRL-21	0.87	21	3	1.1-1.31	0.27-0.4	3/4"	1/2"	1/2" Tube	125 psi	1	195 kg.	215 kg.	56"	17"	57"
WRL-27	1.13	27	4	1.52-1.7	0.4-0.6	3/4"	1/2"	1/2" Tube	125 psi	1	215 kg.	239 kg.	56"	17"	57"
WRL-34	1.45	34	5	2.0-2.2	0.47-0.7	3/4"	1/2"	1/2" Tube	125 psi	1	239 kg.	260 kg.	56"	17"	57"
WRL-40	1.7	40	6	2.3-2.6	0.6-0.9	1"	1"	1" FNPT	125 psi	1.5	260 kg	295 kg.	56"	18"	66"
WRL-48	2.0	48	7	2.65-3.0	0.65-1.0	1"	1"	1" FNPT	125 psi	1.5	284 kg.	317 kg.	56"	18"	66"
WRL- 55	2.3	55	8	3.0-3.5	0.74-1.2	1"	1"	1" FNPT	125 psi	1.5	306 kg.	340 kg	56"	18"	66"
WRL-60	2.5	60	9	3.4-4.0	0.84-1.4	1"	1"	1" FNPT	125 psi	1.5	329 kg.	362 kg.	56"	18"	66"

Product Flow Range 60-109m³/day

Model No.	Design (m ³ /hr)	Capacity (m ³ /day)	Element Quantity	RO Feed (m ³ /hr)	RO Reject (m ³ /hr)	System Piping Connections			Nominal Operating Pressure	Pump Hp	Approx. Ship Wt.	Dimensions		
						Inlet	Product	Reject				Length	Width	Height
WRM-68	2.8	68.0	12	3.79-	0.95-1.52	11/4"	1" Flange	3/4"	280 psi	7.5	470kg.	144"	30"	76"
WRM-80	3.4	82.0	15	4.54-	1.13-1.81	11/4"	1" Flange	3/4"	270 psi	7.5	545 kg.	144"	30"	76"
WRM-95	4.0	95.0	18	5.36-	1.29-2.11	11/2"	11/4"	3/4"	260 psi	10	612 kg	144"	30"	76"
WRM-109	4.5	109	21	6.06-	1.5-2.45	11/2"	11/4"	1"	245 psi	10	680 kg	144"	30"	76"



Reverse Osmosis Systems



Operating Parameters

- Operating Pressure: 200-250 psig
- Nominal Recovery: 75-80%
- Nominal Salt Rejection: 98-99%
- Operating Temperature: 10-30° C
- Design Temperature: 15° F
- Minimum Inlet Pressure: 30 psig
- Control Circuit: 220 VAC, 1-phase, 50/60 Hz.

Materials of Construction

- Skid Frame: Epoxy-coated carbon steel
- Membrane Elements: Thin-film Composite (TFC)
- Membrane Housings: FRP (300 psig rated)
- Low pressure piping: Sch 80 PVC
- High pressure piping: Sch 10 304/316SS

Pump and Motor

- Pump: 304/316SS vertical multi-stage centrifugal
- Motor: TEFC, 460 VAC, 3-phase, 60 Hz.

Prewired motor starter with fused disconnect switch

Standard Features

- 8" x 40" High rejection membrane elements
- 5-micron sediment pre-filter housing (304SS)
- PLC System with PanelView
- NEMA-4 electrical enclosures
- IP- Listed electrical panels
- Product water conductivity transmitters
- Product and reject flow transmitters
- 316SS pressure gauges / Inlet pressure switch

Optional Equipment Available

- Variable Frequency Drives (VFD)
- pH/ORP monitors
- Low energy membrane elements
- All stainless steel piping and/or skid
- Ethernet/Modbus PLC communications
- Atmospheric storage tanks with level control and repressurization pump systems
- Membrane clean-in-place (CIP) systems
- Pretreatment chemical injection systems

SPECIFICATIONS

MODEL	CAPACITY		ELEMENT QTY.	VESSEL STAGING	RO		SYSTEM PIPING CONNECTIONS			PUMP HP	OVERALL DIMENSIONS			SHIPPING WT(KG)
	m3/hr	m3/day			m3/hr	m3/hr	INLET	PERMEATE	REJECT		LENGTH	WIDTH	HEIGHT	
WRH-120	5.0	120	6	1/1	7.5	2.5	1 1/2"	1 1/2"	1"	10	146"	40"	82"	1430
WRH-190	8.0	192	9	1/1/1	10.5	2.5	2"	1 1/2"	1"	15	146"	40"	82"	1600
WRH-250	10	250	12	2/1/1	15	5.0	2"	2"	1"	20	146"	40"	82"	1725
WRH-360	15	360	16	2/1/1	19.5	4.5	2 1/2"	2"	1 1/2"	25	194"	46"	82"	2000
WRH-480	18	480	20	2/2/1	24	4.0	2 1/2"	2 1/2"	2 1/2"	25	194"	46"	82"	2086
WRH-550	23	550	24	3/2/1	30	7.0	2 1/2"	2 1/2"	3 1/2"	30	194"	46"	94"	2300
WRH-670	28	670	30	3/2	38	10.0	3"	3"	2"	40	274"	50"	86"	2585
WRH-815	32	815	36	4/2	42.5	10.5	3"	3"	2"	50	274"	50"	94"	2765
WRH-1080	45	1080	48	5/3	60.5	15.5	4"	4"	2"	60	274"	70"	86"	3200
WRH-1320	55	1320	60	6/4	75.0	20.0	6"	6"	3"	75	274"	76"	86"	3625
WRH-1560	65	1560	72	8/4	91	26.0	6"	6"	3"	100	274"	76"	97"	4800



Notes:

- * Feed flow based on 75% recovery at feed TDS of 3000 ppm..
- * Motor horsepower based on 15 deg. C feed water and high rejection membranes. Lower horsepower models are available for warmer feedwater and or higher flow membranes. Consult factory.
- * Requires minimum for 48" additional length on each said of the skid for membrane removal.
- * Feedwater to RO system must be free of chlorine and pre- conditioned by water softening or antiscalent injection to prevent membrane scaling.



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