

Water Softener Equipment Sizing & Pricing

Softened Water Requirements								
Carwash Design		Flow Rate (gpm)	Wash Water (1) (gal/day)	Spot Free Rinse (2) (gal/day)	Soft Water Usage (gal/day)	Required Daily Capacity At Hardness Level (3)		
# Bays						10 gpg	20 gpg	30 gpg
Self Serve	Automatic							
2	1	43	9,600	1,408	12,416	124,160	248,320	372,480
3	1	47	10,880	1,792	14,464	144,640	289,280	433,920
4	1	51	12,160	2,176	16,512	165,120	330,240	495,360
5	1	55	13,440	2,560	18,560	185,600	371,200	556,800
6	1	59	14,720	2,944	20,608	206,080	412,160	618,240
3	2	82	17,920	2,432	22,784	227,840	455,680	683,520
4	2	86	19,200	2,816	24,832	248,320	496,640	744,960
5	2	90	20,480	3,200	26,880	268,800	537,600	806,400
6	2	94	21,760	3,584	28,928	289,280	578,560	867,840

Note 1: Soft water based on 8 cars/hr x 55 gal/car auto, 4 cars/hr x 20 gal/car self serve, 16 hr/day

Note 2: RO water based on 8 cars/hr x 5 gal/car auto, 4 cars/hr x 6 gal/car self serve, 16 hr/day

Note 3: ppm x 17.1 = mg/l x 17.1 = gr/gal (gpg)

Ecodyne Water Softener Specifications (3/15/04)														
Model Number	Grain Capacity (2)			Recommended Flow Rates				Mineral Tank Size in.	Pipe Size in.	Resin Qty. Cu. Ft.	Max. Drain Flow GPM	Brine Tank Capacity lbs.	Space Requirement LxDxH in.	Price \$
				Continuous		Peak (3)								
	15 lb/cf	10 lb/cf	5 lb/cf	GPM Flow	PSI Drop (1)	GPM Flow	PSI Drop (1)							
S-31A-ALT1	60,000	50,000	40,000	16	5	24	10	9x48	1	2	2	400	46x18x54	2,570.00
S-61A-ALT1	120,000	100,000	80,000	32	10	48	20	12x52	1	4	3	400	52x18x59	2,840.00
S-91A-ALT1	180,000	150,000	120,000	42	15	58	25	14x65	1	6	5	400	54x18x71	3,360.00
S-91B-ALT1	180,000	150,000	120,000	48	9	72	16	16x65	1-1/2	6	5	400	54x18x71	4,190.00
S-121B-ALT1	240,000	200,000	160,000	64	12	96	22	17x72	1-1/2	8	7	700	67x24x72	4,550.00
S-151B-ALT1	300,000	250,000	200,000	76	13	104	25	24x72	1-1/2	10	7	700	68x24x80	4,970.00
S-301B-ALT1	600,000	500,000	400,000	90	15	116	25	16x65	1-1/2	20	15	1000	80x24x82	6,020.00

Note 1: Pressure drop data are estimates.

Note 2: Exchange capacity is based upon treating water with 10 gpg total hardness. As CaCO3 at the service rates specified, for both tanks.

Note 3: Peak flow rates are not recommended for extended periods of time.

RO Equipment Sizing & Pricing

RO Equipment Sizing and Pricing

Ecodyne HV Series Reverse Osmosis Systems (Prices as of 1/1/05)											Fleck Carbon Filters								
Model Number	Nominal Capacity			HP 230V 1ø	Water Connections					Price \$			Model Number	Pipe Size	Carbon Qty. Cu. Ft.	Max Flow GPM	Design(1) (Clean)		Price \$
	Mem-branes	GPD	GPM		Feed	Prod & Rej I	Prod II	Rej III	Rej III	Pkg I Base	Pkg II Flow Mtrs	Pkg III TDS & Flsh					Flow GPM	PSI Drop	
R1F40	1	2,000	1.4	1	3/4"	3/8"	1/2"	3/4"	1/2"	3,620.00	3,825.00	5,445.00	C-121A-TC	1"	2	8	3	3	660.00
R2F40	2	3,900	2.8	1	3/4"	3/8"	1/2"	3/4"	1/2"	4,360.00	4,640.00	6,260.00	C-141A-TC	1"	3	11	6	4	870.00
R3F40	3	5,600	3.9	1	3/4"	3/8"	1/2"	3/4"	1/2"	5,105.00	5,680.00	7,000.00	C-161B-TC	1-1/2"	4	16	8	3	1210.00
R4F40	4	7,500	5.2	3	3/4"	3/8"	1/2"	3/4"	1/2"	6,430.00	6,815.00	8,440.00	C-201B-TC	1-1/2"	6	22	10	4	1525.00
R5F40	5	9,500	6.6	3	3/4"	3/8"	1/2"	3/4"	1/2"	7,415.00	7,800.00	9,420.00	C-241B-TC	1-1/2"	10	30	13	4	1620.00
R6F40	6	10,800	7.5	3	3/4"	3/8"	1/2"	3/4"	1/2"	8,150.00	8,540.00	10,160.00	C-241B-TC	1-1/2"	10	30	15	4	1620.00

Note 1: Design flow is 2X product flow (product + reject). 2X safety factor is applied in filter model selection to compensate for fouled beds and field experience on longevity of media and to keep design pressure drop < 5 psi

Pur-Water Recovery Systems				
Model	GPM	Quality	Odor Control	Price
PW 100FS-CS-3AS	60	70 µm	Air sparger	5,690.00
PW 100FS-CS-5AS	100	70 µm	Air sparger	5,990.00
PW100-5MAS	30	<5µM	Air sparger	10,900.00
PW100-5MB	30	<5µM	Air sparger	13,900.00
PW100-5M120	30	<5µM	Ozone	19,900.00
PW200-5MAS	60	<5µM	Air sparger	11,900.00
PW200-5MB	60	<5µM	Biological	14,900.00
PW200-5M120	60	<5µM	Ozone	20,900.00
PW200-5M240	60	<5µM	Ozone	22,900.00
PW300-5MAS	90	<5µM	Air sparger	13,900.00
PW300-5MB	90	<5µM	Biological	17,900.00
PW300-5M120	90	<5µM	Ozone	22,900.00
PW300-5M240	90	<5µM	Ozone	24,900.00

Purclean Pro Series RO Systems	
GPD	Price*
1,000	6,195.00
2,000	6,995.00
3,000	7,695.00
4,500	8,995.00
6,000	12,595.00
8,000	15,995.00
10,000	19,595.00
12,000	23,950.00

*Note: Price does not include freight from Northern Highlands, CA

Reverse Osmosis Delivery Package Options			
Part #	Description	Upgrade Price \$	Purchase Price \$
F&W 1HP	Flint & Walling S.S. 1HP pump for RO delivery (150 psi max - 13.5 gpm)	400.00	1,600.00
F&W 2HP	Flint & Walling S.S. 2HP pump for RO delivery (150 psi max - 19 gpm)	600.00	1,800.00
F&W 3508-3HP (8 stage)	Flint & Walling S.S. 3HP pump for RO delivery (60 psi max - 35 gpm)	600.00	1,800.00
F&W 2714-3HP	Flint & Walling S.S. 3HP pump for RO delivery (150 psi max - 27 gpm)	800.00	2,000.00
PC-0FSWM	Floor stand for wall mount		850.00
PC-SATO	Auto freshwater bypass		435.00
PC-SATOCB-4	Auto backflushing carbon head for 1,000 - 4,500 GPD system		450.00
PC-SATOBC-6	Auto backflushing carbon head for 6,000 - 15,000 GPD system		750.00

Tank	Description	Size	Price \$
PC 100WST	100 gal water storage tank	23" x 64"	181.37
PC 130WST	130 gal (blue) water storage tank	23" x 76"	349.00
PC 200WST	200 gal water storage tank	31" x 72"	408.23
PC 300WST	300 gal water storage tank	35" x 81"	449.00
PC 500WST	500 gal water storage tank	46" x 76"	645.00
PC 750WST	750 gal water storage tank	46" x 119"	1,095.00
PC 850WST	850 gal water storage tank	48" x 124"	1,153.07
PC 1000WST	1000 gal water storage tank	64" x 81"	995.00
PC 1150WST	1150 gal water storage tank	48" x 156"	1,471.09
PC 1500WST	1500 gal water storage tank	64" x 115"	1,558.00
PC 2000WST	2000 gal water storage tank	64" x 144"	2,226.00
PC 2500WST	2500 gal water storage tank	95" x 89"	1,951.00

Clear View Window System Pricing		Price \$
PCWWS - Std CJ-90F pump, control box, 3-wire float w/check valve and chair stand (Can use same pump as vehicle wash booster for window wash with solenoids & manifold)		1,200.00
Nozzles & piping (per foot) up to 64 ft.		14.50
Solenoid for each additional 64 ft.		300.00

Boiler Equipment Sizing & Pricing

Huron Valley Raytherm Boiler Specifications (as of 5/1/05)								
Model	MBTUH Input	MBTUH Output	Gas Connection in.	Water Connection in.	Flue Dia. in.	Electrical Rating w/Pump	ASME Tank	Price \$
133	136	112	1/2	1-1/4	6	< 10A @ 120V	115 gal	4,423
182/181	181	148	3/4	1-1/2	6	< 10A @ 120V		
260/261	264	216	3/4	1-1/2	7	< 10A @ 120V	115 gal	6,895
330/301	334	274	3/4	1-1/2	8	< 10A @ 120V		
400/401	399	327	3/4	1-1/2	9	< 10A @ 120V	115 gal	7,775
514	512	419	1	2	10	< 10A @ 120V		
624	627	514	1	2	12	< 10A @ 120V	115 gal	11,058
724	726	595	1	2	12	< 10A @ 120V		
824	825	676	1	2	14	< 10A @ 120V		
962	962	789	1	2-1/2	14	< 10A @ 120V		
1125	1125	922	1 or 1-1/4	2-1/2	16	< 10A @ 120V	115 gal	14,185
1223	1222	1002	1 or 1-1/4	2-1/2	16	< 10A @ 120V		
1336	1337	1096	1-1/4	2-1/2	18	< 10A @ 120V		
1468	1467	1203	1-1/4	2-1/2	18	< 10A @ 120V		
1631	1630	1337	1-1/4	2-1/2	18	< 10A @ 120V		
1826	1827	1497	1-1/4	2-1/2	20	< 10A @ 120V		