

# SECTION 1



*\*Shown with factory SKID & Interconnecting Plumbing*

## Fleck<sup>®</sup> Fiberglass Softeners



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# Fiberglass Softener Specifications and Design Data

## Single Units – FRP Tanks

Model Number	Grains Capacity <sup>(2)</sup>			Recommended Flow Rates				Mineral Tank Size <sup>(4)</sup> in.	Pipe Size in.	Resin Qty Cu.Ft.	Max Drain Flow GPM	Brine Tank Capacity Lbs.	Space <sup>(5)</sup> Reqmt LxDxH in.
	Salt Setting			Continuous		Peak <sup>(3)</sup>							
	15lb/CF	10lb/CF	5lb/CF	GPM Flow	PSI Drop	GPM Flow	PSI Drop						
S-31A	30,000	25,000	20,000	7	5	12	10	9x48	1	1	2	400	32x18x62
S-61A	60,000	50,000	40,000	16	10	24	20	12x52	1	2	3	400	35x18x60
S-91A	90,000	75,000	60,000	21	15	29	25	14x65	1	3	5	400	36x18x71
S-91B	90,000	75,000	60,000	24	9	36	16	14x65	1½	3	5	400	36x18x71
S-121B	120,000	100,000	80,000	32	12	48	22	16x65	1½	4	7	700	45x24x72
S-151B	150,000	125,000	100,000	40	13	52	25	18x65	1½	5	7	700	46x24x72
S-301B	300,000	250,000	200,000	45	15	58	25	24x72	1½	10	15	1000	52x24x82
S-121C	120,000	100,000	80,000	32	7	48	12	16x65	2	4	7	700	45x24x72
S-151C	150,000	125,000	100,000	40	9	60	16	18x65	2	5	7	700	46x24x72
S-301C	300,000	250,000	200,000	77	15	107	25	24x72	2	10	15	1000	52x24x87
S-451C	450,000	375,000	300,000	87	15	118	25	30x72	2	15	20	1500	65x30x100
S-601C	600,000	500,000	400,000	94	15	125	25	36x72	2	20	30	2500	80x24x100
S-451E	450,000	375,000	300,000	140	15	200	25	30x72	3	15	20	1500	65x32x104
S-601E	600,000	500,000	400,000	160	15	240	25	36x72	3	20	30	2500	80x42x104
S-901E	900,000	750,000	600,000	200	15	270	25	42x72	3	30	40	2500	85x42x112
S-1201E	1,200,000	1,000,000	800,000	210	15	280	25	48x72	3	40	50	4500	104x52x112

**NOTES:**

- (1) Weight and pressure drop data are estimates.
- (2) Exchange capacity is based upon treating water with 10 gpg total hardness. As CaCO<sub>3</sub> at the service rates specified and free of color, odor and turbidity. Capacity is for both tanks.
- (3) Peak flow rates are not recommended for extended periods of time.
- (4) Dimension refers to nominal vessel size only.
- (5) Not including operating and maintenance areas.

<b>Quantity of Resin and Gravel required per above specifications</b>										
Tank Size	9x48	12x52	14x65	16x65	18x65	24x72	30x72	36x72	42x72	48x72
Resin Qty.	1 ft3	2 ft3	3 ft3	4 ft3	5 ft3	10 ft3	15 ft3	20 ft3	30 ft3	40 ft3
Gravel Qty.	12 lbs	25 lbs	50 lbs	100 lbs	100 lbs	150 lbs	250 lbs	300 lbs	400 lbs	600 lbs

# Fiberglass Softener Specifications and Design Data (cont'd)

## Duplex Parallel Units – FRP Tanks

Model Number	Total System Grains Capacity <sup>(2)</sup>			Recommended Flow Rates				(2) Mineral Tank Size in. <sup>(4)</sup>	Pipe Size in.	Total Resin Qty Cu.Ft.	Max Drain Flow GPM	Brine Tank Capacity Lbs.	Space <sup>(5)</sup> Reqmt LxDxH in.
				Duplex Continuous		Duplex Peak <sup>(3)</sup>							
	15lb/CF	10lb/CF	5lb/CF	GPM Flow	PSI Drop	GPM Flow	PSI Drop						
S-31A	60,000	50,000	40,000	14	5	24	10	9x48	1	2	2	400	46x18x62
S-61A	120,000	100,000	80,000	32	10	48	20	12x52	1	4	3	400	52x18x60
S-91A	180,000	150,000	120,000	42	15	58	25	14x65	1	6	5	400	54x18x71
S-91B	180,000	150,000	120,000	48	9	72	16	14x65	1½	6	5	400	54x18x71
S-121B	240,000	200,000	160,000	64	12	96	22	16x65	1½	8	7	700	67x24x72
S-151B	300,000	250,000	200,000	76	13	104	25	18x65	1½	10	7	700	68x24x72
S-301B	600,000	500,000	400,000	90	15	116	25	24x72	1½	20	15	1000	80x24x82
S-121C	240,000	200,000	160,000	64	7	96	12	16x65	2	8	7	700	67x24x72
S-151C	300,000	250,000	200,000	80	9	120	16	18x65	2	10	7	700	68x24x72
S-301C	600,000	500,000	400,000	154	15	214	25	24x72	2	20	15	1000	80x24x87
S-451C	900,000	750,000	600,000	174	15	236	25	30x72	2	30	20	1500	100x32x100
S-601C	1,200,000	1,000,000	800,000	188	15	250	25	36x72	2	40	30	2500	122x42x100
S-451E	900,000	750,000	600,000	280	15	400	25	30x72	3	30	20	1500	100x32x104
S-601E	1,200,000	1,000,000	800,000	320	15	480	25	36x72	3	40	30	2500	122x42x104
S-901E	1,800,000	1,500,000	1,200,000	400	15	540	25	42x72	3	60	40	2500	133x42x112
S-1201E	2,400,000	2,000,000	1,600,000	420	15	560	25	48x72	3	80	50	4500	158x52x112

**NOTES:**

- (1) Weight and pressure drop data are estimates.
- (2) Exchange capacity is based upon treating water with 10 gpg total hardness. As CaCO<sub>3</sub> at the service rates specified and free of color, odor and turbidity. Capacity is for both tanks.
- (3) Peak flow rates are not recommended for extended periods of time.
- (4) Dimension refers to nominal vessel size only.
- (5) Not including operating and maintenance areas.

<b>Quantity of Resin and Gravel required per above specifications</b>										
Tank Size	(2)9x48	(2)12x52	(2)14x65	(2)16x65	(2)18x65	(2)24x72	(2)30x72	(2)36x72	(2)42x72	(2)48x72
Resin Qty.	2 ft3	4 ft3	6 ft3	8 ft3	10 ft3	20 ft3	30 ft3	40 ft3	60 ft3	80 ft3
Gravel Qty.	24 lbs	50 lbs	100 lbs	200 lbs	200 lbs	300 lbs	500 lbs	600 lbs	800 lbs	1200 lbs

# VIP-1E Control – Single Demand Softener Fiberglass Tank – SNGL

## Features:

- Single tank operation. Hard water bypass during regeneration.
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Timed brine refills (eliminates constant line pressure on shut off float devices).
- Standard safety float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- High strength polyethylene tank liners for longer service life, FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners – contact ECI with application temperature.**



S-301C-SNGL

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
1"	2750	S-31A-SNGL	<b>11000418</b>	30,000	9" x 48"	400	18"x40"	175
1"		S-61A-SNGL	<b>902301</b>	60,000	12" x 52"	400	18"x40"	245
1"		S-91A-SNGL	<b>902305</b>	90,000	14" x 65"	400	18"x40"	340
1.5"	2850	S-91B-SNGL	<b>902309</b>	90,000	14" x 65"	400	18"x40"	350
1.5"		S-121B-SNGL	<b>11000002</b>	120,000	16" x 65"	700	24"x41"	485
1.5"		S-151B-SNGL	<b>11000006</b>	150,000	18" x 65"	700	24"x41"	565
1.5"		S-301B-SNGL	<b>902337</b>	300,000	24" x 72"	1000	24"x50"	920
2"	2900	S-121C-SNGL	<b>11000019</b>	120,000	16" x 65"	700	24"x41"	530
2"		S-151C-SNGL	<b>11000022</b>	150,000	18" x 65"	700	24"x41"	580
2"		S-301C-SNGL	<b>902359</b>	300,000	24" x 72"	1000	24"x50"	1000
2"		S-451C-SNGL	<b>902362</b>	450,000	30" x 72"	1500	30"x50"	1490
2"		S-601C-SNGL	<b>902365</b>	600,000	36" x 72"	2500	39"x48"	1880
3"	3900	S-451E-SNGL	<b>11000923</b>	450,000	30" x 72"	1500	30"x50"	1515
3"		S-601E-SNGL	<b>902368</b>	600,000	36" x 72"	2500	39"x48"	1910
3"		S-901E-SNGL	<b>11000924</b>	900,000	42" x 72"	2500	39"x48"	2835
3"		S-1201E-SNGL	<b>11000925</b>	1,200,000	48" x 72"	4500	52"x60"	3670

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order.

# VIP-1E Control – Twin Alternating Softener Fiberglass Tank – Alt 1

## Features:

- Twin Alternating Operation; No hard water bypass during regeneration.
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Timed brine refills (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks; Optional on 1000lb and larger sizes.
- High strength polyethylene tank liners for longer service life, FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners – contact ECI with application temperature.**



S-61A-Alt1

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
1"	9000	S-31A-ALT1	<b>11000513</b>	30,000	9" x 48"	400	18"x40"	350
1"		S-61A-ALT1	<b>902302</b>	60,000	12" x 52"	400	18"x40"	465
1"		S-91A-ALT1	<b>902306</b>	90,000	14" x 65"	400	18"x40"	655
1.5"	9500	S-91B-ALT1	<b>902310</b>	90,000	14" x 65"	400	18"x40"	675
1.5"		S-121B-ALT1	<b>11000003</b>	120,000	16" x 65"	700	24"x41"	945
1.5"		S-151B-ALT1	<b>11000007</b>	150,000	18" x 65"	700	24"x41"	1105
1.5"		S-301B-ALT1	<b>902338</b>	300,000	24" x 72"	1000	24"x50"	2245

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order.

# VIP-1E Control – Duplex Alternating Softener Fiberglass Tank – Alt 2

## Features:

- Duplex Alternating Operation; No hard water bypass during regeneration.
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Timed brine refills (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- High strength polyethylene tank liners for longer service life, FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners – contact ECI with application temperature.**



S-301C-Alt2

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
1"	2750	S-31A-ALT2	<b>11000419</b>	30,000	9" x 48"	400	18"x40"	350
1"		S-61A-ALT2	<b>902303</b>	60,000	12" x 52"	400	18"x40"	490
1"		S-91A-ALT2	<b>902307</b>	90,000	14" x 65"	400	18"x40"	680
1.5"	2850	S-91B-ALT2	<b>902311</b>	90,000	14" x 65"	400	18"x40"	700
1.5"		S-121B-ALT2	<b>11000004</b>	120,000	16" x 65"	700	24"x41"	970
1.5"		S-151B-ALT2	<b>11000008</b>	150,000	18" x 65"	700	24"x41"	1130
1.5"		S-301B-ALT2	<b>902339</b>	300,000	24" x 72"	1000	24"x50"	2270
2"	2900	S-121C-ALT2	<b>11000020</b>	120,000	16" x 65"	700	24"x41"	1060
2"		S-151C-ALT2	<b>11000023</b>	150,000	18" x 65"	700	24"x41"	1160
2"		S-301C-ALT2	<b>902360</b>	300,000	24" x 72"	1000	24"x50"	2000
2"		S-451C-ALT2	<b>902363</b>	450,000	30" x 72"	1500	30"x50"	2980
2"		S-601C-ALT2	<b>902366</b>	600,000	36" x 72"	2500	39"x48"	3760
3"	3900	S-451E-ALT2	<b>11000926</b>	450,000	30" x 72"	1500	30"x50"	3030
3"		S-601E-ALT2	<b>902369</b>	600,000	36" x 72"	2500	39"x48"	3880
3"		S-901E-ALT2	<b>11000927</b>	900,000	42" x 72"	2500	39"x48"	5670
3"		S-1201E-ALT2	<b>11000928</b>	1,200,000	48" x 72"	4500	52"x60"	7340

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order.



# VIP-1E Control – Duplex Parallel Softener Fiberglass Tank – PAR2

## Features:

- Duplex Parallel Operation; No hard water bypass during regeneration.
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- **Par 2 –Systems utilize one pipe size larger flow meter!**
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Timed brine refills (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- High strength polyethylene tank liners for longer service life, FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners – contact ECI with application temperature.**



S-301C-PAR2

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
1"	2750	S-31A-PAR2	<b>11000420</b>	30,000	9" x 48"	400	18"x40"	350
1"		S-61A-PAR2	<b>902304</b>	60,000	12" x 52"	400	18"x40"	490
1"		S-91A-PAR2	<b>902308</b>	90,000	14" x 65"	400	18"x40"	680
1.5"	2850	S-91B-PAR2	<b>902312</b>	90,000	14" x 65"	400	18"x40"	700
1.5"		S-121B-PAR2	<b>11000005</b>	120,000	16" x 65"	700	24"x41"	970
1.5"		S-151B-PAR2	<b>11000009</b>	150,000	18" x 65"	700	24"x41"	1130
1.5"		S-301B-PAR2	<b>902340</b>	300,000	24" x 72"	1000	24"x50"	2270
2"	2900	S-121C-PAR2	<b>11000021</b>	120,000	16" x 65"	700	24"x41"	1060
2"		S-151C-PAR2	<b>11000024</b>	150,000	18" x 65"	700	24"x41"	1160
2"		S-301C-PAR2	<b>902361</b>	300,000	24" x 72"	1000	24"x50"	2000
2"		S-451C-PAR2	<b>902364</b>	450,000	30" x 72"	1500	30"x50"	2980
2"		S-601C-PAR2	<b>902367</b>	600,000	36" x 72"	2500	39"x48"	3760
3"	3900	S-451E-PAR2	<b>11000929</b>	450,000	30" x 72"	1500	30"x50"	3030
3"		S-601E-PAR2	<b>902370</b>	600,000	36" x 72"	2500	39"x48"	3880
3"		S-901E-PAR2	<b>11000930</b>	400,000	42" x 72"	2500	39"x48"	5670
3"		S-1201E-PAR2	<b>11000931</b>	1,200,000	48" x 72"	4500	52"x60"	7340

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order.

**Note:** Duplex Parallel Systems have next size larger flow meter to handle double the flow rate. If not required, order Duplex Alternating system on previous page and program for Parallel Mode.

# VIP-II Control – Duplex Softener

## Fiberglass Tank – Alternating or Parallel

### Features:

- Twin Alternating or Parallel Operation; No hard water bypass during regeneration.
- NEW! VIP-II Electronic Time Clock feature & UL listed. Solid State multiple metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- VIP-II - Systems utilize individual tank flow meters, allowing expansion up to four future tanks.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Timed brine refills (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- High strength polyethylene tank liners for longer service life, FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-II “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners – contact ECI with application temperature.**



S-301C-VIPII-D

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
1"	2750	S-31A-VIP II-D	<a href="#">11000586</a>	30,000	9" x 48"	400	18"x40"	350
1"		S-61A-VIP II-D	<a href="#">11000280</a>	60,000	12" x 52"	400	18"x40"	490
1"		S-91A-VIP II-D	<a href="#">11000281</a>	90,000	14" x 65"	400	18"x40"	680
1.5"	2850	S-91B-VIP II-D	<a href="#">11000282</a>	90,000	14" x 65"	400	18"x40"	700
1.5"		S-121B-VIP II-D	<a href="#">11000283</a>	120,000	16" x 65"	700	24"x41"	970
1.5"		S-151B-VIP II-D	<a href="#">11000284</a>	150,000	18" x 65"	700	24"x41"	1130
1.5"		S-301B-VIP II-D	<a href="#">11000289</a>	300,000	24" x 72"	1000	24"x50"	2270
2"	2900	S-121C-VIP II-D	<a href="#">11000290</a>	120,000	16" x 65"	700	24"x41"	1060
2"		S-151C-VIP II-D	<a href="#">11000291</a>	150,000	18" x 65"	700	24"x41"	1160
2"		S-301C-VIP II-D	<a href="#">11000296</a>	300,000	24" x 72"	1000	24"x50"	2000
2"		S-451C-VIP II-D	<a href="#">11000297</a>	450,000	30" x 72"	1500	30"x50"	2980
2"		S-601C-VIP II-D	<a href="#">11000298</a>	600,000	36" x 72"	2500	39"x48"	3760
673"	3900	S-451E-VIP II-D	<a href="#">11000995</a>	450,000	30" x 72"	1500	30"x50"	3030
3"		S-601E-VIP II-D	<a href="#">11000299</a>	600,000	36" x 72"	2500	39"x48"	3880
3"		S-901E-VIP II-D	<a href="#">11000996</a>	900,000	42" x 72"	2500	39"x48"	5260
3"		S-1201E-VIP II-D	<a href="#">11000997</a>	1,200,000	48" x 72"	4500	52"x60"	6870

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order.

# VIP-II-E Control – Triplex Softener

## Fiberglass Tank – Alternating or Parallel

### Features:

- Triplex Alternating or Parallel Operation. No hard water bypass during regeneration.
- NEW! VIP-II-E Electronic Time Clock feature & UL listed. Solid State multiple metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller.
- VIP-II-E - Systems utilize individual tank flow meters, allowing expansion up to four future tanks.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Timed brine refills (eliminates constant line pressure on shut off float devices)
- Standard safety float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- High strength polyethylene tank liners for longer service life, FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-II-E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners – contact ECI with application temperature.**



Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
1"	2750	S-31A-VIP II-T	<b>11000587</b>	30,000	9" x 48"	400	18"x40"	575
1"		S-61A-VIP II-T	<b>11000300</b>	60,000	12" x 52"	400	18"x40"	735
1"		S-91A-VIP II-T	<b>11000301</b>	90,000	14" x 65"	400	18"x40"	1020
1.5"	2850	S-91B-VIP II-T	<b>11000302</b>	90,000	14" x 65"	400	18"x40"	1050
1.5"		S-121B-VIP II-T	<b>11000303</b>	120,000	16" x 65"	700	24"x41"	1455
1.5"		S-151B-VIP II-T	<b>11000304</b>	150,000	18" x 65"	700	24"x41"	1695
1.5"		S-301B-VIP II-T	<b>11000309</b>	300,000	24" x 72"	1000	24"x50"	3405
2"	2900	S-121C-VIP II-T	<b>11000310</b>	120,000	16" x 65"	700	24"x41"	1590
2"		S-151C-VIP II-T	<b>11000311</b>	150,000	18" x 65"	700	24"x41"	1740
2"		S-301C-VIP II-T	<b>11000316</b>	300,000	24" x 72"	1000	24"x50"	3000
2"		S-451C-VIP II-T	<b>11000317</b>	450,000	30" x 72"	1500	30"x50"	4470
2"		S-601C-VIP II-T	<b>11000318</b>	600,000	36" x 72"	2500	39"x48"	5640
3"	3900	S-451E-VIP II-T	<b>11000932</b>	450,000	30" x 72"	1500	30"x50"	4520
3"		S-601E-VIP II-T	<b>11000319</b>	600,000	36" x 72"	2500	39"x48"	5730
3"		S-901E-VIP II-T	<b>11000933</b>	900,000	42" x 72"	2500	39"x48"	8496
3"		S-1201E-VIP II-T	<b>11000934</b>	1,200,000	48" x 72"	4500	52"x60"	11,010

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order.

# VIP-II Control – Quadraplex Softener

## Fiberglass Tank – Alternating or Parallel

### Features:

- Quadraplex Alternating or Parallel Operation. No hard water bypass during regeneration.
- NEW! VIP-II Electronic Time Clock feature & UL listed. Solid State multiple metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller.
- VIP-II - Systems offer individual tank flow meters.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Timed brine refills (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- High strength polyethylene tank liners for longer service life, FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-II “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners – contact ECI with application temperature.**



S-301C-VIPII-Q

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity Per Tank (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
1"	2750	S-31A-VIP II-Q	<b>11000588</b>	30,000	9" x 48"	400	18"x40"	700
1"		S-61A-VIP II-Q	<b>11000320</b>	60,000	12" x 52"	400	18"x40"	980
1"		S-91A-VIP II-Q	<b>11000321</b>	90,000	14" x 65"	400	18"x40"	1360
1.5"	2850	S-91B-VIP II-Q	<b>11000322</b>	90,000	14" x 65"	400	18"x40"	1400
1.5"		S-121B-VIP II-Q	<b>11000323</b>	120,000	16" x 65"	700	24"x41"	1940
1.5"		S-151B-VIP II-Q	<b>11000324</b>	150,000	18" x 65"	700	24"x41"	2260
1.5"		S-301B-VIP II-Q	<b>11000329</b>	300,000	24" x 72"	1000	24"x50"	4540
2"	2900	S-121C-VIP II-Q	<b>11000330</b>	120,000	16" x 65"	700	24"x41"	2120
2"		S-151C-VIP II-Q	<b>11000331</b>	150,000	18" x 65"	700	24"x41"	2320
2"		S-301C-VIP II-Q	<b>11000336</b>	300,000	24" x 72"	1000	24"x50"	4000
2"		S-451C-VIP II-Q	<b>11000337</b>	450,000	30" x 72"	1500	30"x50"	5960
2"		S-601C-VIP II-Q	<b>11000338</b>	600,000	36" x 72"	2500	39"x48"	7520
3"	3900	S-451E-VIP II-Q	<b>11000935</b>	450,000	30" x 72"	1500	30"x50"	6080
3"		S-601E-VIP II-Q	<b>11000339</b>	600,000	36" x 72"	2500	39"x48"	7640
3"		S-901E-VIP II-Q	<b>11000936</b>	900,000	42" x 72"	2500	39"x48"	11,340
3"		S-1201E-VIP II-Q	<b>11000937</b>	1,200,000	48" x 72"	4500	52"x60"	14,680

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order.

## Time Clock Control – Single Softener Fiberglass Tank - Single

### Features:

- Automatic mechanical Time Clock initiated regeneration. Hard Water bypass during regeneration
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Timed brine refills (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- High strength polyethylene tank liners for longer service life, FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1pH operation



**S-301C-TC**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity Per Tank (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
1"	2750	S-31A-TC	<b>11000416</b>	30,000	9" x 48"	400	18"x40"	175
1"		S-61A-TC	<b>11000028</b>	60,000	12" x 52"	400	18"x40"	245
1"		S-91A-TC	<b>11000029</b>	90,000	14" x 65"	400	18"x40"	340
1.5"	2850	S-91B-TC	<b>11000030</b>	90,000	14" x 65"	400	18"x40"	350
1.5"		S-121B-TC	<b>11000031</b>	120,000	16" x 65"	700	24"x41"	485
1.5"		S-151B-TC	<b>11000032</b>	150,000	18" x 65"	700	24"x41"	505
1.5"		S-301B-TC	<b>11000037</b>	300,000	24" x 72"	1000	24"x50"	920
2"	2900	S-121C-TC	<b>11000038</b>	120,000	16" x 65"	700	24"x41"	530
2"		S-151C-TC	<b>11000039</b>	150,000	18" x 65"	700	24"x41"	580
2"		S-301C-TC	<b>11000044</b>	300,000	24" x 72"	1000	24"x50"	1000
2"		S-451C-TC	<b>11000045</b>	450,000	30" x 72"	1500	30"x50"	1490
2"		S-601C-TC	<b>11000046</b>	600,000	36" x 72"	2500	39"x48"	1880
3"	3900	S-451E-TC	<b>11000938</b>	450,000	30" x 72"	1500	30"x50"	1515
3"		S-601E-TC	<b>11000047</b>	600,000	36" x 72"	2500	39"x48"	1910
3"		S-901E-TC	<b>11000939</b>	900,000	42" x 72"	2500	39"x48"	2835
3"		S-1201E-TC	<b>11000940</b>	1,200,000	48" x 72"	4500	52"x60"	3670

# Time Clock Control – Dual Softener

## Fiberglass Tank – Duplex Parallel

### Features:

- Automatic mechanical Time Clock initiated regeneration.  
No Hard Water bypass during regeneration
- Lead-free brass multiport control valves with self- cleaning, hydraulically balanced positive acting piston.
- Timed brine refills (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- High strength polyethylene tank liners for longer service life, FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1pH operation



**S-301C-TC-D**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity Per Tank (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
1"	2750	S-31A-TC-D	<b>11000417</b>	30,000	9" x 48"	400	18"x40"	350
1"		S-61A-TC-D	<b>11000048</b>	60,000	12" x 52"	400	18"x40"	490
1"		S-91A-TC-D	<b>11000049</b>	90,000	14" x 65"	400	18"x40"	680
1.5"	2850	S-91B-TC-D	<b>11000050</b>	90,000	14" x 65"	400	18"x40"	700
1.5"		S-121B-TC-D	<b>11000051</b>	120,000	16" x 65"	700	24"x41"	970
1.5"		S-151B-TC-D	<b>11000052</b>	150,000	18" x 65"	700	24"x41"	1130
1.5"		S-301B-TC-D	<b>11000057</b>	300,000	24" x 72"	1000	24"x50"	2270
2"	2900	S-121C-TC-D	<b>11000058</b>	120,000	16" x 65"	700	24"x41"	1060
2"		S-151C-TC-D	<b>11000059</b>	150,000	18" x 65"	700	24"x41"	1160
2"		S-301C-TC-D	<b>11000064</b>	300,000	24" x 72"	1000	24"x50"	2000
2"		S-451C-TC-D	<b>11000065</b>	450,000	30" x 72"	1500	30"x50"	2980
2"		S-601C-TC-D	<b>11000066</b>	600,000	36" x 72"	2500	39"x48"	3760
3"	3900	S-451E-TC-D	<b>11000941</b>	450,000	30" x 72"	1500	30"x50"	3030
3"		S-601E-TC-D	<b>11000067</b>	600,000	36" x 72"	2500	39"x48"	3880
3"		S-901E-TC-D	<b>11000942</b>	900,000	42" x 72"	2500	39"x48"	5670
3"		S-1201E-TC-D	<b>11000943</b>	1,200,000	48" x 72"	4500	52"x60"	7340

# Softener Components and Accessories

## **Skid Mounting:**

Factory assembled skid mounting for FRP Duplex Softener with mounting hardware & FRP tank supports.

Tank Diameters	Valve Pipe Size	Skid Size LxWxH	Part No.
9" thru 12"	1"	24" x 30" x 4"	<b>501141</b>
14" thru 18"	1-1/2" & 2"	42" x 30" x 4"	<b>501142</b>
24" thru 30"	1-1/2" & 2"	72" x 42" x 4"	<b>501143</b>
36"	1-1/2" & 2"	84" x 48" x 4"	<b>501144</b>
42"	3"	96" x 54" x 4"	<b>501145</b>
48"	3"	108" x 60" x 4"	<b>501146</b>



## **Interconnecting Piping Assembly (ICP):**

The interconnecting plumbing headers are sized based on the flow rate and designed for a maximum velocity of 10 feet per second.

Factory assembled **Sch80 PVC Duplex** Interconnecting piping / plumbing assembly:



Description	Part Number
1" Common I/O headers & bypass line with isolation valve. Includes: 1" tank I/O piping, manual tank I/O isolation valves.	<b>906098</b>
1.5" Common I/O headers & bypass line with isolation valve. Includes: 1.5" tank I/O piping, manual tank I/O isolation valves.	<b>906099</b>
2" Common I/O headers & bypass line with isolation valve. Includes: 2" tank I/O piping, manual tank I/O isolation valves.	<b>906100</b>
<b>3" Common I/O headers &amp; bypass line with isolation valve.</b> Includes: 2" tank I/O piping, manual tank I/O isolation valves.	<b>906584</b>
3" Common I/O headers & bypass line with isolation valve. Includes: 3" tank I/O piping, manual tank I/O isolation valves.	<b>906127</b>
<b>4" Common I/O headers &amp; bypass line with isolation valve.</b> Includes: 3" tank I/O piping, manual tank I/O isolation valves.	<b>906585</b>
<i>Note: Galvanized piping is available – contact factory.</i>	

## **Kit: Sample Valve & Pressure Gauge**

Description	Part Number
Kit: 2-1/2" Pressure Gauge 0-100psi with 1/4 Tee & 1/4" Sample Valve Test Cock	<b>908007</b>
<i>Used on above factory assembled inlet/outlet headers for ICP.</i>	



**Note: Skid number, ICP number and gauge/sample valve kit/s number – consummate a complete assembly.**

# Controls

VIP1E & VIP2E demand initiated controllers have been updated with the following standard features. They directly replace older style VIP controllers.

- Electronic time clock capability
- Delay regeneration on alternating systems
- UL listing

VIP3E controllers allow for progressive flow capabilities as the flow rate increases or decreases the controller will move units into and out of service. This eliminates the possibility of channeling through the resin during low flow conditions and lessens the pressure drop through the system during high flow conditions. Ideal for applications with varying flow rate demands such as hotels, condominiums or apartment buildings.

**VIPE“DCS” controllers provide remote 2 wire RS-485 MODBUS communication for monitoring or programming the controller using plant management system. ALL PROGRAMMING SOFTWARE BETWEEN THE VIPE“DCS” AND THE PLANT MANAGEMENT SYSTEM ARE CONSIDERED BY OTHERS.**

Description	Part Number
VIP-1E Programmable Control – Single or Duplex	920182
VIP-2E Programmable Control – 2, 3, or 4 Tanks	920183
VIP-3E Variable-Demand Programmable Control	920184
VIP-1E with 2-Wire 485 Modbus “DCS”	920182-DCS
VIP-2E with 2-Wire 485 Modbus “DCS”	920183-DCS
VIP-3E with 2-Wire 485 Modbus “DCS”	920184-DCS
Time Clock – Valve Nest System – w/solenoids for filters	920122
Stager Control – Valve Nest System	920120
Micro-TR Time Clock with RO Lockout Board (Tank Mount)	920066
Pumped Brine Control	920166
Brine Reclaim Control	920169
Brine Day Tank Control	920167

**VIP-1E CONTROL**



**VIP-2E/3E CONTROL**



**MICRO-T CONTROL**



**STAGER CONTROL**





## VIP Control Extension Cables

Length (ft.)	Description	Part Number
10	Extends harness from valve to control	119068-10



## Transformers

Description	Part Number
50 VA – 120v x 24vac – Plug In	7022207
50 VA – 120v x 24vac – (NEMA BOX)	980019-24
100 VA – 220v x 24vac (NEMA BOX)	980059-24
108 VA – 120V x 24vac – (Encapsulated)	FLK41034



## Water Meters and Flow Sensors – Turbo Flow Meters

Ecodyne VIP water softeners and filters come with flow sensors. The standard 1", 1.5" and 2" flow meter (\*) in a plastic housing can be replaced with a brass housing. The standard 3" & 4" flow sensor (\*\*) in a copper tee assembly can be replaced with a PVC saddle fitting or an iron saddle fitting.

Description	Flow Rate (gpm)		Part Number
	Normal Range	Peak	
1" NPT Flow Meter PVC (*)	1/2 - 30	40	930047
1-1/2" NPT Flow Meter PVC (*)	1-1/2 - 60	125	930046
1" NPT Brass turbine assy	1/2 - 30	40	930015
1-1/2"x 2" NPT Brass turbine assy	1-1/2 - 60	125	930016
2" Water meter PLAS(*)	4 - 90	125	7161679
2" NPT Flow Meter PVC	4 - 90	125	930062
3" Flow Meter in CU fitting(**)	7 - 200	230	930049
3" Sensor assy PVC saddle	7 - 200	230	930027
4" Sensor assy Iron fitting(**)	12 - 350	395	930019
4" Sensor assy PVC saddle	12 - 350	395	930028
Replacement Signet 2536 sensor assy for 3" & 4"			930022



930046



930016



930022

Sensor assy not shown with:

- CU tee
- PVC tee
- Iron tee

## Flow Sensor Extension Cables

Length (ft.)	Description	Part Number
10	Extends harness from flow sensor to control	119075-10



## Complete Brine Tank Assemblies

Polyethylene Brine Systems (includes brinewell and 1 air-check assembly). 400/700lb brine tanks come standard with brinewell, air/check and safety float valve style shutoff. Optionally, safety float valve style shutoff on 1000lbs and above systems, are offered at an additional cost only.

Description	Dimensions (Dia. x Height)	Part Number	
		Standard Air-check	Float Style
400 lb capacity	18" x 30"	940052	-
700 lb capacity	24" x 40"	940053	-
1,000 lb capacity	24" x 50"	940025	940042
1,500 lb capacity	30" x 50"	940026	940043
2,500 lb capacity	39" x 48"	940027	940044
4,500 lb capacity	52" x 60"	940007	940045
7,000 lb capacity	60" x 60"	940035	-
10,000 lb capacity	72" x 60"	940036	-

## Brinewell / Air-check Part Assemblies

Description		Part Number
Standard	400 lb & 700 lb Brinewell / Air-check assy	980100
	1000 lb Brine Brinewell / Air-check assy	980084
	1500 lb Brine Brinewell / Air-check assy	980065
	2500 lb, 4500 lb, 7000 lb or 10,000 Brinewell / Air-check assy	980008
Float Type	400 lb & 700 lb Brinewell / Air-check assy	980100
	1000 lb Brinewell / Air-check assy	980085
	1500 lb & 2500 lb Brinewell / Air-check assy	980082
	4500 lb Brinewell / Air-check assy	980083

## 2750 & 2850 - Stop Valve Part Assemblies

Description	Part Number
1" Valve assy, STEEL 24v NO BYP (complete)	910003
1-1/2" Valve assy, STEEL 24v NO BYP (complete)	910004
Solenoid Valve, 24v (replc part)	206004
Diaph/Seal Kit, 1" vlv 421 (replc part)	702021
Diaph/Seal Kit, 1-1/2" vlv 424 (replc part)	702022
AQM Internal Parts Kit 421 f/1" (replc part)	702047
AQM Internal Parts Kit 424 f/1-1/2" (replc part)	702048

## Fleck Replacement Power Heads (VIP/24V) with Cables

Power Head Description	Part Number
2750 / 2850 Power Head, (VIP config)	312311
2900 Power Head, (VIP config)	312313
3150 Power Head, (VIP config)	312314
3900 Power Head, (VIP config)	312315
9000/9500 Power Head, (VIP config)	312317
Environmental covers sold separately.	

## Funnel Kit

Description	Part Number
Large Funnel for loading resin and media <i>Note: Funnel kits must be specified on order.</i>	980015



## Fleck Valve Covers

Description	Part Number
Black Environmental Cover w/ Clear Window 2750, 2850, "Upper 2900"	FLK60219-02
Black Environmental Cover Lower 2900 Drive Motor Cover	FLK60217-02
Black Environmental Cover w/ Clear Window 3150 & "Upper 3900"	FLK60240-02
Black Environmental Cover w/ Black Window 3150 & "Upper 3900"	FLK-60240-22



## Fiberglass ASME Code Vessels

Size (Dia. x Height)	Pressure Rating & Code
24" x 72" tripod base	100 thru 150 psi.  ASME Available for pressure vessels between 24" diameter and 63" diameter for top and bottom flanged pressure vessels only.
30" x 72" tripod base	
36" x 72" tripod base	
42" x 72" tripod base	
48" x 72" tripod base	
63" x 86" tripod base	

## Liquid Brine Systems - BRYNEER™

Max. Capacity	Size	Usable Dry Salt Storage
27 Ton	8' x 15'	23 Ton
43 Ton	10' x 15'	36 Ton
56 Ton	11'6" x 15'	47 Ton
85 Ton	12' x 20'	72 Ton



### Bryneer™ Features:

- Filament wound reinforced thermoset plastic vessel, manufactured in accordance with Specification ASTM-D-3299-10. Flat bottom and domed top, the inner surface and interior layers are included in the structural wall calculation. The inner corrosion liner is fabricated with isophthalic polyester resin reinforced with fiberglass. Exterior surface finished with a translucent protective coating with ultraviolet inhibitors. Vessel is to be designed for storage of Sodium Chloride Brine.**
- Note: Optional features such as ladder with cage, thermal insulation digital salt monitoring or flow meters & gauges are available on request.**

# SECTION 2



*\*Shown with factory SKID & piping*

## Fleck<sup>®</sup> Epoxy Lined Steel Softeners



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# Steel Softener Specifications and Design Data

## Single Units – Epoxy Lined Carbon Steel Tanks

Model Number	Grains Capacity <sup>(2)</sup>			Recommended Flow Rates				Mineral Tank Size <sup>(4)</sup> in.	Pipe Size in.	Resin Qty Cu.Ft.	Max Drain Flow GPM	Brine Tank Capacity Lbs.	Space <sup>(5)</sup> Reqmt LxDxH in.
	Salt Setting			Continuous		Peak <sup>(3)</sup>							
	15lb/CF	10lb/CF	5lb/CF	GPM Flow	PSI Drop	GPM Flow	PSI Drop						
S-92A	90,000	75,000	60,000	21	15	29	25	14x66	1	3	5	400	36x18x72
S-92B	90,000	75,000	60,000	24	9	36	16	14x66	1½	3	5	400	36x18x72
S-122B	120,000	100,000	80,000	32	12	48	22	18x66	1½	4	7	700	46x24x72
S-152B	150,000	125,000	100,000	40	13	52	25	18x66	1½	5	7	700	46x24x72
S-302B	300,000	250,000	200,000	45	15	58	25	24x66	1½	10	15	1000	52x24x72
S-122C	120,000	100,000	80,000	32	7	48	12	18x66	2	4	7	700	46x24x77
S-152C	150,000	125,000	100,000	40	9	60	16	18x66	2	5	7	700	46x24x77
S-302C	300,000	250,000	200,000	77	15	107	25	24x66	2	10	15	1000	52x24x77
S-452C	450,000	375,000	300,000	87	15	118	25	30x66	2	15	20	1500	65x30x77
S-602C	600,000	500,000	400,000	94	15	125	25	36x70	2	20	25	2500	80x39x82
S-452E	450,000	375,000	300,000	140	15	200	25	30x66	3	15	20	1500	65x30x86
S-602E	600,000	500,000	400,000	160	15	240	25	36x70	3	20	30	2500	80x42x86
S-902E	900,000	750,000	600,000	200	15	270	25	42x70	3	30	40	2500	85x42x86
S-1202E	1,200,000	1,000,000	800,000	210	15	280	25	48x70	3	40	50	4500	104x52x86

**NOTES:**

- (1) Weight and pressure drop data are estimates.
- (2) Exchange capacity is based upon treating water with 10 gpg total hardness. As CaCO<sub>3</sub> at the service rates specified and free of color, odor and turbidity. Capacity is for both tanks.
- (3) Peak flow rates are not recommended for extended periods of time.
- (4) Dimension refers to nominal vessel size only.
- (5) Not including operating and maintenance areas.

<b>Resin and Gravel required per above specifications</b>								
Tank Size	14x66	18x66 (S-122)	18x66 (S-152)	24x66	30x66	36x70	42x70	48x70
Resin Qty.	3 ft3	4 ft3	5 ft3	10 ft3	15 ft3	20 ft3	30 ft3	40 ft3
Gravel Qty.	50 lbs	100 lbs	100 lbs	150 lbs	250 lbs	300 lbs	400 lbs	600 lbs



# Steel Softener Specifications and Design Data (cont'd)

## Duplex Parallel Units – Epoxy Lined Carbon Steel Tanks

Model Number	Total System Grains Capacity <sup>(2)</sup>			Recommended Flow Rates				(2) Mineral Tank Size in. <sup>(4)</sup>	Pipe Size in.	Total Resin Qty Cu.Ft.	Max Drain Flow GPM	Brine Tank Capacity Lbs.	Space <sup>(5)</sup> Reqmt LxDxH in.
				Duplex Continuous		Duplex Peak <sup>(3)</sup>							
	15lb/cf	10lb/cf	5lb/cf	GPM Flow	PSI Drop	GPM Flow	PSI Drop						
S-92A	180,000	150,000	120,000	42	15	58	25	14x66	1	6	5	400	54x18x72
S-92B	180,000	150,000	120,000	48	9	72	16	14x66	1½	6	5	400	54x18x72
S-122B	240,000	200,000	160,000	64	12	96	22	18x66	1½	8	7	700	68x24x72
S-152B	300,000	250,000	200,000	80	13	116	25	18x66	1½	10	7	700	68x24x72
S-302B	600,000	500,000	400,000	90	15	116	25	24x66	1½	20	15	1000	80x24x72
S-122C	240,000	200,000	160,000	64	7	96	12	18x66	2	8	7	700	68x24x77
S-152C	300,000	250,000	200,000	80	9	120	16	18x66	2	10	7	700	68x24x77
S-302C	600,000	500,000	400,000	154	15	214	25	24x66	2	20	15	1000	80x24x77
S-452C	900,000	750,000	600,000	174	15	236	25	30x66	2	30	20	1500	98x30x77
S-602C	1,200,000	1,000,000	800,000	188	15	250	25	36x70	2	40	25	2500	119x42x82
S-452E	900,000	750,000	600,000	280	15	400	25	30x66	3	30	20	1500	98x30x86
S-602E	1,200,000	1,000,000	800,000	320	15	480	25	36x70	3	40	30	2500	119x42x86
S-902E	1,800,000	1,500,000	1,200,000	400	15	540	25	42x70	3	60	40	2500	131x42x86
S-1202E	2,400,000	2,000,000	1,600,000	420	15	560	25	48x70	3	80	50	4500	156x52x86

**NOTES:**

- (1) Weight and pressure drop data are estimates.
- (2) Exchange capacity is based upon treating water with 10 gpg total hardness. As CaCO<sub>3</sub> at the service rates specified and free of color, odor and turbidity. Capacity is for both tanks.
- (3) Peak flow rates are not recommended for extended periods of time.
- (4) Dimension refers to nominal vessel size only.
- (5) Not including operating and maintenance areas.

<b>Resin and Gravel required per above specifications</b>								
Tank Size	(2)14x66	(2)18x66 (S-122)	(2)18x66 (S-152)	(2)24x66	(2)30x66	(2)36x70	(2)42x70	(2)48x70
Resin Qty.	6 ft <sup>3</sup>	8 ft <sup>3</sup>	10 ft <sup>3</sup>	20 ft <sup>3</sup>	30 ft <sup>3</sup>	40 ft <sup>3</sup>	60 ft <sup>3</sup>	80 ft <sup>3</sup>
Gravel Qty.	100 lbs	200 lbs	200 lbs	300 lbs	500 lbs	600 lbs	800 lbs	1200 lbs

# VIP-1E Control – Single Demand Softener

## Epoxy Lined Steel Tank – SNGL

### Features:

- Single tank operation. Hard water bypass during regeneration.
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Timed brine refills (eliminates constant line pressure on shut off float devices).
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners / Condensate Polishers – contact ECI with application temperature.**



S-302C-SNGL

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity Per Tank (kilograins)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
1"	2750	S-92A-SNGL	<b>902405</b>	90,000	14"x66"	400	18"x40"	395
1.5"	2850	S-92B-SNGL	<b>902409</b>	90,000	14"x66"	400	18"x40"	405
1.5"		S-122B-SNGL	<b>902413</b>	120,000	18"x66"	700	24"x41"	560
1.5"		S-152B-SNGL	<b>902417</b>	150,000	18"x66"	700	24"x41"	640
1.5"		S-302B-SNGL	<b>902437</b>	300,000	24"x66"	1000	24"x50"	1245
2"	2900	S-122C-SNGL	<b>902441</b>	120,000	18"x66"	700	24"x41"	605
2"		S-152C-SNGL	<b>902444</b>	150,000	18"x66"	700	24"x41"	655
2"		S-302C-SNGL	<b>902459</b>	300,000	24"x66"	1000	24"x50"	1075
2"		S-452C-SNGL	<b>902462</b>	450,000	30"x66"	1500	30"x50"	1565
2"		S-602C-SNGL	<b>902465</b>	600,000	36"x71"	2500	39"x48"	1955
3"	3900	S-452E-SNGL	<b>11000830</b>	450,000	30"x66"	1500	30"x50"	1615
3"		S-602E-SNGL	<b>902468</b>	600,000	36"x71"	2500	39"x48"	2015
3"		S-902E-SNGL	<b>902471</b>	900,000	42"x71"	2500	39"x48"	2825
3"		S-1202E-SNGL	<b>902474</b>	1,200,000	48"x71"	4500	52"x60"	3660

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order, see Section 14.

# VIP-1E Control – Twin Alternating Softener

## Epoxy Lined Steel Tank – ALT 1

### Features:

- Twin Alternating. No hard water bypass during regeneration.
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Timed brine refills (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners / Condensate Polishers – *contact ECI with application temperature.***



S-302B-Alt1

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity Per Tank (kilograins)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
1"	9000	S-92A-ALT1	<b>902406</b>	90,000	14"x66"	400	18"x40"	655
1.5"	9500	S-92B-ALT1	<b>902410</b>	90,000	14"x66"	400	18"x40"	675
1.5"		S-122B-ALT1	<b>902414</b>	120,000	18"x66"	700	24"x41"	945
1.5"		S-152B-ALT1	<b>902418</b>	150,000	18"x66"	700	24"x41"	1105
1.5"		S-302B-ALT1	<b>902438</b>	300,000	24"x66"	1000	24"x50"	2245

Note: 1" and 1-1/2" Flow Meters supplied with above products are Plastic.

# VIP-1E Control – Duplex Alternating Softener

## Epoxy Lined Steel Tank – ALT 2

### Features:

- Twin Alternating Operation. No hard water bypass during regeneration.
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Timed brine refills (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners / Condensate Polishers – contact ECI with application temperature.**



S-302E-Alt2

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity Per Tank (kilograins)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
1"	2750	S-92A-ALT2	<b>902407</b>	90,000	14"x66"	400	18"x40"	680
1.5"	2850	S-92B-ALT2	<b>902411</b>	90,000	14"x66"	400	18"x40"	700
1.5"		S-122B-ALT2	<b>902415</b>	120,000	18"x66"	700	24"x41"	970
1.5"		S-152B-ALT2	<b>902419</b>	150,000	18"x66"	700	24"x41"	1130
1.5"		S-302B-ALT2	<b>902439</b>	300,000	24"x66"	1000	24"x50"	2270
2"	2900	S-122C-ALT2	<b>902442</b>	120,000	18"x66"	700	24"x41"	1060
2"		S-152C-ALT2	<b>902445</b>	150,000	18"x66"	700	24"x41"	1160
2"		S-302C-ALT2	<b>902460</b>	300,000	24"x66"	1000	24"x50"	2000
2"		S-452C-ALT2	<b>902463</b>	450,000	30"x66"	1500	30"x50"	2980
2"		S-602C-ALT2	<b>902466</b>	600,000	36"x71"	2500	39"x48"	3760
3"	3900	S-452E-ALT2	<b>11000831</b>	450,000	30"x66"	1500	30"x50"	2980
3"		S-602E-ALT2	<b>902469</b>	600,000	36"x71"	2500	39" x 48"	3880
3"		S-902E-ALT2	<b>902472</b>	900,000	42"x71"	2500	39" x 48"	5670
3"		S-1202E-ALT2	<b>902475</b>	1,200,000	48"x71"	4500	52" x 60"	7340

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order, see Section 14.

# VIP-1E Control – Duplex Parallel Softener

## Epoxy Lined Steel Tank – PAR2

### Features:

- Duplex Parallel Operation. No hard water bypass during regeneration
- NEW! VIP-1E Electronic Time Clock feature & UL listed.  
Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller.
- **Par 2 –Systems utilize one pipe size larger flow meter!**
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Timed brine refills (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners / Condensate Polishers – contact ECI with application temperature.**



S-302C-PAR2

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity Per Tank (kilograins)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
1"	2750	S-92A-PAR2	<b>902408</b>	90,000	14"x66"	400	18"x40"	680
1.5"	2850	S-92B-PAR2	<b>902412</b>	90,000	14"x66"	400	18"x40"	700
1.5"		S-122B-PAR2	<b>902416</b>	120,000	18"x66"	700	24"x41"	970
1.5"		S-152B-PAR2	<b>902420</b>	150,000	18"x66"	700	24"x41"	1130
1.5"		S-302B-PAR2	<b>902440</b>	300,000	24"x66"	1000	24"x50"	2270
2"	2900	S-122C-PAR2	<b>902443</b>	120,000	18"x66"	700	24"x41"	1060
2"		S-152C-PAR2	<b>902446</b>	150,000	18"x66"	700	24"x41"	1160
2"		S-302C-PAR2	<b>902461</b>	300,000	24"x66"	1000	24"x50"	2000
2"		S-452C-PAR2	<b>902464</b>	450,000	30"x66"	1500	30"x50"	2980
2"		S-602C-PAR2	<b>902467</b>	600,000	36"x71"	2500	39"x48"	3760
3"	3900	S-452E-PAR2	<b>11000832</b>	450,000	30"x66"	1500	30"x50"	3030
3"		S-602E-PAR2	<b>902470</b>	600,000	36"x71"	2500	39" x 48"	3880
3"		S-902E-PAR2	<b>902473</b>	400,000	42"x71"	2500	39" x 48"	5670
3"		S-1202E-PAR2	<b>902476</b>	1,200,000	48"x71"	4500	52" x 60"	7340

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order, see Section 14.

**Note:** Duplex Parallel Systems have next size larger flow meter to handle double the flow rate. If not required, order Duplex Alternating system on previous page and program for Parallel Mode.

# VIP-II Control – Duplex Softener

## Epoxy Lined Steel Tank – Alternating or Parallel

### Features:

- Twin Alternating or Parallel Operation. No hard water bypass during regeneration.
- NEW! VIP-II Electronic Time Clock feature & UL listed. Solid State multiple metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller.
- VIP-II - Systems utilize individual tank flow meters, allowing expansion up to four future tanks.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Timed brine refills (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-II “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners / Condensate Polishers – contact ECI with application temperature.**



S-302C-VIPII-D

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity Per Tank (kilograins)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
1"	2750	S-92A-VIP II-D	<b>11000341</b>	90,000	14"x66"	400	18"x40"	680
1.5"	2800	S-91B-VIP II-D	<b>11000342</b>	90,000	14"x66"	400	18"x40"	700
1.5"		S-122B-VIP II-D	<b>11000343</b>	120,000	18"x66"	700	24"x41"	970
1.5"		S-152B-VIP II-D	<b>11000344</b>	150,000	18"x66"	700	24"x41"	1130
1.5"		S-302B-VIP II-D	<b>11000349</b>	300,000	24"x66"	1000	24"x50"	2270
2"	2900	S-122C-VIP II-D	<b>11000350</b>	120,000	18"x66"	700	24"x41"	1060
2"		S-152C-VIP II-D	<b>11000351</b>	150,000	18"x66"	700	24"x41"	1160
2"		S-302C-VIP II-D	<b>11000356</b>	300,000	24"x66"	1000	24"x50"	2000
2"		S-452C-VIP II-D	<b>11000357</b>	450,000	30"x66"	1500	30"x50"	2980
2"		S-602C-VIP II-D	<b>11000358</b>	600,000	36"x71"	2500	39"x48"	3760
3"	3900	S-452E-VIP II-D	<b>11000833</b>	450,000	30"x66"	1500	30"x50"	2980
3"		S-602E-VIP II-D	<b>11000359</b>	600,000	36"x71"	2500	39" x 48"	3880
3"		S-902E-VIP II-D	<b>11000360</b>	900,000	42"x71"	2500	39" x 48"	5260
3"		S-1202E-VIP II-D	<b>11000361</b>	1,200,000	48"x71"	4500	52" x 60"	6870

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order, see Section 14.

## VIP-II Control – Triplex Softener

## Epoxy Lined Steel Tank – Alternating or Parallel

### Features:

- Triplex Alternating or Parallel Operation. No hard water bypass during regeneration.
- NEW! VIP-II-E Electronic Time Clock feature & UL listed. Solid State multiple metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller.
- VIP-II-E - Systems utilize individual tank flow meters, allowing expansion up to four future tanks.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Timed brine refills (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-II-E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners / Condensate Polishers – contact ECI with application temperature.**



S-302C-VIPII-T

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity Per Tank (kilograins)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
1"	2750	S-92A-VIP II-T	<b>11000363</b>	90,000	14"x66"	400	18"x40"	1020
1.5"	2850	S-92B-VIP II-T	<b>11000364</b>	90,000	14"x66"	400	18"x40"	1050
1.5"		S-122B-VIP II-T	<b>11000365</b>	120,000	18"x66"	700	24"x41"	1455
1.5"		S-152B-VIP II-T	<b>11000366</b>	150,000	18"x66"	700	24"x41"	1695
1.5"		S-302B-VIP II-T	<b>11000371</b>	300,000	24"x66"	1000	24"x50"	3405
2"	2900	S-122C-VIP II-T	<b>11000372</b>	120,000	18"x66"	700	24"x41"	1590
2"		S-152C-VIP II-T	<b>11000373</b>	150,000	18"x66"	700	24"x41"	1740
2"		S-302C-VIP II-T	<b>11000378</b>	300,000	24"x66"	1000	24"x50"	3000
2"		S-452C-VIP II-T	<b>11000379</b>	450,000	30"x66"	1500	30"x50"	4470
2"		S-602C-VIP II-T	<b>11000380</b>	600,000	36"x71"	2500	39"x48"	5640
3"	3900	S-452E-VIP II-T	<b>11000834</b>	450,000	30"x66"	1500	30"x50"	4520
3"		S-602E-VIP II-T	<b>11000381</b>	600,000	36"x71"	2500	39" x 48"	5730
3"		S-902E-VIP II-T	<b>11000382</b>	900,000	42"x71"	2500	39" x 48"	8496
3"		S-1202E-VIP II-T	<b>11000383</b>	1,200,000	48"x71"	4500	52" x 60"	11,010

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order, see Section 14.

# VIP-II Control – Quadraplex Softener

## Epoxy Lined Steel Tank – Alternating or Parallel

### Features:

- Quadraplex Alternating or Parallel Operation. No hard water bypass during regeneration. NEW! VIP-II Electronic Time Clock feature & UL listed. Solid State multiple metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller.
- VIP-II - Systems offer individual tank flow meters.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Timed brine refills (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-II “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners / Condensate Polishers – contact ECI with application temperature.**



S-302C-VIPII-Q

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity Per Tank (kilograins)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
1"	2750	S-92A-VIP II-Q	<b>11000385</b>	90,000	14"x66"	400	18"x40"	1360
1.5"	2850	S-92B-VIP II-Q	<b>11000386</b>	90,000	14"x66"	400	18"x40"	1400
1.5"		S-122B-VIP II-Q	<b>11000387</b>	120,000	18"x66"	700	24"x41"	1940
1.5"		S-152B-VIP II-Q	<b>11000388</b>	150,000	18"x66"	700	24"x41"	2260
1.5"		S-302B-VIP II-Q	<b>11000393</b>	300,000	24"x66"	1000	24"x50"	4540
2"	2900	S-122C-VIP II-Q	<b>11000394</b>	120,000	18"x66"	700	24"x41"	2120
2"		S-152C-VIP II-Q	<b>11000395</b>	150,000	18"x66"	700	24"x41"	2320
2"		S-302C-VIP II-Q	<b>11000400</b>	300,000	24"x66"	1000	24"x50"	4000
2"		S-452C-VIP II-Q	<b>11000401</b>	450,000	30"x66"	1500	30"x50"	5960
2"		S-602C-VIP II-Q	<b>11000402</b>	600,000	36"x71"	2500	39"x48"	7520
3"	3900	S-452E-VIP II-Q	<b>11000835</b>	450,000	30"x66"	1500	30"x50"	6010
3"		S-602E-VIP II-Q	<b>11000403</b>	600,000	36"x71"	2500	39" x 48"	7640
3"		S-902E-VIP II-Q	<b>11000404</b>	900,000	42"x71"	2500	39" x 48"	11,340
3"		S-1202E-VIP II-Q	<b>11000405</b>	1,200,000	48"x71"	4500	52" x 60"	14,680

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order, see Section 14.



# Time Clock- Softener

## Epoxy Lined Steel Tank – Single

### Features:

- Automatic mechanical Time Clock initiated regeneration
- Hard Water bypass during regeneration
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Timed brine refill (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH operation



**S-302C-TC**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity Kilograins	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
1"	2750	S-92A-TC	<b>11000149</b>	90,000	14"x66"	400	18"x40"	340
1.5"	2850	S-92B-TC	<b>11000150</b>	90,000	14"x66"	400	18"x40"	350
1.5"		S-122B-TC	<b>11000151</b>	120,000	18"x66"	700	24"x41"	485
1.5"		S-152B-TC	<b>11000152</b>	150,000	18"x66"	700	24"x41"	565
1.5"		S-302B-TC	<b>11000157</b>	300,000	24"x66"	1000	24"x50"	1135
2"	2900	S-122C-TC	<b>11000158</b>	120,000	18"x66"	700	24"x41"	530
2"		S-152C-TC	<b>11000159</b>	150,000	18"x66"	700	24"x41"	580
2"		S-302C-TC	<b>11000164</b>	300,000	24"x66"	1000	24"x50"	1000
2"		S-452C-TC	<b>11000165</b>	450,000	30"x66"	1500	30"x50"	1490
2"		S-602C-TC	<b>11000166</b>	600,000	36"x71"	2500	39"x48"	1880
3"	3900	S-452E-TC	<b>11000828</b>	450,000	30"x66"	1500	30"x50"	1540
3"		S-602E-TC	<b>11000167</b>	600,000	36"x71"	2500	39"x48"	1910
3"		S-902E-TC	<b>11000268</b>	900,000	42"x71"	2500	39"x48"	2835
3"		S-1202E-TC	<b>11000274</b>	1,200,000	48"x71"	4500	52"x60"	3670

# Time Clock - Softener

## Epoxy Lined Steel Tank - Duplex

### Features:

- Automatic mechanical Time Clock initiated regeneration
- No Hard Water bypass during regeneration
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Timed brine refills (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH operation



**S-302C-TC-D**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity Per Tank (kilograins)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
1"	2750	S-92A-TC-D	<b>11000169</b>	90,000	14"x66"	400	18"x40"	680
1.5"	2850	S-92B-TC-D	<b>11000170</b>	90,000	14"x66"	400	18"x40"	700
1.5"		S-122B-TC-D	<b>11000171</b>	120,000	18"x66"	700	24"x41"	970
1.5"		S-152B-TC-D	<b>11000172</b>	150,000	18"x66"	700	24"x41"	1130
1.5"		S-302B-TC-D	<b>11000177</b>	300,000	24"x66"	1000	24"x50"	2270
2"	2900	S-122C-TC-D	<b>11000178</b>	120,000	18"x66"	700	24"x41"	1060
2"		S-152C-TC-D	<b>11000179</b>	150,000	18"x66"	700	24"x41"	1160
2"		S-302C-TC-D	<b>11000184</b>	300,000	24"x66"	1000	24"x50"	2000
2"		S-452C-TC-D	<b>11000185</b>	450,000	30"x66"	1500	30"x50"	2980
2"		S-602C-TC-D	<b>11000186</b>	600,000	36"x71"	2500	39"x48"	3760
3"	3900	S-452E-TC-D	<b>11000829</b>	450,000	30"x66"	1500	30"x50"	3030
3"		S-602E-TC-D	<b>11000187</b>	600,000	36"x71"	2500	39"x48"	3880
3"		S-902E-TC-D	<b>11000269</b>	900,000	42"x71"	2500	39"x48"	5670
3"		S-1202E-TC-D	<b>11000275</b>	1,200,000	48"x71"	4500	52"x60"	7340

# SECTION 3



- Side Mount Fleck (2" & 3" Piped)

&



- Side Mount Fleck with Pneumatic Butterfly Valves  
(4" & 6" Piped)

## Side Mount Fleck High Flow Epoxy Lined Steel Softeners



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# Side Mount Fleck (2" & 3") SINGLE STEEL SOFTENERS Specifications and Design Data

## *Single Spray Lined Steel Tanks – 24" thru 48"*

Model Number	Grains Capacity <sup>(2)</sup>			Recommended Flow Rates <sup>(1)</sup>				Mineral Tank Size in. <sup>(4)</sup>	Pipe Size in.	Resin Qty Cu.Ft.	Max Drain Flow GPM	Brine Tank Capacity Lbs.	Space <sup>(5)</sup> Reqmt LxDxH in.
				Continuous		Peak <sup>(3)</sup>							
	Salt Setting			GPM Flow	PSI Drop	GPM Flow	PSI Drop						
	15lb/CF	10lb/CF	5lb/CF										
S-302C	300,000	250,000	200,000	77	15	107	25	24x60	2	10	15	1000	54x36x72
S-452C	450,000	375,000	300,000	87	15	118	25	30X60	2	15	20	1500	72x42x72
S-602C	600,000	500,000	400,000	94	15	125	25	36X60	2	20	25	2500	87x48x72
S-902E	900,000	750,000	600,000	200	15	250	25	42X60	3	30	40	2500	93x54x72
S-1202E	1,200,000	1,000,000	800,000	210	15	270	25	48x60	3	40	50	4500	112x60x72

NOTES:

- (1) Flow rates and pressure drops are estimates only. Recommended flow rates calculated using pipe size & flow velocity between 10-15fps.
- (2) Exchange capacity is based upon 30,000grains, when regenerated with 15lbs salt.
- (3) Peak flow rates are not recommended for extended periods of time.
- (4) Dimension refers to nominal vessel size only.
- (5) Not including operating and maintenance areas.
- (6) Weights provided are estimates.

<b><i>Quantity of Resin and Gravel required per above specifications, per tank</i></b>					
<b>Tank Size</b>	24x60	30x60	36x60	42x60	48x60
<b>Resin Qty.</b>	10 ft3	15 ft3	20 ft3	30 ft3	40 ft3
<b>Gravel Qty.</b>	150 lbs	250 lbs	300 lbs	400 lbs	500 lbs

# Side Mount Fleck (3") High Flow Steel Softeners - Specifications and Design Data

## Single Spray Lined Steel Tanks – 54” & 60”

Model Number	Grains Capacity <sup>(2)</sup>			Recommended Flow Rates <sup>(1)</sup>				Mineral Tank Size in. <sup>(4)</sup>	Pipe Size in.	Resin Qty Cu.Ft.	Max Drain Flow GPM	Brine Tank Capacity Lbs.	Space Reqmt LxDxH in. <sup>(5)</sup>
				Continuous		Peak <sup>(3)</sup>							
	Salt Setting			GPM	PSI	GPM	PSI						
	15lb/CF	10lb/CF	5lb/CF	Flow	Drop	Flow	Drop						
S-1503E	1,500,000	1,250,000	1,000,000	205	15	310	25	54x60	3	50	70	5300	112x72x90
S-1803E	1,800,000	1,500,000	1,200,000	246	15	372	25	60X60	3	60	85	7000	126x78x91

## Duplex Parallel Spray Lined Steel Tanks – 54” & 60”

Model Number	Grains Capacity <sup>(2)</sup>			Recommended Flow Rates <sup>(1)</sup>				Mineral Tank Size in. <sup>(4)</sup>	Pipe Size in.	Resin Qty Cu.Ft.	Max Drain Flow GPM	Brine Tank Capacity Lbs.	Space Reqmt LxDxH in. <sup>(5)</sup>
				Continuous		Peak <sup>(3)</sup>							
	Salt Setting			GPM	PSI	GPM	PSI						
	15lb/CF	10lb/CF	5lb/CF	Flow	Drop	Flow	Drop						
S-1503E	1,500,000	1,250,000	1,000,000	410	15	620	25	54x60	3	100	70	5300	172x72x90
S-1803E	1,800,000	1,500,000	1,200,000	492	15	744	25	60x60	3	120	85	7000	192x78x91

**NOTES:**

- (1) Flow rates and pressure drops are estimates only. Recommended flow rates calculated using pipe size & flow velocity between 10-15fps.
- (2) Exchange capacity is based upon 30,000grains, when regenerated with 15lbs salt.
- (3) Peak flow rates are not recommended for extended periods of time.
- (4) Dimension refers to nominal vessel size only.
- (5) Not including operating and maintenance areas.
- (6) Weights provided are estimates.

<b>Quantity of Resin and Gravel required per above specifications</b>		
<b>Tank Size</b>	54x60	60x60
<b>Resin Qty.</b>	50 ft3	60 ft3
<b>Gravel Qty.</b>	800 lbs	1100 lbs

# Side Mount Fleck (4" & 6") High Flow Steel Softeners - Specifications and Design Data

## Single Spray Lined Steel Tanks – 54", 60" and 72"

Model Number	Grains Capacity <sup>(2)</sup>			Recommended Flow Rates				Mineral Tank Size in. <sup>(4)</sup>	Pipe Size in.	Resin Qty Cu.Ft.	Max Drain Flow GPM	Brine Tank Capacity Lbs.	Space <sup>(5)</sup> Reqmt LxDxH in.
				Continuous		Peak <sup>(3)</sup>							
	Salt Setting			GPM Flow	PSI Drop	GPM Flow	PSI Drop						
	15lb/CF	10lb/CF	5lb/CF										
S-1503F	1,500,000	1,250,000	1,000,000	360	15	540	25	54X60	4	50	70	5300	136x72x90
S-1803F	1,800,000	1,500,000	1,200,000	432	15	648	25	60X60	4	60	85	7000	150x78x91
S-2553F	2,500,000	2,125,000	1,700,000	490	15	700	25	72x60	4	85	100	10,000	174x90x96
S-2553G	2,500,000	2,125,000	1,700,000	660	15	950	25	72x60	6	85	100	10,000	178x90x96

## Duplex Parallel Spray Lined Steel Tanks – 54", 60" and 72"

Model Number	Grains Capacity <sup>(2)</sup>			Recommended Flow Rates				Mineral Tank Size in. <sup>(4)</sup>	Pipe Size in.	Resin Qty Cu.Ft.	Max Drain Flow GPM	Brine Tank Capacity Lbs.	Space <sup>(5)</sup> Reqmt LxDxH in.
				Continuous		Peak <sup>(3)</sup>							
	Salt Setting			GPM Flow	PSI Drop	GPM Flow	PSI Drop						
	15lb/CF	10lb/CF	5lb/CF										
S-1503F	1,500,000	1,250,000	1,000,000	720	15	1080	25	54x60	4	100	70	5300	220x72x90
S-1803F	1,800,000	1,500,000	1,200,000	864	15	1296	25	60x60	4	120	85	7000	240x78x91
S-2553F	2,500,000	2,125,000	1,700,000	980	15	1400	25	72x60	4	170	100	10,000	284x90x96
S-2553G	2,500,000	2,125,000	1,700,000	1320	15	1900	25	72x60	6	170	100	10,000	292x90x96

**NOTES:**

- (1) Flow rates and pressure drops are estimates only. Recommended flow rates calculated using pipe size & flow velocity between 10-15fps.
- (2) Exchange capacity is based upon 30,000grains, when regenerated with 15lbs salt.
- (3) Peak flow rates are not recommended for extended periods of time.
- (4) Dimension refers to nominal vessel size only.
- (5) Not including operating and maintenance areas.
- (6) Weights provided are estimates.

<b>Quantity of Resin and Gravel required per above specifications</b>			
Tank Size	54x60	60x60	72x60
Resin Qty.	50 ft3	60 ft3	85 ft3
Gravel Qty.	800 lbs	1100 lbs	1850 lbs



# Side Mount Fleck (2" & 3") Steel Softeners Single Time Clock – Single 24" thru 48" Steel Tank -TC

## Features:

- Automatic 7day Time Clock initiated regeneration. Hard Water bypass during regeneration.
- Low lead brass valve. Self-cleaning, hydraulically balanced positive acting piston control valve
- Timed brine refill (eliminates constant line pressure on shut off float devices)
- Optional: safety valve float shutoff on 1000lb brine tank sizes and larger.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH operation
- **Optional: VIP-1E or VIP-II-E controllers available.**
- **Optional: NEW! VIP-E "DCS" – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (regeneration/backwash source), Hot Water softeners / Condensate Polishers / Air Scour / Brine reclaim / Brine Silos / Custom PLC – contact ECI.**



7day Mech.  
Time Clock



S-902E-TC

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (lbs)	Brine Tank Size	Ship. Wt. Lbs.
2"	2900	S-302C-TC	<b>11001362</b>	300,000	24"x60"	1000	24"x50"	1200
2"	2900	S-452C-TC	<b>11001364</b>	450,000	30"x60"	1500	30"x60"	1700
2"	2900	S-602C-TC	<b>11001365</b>	600,000	36"x60"	2500	39"x48"	2200
3"	3900	S-902E-TC	<b>11001366</b>	900,000	42"x60"	2500	39"x48"	3335
3"	3900	S-1202E-TC	<b>11001368</b>	1,200,000	48"x60"	4500	52"x60"	4470

**Note: Side Mount models with Single Demand, Alternating, VIP-1 or VIP-2 Controls are also available, please contact factory for pricing and availability.**

# Side Mount Fleck (3") High Flow Steel Softeners VIP1E Control - 54" & 60" *Spray Lined Tank – Sngl*



## Features:

- Single tank operation. Hard water bypass during regeneration.  
 (1) Side mounted multi-port control valve - Automatic meter initiated regeneration. Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- Timed brine refill (eliminates constant line pressure on shut off float devices)
- Optional: safety valve float shutoff on 1000lb brine tank sizes and larger.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (regeneration/backwash source), Hot Water softeners / Condensate Polishers / Air Scour / Brine reclaim / Brine Silos / Custom PLC – contact ECI.**



**S-1503E-SNGL**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (lbs)	Brine Tank Size	Ship. Wt. Lbs.
3"	3900	S-1503E-SNGL	<b>11001056</b>	1,500,000	54"x60"	5300	52"x60"	4735
3"	3900	S-1803E-SNGL	<b>11001058</b>	1,800,000	60"x60"	7000	60"x60"	5970

**Note:** 3" flow meters are insertion type paddle wheel utilizing iron tees.

# Side Mount Fleck (3") High Flow Steel Softeners

## VIP1E Control - 54" & 60"

### Spray Lined Tank – Duplex Alternating

**Features:**

- Duplex alternating operation. No hard water bypass during regeneration.
- (1) Side mounted multi-port control valve - Automatic meter initiated regeneration. Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- Timed brine refill (eliminates constant line pressure on shut off float devices)  
Optional: safety valve float shutoff on 1000lb brine tank sizes and larger.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E "DCS" – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (regeneration/backwash source), Hot Water softeners / Condensate Polishers / Air Scour / Brine reclaim / Brine Silos / Custom PLC – contact ECI.**



**S-1503E-ALT2**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (lbs)	Brine Tank Size	Ship. Wt. Lbs.
3"	3900	S-1503E-ALT2	<b>11001062</b>	1,500,000	54"x60"	5300	52"x60"	9370
3"	3900	S-1803E-ALT2	<b>11001064</b>	1,800,000	60"x60"	7000	60"x60"	11,840

**Note:** 3" flow meters are insertion type paddle wheel utilizing iron tees.

# Side Mount Fleck (3") High Flow Steel Softeners

## VIP1E Control - 54" & 60"

### Spray Lined Tank – Duplex Parallel



#### Features:

- Duplex parallel operation. No hard water bypass during regeneration
- (1) Side mounted multi-port control valve - Automatic meter initiated regeneration. Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- **Par 2 –Systems utilize one pipe size larger flow meter!**
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- Timed brine refill (eliminates constant line pressure on shut off float devices)  
Optional: safety valve float shutoff on 1000lb brine tank sizes and larger.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (regeneration/backwash source), Hot Water softeners / Condensate Polishers / Air Scour / Brine reclaim / Brine Silos / Custom PLC – contact ECI.**



**S-1503E-PAR2**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (lbs)	Brine Tank Size	Ship. Wt. Lbs.
3"	3900	S-1503E-PAR2	<b>11001068</b>	1,500,000	54"x60"	5300	52"x60"	9370
3"	3900	S-1803E-PAR2	<b>11001070</b>	1,800,000	60"x60"	7000	60"x60"	11,840

**Note:** 3" flow meters are insertion type paddle wheel utilizing iron tees.

# Side Mount Fleck (3") High Flow Steel Softeners VIP-II E Control - 54" & 60" *Spray Lined Tank – Duplex Alternating or Parallel*

**Features:**

- Alternating or parallel operation. No hard water bypass during regeneration.
- (1) Side mounted multi-port control valve - Automatic meter initiated regeneration. Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- NEW! VIP-II E Electronic Time Clock feature & UL listed. Solid State multiple metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- VIPII E - Systems utilize individual tank flow meters, allowing expansion up to four future tanks.
- Timed brine refill (eliminates constant line pressure on shut off float devices)  
Optional: safety valve float shutoff on 1000lb brine tank sizes and larger.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-II E "DCS" – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (regeneration/backwash source), Hot Water softeners / Condensate Polishers / Air Scour / Brine reclaim / Brine Silos / Custom PLC – contact ECI.**



Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (lbs)	Brine Tank Size	Ship. Wt. Lbs.
3"	3900	S-1503E-VIPII-D	<b>11001074</b>	1,500,000	54"x60"	5300	52"x60"	9370
3"	3900	S-1803E-VIPII-D	<b>11001076</b>	1,800,000	60"x60"	7000	60"x60"	11,840

**Note:** 3" flow meters are insertion type paddle wheel utilizing iron tees.

# Side Mount Fleck (3") High Flow Steel Softeners VIP-II Control - 54" & 60" *Spray Lined Tank – Triplex Alternating or Parallel*

## Features:

- Alternating or parallel operation. No hard water bypass during regeneration.
- (1) Side mounted multi-port control valve - Automatic meter initiated regeneration. Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- NEW! VIP-II Electronic Time Clock feature & UL listed.
- Solid State multiple metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- VIP-II - Systems utilize individual tank flow meters, allowing expansion up to four future tanks.
- Timed brine refill (eliminates constant line pressure on shut off float devices)
- Optional: safety valve float shutoff on 1000lb brine tank sizes and larger.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-E "DCS" – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (regeneration/backwash source), Hot Water softeners / Condensate Polishers / Air Scour / Brine reclaim / Brine Silos / Custom PLC – contact ECI.**



S-1503E-VIPII-T

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity (grains) per Tank	Mineral Tank Size (inches)	Brine Tank Capacity (lbs)	Brine Tank Size	Ship. Wt. Lbs.
3"	3900	S-1503E-VIPII-T	<b>11001080</b>	1,500,000	54"x60"	5300	52"x60"	16,475
3"	3900	S-1803E-VIPII-T	<b>11001082</b>	1,800,000	60"x60"	7000	60"x60"	20,180

**Note:** 3" flow meters are insertion type paddle wheel utilizing iron tees.

# Side Mount Fleck (3") High Flow Steel Softeners VIP-II-E Control - 54" & 60" *Spray Lined Tank – Quad Alternating or Parallel*

**Features:**

- Alternating or parallel operation. No hard water bypass during regeneration.
- (1) Side mounted multi-port control valve - Automatic meter initiated regeneration. Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.



**S-1503E-VIPII-Q**

- NEW! VIP-II-E Electronic Time Clock feature & UL listed.
- Solid State multiple metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- VIP-II-E - Systems offer individual tank flow meters.
- Timed brine refill (eliminates constant line pressure on shut off float devices)
- Optional: safety valve float shutoff on 1000lb brine tank sizes and larger.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (regeneration/backwash source), Hot Water softeners / Condensate Polishers / Air Scour / Brine reclaim / Brine Silos / Custom PLC – contact ECI.**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity (grains) Per Tank	Mineral Tank Size (inches)	Brine Tank Capacity (lbs)	Brine Tank Size	Ship. Wt. Lbs.
3"	3900	S-1503E-VIPII-Q	<b>11001086</b>	1,500,000	54"x60"	5300	52"x60"	21,110
3"	3900	S-1803E-VIPII-Q	<b>11001088</b>	1,800,000	60"x60"	7000	60"x60"	26,060

**Note:** 3" flow meters are insertion type paddle wheel utilizing iron tees.

# Side Mount Fleck (3") High Flow Steel Softeners 7day Time Clock - 54" & 60" *Spray Lined Tank – TC*

**Features:**

- Automatic mechanical Time Clock initiated regeneration
- (1) Side mounted multi-port control valve - Automatic 7day mechanical time clock initiated regeneration
- Hard Water bypass during regeneration
- Low lead brass valve
- Self-cleaning, hydraulically balanced positive acting piston.
- Timed brine refill (eliminates constant line pressure on shut off float devices)
- Optional: safety valve float shutoff on 1000lb brine tank sizes and larger.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH operation



7day Mech.  
Time Clock



**S-1503E-TC**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (lbs)	Brine Tank Size	Ship. Wt. Lbs.
3"	3900	S-1503E-TC	<b>11001050</b>	1,500,000	54"x60"	5300	52"x60"	4735
3"	3900	S-1803E-TC	<b>11001052</b>	1,800,000	60"x60"	7000	60"x60"	5970



# Side Mount Fleck (4" & 6") High Flow Steel Softeners

## VIP-1E Control - 54", 60" & 72"

### Spray Lined Tank – Sngl

**Features:**

- Single tank operation. Hard water bypass during regeneration.
- **(2) Pneumatic butterfly control valves – Service cycle**  
(1) Side mounted multi-port control valve - Automatic meter initiated regeneration. Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- Timed brine refill (eliminates constant line pressure on shut off float devices)
- Optional: safety valve float shutoff on 1000lb brine tank sizes and larger.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (regeneration/backwash source), Hot Water softeners / Condensate Polishers / Air Scour / Brine reclaim / Brine Silos / Custom PLC – contact ECI.**



**S-1503F-SNGL**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (lbs)	Brine Tank Size	Ship. Wt. Lbs.
4"	3150	S-1503F-SNGL	n/a	1,500,000	54"x60"	5300	52"x48"	5100
4"	3150	S-1803F-SNGL	n/a	1,800,000	60"x60"	7000	60"x60"	6335
4"	3150	S-2553F-SNGL	n/a	2,500,000	72"x60"	10,000	72"x60"	8775
6"	3150	S-2553G-SNGL	n/a	2,500,000	72"x60"	10,000	72"x60"	9675

**Note:** 4" and 6" flow meters are insertion type paddle wheel utilizing iron tees.

# Side Mount Fleck (4" & 6" ) High Flow Steel Softeners VIP-1E Control - 54", 60" & 72" *Spray Lined Tank – Duplex Alternating*

**Features:**

- Duplex alternating operation. No hard water bypass during regeneration.
- **(2) Pneumatic butterfly control valves – Service cycle**
- (1) Side mounted multi-port control valve - Automatic meter initiated regeneration. Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- **NEW! VIP-1E Electronic Time Clock feature & UL listed.**  
Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- Timed brine refill (eliminates constant line pressure on shut off float devices)  
Optional: safety valve float shutoff on 1000lb brine tank sizes and larger.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (regeneration/backwash source), Hot Water softeners / Condensate Polishers / Air Scour / Brine reclaim / Brine Silos / Custom PLC – contact ECI.**



**S-1503F-ALT2**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (lbs)	Brine Tank Size	Ship. Wt. Lbs.
4"	3150	S-1503F-ALT2	n/a	1,500,000	54"x60"	5300	52"x60"	10,100
4"	3150	S-1803F-ALT2	n/a	1,800,000	60"x60"	7000	60"x60"	12,570
4"	3150	S-2553F-ALT2	n/a	2,500,000	72"x60"	10,000	72"x60"	17,400
6"	3150	S-2553G-ALT2	n/a	2,500,000	72"x60"	10,000	72"x60"	19,100

**Note:** 4" and 6" flow meters are insertion type paddle wheel utilizing iron tees.

# Side Mount Fleck (4" & 6") High Flow Steel Softeners VIP-1E Control - 54", 60" & 72" Spray Lined Tank – Duplex Parallel

**Features:**

- Duplex parallel operation. No hard water bypass during regeneration
- **(2) Pneumatic butterfly control valves – Service cycle**
- (1) Side mounted multi-port control valve - Automatic meter initiated regeneration. Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- **Par 2 –Systems utilize one pipe size larger flow meter!**
- NEW! VIP-1E Electronic Time Clock feature & UL listed.



**S-1503F-PAR2**

Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.

- Timed brine refill (eliminates constant line pressure on shut off float devices)  
Optional: safety valve float shutoff on 1000lb brine tank sizes and larger.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (regeneration/backwash source), Hot Water softeners / Condensate Polishers / Air Scour / Brine reclaim / Brine Silos / Custom PLC – contact ECI.**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (lbs)	Brine Tank Size	Ship. Wt. Lbs.
4"	3150	S-1503F-PAR2	n/a	1,500,000	54"x60"	5300	52"x60"	10,100
4"	3150	S-1803F-PAR2	n/a	1,800,000	60"x60"	7000	60"x60"	12,570
4"	3150	S-2553F-PAR2	n/a	2,500,000	72"x60"	10,000	72"x60"	17,400
6"	3150	S-2553G-PAR2	n/a	2,500,000	72"x60"	10,000	72"x60"	19,100

**Note:** 4" and 6" flow meters are insertion type paddle wheel utilizing iron tees.

# Side Mount Fleck (4" & 6") High Flow Steel Softeners

## VIP-II Control - 54", 60" & 72"

### Spray Lined Tank – Duplex Alternating or Parallel

**Features:**

- Alternating or parallel operation. No hard water bypass during regeneration.
- **(2) Pneumatic butterfly control valves – Service cycle**
- (1) Side mounted multi-port control valve - Automatic meter initiated regeneration. Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- NEW! VIP-II Electronic Time Clock feature & UL listed. Solid State multiple metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- VIP-II - Systems utilize individual tank flow meters, allowing expansion up to four future tanks.
- Timed brine refill (eliminates constant line pressure on shut off float devices)  
Optional: safety valve float shutoff on 1000lb brine tank sizes and larger.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-II "DCS" – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (regeneration/backwash source), Hot Water softeners / Condensate Polishers / Air Scour / Brine reclaim / Brine Silos / Custom PLC – contact ECI.**



**S-1503F-VIPII-D**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (lbs)	Brine Tank Size	Ship. Wt. Lbs.
4"	3150	S-1503F-VIPII-D	n/a	1,500,000	54"x60"	5300	52"x60"	10,100
4"	3150	S-1803F-VIPII-D	n/a	1,800,000	60"x60"	7000	60"x60"	12,570
4"	3150	S-2553F-VIPII-D	n/a	2,500,000	72"x60"	10,000	72"x60"	17,400
6"	3150	S-2553G-VIPII-D	n/a	2,500,000	72"x60"	10,000	72"x60"	19,100

**Note:** 4" and 6" flow meters are insertion type paddle wheel utilizing iron tees.

# Side Mount Fleck (4" & 6") High Flow Steel Softeners VIP-II Control - 54", 60" & 72" *Spray Lined Tank – Triplex Alternating or Parallel*

**Features:**

- Alternating or parallel operation. No hard water bypass during regeneration.
- **(2) Pneumatic butterfly control valves – Service cycle**
- (1) Side mounted multi-port control valve - Automatic meter initiated regeneration. Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- NEW! VIP-II Electronic Time Clock feature & UL listed.
- Solid State multiple metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- VIP-II E - Systems utilize individual tank flow meters, allowing expansion up to four future tanks.
- Timed brine refill (eliminates constant line pressure on shut off float devices)
- Optional: safety valve float shutoff on 1000lb brine tank sizes and larger.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (regeneration/backwash source), Hot Water softeners / Condensate Polishers / Air Scour / Brine reclaim / Brine Silos / Custom PLC – contact ECI.**



**S-1503F-VIPII-T**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity (grains) per Tank	Mineral Tank Size (inches)	Brine Tank Capacity (lbs)	Brine Tank Size	Ship. Wt. Lbs.
4"	3150	S-1503F-VIPII-T	n/a	1,500,000	54"x60"	5300	52"x60"	15,100
4"	3150	S-1803F-VIPII-T	n/a	1,800,000	60"x60"	7000	60"x60"	18,705
4"	3150	S-2553F-VIPII-T	n/a	2,500,000	72"x60"	10,000	72"x60"	26,025
6"	3150	S-2553G-VIPII-T	n/a	2,500,000	72"x60"	10,000	72"x60"	26,575

**Note:** 4" and 6" flow meters are insertion type paddle wheel utilizing iron tees.

# Side Mount Fleck (4" & 6") High Flow Steel Softeners VIP-II-E Control - 54", 60" & 72" *Spray Lined Tank – Quad Alternating or Parallel*

**Features:**

- Alternating or parallel operation. No hard water bypass during regeneration.
- **(2) Pneumatic butterfly control valves – Service cycle**
- (1) Side mounted multi-port control valve - Automatic meter initiated regeneration. Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.



**S-1503F-VIPII-Q**

- NEW! VIP-II-E Electronic Time Clock feature & UL listed.
- Solid State multiple metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- VIP-II-E - Systems offer individual tank flow meters.
- Timed brine refill (eliminates constant line pressure on shut off float devices)
- Optional: safety valve float shutoff on 1000lb brine tank sizes and larger.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (regeneration/backwash source), Hot Water softeners / Condensate Polishers / Air Scour / Brine reclaim / Brine Silos / Custom PLC – contact ECI.**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity (grains) Per Tank	Mineral Tank Size (inches)	Brine Tank Capacity (lbs)	Brine Tank Size	Ship. Wt. Lbs.
4"	3150	S-1503F-VIPII-Q	n/a	1,500,000	54"x60"	5300	52"x60"	20,100
4"	3150	S-1803F-VIPII-Q	n/a	1,800,000	60"x60"	7000	60"x60"	24,900
4"	3150	S-2553F-VIPII-Q	n/a	2,500,000	72"x60"	10,000	72"x60"	34,500
6"	3150	S-2553G-VIPII-Q	n/a	2,500,000	72"x60"	10,000	72"x60"	38,050

**Note:** 4" and 6" flow meters are insertion type paddle wheel utilizing iron tees.

# Side Mount Fleck (4" & 6") High Flow Steel Softeners 7day Time Clock - 54", 60" & 72" *Spray Lined Tank – TC*

## Features:

- Automatic mechanical Time Clock initiated regeneration
- **(2) Pneumatic butterfly control valves – Service cycle**
- (1) Side mounted multi-port control valve - Automatic 7day mechanical time clock initiated regeneration
- Hard Water bypass during regeneration
- Low lead brass valve
- Self-cleaning, hydraulically balanced positive acting piston.
- Timed brine refill (eliminates constant line pressure on shut off float devices)
- Optional: safety valve float shutoff on 1000lb brine tanksizes and larger.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH operation



7day Mech.  
Time Clock



**S-1503F-TC**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (lbs)	Brine Tank Size	Ship. Wt. Lbs.
4"	3150	S-1503F-TC	n/a	1,500,000	54"x60"	5300	52"x60"	5100
4"	3150	S-1803F-TC	n/a	1,800,000	60"x60"	7000	60"x60"	6335
4"	3150	S-2553F-TC	n/a	2,500,000	72"x60"	10,000	72"x60"	8775
6"	3150	S-2553G-TC	n/a	2,500,000	72"x60"	10,000	72"x60"	9675

# SECTION 4



## Plastic Valve Nest Fiberglass Softeners

18" thru 48"



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# Fiberglass Tank Softener Specifications and Design Data

## Single Units – FRP Tanks

Model Number	Grains Capacity <sup>(2)</sup>			Recommended Flow Rates				Mineral Tank Size in. <sup>(4)</sup>	Pipe Size in.	Resin Qty Cu.Ft.	Max Drain Flow GPM	Brine Tank Capacity Lbs.	Space <sup>(5)</sup> Reqmt LxDxH in.
				Continuous		Peak <sup>(3)</sup>							
	15lb/CF	10lb/CF	5lb/CF	GPM Flow	PSI Drop	GPM Flow	PSI Drop						
S-151C	150,000	125,000	100,000	40	9	60	16	18x65	2	5	7	700	58x24x86
S-301C	300,000	250,000	200,000	77	15	107	25	24x72	2	10	15	1000	64x24x92
S-451C	450,000	375,000	300,000	87	15	118	25	30x72	2	15	20	1500	70x30x92
S-601C	600,000	500,000	400,000	94	15	125	25	36x72	2	20	30	2500	80x24x92
S-901E	900,000	750,000	600,000	200	15	270	25	42x72	3	30	40	2500	100x42x96
S-1201E	1,200,000	1,000,000	800,000	210	15	280	25	48x72	3	40	50	4500	120x52x100

## Duplex Parallel Units – FRP Tanks

Model Number	Total System Grains Capacity <sup>(2)</sup>			Recommended Flow Rates				(2) Mineral Tank Size in. <sup>(4)</sup>	Pipe Size in.	Total Resin Qty Cu.Ft.	Max Drain Flow GPM	Brine Tank Capacity Lbs.	Space <sup>(5)</sup> Reqmt LxDxH in.
				Duplex Continuous		Duplex Peak <sup>(3)</sup>							
	15lb/CF	10lb/CF	5lb/CF	GPM Flow	PSI Drop	GPM Flow	PSI Drop						
S-151C	300,000	250,000	200,000	80	9	120	16	18x65	2	10	7	700	92x24x86
S-301C	600,000	500,000	400,000	154	15	214	25	24x72	2	20	15	1000	104x24x92
S-451C	900,000	750,000	600,000	174	15	236	25	30x72	2	30	20	1500	116x30x92
S-601C	1,200,000	1,000,000	800,000	188	15	250	25	36x72	2	40	30	2500	130x24x92
S-901E	1,800,000	1,500,000	1,200,000	400	15	540	25	42x72	3	60	40	2500	160x42x96
S-1201E	2,400,000	2,000,000	1,600,000	420	15	560	25	48x72	3	80	50	4500	186x52x100

**NOTES:**

- (1) Weight and pressure drop data are estimates.
- (2) Exchange capacity is based upon treating water with 10 gpg total hardness. As CaCO<sub>3</sub> at the service rates specified and free of color, odor and turbidity. Capacity is for both tanks.
- (3) Peak flow rates are not recommended for extended periods of time.
- (4) Dimension refers to nominal vessel size only.
- (5) Not including operating and maintenance areas.

### Quantity of Resin and Gravel required per above specifications

	SNGL	SNGL	SNGL	SNGL	SNGL	SNGL
<b>Tank Size</b>	18x65	24x72	30x72	36x72	42x72	48x72
<b>Resin Qty.</b>	5 ft3	10 ft3	15ft3	20 ft3	30 ft3	40 ft3
<b>Gravel Qty.</b>	100lbs	150lbs	250lbs	300lbs	400lbs	500lbs

### Quantity of Resin and Gravel required per above specifications

	DPLX	DPLX	DPLX	DPLX	DPLX	DPLX
<b>Tank Size</b>	(2)18x65	(2)24x72	(2)30x72	(2)36x72	(2)42x72	(2)48x72
<b>Resin Qty.</b>	10ft3	20 ft3	30 ft3	40 ft3	60 ft3	80 ft3
<b>Gravel Qty.</b>	200lbs	300lbs	500lbs	600lbs	800lbs	1000lbs

# VIP-1E Control – Single Plastic Valve Nest Softener Fiberglass Tank – SNGL



## Features:

- Single delayed or immediate regeneration. Hard water bypass during regeneration
- NEW! VIP-1E Electronic Time Clock feature & UL listed.  
Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- Schedule 80 PVC valve nest header design, utilizing composite diaphragm valves for corrosion resistance.
- Timed brine refill (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- High strength polyethylene tank liners for longer service life, FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners – contact ECI with application temperature.**



**S-1201E-PVN-SNGL**

Pipe Size	Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
2"	Plastic Valve Nest	S-151C-PVN-SNGL	<b>11001522</b>	150,000	18" x 65"	700	24"x41"	575
		S-301C-PVN-SNGL	<b>11001523</b>	300,000	24" x 72"	1000	24"x50"	1000
		S-451C-PVN-SNGL	<b>11001524</b>	450,000	30" x 72"	1500	30"x50"	1490
		S-601C-PVN-SNGL	<b>11001525</b>	600,000	36" x 72"	2500	39" x 48"	1910
3"		S-901E-PVN-SNGL	<b>11001526</b>	900,000	42" x 72"	2500	39" x 48"	2835
		S-1201E-PVN-SNGL	<b>11001527</b>	1,200,000	48" x 72"	4500	52" x 60"	3670

**Note:** 2" Flow Meters supplied with above products are Plastic. 3" are insertion type paddle wheel flow meters utilizing PVC saddle. Other materials are available on special order.

# VIP-1E Control – Duplex Alternating Plastic Valve Nest Softener Fiberglass Tank – Alt 2



## Features:

- Duplex Alternating Operation; No hard water bypass during regeneration.
- NEW! VIP-1E Electronic Time Clock feature & UL listed.  
Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- Schedule 80 PVC valve nest header design, utilizing composite diaphragm valves for corrosion resistance.
- Timed brine refill (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- High strength polyethylene tank liners for longer service life, FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners – contact ECI with application temperature.**



**S-1201E-PVN-ALT2**

Pipe Size	Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
2"	Plastic Valve Nest	S-151C-PVN-ALT2	<b>11001528</b>	150,000	18" x 65"	700	24"x41"	1140
		S-301C-PVN-ALT2	<b>11001529</b>	300,000	24" x 72"	1000	24"x50"	1840
		S-451C-PVN-ALT2	<b>11001530</b>	450,000	30" x 72"	1500	30"x50"	2980
		S-601C-PVN-ALT2	<b>11001531</b>	600,000	36" x 72"	2500	39" x 48"	3880
3"		S-901E-PVN-ALT2	<b>11001532</b>	900,000	42" x 72"	2500	39" x 48"	5670
		S-1201E-PVN-ALT2	<b>11001533</b>	1,200,000	48" x 72"	4500	52" x 60"	7340

**Note:** 2" Flow Meters supplied with above products are Plastic. 3" are insertion type paddle wheel flow meters utilizing PVC saddle. Other materials are available on special order.

# VIP-II Control – Duplex Plastic Valve Nest Softener Fiberglass Tank – Alternating or Parallel



## Features:

- Duplex Alternating Operation; No hard water bypass during regeneration.
- NEW! VIP-II Electronic Time Clock feature & UL listed.  
Solid State multiple metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- VIP-II - Systems utilize individual tank flow meters, allowing expansion up to four future tanks.
- Schedule 80 PVC valve nest header design, utilizing composite diaphragm valves for corrosion resistance.
- Timed brine refill (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- High strength polyethylene tank liners for longer service life, FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-II “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners – contact ECI with application temperature.**



**S-1201E-PVN-D VIPII**

Pipe Size	Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
2"	Plastic Valve Nest	S-151C-PVN-D VIPII	<b>11001534</b>	150,000	18" x 65"	700	24"x41"	1140
		S-301C-PVN-D VIPII	<b>11001535</b>	300,000	24" x 72"	1000	24"x50"	1840
		S-451C-PVN-D VIPII	<b>11001536</b>	450,000	30" x 72"	1500	30"x50"	2980
		S-601C-PVN-D VIPII	<b>11001537</b>	600,000	36" x 72"	2500	39"x48"	3880
3"	Plastic Valve Nest	S-901E-PVN-D VIPII	<b>11001538</b>	900,000	42" x 72"	2500	39"x48"	5670
		S-1201E-PVN-D VIPII	<b>11001539</b>	1,200,000	48" x 72"	4500	52"x60"	7340

**Note:** 2" Flow Meters supplied with above products are Plastic. 3" are insertion type paddle wheel flow meters utilizing PVC saddle. Other materials are available on special order.

# VIP-II Control – Triplex Plastic Valve Nest Softener Fiberglass Tank – Alternating or Parallel



## Features:

- Triplex Alternating or Parallel Operation. No hard water bypass during regeneration.
- NEW! VIP-II Electronic Time Clock feature & UL listed. Solid State multiple metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller.
- VIP-II - Systems utilize individual tank flow meters, allowing expansion up to four future tanks.
- Schedule 80 PVC valve nest header design, utilizing composite diaphragm valves for corrosion resistance.
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- Timed brine refill (eliminates constant line pressure on shut off float devices)
- High strength polyethylene tank liners for longer service life, FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-II “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners – contact ECI with application temperature.**



**S-1201E-PVN-T VIPII**

Pipe Size	Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
2"	Plastic Valve Nest	S-151C-PVN-T VIPII	<b>11001540</b>	150,000	18" x 65"	700	24"x41"	1140
		S-301C-PVN-T VIPII	<b>11001541</b>	300,000	24" x 72"	1000	24"x50"	1840
		S-451C-PVN-T VIPII	<b>11001542</b>	450,000	30" x 72"	1500	30"x50"	2980
		S-601C-PVN-T VIPII	<b>11001543</b>	600,000	36" x 72"	2500	39"x48"	3880
3"		S-901E-PVN-T VIPII	<b>11001544</b>	900,000	42" x 72"	2500	39"x48"	5670
		S-1201E-PVN-T VIPII	<b>11001545</b>	1,200,000	48" x 72"	4500	52"x60"	7340

**Note:** 2" Flow Meters supplied with above products are Plastic. 3" are insertion type paddle wheel flow meters utilizing PVC saddle. Other materials are available on special order.

# VIP-II Control – Quad Plastic Valve Nest Softener Fiberglass Tank – Alternating or Parallel

## Features:

- Quadraplex Alternating or Parallel Operation. No hard water bypass during regeneration.
- NEW! VIP-II Electronic Time Clock feature & UL listed. Solid State multiple metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller.
- VIPII E - Systems offer individual tank flow meters.
- Schedule 80 PVC valve nest header design, utilizing composite diaphragm valves for corrosion resistance.
- Timed brine refill (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- High strength polyethylene tank liners for longer service life, FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-II “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners – contact ECI with application temperature.**



**S-1201E-PVN-Q VIPII**

Pipe Size	Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
2"	Plastic Valve Nest	S-151C-PVN-Q VIPII	<b>11001546</b>	150,000	18"x65"	700	24"x41"	1140
		S-301C-PVN-Q VIPII	<b>11001547</b>	300,000	24"x72"	1000	24"x50"	1840
		S-451C-PVN-Q VIPII	<b>11001548</b>	450,000	30"x72"	1500	30"x50"	2980
		S-601C-PVN-Q VIPII	<b>11001549</b>	600,000	36"x72"	2500	39"x48"	3880
3"		S-901E-PVN-Q VIPII	<b>11001550</b>	900,000	42"x72"	2500	39"x48"	5670
		S-1201E-PVN-Q VIPII	<b>11001551</b>	1,200,000	48"x72"	4500	52"x60"	7340

**Note:** 2" Flow Meters supplied with above products are Plastic. 3" are insertion type paddle wheel flow meters utilizing PVC saddle. Other materials are available on special order.

# Time Clock Micro T Control – Single Plastic Valve Nest Softener

## Fiberglass Tank – Single TC

### Features:

- Automatic Electronic Time Clock initiated regeneration with Micro T controller.
- Hard Water bypass during regeneration.
- Schedule 80 PVC valve nest header design, utilizing composite diaphragm valves for corrosion resistance.
- Timed brine refill (eliminates constant line pressure on shut off float devices).
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes
- High strength polyethylene tank liners for longer service life, FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.



**S-1201E-PVN-TC-S**

Pipe Size	Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
2"	Plastic Valve Nest	S-151C-PVN-TC-S	<b>11001510</b>	150,000	18"x65"	700	24"x41"	1140
		S-301C-PVN-TC-S	<b>11001511</b>	300,000	24"x72"	1000	24"x50"	1840
		S-451C-PVN-TC-S	<b>11001512</b>	450,000	30"x72"	1500	30"x50"	2980
		S-601C-PVN-TC-S	<b>11001513</b>	600,000	36"x72"	2500	39"x48"	3880
3"	Plastic Valve Nest	S-901E-PVN-TC-S	<b>11001514</b>	900,000	42"x72"	2500	39"x48"	5670
		S-1201E-PVN-TC-S	<b>11001515</b>	1,200,000	48"x72"	4500	52"x60"	7340



# Time Clock Micro T Control – Duplex Parallel Plastic Valve Nest Softener

## Fiberglass Tank – Duplex TC

### Features:

- Automatic Electronic Time Clock initiated regeneration with Micro T controller.
- No Hard water bypass during regeneration
- Schedule 80 PVC valve nest header design, utilizing composite diaphragm valves for corrosion resistance.
- Timed brine refill (eliminates constant line pressure on shut off float devices.
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes
- High strength polyethylene tank liners for longer service life, FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.



**S-1201E-PVN-TC-D**

Pipe Size	Valve Type	Model Number	Part Number	Capacity (grains)	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
2"	Plastic Valve Nest	S-151C-PVN-TC-D	<b>11001516</b>	150,000	18" x 65"	700	24"x41"	1140
		S-301C-PVN-TC-D	<b>11001517</b>	300,000	24" x 72"	1000	24"x50"	1840
		S-451C-PVN-TC-D	<b>11001518</b>	450,000	30" x 72"	1500	30"x50"	2980
		S-601C-PVN-TC-D	<b>11001519</b>	600,000	36" x 72"	2500	39" x 48"	3880
3"	Plastic Valve Nest	S-901E-PVN-TC-D	<b>11001520</b>	900,000	42" x 72"	2500	39" x 48"	5670
		S-1201E-PVN-TC-D	<b>11001521</b>	1,200,000	48" x 72"	4500	52" x 60"	7340

# SECTION 5



## Plastic Valve Nest Epoxy Lined Steel Softeners

18" thru 48"

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# Steel Tank Softener Specifications and Design Data

## Single Units – Epoxy Lined Steel Tanks

Model Number	Grains Capacity <sup>(2)</sup>			Recommended Flow Rates				Mineral Tank Size in. <sup>(4)</sup>	Pipe Size in.	Resin Qty Cu.Ft.	Max Drain Flow GPM	Brine Tank Capacity Lbs.	Space <sup>(5)</sup> Reqmt LxDxH in.
				Continuous		Peak <sup>(3)</sup>							
	15lb/CF	10lb/CF	5lb/CF	GPM Flow	PSI Drop	GPM Flow	PSI Drop						
S-152C-PVN	150,000	125,000	100,000	40	9	60	16	18x66	2	5	7	700	58x24x72
S-302C-PVN	300,000	250,000	200,000	77	15	107	25	24x66	2	10	15	1000	64x24x72
S-452C-PVN	450,000	375,000	300,000	87	15	118	25	30x66	2	15	20	1500	70x30x72
S-602C-PVN	600,000	500,000	400,000	94	15	125	25	36x70	2	20	30	2500	78x39x78
S-902E-PVN	900,000	750,000	600,000	200	15	270	25	42x70	3	30	40	2500	100x42x78
S-1202E-PVN	1,200,000	1,000,000	800,000	210	15	280	25	48x70	3	40	50	4500	120x52x78

## Duplex Parallel Units – Epoxy Lined Steel Tanks

Model Number	Total System Grains Capacity <sup>(2)</sup>			Recommended Flow Rates <sup>(6)</sup>				(2) Mineral Tank Size in. <sup>(4)</sup>	Pipe Size in.	Total Resin Qty Cu.Ft.	Max Drain Flow GPM	Brine Tank Capacity Lbs.	Space <sup>(5)</sup> Reqmt LxDxH in.
				Duplex Continuous		Duplex Peak <sup>(3)</sup>							
	15lb/CF	10lb/CF	5lb/CF	GPM Flow	PSI Drop	GPM Flow	PSI Drop						
S-152C-PVN	300,000	250,000	200,000	80	9	120	16	18x66	2	10	7	700	92x24x72
S-302C-PVN	600,000	500,000	400,000	154	15	214	25	24x66	2	20	15	1000	104x24x72
S-452C-PVN	900,000	750,000	600,000	174	15	236	25	30x66	2	30	20	1500	116x30x72
S-602C-PVN	1,200,000	1,000,000	800,000	188	15	250	25	36x70	2	40	30	2500	130x42x78
S-902E-PVN	1,800,000	1,500,000	1,200,000	400	15	540	25	42x70	3	60	40	2500	160x42x78
S-1202E-PVN	2,400,000	2,000,000	1,600,000	420	15	560	25	48x70	3	80	50	4500	186x52x78

**NOTES:**

- (1) Weight and pressure drop data are estimates.
- (2) Exchange capacity is based upon treating water with 10 gpg total hardness. As CaCO<sub>3</sub> at the service rates specified and free of color, odor and turbidity. Capacity shown for duplex systems is the combined capacity of both tanks.
- (3) Peak flow rates are not recommended for extended periods of time. Flow rates reflect both softeners on line providing water.
- (4) Dimension refers to nominal vessel size only.
- (5) Not including operating and maintenance areas.

<b>Quantity of Resin and Gravel required per above specifications</b>						
	SNGL	SNGL	SNGL	SNGL	SNGL	SNGL
<b>Tank Size</b>	18x66	24x66	30x66	36x70	42x70	48x70
<b>Resin Qty.</b>	5 ft3	10 ft3	15ft3	20 ft3	30 ft3	40 ft3
<b>Gravel Qty.</b>	100lbs	150lbs	250lbs	300lbs	400lbs	600lbs

<b>Quantity of Resin and Gravel required per above specifications</b>						
	DPLX	DPLX	DPLX	DPLX	DPLX	DPLX
<b>Tank Size</b>	(2)18x66	(2)24x66	(2)30x66	(2)36x70	(2)42x70	(2)48x70
<b>Resin Qty.</b>	10ft3	20 ft3	30 ft3	40 ft3	60 ft3	80 ft3
<b>Gravel Qty.</b>	200lbs	300lbs	500lbs	600lbs	800lbs	1200lbs

# VIP 1E Control – Single PVC Valve Nest Softener Epoxy Lined Steel Tank – SNGL

## Features:

- Single delayed or immediate regeneration. Hard water bypass during regeneration
- NEW! VIP-1E Electronic Time Clock feature & UL listed.  
Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- Schedule 80 PVC valve nest header design, utilizing composite diaphragm valves for corrosion resistance.
- Timed brine refill (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- Spray Lined Carbon Steel tanks with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners / Condensate Polishers – contact ECI with application temperature.**



S-1202E-PVN-SNGL

Pipe Size	Valve Type	Model Number	Part Number	Capacity (grains) Per Tank	Mineral Tank Size (inches)	Brine Tank Capacity Lbs.	Brine Tank Size	Ship Wt. Lbs.
2"	Plastic Valve Nest	S-152C-PVN-SNGL	<b>11001000</b>	150,000	18"x66"	700	24"x41"	655
2"		S-302C-PVN-SNGL	<b>11001005</b>	300,000	24"x66"	1,000	24"x50"	1075
2"		S-452C-PVN-SNGL	<b>11001006</b>	450,000	30"x66"	1,500	30"x50"	1565
2"		S-602C-PVN-SNGL	<b>11001007</b>	600,000	36"x70"	2,500	39"x48"	1955
3"		S-902E-PVN-SNGL	<b>11001008</b>	900,000	42"x70"	2,500	39"x48"	2825
3"		S-1202E-PVN-SNGL	<b>11001009</b>	1,200,000	48"x70"	4,500	52"x60"	3660

**Note:** 2" Flow Meters supplied with above products are Plastic. 3" are insertion type paddle wheel flow meters utilizing PVC saddle. Other materials are available on special order.

# VIP 1E Control – Duplex PVC Valve Nest Softener Epoxy Lined Steel Tank –Alternating or Parallel

## Features:

- Duplex Alternating Operation; No hard water bypass during regeneration.
- NEW! VIP-1E Electronic Time Clock feature & UL listed.  
Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- Schedule 80 PVC valve nest header design, utilizing composite diaphragm valves for corrosion resistance.
- Timed brine refill (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- Spray Lined Carbon Steel tanks with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners / Condensate Polishers – contact ECI with application temperature.**



S-1202E-PVN-VIP1-D

Pipe Size	Valve Type	Model Number	Part Number	Capacity (grains) per Tank	Mineral Tank Size (inches)	Brine Tank Capacity Lbs.	Brine Tank Size	Ship Wt. Lbs.
2"	Plastic Valve Nest	S-152C-PVN-VIPI-D	<b>11001010</b>	150,000	18"x66"	700	24"x41"	1255
2"		S-302C-PVN-VIPI-D	<b>11001015</b>	300,000	24"x66"	1,000	24"x50"	2095
2"		S-452C-PVN-VIPI-D	<b>11001016</b>	450,000	30"x66"	1,500	30"x50"	3075
2"		S-602C-PVN-VIPI-D	<b>11001017</b>	600,000	36"x70"	2,500	39"x48"	3855
3"		S-902E-PVN-VIPI-D	<b>11001018</b>	900,000	42"x70"	2,500	39"x48"	5595
3"		S-1202E-PVN-VIPI-D	<b>11001019</b>	1,200,000	48"x70"	4,500	52"x60"	7120

**Note:** 2" Flow Meters supplied with above products are Plastic. 3" are insertion type paddle wheel flow meters utilizing PVC saddle. Other materials are available on special order.

# VIP-II-E Control – Duplex PVC Valve Nest Softener Epoxy Lined Steel Tank –Alternating or Parallel

## Features:

- Duplex Alternating Operation; No hard water bypass during regeneration.
- NEW! VIP-II-E Electronic Time Clock feature & UL listed. Solid State multiple metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller.
- **VIPII E - Systems utilize individual tank flow meters, allowing expansion up to four future tanks.**
- Schedule 80 PVC valve nest header design, utilizing composite diaphragm valves for corrosion resistance.
- Timed brine refill (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- Spray Lined Carbon Steel tanks with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-II-E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners / Condensate Polishers – contact ECI with application temperature.**



S-1202E-PVN-VIPII-D

Pipe Size	Valve Type	Model Number	Part Number	Capacity Kgr. Per Tank	Mineral Tank Size (inches)	Brine Tank Capacity Lbs.	Brine Tank Size	Ship Wt. Lbs.
2"	Plastic Valve Nest	S-152C-PVN-VIP II-D	<b>11001020</b>	150,000	18"x66"	700	24"x41"	1255
2"		S-302C-PVN-VIP II-D	<b>11001025</b>	300,000	24"x66"	1,000	24"x50"	2095
2"		S-452C-PVN-VIP II-D	<b>11001026</b>	450,000	30"x66"	1,500	30"x50"	3075
2"		S-602C-PVN-VIP II-D	<b>11001027</b>	600,000	36"x70"	2,500	39"x48"	3855
3"		S-902E-PVN-VIP II-D	<b>11001028</b>	900,000	42"x70"	2,500	39"x48"	5595
3"		S-1202E-PVN-VIP II-D	<b>11001029</b>	1,200,000	48"x70"	4,500	52"x60"	7120

**Note:** 2" Flow Meters supplied with above products are Plastic. 3" are insertion type paddle wheel flow meters utilizing PVC saddle. Other materials are available on special order.

# VIP-II Control – Triplex PVC Valve Nest Softener Epoxy Lined Steel Tank – Alternating or Parallel

## Features:

- Triplex Alternating or Parallel Operation. No hard water bypass during regeneration.
- NEW! VIP-II Electronic Time Clock feature & UL listed. Solid State multiple metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller.
- **VIPII E - Systems utilize individual tank flow meters, allowing expansion up to four future tanks.**
- Schedule 80 PVC valve nest header design, utilizing composite diaphragm valves for corrosion resistance.
- Timed brine refill (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- Spray Lined Carbon Steel tanks with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-II “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners / Condensate Polishers – contact ECI with application temperature.**



S-1202E-PVN-VIPII-T

Pipe Size	Valve Type	Model Number	Part Number	Capacity Kgr. Per Tank	Mineral Tank Size (inches)	Brine Tank Capacity Lbs.	Brine Tank Size	Ship Wt. Lbs.
2"	Plastic Valve Nest	S-152C-PVN-VIPII-T	<b>11001030</b>	150,000	18"x66"	700	24"x41"	1855
2"		S-302C-PVN-VIPII-T	<b>11001035</b>	300,000	24"x66"	1,000	24"x50"	3115
2"		S-452C-PVN-VIPII-T	<b>11001036</b>	450,000	30"x66"	1,500	30"x50"	4585
2"		S-602C-PVN-VIPII-T	<b>11001037</b>	600,000	36"x70"	2,500	39"x48"	5665
3"		S-902E-PVN-VIPII-T	<b>11001038</b>	900,000	42"x70"	2,500	39"x48"	8275
3"		S-1202E-PVN-VIPII-T	<b>11001039</b>	1,200,000	48"x70"	4,500	52"x60"	10580

**Note:** 2" Flow Meters supplied with above products are Plastic. 3" are insertion type paddle wheel flow meters utilizing PVC saddle. Other materials are available on special order.



# VIP-II-E Control – Quad PVC Valve Nest Softener Epoxy Lined Steel Tank – Alternating or Parallel

## Features:

- Quadraplex Alternating or Parallel Operation. No hard water bypass during regeneration.
- NEW! VIP-II-E Electronic Time Clock feature & UL listed.



S-1202E-PVN-VIPII-Q

- Solid State multiple metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller.
- **VIPII E - Systems offer individual tank flow meters.**
- Schedule 80 PVC valve nest header design, utilizing composite diaphragm valves for corrosion resistance.
- Timed brine refill (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- Lined Carbon Steel tanks with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-II-E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source) and/or Brine reclaim.**
- **Optional: Hot Water softeners / Condensate Polishers – contact ECI with application temperature.**

Pipe Size	Valve Type	Model Number	Part Number	Capacity Kgr. Per Tank	Mineral Tank Size (inches)	Brine Tank Capacity Lbs.	Brine Tank Size	Ship Wt. Lbs.
2"	Plastic Valve Nest	S-152C-PVN-VIPII-Q	11001040	150,000	18"x66"	700	24"x41"	2455
2"		S-302C-PVN-VIPII-Q	11001045	300,000	24"x66"	1,000	24"x50"	4135
2"		S-452C-PVN-VIPII-Q	11001046	450,000	30"x66"	1,500	30"x50"	6095
2"		S-602C-PVN-VIPII-Q	11001047	600,000	36"x70"	2,500	39"x48"	7655
3"		S-902E-PVN-VIPII-Q	11001048	900,000	42"x70"	2,500	39"x48"	11,135
3"		S-1202E-PVN-VIPII-Q	11001049	1,200,000	48"x70"	4,500	52"x60"	14,040

**Note:** 2" Flow Meters supplied with above products are Plastic. 3" are insertion type paddle wheel flow meters utilizing PVC saddle. Other materials are available on special order.

# Time Clock – PVC Valve Nest Softener Epoxy Lined Steel Tank – Single TC

## Features:

- Automatic Electronic Time Clock initiated regeneration with Micro T controller.
- Hard water bypass during regeneration – optional
- Schedule 80 PVC valve nest header design, utilizing composite diaphragm valves for corrosion resistance.
- Timed brine refill (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes
- Spray Lined Carbon Steel tanks with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.



**S-302C-PVN-TC-S**

Pipe Size	Valve Type	Model Number	Part Number	Capacity (grains) per Tank	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
2"	Plastic Valve Nest	S-152C-PVN-TC-S	<b>11000836</b>	150,000	18"x66"	700	24"x41"	655
2"		S-302C-PVN-TC-S	<b>11000839</b>	300,000	24"x66"	1000	24"x50"	1075
2"		S-452C-PVN-TC-S	<b>11000840</b>	450,000	30"x66"	1500	30"x50"	1565
2"		S-602C-PVN-TC-S	<b>11000841</b>	600,000	36"x70"	2500	39"x48"	1955
3"		S-902E-PVN-TC-S	<b>11000842</b>	900,000	42"x70"	2500	39"x48"	2825
3"		S-1202E-PVN-TC-S	<b>11000843</b>	1,200,000	48"x70"	4500	52"x60"	3660

# Time Clock – PVC Valve Nest Softener Epoxy Lined Steel Tank – Duplex TC

## Features:

- Automatic Electronic Time Clock initiated regeneration with Micro T controller.
- No Hard water bypass during regeneration – optional
- Schedule 80 PVC valve nest header design, utilizing composite diaphragm valves for corrosion resistance.
- Timed brine refill (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes
- Spray Lined Carbon Steel tanks with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.



**S-302C-PVN-TC-D**

Pipe Size	Valve Type	Model Number	Part Number	Capacity (grains) per Tank	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
2"	Plastic Valve Nest	S-152C-PVN-TC-D	<b>11000844</b>	150,000	18"x66"	700	24"x41"	1255
2"		S-302C-PVN-TC-D	<b>11000847</b>	300,000	24"x66"	1000	24"x50"	2095
2"		S-452C-PVN-TC-D	<b>11000848</b>	450,000	30"x66"	1500	30"x50"	3075
2"		S-602C-PVN-TC-D	<b>11000849</b>	600,000	36"x70"	2500	39"x48"	3855
3"		S-902E-PVN-TC-D	<b>11000850</b>	900,000	42"x70"	2500	39"x48"	5595
3"		S-1202E-PVN-TC-D	<b>11000851</b>	1,200,000	48"x70"	4500	52"x60"	7120

# SECTION 6



## High Flow Valve Nest Epoxy Lined Steel Softeners 54" thru 84"

- with Pneumatic Butterfly Valves



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# High Flow Valve Nest Softener - Specifications and Design Data

## Single Spray Lined Steel Tanks – 54”, 60”, 72” & 84”

Model Number	Grains Capacity <sup>(2)</sup>			Recommended Flow Rates				Mineral Tank Size in. <sup>(4)</sup>	Pipe Size in.	Resin Qty Cu.Ft.	Max Drain Flow GPM	Brine Tank Capacity Lbs.	Space <sup>(5)</sup> Reqmt LxDxH in.
				Continuous		Peak <sup>(3)</sup>							
	Salt Setting			GPM Flow	PSI Drop	GPM Flow	PSI Drop						
	15lb/cf	10lb/cf	5lb/cf										
S-1503E	1,500,000	1,250,000	1,000,000	205	10	310	15	54x60	3	50	70	5300	112x72x90
S-1503F	1,500,000	1,250,000	1,000,000	360	10	540	15	54X60	4	50	70	5300	136x72x90
S-1803E	1,800,000	1,500,000	1,200,000	230	10	315	15	60X60	3	60	85	7000	126x78x91
S-1803F	1,800,000	1,500,000	1,200,000	432	10	648	15	60X60	4	60	85	7000	150x78x91
S-2553F	2,500,000	2,125,000	1,700,000	490	10	700	15	72x60	4	85	100	10,000	174x90x96
S-2553G	2,500,000	2,125,000	1,700,000	660	10	950	15	72x60	6	85	100	10,000	178x90x96
S-3453G	3,450,000	2,875,000	2,300,000	893	10	1286	15	84x60	6	115	160	10,000	185x 110x96

## Duplex Parallel Spray Lined Steel Tanks – 54”, 60”, 72” & 84”

Model Number	Grains Capacity <sup>(2)</sup>			Recommended Flow Rates <sup>(1)</sup>				2 Mineral Tank Size in. <sup>(4)</sup>	Pipe Size in.	Resin Qty Cu.Ft.	Max Drain Flow GPM	Brine Tank Capacity Lbs.	Space <sup>(5)</sup> Reqmt LxDxH in.
				Continuous		Peak <sup>(3)</sup>							
	Salt Setting			GPM Flow	PSI Drop	GPM Flow	PSI Drop						
	15lb/cf	10lb/cf	5lb/cf										
S-1503E	1,500,000	1,250,000	1,000,000	410	14	620	20	54x60	3	100	70	5300	172x72x90
S-1503F	1,500,000	1,250,000	1,000,000	720	10	1080	15	54x60	4	100	70	5300	220x72x90
S-1803E	1,800,000	1,500,000	1,200,000	492	15	744	25	60x60	3	120	85	7000	192x78x91
S-1803F	1,800,000	1,500,000	1,200,000	864	11	1296	15	60x60	4	120	85	7000	240x78x91
S-2553F	2,500,000	2,125,000	1,700,000	980	11	1400	15	72x60	4	170	100	10,000	284x90x96
S-2553G	2,500,000	2,125,000	1,700,000	1320	10	1900	15	72x60	6	170	100	10,000	292x90x96
S-3453G	6,900,000	5,750,000	2,300,000	1786	10	2572	15	84x60	6	230	160	10,000	300x110x96

NOTES:

- (1) Flow rates and pressure drops are estimates only. Recommended flow rates calculated using pipe size & flow velocity between 10-15fps.
- (2) Exchange capacity is based upon 30,000grains, when regenerated with 15lbs salt.
- (3) Peak flow rates are not recommended for extended periods of time.
- (4) Dimension refers to nominal vessel size only.
- (5) Not including operating and maintenance areas.

<b>Quantity of Resin and Gravel required per above specifications, <u>per tank</u></b>				
<b>Tank Size</b>	54x60	60x60	72x60	84x60
<b>Resin Qty.</b>	50 ft3	60 ft3	85 ft3	115 ft3
<b>Gravel Qty.</b>	800lbs	1100 lbs	1850 lbs	3700lbs

# High Flow Valve Nest Steel Softeners

## VIP1E Control - 54" thru 84

### Spray Lined Tank – VN Single

#### Features:

- Single tank operation. Hard water bypass during regeneration.
- Steel or Plastic Valve Nest (SVN or PVN) consisting of Pneumatic butterfly control valves – Service
- Individual tank Aquamatic Stager controller
- NEW! VIP-1E Electronic Time Clock feature & UL listed.  
Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- Timed brine refill (eliminates constant line pressure on shut off float devices)  
Optional: safety valve float shutoff on 1000lb brine tank sizes and larger.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Skid mounting / Alternate Water Source (regeneration /backwash source) / Hot Water softeners (Condensate Polishers) / Air Scour / Brine reclaim / Brine Silos / GF+ or other specialty valves – contact ECI.**



**S-2553F-PVN-SNGL**  
(Skid not included)

Pipe Size	Pneu BFV	Model Number	Custom P/N	Capacity (grains) per tank	Mineral Tank Size (inches)	Brine Tank Capacity (lbs)	Brine Tank Size
3"		S-1503E-xVN-SNGL	n/a	1,500,000	54"x60"	5300	52"x60"
4"	*	S-1503F-xVN-SNGL	n/a	1,500,000	54"x60"	5300	52"x48"
3"		S-1803E-xVN-SNGL	n/a	1,800,000	60"x60"	7000	60"x60"
4"	*	S-1803F-xVN-SNGL	n/a	1,800,000	60"x60"	7000	60"x60"
4"	*	S-2553F-xVN-SNGL	n/a	2,500,000	72"x60"	10,000	72"x60"
6"	*	S-2553G-SVN-SNGL	n/a	2,500,000	72"x60"	10,000	72"x60"
4"	*	S-3452F-xVN-SNGL	n/a	3,450,000	84"x60"	10,000	84"x60"
6"	*	S-3452G-SVN-SNGL	n/a	3,450,000	84"x60"	10,000	84"x60"

\* 4" and 6" piped systems utilize pneumatic butterfly control valves with either PVN or SVN; steel diaphragm control valves typically used on 3" systems.

**Note:** 3", 4" and 6" flow meters are insertion type paddle wheel utilizing iron tees.



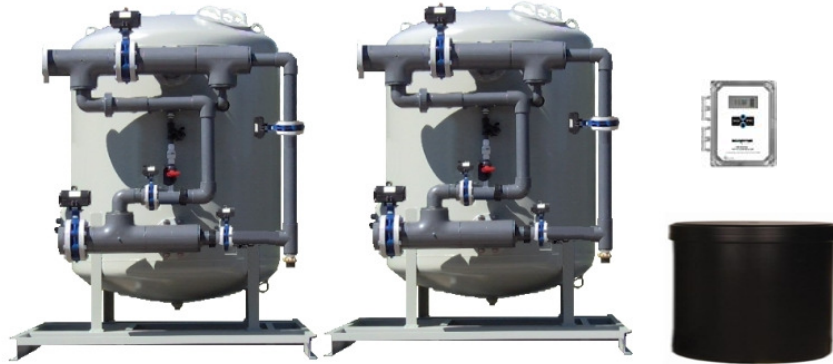
# High Flow Valve Nest Steel Softeners

## VIP1E Control - 54" thru 84

### Spray Lined Tank – VN Duplex Alternating

#### Features:

- Duplex Alternating operation. No Hard water bypass during regeneration.
  - Steel or Plastic Valve Nest (SVN or PVN) consisting of Pneumatic butterfly control valves – Service
  - Individual tank Aquamatic Stager controller
  - NEW! VIP-1E Electronic Time Clock feature & UL listed.
- Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- Timed brine refill (eliminates constant line pressure on shut off float devices)  
Optional: safety valve float shutoff on 1000lb brine tank sizes and larger.
  - Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
  - 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
  - **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
  - **Optional: Skid mounting & interconnecting plumbing / Alternate Water Source (regeneration / backwash source) / Hot Water softeners (Condensate Polishers) / Air Scour / Brine reclaim / Brine Silos / GF+ or other specialty valves – contact ECI.**



**S-2553F-PVN-ALT2**  
(Skids not included)

Pipe Size	Pneu BFV	Model Number	Custom P/N	Capacity (grains) per tank	Mineral Tank Size (inches)	Brine Tank Capacity (lbs)	Brine Tank Size
3"		S-1503E-xVN-ALT2	n/a	1,500,000	54"x60"	5300	52"x60"
4"	*	S-1503F-xVN-ALT2	n/a	1,500,000	54"x60"	5300	52"x48"
3"		S-1803E-xVN-ALT2	n/a	1,800,000	60"x60"	7000	60"x60"
4"	*	S-1803F-xVN-ALT2	n/a	1,800,000	60"x60"	7000	60"x60"
4"	*	S-2553F-xVN-ALT2	n/a	2,500,000	72"x60"	10,000	72"x60"
6"	*	S-2553G-SVN-ALT2	n/a	2,500,000	72"x60"	10,000	72"x60"
4"	*	S-3452F-xVN-ALT2	n/a	3,450,000	84"x60"	10,000	84"x60"
6"	*	S-3452G-SVN-ALT2	n/a	3,450,000	84"x60"	10,000	84"x60"

\* 4" and 6" piped systems utilize pneumatic butterfly control valves with either PVN or SVN; steel diaphragm control valves typically used on 3" systems.

**Note:** 3", 4" and 6" flow meters are insertion type paddle wheel utilizing iron tees.

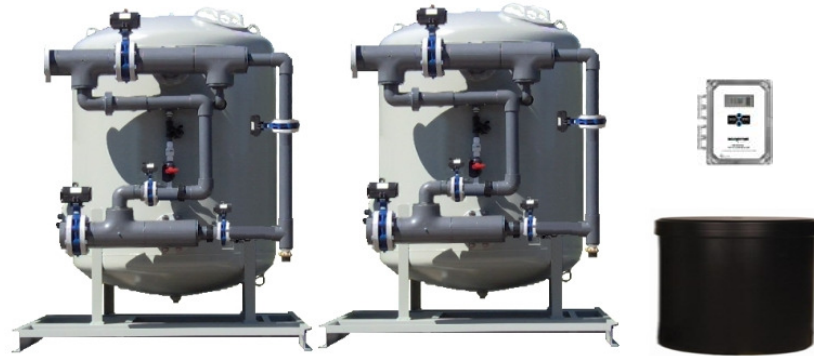
# High Flow Valve Nest Steel Softeners

## VIP1E Control - 54" thru 84

### Spray Lined Tank – VN Duplex Parallel

#### Features:

- Duplex Parallel operation. No hard water bypass during regeneration.
- Steel or Plastic Valve Nest (SVN or PVN) consisting of Pneumatic butterfly control valves – Service
- Individual tank Aquamatic Stager controller
- **Par 2 –Systems utilize one pipe size larger flow meter!**
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- Timed brine refill (eliminates constant line pressure on shut off float devices)  
Optional: safety valve float shutoff on 1000lb brine tank sizes and larger.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Skid mounting & interconnecting plumbing / Alternate Water Source (regeneration / backwash source) / Hot Water softeners (Condensate Polishers) / Air Scour / Brine reclaim / Brine Silos / GF+ or other specialty valves – contact ECI.**



**S-2553F-PVN-PAR2**  
(Skids not included)

Pipe Size	Pneu BFV	Model Number	Custom P/N	Capacity (grains) per tank	Mineral Tank Size (inches)	Brine Tank Capacity (lbs)	Brine Tank Size
3"		S-1503E-xVN-PAR2	n/a	1,500,000	54"x60"	5300	52"x60"
4"	*	S-1503F-xVN-PAR2	n/a	1,500,000	54"x60"	5300	52"x48"
3"		S-1803E-xVN-PAR2	n/a	1,800,000	60"x60"	7000	60"x60"
4"	*	S-1803F-xVN-PAR2	n/a	1,800,000	60"x60"	7000	60"x60"
4"	*	S-2553F-xVN-PAR2	n/a	2,500,000	72"x60"	10,000	72"x60"
6"	*	S-2553G-SVN-PAR2	n/a	2,500,000	72"x60"	10,000	72"x60"
4"	*	S-3452F-xVN-PAR2	n/a	3,450,000	84"x60"	10,000	84"x60"
6"	*	S-3452G-SVN-PAR2	n/a	3,450,000	84"x60"	10,000	84"x60"

\* 4" and 6" piped systems utilize pneumatic butterfly control valves with either PVN or SVN; steel diaphragm control valves typically used on 3" systems.

**Note:** 3", 4" and 6" flow meters are insertion type paddle wheel utilizing iron tees.

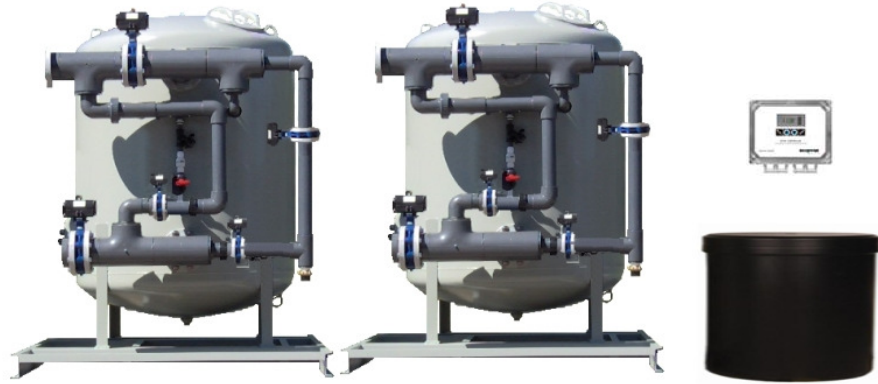
# High Flow Valve Nest Steel Softeners

## VIP-II Control - 54" thru 84

### *Spray Lined Tank – VN Duplex Alternating or Parallel*

**Features:**

- Duplex Alternating or Parallel operation. No Hard water bypass during regeneration.
- Steel or Plastic Valve Nest (SVN or PVN) Individual tank consisting of Pneumatic butterfly control valves – Service
- Individual tank Aquamatic Stager controller
- NEW! VIP-II Electronic Time Clock feature & UL listed.



**S-2553F-PVN-VIPII-D**  
(Skids not included)

Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.

- VIP-II - Systems utilize individual tank flow meters, allowing expansion up to four future tanks.
- Timed brine refill (eliminates constant line pressure on shut off float devices)  
Optional: safety valve float shutoff on 1000lb brine tank sizes and larger.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-II “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Skid mounting & interconnecting plumbing / Alternate Water Source (regeneration / backwash source) / Hot Water softeners (Condensate Polishers) / Air Scour / Brine reclaim / Brine Silos / GF+ or other specialty valves – contact ECI.**

Pipe Size	Pneu BFV	Model Number	Custom P/N	Capacity (grains) per tank	Mineral Tank Size (inches)	Brine Tank Capacity (lbs)	Brine Tank Size
3"		S-1503E-xVN-VIPIIE-D	n/a	1,500,000	54"x60"	5300	52"x60"
4"	*	S-1503F-xVN-VIPIIE-D	n/a	1,500,000	54"x60"	5300	52"x48"
3"		S-1803E-xVN-VIPIIE-D	n/a	1,800,000	60"x60"	7000	60"x60"
4"	*	S-1803F-xVN-VIPIIE-D	n/a	1,800,000	60"x60"	7000	60"x60"
4"	*	S-2553F-xVN-VIPIIE-D	n/a	2,500,000	72"x60"	10,000	72"x60"
6"	*	S-2553G-SVN-VIPIIE-D	n/a	2,500,000	72"x60"	10,000	72"x60"
4"	*	S-3452F-xVN-VIPIIE-D	n/a	3,450,000	84"x60"	10,000	84"x60"
6"	*	S-3452G-SVN-VIPIIE-D	n/a	3,450,000	84"x60"	10,000	84"x60"

\* 4" and 6" piped systems utilize pneumatic butterfly control valves with either PVN or SVN; steel diaphragm control valves typically used on 3" systems.

**Note:** 3", 4" and 6" flow meters are insertion type paddle wheel utilizing iron tees.

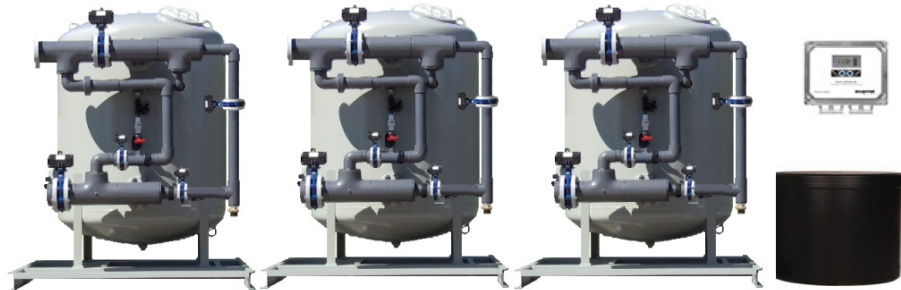
# High Flow Valve Nest Steel Softeners

## VIP-II E Control - 54" thru 84

### Spray Lined Tank – VN Triplex Alternating or Parallel

#### Features:

- Triplex Alternating or Parallel operation. No Hard water bypass during regeneration.
- Steel or Plastic Valve Nest (SVN or PVN) Individual tank consisting of Pneumatic butterfly control valves – Service
- Individual tank Aquamatic Stager controller
- NEW! VIP-II E Electronic Time Clock feature & UL listed. Solid State multiple metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- VIPII E - Systems utilize individual tank flow meters, allowing expansion up to four future tanks.
- Timed brine refill (eliminates constant line pressure on shut off float devices)  
Optional: safety valve float shutoff on 1000lb brine tank sizes and larger.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-II E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Skid mounting & interconnecting plumbing / Alternate Water Source (regeneration / backwash source) / Hot Water softeners (Condensate Polishers) / Air Scour / Brine reclaim / Brine Silos / GF+ or other specialty valves – contact ECI.**



**S-2553F-PVN-VIPII-T**  
(Skids not included)

Pipe Size	Pneu BFV	Model Number	Custom P/N	Capacity (grains) per tank	Mineral Tank Size (inches)	Brine Tank Capacity (lbs)	Brine Tank Size
3"		S-1503E-xVN-VIPIIE-T	n/a	1,500,000	54"x60"	5300	52"x60"
4"	*	S-1503F-xVN-VIPIIE-T	n/a	1,500,000	54"x60"	5300	52"x48"
3"		S-1803E-xVN-VIPIIE-T	n/a	1,800,000	60"x60"	7000	60"x60"
4"	*	S-1803F-xVN-VIPIIE-T	n/a	1,800,000	60"x60"	7000	60"x60"
4"	*	S-2553F-xVN-VIPIIE-T	n/a	2,500,000	72"x60"	10,000	72"x60"
6"	*	S-2553G-SVN-VIPIIE-T	n/a	2,500,000	72"x60"	10,000	72"x60"
4"	*	S-3452F-xVN-VIPIIE-T	n/a	3,450,000	84"x60"	10,000	84"x60"
6"	*	S-3452G-SVN-VIPIIE-T	n/a	3,450,000	84"x60"	10,000	84"x60"

\* 4" and 6" piped systems utilize pneumatic butterfly control valves with either PVN or SVN; steel diaphragm control valves typically used on 3" systems.

**Note:** 3", 4" and 6" flow meters are insertion type paddle wheel utilizing iron tees.

# High Flow Valve Nest Steel Softeners

## VIP-II-E Control - 54" thru 84

### Spray Lined Tank – VN Quad Alternating or Parallel

**Features:**

- Quad Alternating or Parallel operation. No Hard water bypass during regeneration



**S-2553F-PVN-VIPII-Q**  
(Skids not included)

- Steel or Plastic Valve Nest (SVN or PVN)  
Individual tank consisting of Pneumatic butterfly control valves – Service
- Individual tank Aquamatic Stager controller
- NEW! VIP-II-E Electronic Time Clock feature & UL listed.  
Solid State multiple metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- VIP-II-E - Systems utilize individual tank flow meters.
- Timed brine refill (eliminates constant line pressure on shut off float devices)  
Optional: safety valve float shutoff on 1000lb brine tank sizes and larger.
- Spray lined carbon steel tanks with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-II-E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Skid mounting & interconnecting plumbing / Alternate Water Source (regeneration / backwash source) / Hot Water softeners (Condensate Polishers) / Air Scour / Brine reclaim / Brine Silos / GF+ or other specialty valves – contact ECI.**

Pipe Size	Pneu BFV	Model Number	Custom P/N	Capacity (grains) per tank	Mineral Tank Size (inches)	Brine Tank Capacity (lbs)	Brine Tank Size
3"		S-1503E-xVN-VIPIIE-Q	n/a	1,500,000	54"x60"	5300	52"x60"
4"	*	S-1503F-xVN-VIPIIE-Q	n/a	1,500,000	54"x60"	5300	52"x48"
3"		S-1803E-xVN-VIPIIE-Q	n/a	1,800,000	60"x60"	7000	60"x60"
4"	*	S-1803F-xVN-VIPIIE-Q	n/a	1,800,000	60"x60"	7000	60"x60"
4"	*	S-2553F-xVN-VIPIIE-Q	n/a	2,500,000	72"x60"	10,000	72"x60"
6"	*	S-2553G-SVN-VIPIIE-Q	n/a	2,500,000	72"x60"	10,000	72"x60"
4"	*	S-3452F-xVN-VIPIIE-Q	n/a	3,450,000	84"x60"	10,000	84"x60"
6"	*	S-3452G-SVN-VIPIIE-Q	n/a	3,450,000	84"x60"	10,000	84"x60"

\* 4" and 6" piped systems utilize pneumatic butterfly control valves with either PVN or SVN; steel diaphragm control valves typically used on 3" systems.

**Note:** 3", 4" and 6" flow meters are insertion type paddle wheel utilizing iron tees.

# SECTION 7



*\*Shown with factory SKID & Interconnecting Plumbing*

## Fleck® Fiberglass Filters



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# Fiberglass Filter Specifications and Design Data

## Single Carbon Filters

Model Number	Recommended Flow Rates <sup>(2)</sup>				Mineral Tank Size in.	Pipe Size in.	Max. Drain Flow GPM	Carbon Media Qty. Cu. Ft.	Space Reqmt <sup>(3)</sup> LxDxH in.
	Chlorine		Organic <sup>(4)</sup>						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
C-121A	8	5	4	3	12x52	1	7	2	12x12x59
C-141A	11	6	6	3	14x65	1	10	3	14x14x71
C-161A	16	7	8	4	16x65	1	15	4	16x16x72
C-141B	11	4	6	3	14x65	1½	10	3	14x14x71
C-161B	16	4	8	3	16x65	1½	15	4	16x16x72
C-211B	22	6	11	3	21x65	1½	20	6	21x21x75
C-241B	30	9	15	5	24x71	1½	30	10	24x24x82
C-161C	16	4	8	3	16x65	2	15	4	16x16x72
C-211C	22	4	11	3	21x65	2	20	6	21x21x75
C-241C	30	5	15	3	24x71	2	30	10	24x24x87
C-301C	50	8	25	4	30x72	2	50	15	31x31x100
C-361C	70	12	35	5	36x72	2	70	20	37x37x100
C-361E	70	5	35	3	36x72	3	70	20	37x37x104
C-421E	95	7	48	4	42x72	3	100	30	43x43x112
C-481E	125	8	63	4	48x72	3	100	40	49x49x112

## Single Multi-Media Filters

Model Numbers	Recommended Flow Rates <sup>(2)</sup>				Mineral Tank Size in.	Pipe Size in.	Max. Drain Flow GPM	Multi-Media Qty. Cu. Ft.	Space Reqmt <sup>(3)</sup> LxDxH in.
	Continuous		Peak						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
M-121A	8	6	16	15	12x52	1	10	2	12x12x59
M-141A	11	8	22	20	14x65	1	15	3	14x14x71
M-161A	16	9	32	25	16x65	1	20	4	16x16x72
M-141B	11	6	22	12	14x65	1½	15	3	14x14x71
M-161B	16	6	32	15	16x65	1½	25	4	16x16x72
M-211B	22	6	44	13	21x65	1½	30	5	21x21x75
M-161C	16	5	32	12	16x65	2	25	4	16x16x72
M-211C	22	8	44	21	21x65	2	30	5	21x21x75
M-241C	30	7	60	17	24x71	2	50	10	24x24x87
M-301C	50	9	100	25	30x72	2	70	15	31x31x100
M-361C	70	13	100	25	36x72	2	100	20	37x37x100
M-361E	70	7	140	15	36x72	3	100	20	37x37x104

## Single Greensand Plus Filters

Model Numbers	Recommended Flow Rates <sup>(2)</sup>				Mineral Tank Size in.	Pipe Size in.	Max. Drain Flow GPM	Media Qty. Cu. Ft.	Space Reqmt <sup>(3)</sup> LxDxH in.
	Continuous		Peak						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
G-121A	4	5	6	10	12x52	1	10	2	12x12x59
G-141A	5	5	9	10	14x65	1	15	3	14x14x71
G-161A	7	5	11	10	16x65	1	20	4	16x16x72
G-141B	5	5	9	10	14x65	1½	15	3	14x14x71
G-161B	7	5	11	10	16x65	1½	20	4	16x16x72
G-211B	11	5	18	10	21x65	1½	30	5	21x21x75
G-161C	7	5	11	10	16x65	2	25	4	16x16x72
G-211C	11	5	18	10	21x65	2	30	5	21x21x75
G-241C	16	5	25	10	24x71	2	50	10	24x24x87
G-301C	25	5	39	10	30x72	2	70	15	31x31x100
G-361C	35	5	56	10	36x72	2	100	20	37x37x100
G-361E	35	5	56	10	36x72	3	100	20	37x37x104

### NOTES:

- (1) Units provided with 7-day time clock and by-pass during reconditioning. Other controls and no water by-pass available. Consult factory.
- (2) Pressure drops are based on clean bed operation. Pressure drops and weights are estimates.
- (3) Not including operating and maintenance areas.
- (4) FM-6 is provided for chlorine reduction. FM-44 is recommended for organic applications, but must be specified when ordering. Cost adders will apply.

# Fiberglass Filter Specifications and Design Data (cont'd)

## Duplex Parallel Carbon Filters

Model Number	Recommended Flow Rates <sup>(2)</sup>				(2) Mineral Tank Size in.	Pipe Size in.	Max. Drain Flow GPM	Carbon Media Qty. Cu. Ft.	Space Reqmt <sup>(3)</sup> LxDxH in.
	Duplex Chlorine		Duplex Organic <sup>(4)</sup>						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
C-121A	16	5	8	3	12x52	1	7	4	30x12x59
C-141A	22	6	12	3	14x65	1	10	6	34x14x71
C-161A	32	7	16	4	16x65	1	15	8	42x16x72
C-141B	22	4	12	3	14x65	1½	10	6	34x14x71
C-161B	32	4	16	3	16x65	1½	15	8	42x16x72
C-211B	44	6	22	3	21x65	1½	20	12	48x21x75
C-241B	60	9	30	5	24x71	1½	30	20	54x24x82
C-161C	32	4	16	3	16x65	2	15	8	42x16x72
C-211C	44	4	22	3	21x65	2	20	12	48x21x75
C-241C	60	5	30	3	24x71	2	30	20	54x24x87
C-301C	100	8	50	4	30x72	2	50	30	66x31x100
C-361C	140	12	70	5	36x72	2	70	40	78x37x100
C-361E	140	5	70	3	36x72	3	70	40	78x37x104
C-421E	190	7	96	4	42x72	3	100	60	90x43x112
C-481E	250	8	126	4	48x72	3	125	80	102x49x112

## Duplex Parallel Multi-Media Filters

Model Numbers	Recommended Flow Rates <sup>(2)</sup>				(2) Mineral Tank Size in.	Pipe Size in.	Max. Drain Flow GPM	Multi- Media Qty. Cu. Ft.	Space Reqmt <sup>(3)</sup> LxDxH in.
	Duplex Continuous		Duplex Peak						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
M-121A	16	6	32	15	12x52	1	10	4	30x12x59
M-141A	22	8	44	20	14x65	1	15	6	34x14x71
M-161A	32	9	64	25	16x65	1	25	8	42x16x72
M-141B	22	6	44	12	14x65	1½	15	6	34x14x71
M-161B	32	6	64	15	16x65	1½	25	8	42x16x72
M-211B	44	6	88	13	21x65	1½	30	12	48x21x75
M-161C	32	5	64	12	16x65	2	25	8	42x16x72
M-211C	44	8	88	21	21x65	2	30	12	48x21x75
M-241C	60	7	120	17	24x71	2	50	20	54x24x87
M-301C	100	9	200	25	30x72	2	70	30	66x31x100
M-361C	140	13	200	25	36x72	2	100	40	78x37x100
M-361E	140	7	280	15	36x72	3	100	40	78x37x104

## Duplex Parallel Greensand Plus Filters

Model Numbers	Recommended Flow Rates <sup>(2)</sup>				(2) Mineral Tank Size in.	Pipe Size in.	Max. Drain Flow GPM	Multi- Media Qty. Cu. Ft.	Space Reqmt <sup>(3)</sup> LxDxH in.
	Duplex Continuous		Duplex Peak						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
G-121A	8	5	12	10	12x52	1	10	4	30x12x59
G-141A	10	5	18	10	14x65	1	15	6	34x14x71
G-161A	14	5	22	10	16x65	1	20	8	42x16x72
G-141B	10	5	18	10	14x65	1½	15	6	34x14x71
G-161B	14	5	22	10	16x65	1½	20	8	42x16x72
G-211B	22	5	35	10	21x65	1½	30	12	48x21x75
G-161C	14	5	22	10	16x65	2	20	8	42x16x72
G-211C	22	5	35	10	21x65	2	30	12	48x21x75
G-241C	30	5	50	10	24x71	2	50	20	54x24x87
G-301C	50	5	78	10	30x72	2	70	30	66x31x100
G-361C	70	5	113	10	36x72	2	100	40	78x37x100
G-361E	70	5	113	10	36x72	3	100	40	78x37x104

**NOTES:**

- (1) Units provided with 7-day time clock and by-pass during reconditioning. Other controls and no water by-pass available. Consult factory.
- (2) Pressure drops are based on clean bed operation. Pressure drops and weights are estimates
- (3) Not including operating and maintenance areas.
- (4) Standard carbon filter equipment comes with carbon designed for chlorine removal. Organic applications, must be specified up front at quoting stage. Cost adders will apply.

# Fiberglass Filter Specifications and Design Data (cont'd)

## *Recommended Media Loading*

Tank Dia	Gravel (lbs)	Media Type						
		Carbon (ft3)	Multimedia			Greensand Plus		
			Anthracite (lbs)	Sand (lbs)	Garnet (lbs)	Anthracite (lbs)	Greensand (ft3)	Garnet (lbs)
12"	25	2	52	50	25	26	1.5	25
14"	50	3	104	75	50	52	2	50
16"	100	4	156	100	50	78	2.5	50
17"	100	4	156	100	50	78	3	50
18"	100	5	208	100	75	104	4	75
21"	100	6	208	150	100	104	4	100
24"	150	10	312	250	150	156	6	150
30"	250	15	520	350	200	260	9	200
36"	300	20	728	500	300	364	13	300
42"	400	30	1000	700	400	520	18	400
48"	600	40	1250	940	550	650	25	550

# VIP-1E Control – Single Carbon Filters

## Fiberglass Tank – SNGL

### Features:

- Single tank operation. Unfiltered water bypass during backwash.
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated backwash including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate backwash.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- ABS tank liner for longer service life. FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-IIE Triplex and/or Quadraplex units available.**



C-241C-SNGL

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	C-121A-SNGL	<b>902501</b>	12"x52"	2	170
1"		C-141A-SNGL	<b>902502</b>	14"x65"	3	225
1"		C-161A-SNGL	<b>902504</b>	16"x65"	4	325
1.5"	2850	C-141B-SNGL	<b>902503</b>	14"x65"	3	240
1.5"		C-161B-SNGL	<b>902505</b>	16"x65"	4	340
1.5"		C-211B-SNGL	<b>902507</b>	21"x65"	6	410
1.5"		C-241B-SNGL	<b>902509</b>	24"x71"	10	660
2"	2900	C-161C-SNGL	<b>902506</b>	16"x65"	4	350
2"		C-211C-SNGL	<b>902508</b>	21"x65"	6	420
2"		C-241C-SNGL	<b>902510</b>	24"x71"	10	670
2"	3150	C-301C-SNGL	<b>902511</b>	30"x72"	15	960
2"		C-361C-SNGL	<b>902512</b>	36"x72"	20	1200
3"	3900	C-361E-SNGL	<b>902513</b>	36"x72"	20	1250
3"		C-421E-SNGL	<b>12000200</b>	42"x72"	30	1930
3"		C-481E-SNGL	<b>12000201</b>	48"x72"	40	2610

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order.

# VIP-1E Control – Duplex Alternating Carbon Filters

## Fiberglass Tank – Alt 2

### Features:

- Twin Alternating Operation. No unfiltered water bypass during backwash
- NEW! VIP-1E Electronic Time Clock feature & UL listed.  
Solid State single metered demand initiated backwash including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate backwash.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- ABS tank liners for longer service life. FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-II E Triplex and/or Quadraplex units available.**



C-241C-ALT2

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. per Tank (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	C-121A-ALT2	<b>902538</b>	12"x52"	2	340
1"		C-141A-ALT2	<b>902539</b>	14"x65"	3	450
1"		C-161A-ALT2	<b>902541</b>	16"x65"	4	650
1.5"	2850	C-141B-ALT2	<b>902540</b>	14"x65"	3	480
1.5"		C-161B-ALT2	<b>902542</b>	16"x65"	4	680
1.5"		C-211B-ALT2	<b>902544</b>	21"x65"	6	820
1.5"		C-241B-ALT2	<b>902546</b>	24"x71"	10	1320
2"	2900	C-161C-ALT2	<b>902543</b>	16"x65"	4	700
2"		C-211C-ALT2	<b>902545</b>	21"x65"	6	840
2"		C-241C-ALT2	<b>902547</b>	24"x71"	10	1340
2"	3150	C-301C-ALT2	<b>902548</b>	30"x72"	15	1920
2"		C-361C-ALT2	<b>902549</b>	36"x72"	20	2400
3"	3900	C-361E-ALT2	<b>902550</b>	36"x72"	20	2500
3"		C-421E-ALT2	<b>12000202</b>	42"x72"	30	3860
3"		C-481E-ALT2	<b>12000203</b>	48"x72"	40	5220

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order.

# VIP-1E Control - Duplex Parallel Carbon Filters

## Fiberglass Tank – Par2

### Features:

- Duplex Parallel Operation. No unfiltered water bypass during backwash
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated backwash including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- **Par 2 –Systems offer one single pipe size larger flow meter!**
- ABS tank liners for longer service life. FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-II E Triplex and/or Quadraplex units available.**



C-241C-PAR2

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. per Tank (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	C-121A-PAR2	<b>902551</b>	12"x52"	2	340
1"		C-141A-PAR2	<b>902552</b>	14"x65"	3	450
1"		C-161A-PAR2	<b>902554</b>	16"x65"	4	650
1.5"	2850	C-141B-PAR2	<b>902553</b>	14"x65"	3	480
1.5"		C-161B-PAR2	<b>902555</b>	16"x65"	4	680
1.5"		C-211B-PAR2	<b>902557</b>	21"x65"	6	820
1.5"		C-241B-PAR2	<b>902559</b>	24"x71"	10	1320
2"	2900	C-161C-PAR2	<b>902556</b>	16"x65"	4	700
2"		C-211C-PAR2	<b>902558</b>	21"x65"	6	840
2"		C-241C-PAR2	<b>902560</b>	24"x71"	10	1340
2"	3150	C-301C-PAR2	<b>902561</b>	30"x72"	15	1920
2"		C-361C-PAR2	<b>902562</b>	36"x72"	20	2400
3"	3900	C-361E-PAR2	<b>902563</b>	36"x72"	20	2500
3"		C-421E-PAR2	<b>12000204</b>	42"x72"	30	3860
3"		C-481E-PAR2	<b>12000205</b>	48"x72"	40	5220

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order, see Section 14.

**Note:** Duplex Parallel Systems have next size larger flow meter to handle double the flow rate. If not required, order Duplex Alternating system on previous page and program for Parallel Mode.

# Time Clock – Single Carbon Filters

## Fiberglass Tank – Single TC

### Features:

- Automatic time clock initiated backwash
- Unfiltered Water bypass during backwash
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- ABS tank liners for longer service life. FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1ph operation



7 Day Mech.  
Time Clock

**C-241C-TC**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	C-121A-TC	<b>12000061</b>	12"x52"	2	170
1"		C-141A-TC	<b>12000062</b>	14"x65"	3	225
1"		C-161A-TC	<b>12000063</b>	16"x65"	4	325
1.5"	2850	C-141B-TC	<b>12000064</b>	14"x65"	3	240
1.5"		C-161B-TC	<b>12000065</b>	16"x65"	4	340
1.5"		C-211B-TC	<b>12000066</b>	21"x65"	6	410
1.5"		C-241B-TC	<b>12000067</b>	24"x71"	10	660
2"	2900	C-161C-TC	<b>12000068</b>	16"x65"	4	350
2"		C-211C-TC	<b>12000069</b>	21"x65"	6	420
2"		C-241C-TC	<b>12000070</b>	24"x71"	10	670
2"	3150	C-301C-TC	<b>12000071</b>	30"x72"	15	960
2"		C-361C-TC	<b>12000072</b>	36"x72"	20	1200
3"	3900	C-361E-TC	<b>12000073</b>	36"x72"	20	1250
3"		C-421E-TC	<b>12000206</b>	42"x72"	30	1930
3"		C-481E-TC	<b>12000207</b>	48"x72"	40	2610

# Time Clock – Duplex Carbon Filters

## Fiberglass Tank – Duplex TC

### Features:

- Automatic time clock initiated backwash
- No Unfiltered Water bypass during regeneration
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- ABS tank liners for longer service life. FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1ph operation



7 Day Mech.  
Time Clock

**C-241C-TC-D**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. per Tank (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	C-121A-TC-D	<b>12000467</b>	12"x52"	2	340
1"		C-141A-TC-D	<b>12000468</b>	14"x65"	3	450
1"		C-161A-TC-D	<b>12000469</b>	16"x65"	4	650
1.5"	2850	C-141B-TC-D	<b>12000470</b>	14"x65"	3	480
1.5"		C-161B-TC-D	<b>12000471</b>	16"x65"	4	680
1.5"		C-211B-TC-D	<b>12000472</b>	21"x65"	6	820
1.5"		C-241B-TC-D	<b>12000473</b>	24"x71"	10	1320
2"	2900	C-161C-TC-D	<b>12000474</b>	16"x65"	4	700
2"		C-211C-TC-D	<b>12000475</b>	21"x65"	6	840
2"		C-241C-TC-D	<b>12000476</b>	24"x71"	10	1340
2"	3150	C-301C-TC-D	<b>12000477</b>	30"x72"	15	1920
2"		C-361C-TC-D	<b>12000478</b>	36"x72"	20	2400
3"	3900	C-361E-TC-D	<b>12000479</b>	36"x72"	20	2500
3"		C-421E-TC-D	<b>12000480</b>	42"x72"	30	3860
3"		C-481E-TC-D	<b>12000481</b>	48"x72"	40	5220



# VIP- 1E Control – Single Multi-Media Filters

## Fiberglass Tank – Sngl

### Features:

- Single tank operation. Unfiltered water bypass during backwash.
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated backwash including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate backwash.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- ABS tank liner for longer service life. FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-1IE Triplex and/or Quadraplex units available.**



M-211C-SNGL

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	M-121A-SNGL	<b>902514</b>	12"x52"	2	230
1"		M-141A-SNGL	<b>902515</b>	14"x65"	3	365
1"		M-161A-SNGL	<b>902517</b>	16"x65"	4	515
1.5"	2850	M-141B-SNGL	<b>902516</b>	14"x65"	3	380
1.5"		M-161B-SNGL	<b>902518</b>	16"x65"	4	530
1.5"		M-211B-SNGL	<b>902520</b>	21"x65"	6	675
2"	2900	M-161C-SNGL	<b>902519</b>	16"x65"	4	540
2"		M-211C-SNGL	<b>902521</b>	21"x65"	6	670
2"	3150	M-241C-SNGL	<b>902522</b>	24"x71"	10	1150
2"		M-301C-SNGL	<b>902523</b>	30"x72"	15	1610
2"		M-361C-SNGL	<b>902524</b>	36"x72"	20	2170
3"	3900	M-361E-SNGL	<b>902525</b>	36"x72"	20	2220

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order.

# VIP- 1E Control - Duplex Alternating Multi-Media Filters

## Fiberglass Tank – Alt 2

### Features:

- Twin Alternating Operation. No unfiltered water bypass during backwash
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated backwash including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate backwash.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- ABS tank liners for longer service life. FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-IIE Triplex and/or Quadraplex units available.**



M-211C-ALT2

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. per Tank (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	M-121A-ALT2	<b>902564</b>	12"x52"	2	460
1"		M-141A-ALT2	<b>902565</b>	14"x65"	3	730
1"		M-161A-ALT2	<b>902567</b>	16"x65"	4	1030
1.5"	2850	M-141B-ALT2	<b>902566</b>	14"x65"	3	760
1.5"		M-161B-ALT2	<b>902568</b>	16"x65"	4	1060
1.5"		M-211B-ALT2	<b>902570</b>	21"x65"	6	1350
2"	2900	M-161C-ALT2	<b>902569</b>	16"x65"	4	1080
2"		M-211C-ALT2	<b>902571</b>	21"x65"	6	1340
2"	3150	M-241C-ALT2	<b>902572</b>	24"x71"	10	2300
2"		M-301C-ALT2	<b>902573</b>	30"x72"	15	3220
2"		M-361C-ALT2	<b>902574</b>	36"x72"	20	4340
3"	3900	M-361E-ALT2	<b>902575</b>	36"x72"	20	4440

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order.

# VIP-1E Control – Duplex Parallel Multi-Media Filters

## Fiberglass Tank – Par 2

### Features:

- Duplex Parallel Operation. No unfiltered water bypass during backwash
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated backwash including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- **Par 2 –Systems offer one single pipe size larger flow meter!**
- ABS tank liners for longer service life. FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-1IE Triplex and/or Quadraplex units available.**



M-211C-PAR2

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. per Tank (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	M-121A-PAR2	<b>902576</b>	12"x52"	2	460
1"		M-141A-PAR2	<b>902577</b>	14"x65"	3	730
1"		M-161A-PAR2	<b>902579</b>	16"x65"	4	1030
1.5"	2850	M-141B-PAR2	<b>902578</b>	14"x65"	3	760
1.5"		M-161B-PAR2	<b>902580</b>	16"x65"	4	1060
1.5"		M-211B-PAR2	<b>902582</b>	21"x65"	6	1350
2"	2900	M-161C-PAR2	<b>902581</b>	16"x65"	4	1080
2"		M-211C-PAR2	<b>902583</b>	21"x65"	6	1340
2"	3150	M-241C-PAR2	<b>902584</b>	24"x71"	10	2300
2"		M-301C-PAR2	<b>902585</b>	30"x72"	15	3220
2"		M-361C-PAR2	<b>902586</b>	36"x72"	20	4340
3"	3900	M-361E-PAR2	<b>902587</b>	36"x72"	20	4440

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order, see Section 14.

**Note:** Duplex Parallel Systems have next size larger flow meter to handle double the flow rate. If not required, order Duplex Alternating system on previous page and program for Parallel Mode.

# Time Clock – Single Multi-Media Filters

## Fiberglass Tank – Single TC

### Features:

- Automatic time clock initiated backwash
- Unfiltered Water bypass during backwash
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- ABS tank liners for longer service life. FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1ph operation



7 Day Mech.  
Time Clock

**M-211C-TC**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	M-121A-TC	<b>12000087</b>	12"x52"	2	230
1"		M-141A-TC	<b>12000088</b>	14"x65"	3	365
1"		M-161A-TC	<b>12000089</b>	16"x65"	4	515
1.5"	2850	M-141B-TC	<b>12000090</b>	14"x65"	3	380
1.5"		M-161B-TC	<b>12000091</b>	16"x65"	4	530
1.5"		M-211B-TC	<b>12000092</b>	21"x65"	6	675
2"	2900	M-161C-TC	<b>12000093</b>	16"x65"	4	540
2"		M-211C-TC	<b>12000094</b>	21"x65"	6	670
2"	3150	M-241C-TC	<b>12000095</b>	24"x71"	10	1150
2"		M-301C-TC	<b>12000096</b>	30"x72"	15	1610
2"		M-361C-TC	<b>12000097</b>	36"x72"	20	2170
3"	3900	M-361E-TC	<b>12000129</b>	36"x72"	20	2220

# Time Clock – Duplex Multi-Media Filters

## Fiberglass Tank – Duplex TC

### Features:

- Automatic time clock initiated backwash
- No Unfiltered Water bypass during regeneration
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- ABS tank liners for longer service life. FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1ph operation



7 Day Mech.  
Time Clock

**M-211C-TC-D**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. Per Tank (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	M-121A-TC-D	<b>12000482</b>	12"x52"	2	460
1"		M-141A-TC-D	<b>12000483</b>	14"x65"	3	730
1"		M-161A-TC-D	<b>12000484</b>	16"x65"	4	1030
1.5"	2850	M-141B-TC-D	<b>12000485</b>	14"x65"	3	760
1.5"		M-161B-TC-D	<b>12000486</b>	16"x65"	4	1060
1.5"		M-211B-TC-D	<b>12000487</b>	21"x65"	6	1350
2"	2900	M-161C-TC-D	<b>12000488</b>	16"x65"	4	1080
2"		M-211C-TC-D	<b>12000489</b>	21"x65"	6	1340
2"	3150	M-241C-TC-D	<b>12000490</b>	24"x71"	10	2300
2"		M-301C-TC-D	<b>12000491</b>	30"x72"	15	3220
2"		M-361C-TC-D	<b>12000492</b>	36"x72"	20	4340
3"	3900	M-361E-TC-D	<b>12000493</b>	36"x72"	20	4440

# VIP-1E Control – Single Greensand Plus Filters

## Fiberglass Tank – Sngl

### Features:

- Single tank operation. Unfiltered water bypass during backwash.
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated backwash including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate backwash.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- ABS tank liner for longer service life. FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-IIE Triplex and/or Quadraplex units available.**
- **Optional: Chemical feed pump & Chemical Draw tubes**



G-211C-SNGL

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	G-121A-SNGL	<b>902526</b>	12"x52"	2	280
1"		G-141A-SNGL	<b>902527</b>	14"x65"	3	410
1"		G-161A-SNGL	<b>902529</b>	16"x65"	4	550
1.5"	2850	G-141B-SNGL	<b>902528</b>	14"x65"	3	425
1.5"		G-161B-SNGL	<b>902530</b>	16"x65"	4	565
1.5"		G-211B-SNGL	<b>902532</b>	21"x65"	6	760
2"	2900	G-161C-SNGL	<b>902531</b>	16"x65"	4	575
2"		G-211C-SNGL	<b>902533</b>	21"x65"	6	800
2"	3150	G-241C-SNGL	<b>902534</b>	24"x71"	10	1255
2"		G-301C-SNGL	<b>902535</b>	30"x72"	15	1765
2"		G-361C-SNGL	<b>902536</b>	36"x72"	20	2410
3"	3900	G-361E-SNGL	<b>902537</b>	36"x72"	20	2960

Manganese Treated Greensand Plus must be supplied with Sodium Hypochlorite or Potassium Permanganate on a continuous basis. Normally a chemical feed pump is used for this purpose. Chemical is pumped into the raw water prior to contact with the Greensand Filter. Contact our Applications Engineering department for help with sizing and pricing of chemical pumps.

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order.

# VIP-1E Control – Duplex Alternating Greensand Plus Filters Fiberglass Tank – Alt 2

## Features:

- Twin Alternating Operation. No unfiltered water bypass during backwash
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated backwash including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate backwash.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- ABS tank liners for longer service life. FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-IIE Triplex and/or Quadraplex units available.**



G-211C-ALT2

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. Per Tank (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	G-121A-ALT2	<b>902588</b>	12"x52"	2	560
1"		G-141A-ALT2	<b>902589</b>	14"x65"	3	820
1"		G-161A-ALT2	<b>902591</b>	16"x65"	4	110
1.5"	2850	G-141B-ALT2	<b>902590</b>	14"x65"	3	850
1.5"		G-161B-ALT2	<b>902592</b>	16"x65"	4	1130
1.5"		G-211B-ALT2	<b>902594</b>	21"x65"	6	1520
2"	2900	G-161C-ALT2	<b>902593</b>	16"x65"	4	1150
2"		G-211C-ALT2	<b>902595</b>	21"x65"	6	1600
2"	3150	G-241C-ALT2	<b>902596</b>	24"x71"	10	2510
2"		G-301C-ALT2	<b>902597</b>	30"x72"	15	3530
2"		G-361C-ALT2	<b>902598</b>	36"x72"	20	4820
3"	3900	G-361E-ALT2	<b>902599</b>	36"x72"	20	5920

Manganese Treated Greensand Plus must be supplied with Sodium Hypochlorite or Potassium Permanganate on a continuous basis. Normally a chemical feed pump is used for this purpose. Chemical is pumped into the raw water prior to contact with the Greensand Filter. Contact our Applications Engineering department for help with sizing and pricing of chemical pumps.

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order.

# VIP-1E Control – Duplex Parallel Greensand Plus Filters

## Fiberglass Tank – Par 2

### Features:

- Duplex Parallel Operation. No unfiltered water bypass during backwash
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated backwash including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- **Par 2 –Systems offer one single pipe size larger flow meter!**
- ABS tank liners for longer service life. FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-IIE Triplex and/or Quadraplex units available.**



G-211C-PAR2

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. Per Tank (Cu. Ft.)	Ship. Wt. Lbs.	List Price
1"	2750	G-121A-PAR2	<b>902703</b>	12"x52"	2	560	\$3,401
1"		G-141A-PAR2	<b>902704</b>	14"x65"	3	820	\$3,916
1"		G-161A-PAR2	<b>902706</b>	16"x65"	4	1100	\$4,305
1.5"	2850	G-141B-PAR2	<b>902705</b>	14"x65"	3	850	\$5,170
1.5"		G-161B-PAR2	<b>902707</b>	16"x65"	4	1130	\$5,538
1.5"		G-211B-PAR2	<b>902709</b>	21"x65"	6	1520	\$6,529
2"	2900	G-161C-PAR2	<b>902708</b>	16"x65"	4	1150	\$6,404
2"		G-211C-PAR2	<b>902710</b>	21"x65"	6	1600	\$7,395
2"	3150	G-241C-PAR2	<b>902711</b>	24"x71"	10	2510	\$11,438
2"		G-301C-PAR2	<b>902712</b>	30"x72"	15	3530	\$15,499
2"		G-361C-PAR2	<b>902713</b>	36"x72"	20	4820	\$18,095
3"	3900	G-361E-PAR2	<b>902714</b>	36"x72"	20	5920	\$23,051

Manganese Treated Greensand Plus must be supplied with Sodium Hypochlorite or Potassium Permanganate on a continuous basis. Normally a chemical feed pump is used for this purpose. Chemical is pumped into the raw water prior to contact with the Greensand Filter. Contact our Applications Engineering department for help with sizing and pricing of chemical pumps.

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order, See Section 14.

**Note:** Duplex Parallel Systems have next size larger flow meter to handle double the flow rate. If not required, order Duplex Alternating system on previous page and program for Parallel Mode.



# Time Clock – Single Greensand Plus Filters

## Fiberglass Tank – Single TC

### Features:

- Automatic time clock initiated backwash
- Unfiltered Water bypass during backwash
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- ABS tank liners for longer service life. FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1ph operation



7 Day Mech.  
Time Clock

**G-211C-TC**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. (Cu. Ft.)	Ship. Wt. Lbs.	List Price
1"	2750	G-121A-TC	<b>12000108</b>	12"x52"	2	280	\$1,072
1"		G-141A-TC	<b>12000109</b>	14"x65"	3	410	\$1,315
1"		G-161A-TC	<b>12000110</b>	16"x65"	4	550	\$1,498
1.5"	2850	G-141B-TC	<b>12000111</b>	14"x65"	3	425	\$1,788
1.5"		G-161B-TC	<b>12000112</b>	16"x65"	4	565	\$1,946
1.5"		G-211B-TC	<b>12000113</b>	21"x65"	6	760	\$2,407
2"	2900	G-161C-TC	<b>12000114</b>	16"x65"	4	575	\$2,251
2"		G-211C-TC	<b>12000115</b>	21"x65"	6	800	\$2,718
2"	3150	G-241C-TC	<b>12000116</b>	24"x71"	10	1255	\$4,196
2"		G-301C-TC	<b>12000117</b>	30"x72"	15	1765	\$6,111
2"		G-361C-TC	<b>12000118</b>	36"x72"	20	2410	\$7,335
3"	3900	G-361E-TC	<b>12000130</b>	36"x72"	20	2960	\$9,974

Manganese Treated Greensand Plus must be supplied with Sodium Hypochlorite or Potassium Permanganate on a continuous basis. Normally a chemical feed pump is used for this purpose. Chemical is pumped into the raw water prior to contact with the Greensand Filter. Contact our Applications Engineering department for help with sizing and pricing of chemical pumps.

# Time Clock – Duplex Greensand Plus Filters

## *Fiberglass Tank – Duplex TC*

### Features:

- Automatic time clock initiated backwash
- No Unfiltered Water bypass during regeneration
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- ABS tank liners for longer service life. FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1ph operation



7 Day Mech.  
Time Clock

**G-211C-TC-D**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. Per Tank (Cu. Ft.)	Ship. Wt. Lbs.	List Price
1"	2750	G-121A-TC-D	<b>12000494</b>	12"x52"	2	560	\$2,443
1"		G-141A-TC-D	<b>12000495</b>	14"x65"	3	820	\$2,928
1"		G-161A-TC-D	<b>12000496</b>	16"x65"	4	1100	\$3,295
1.5"	2850	G-141B-TC-D	<b>12000497</b>	14"x65"	3	850	\$3,787
1.5"		G-161B-TC-D	<b>12000498</b>	16"x65"	4	1130	\$4,146
1.5"		G-211B-TC-D	<b>12000499</b>	21"x65"	6	1520	\$5,068
2"	2900	G-161C-TC-D	<b>12000500</b>	16"x65"	4	1150	\$4,501
2"		G-211C-TC-D	<b>12000501</b>	21"x65"	6	1600	\$5,435
2"	3150	G-241C-TC-D	<b>12000502</b>	24"x71"	10	2510	\$8,784
2"		G-301C-TC-D	<b>12000503</b>	30"x72"	15	3530	\$12,613
2"		G-361C-TC-D	<b>12000504</b>	36"x72"	20	4820	\$15,061
3"	3900	G-361E-TC-D	<b>12000505</b>	36"x72"	20	5920	\$19,946

Manganese Treated Greensand Plus must be supplied with Sodium Hypochlorite or Potassium Permanganate on a continuous basis. Normally a chemical feed pump is used for this purpose. Chemical is pumped into the raw water prior to contact with the Greensand Filter. Contact our Applications Engineering department for help with sizing and pricing of chemical pumps.

# SECTION 8



*\*Shown with factory SKID & Interconnecting Plumbing piping*



## Fleck<sup>®</sup> Epoxy Lined Steel Filters



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# Fleck® Lined Steel Filter Specifications and Design Data

## Single Carbon Filters

Model Number	Recommended Flow Rates <sup>(2)</sup>				Mineral Tank Size in.	Pipe Size in.	Max. Drain Flow GPM	Carbon Media Qty. Cu. Ft.	Space Reqmt <sup>(3)</sup> LxDxH in.
	Chlorine		Organic <sup>(4)</sup>						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
C-142A	11	6	6	3	14 x 66	1	10	3	14x14x73
C-182A	18	11	9	5	18 x 66	1	15	5	18x18x73
C-142B	11	4	6	3	14 x 66	1½	10	3	14x14x73
C-182B	18	5	9	3	18 x 66	1½	15	5	18x18x73
C-242B	30	9	15	5	24 x 66	1½	30	10	24x24x73
C-182C	18	4	9	3	18 x 66	2	15	5	18x18x79
C-242C	30	6	15	3	24 x 66	2	30	10	24x24x79
C-302C	50	8	25	4	30 x 66	2	50	15	30x30x77
C-362C	70	12	35	5	36 x 71	2	70	20	36x36x81
C-362E	70	5	35	3	36 x 71	3	70	20	36x36x86
C-422E	95	7	48	4	42 x 71	3	100	30	42x42x86
C-482E	125	8	63	4	48 x 71	3	100	40	48x48x86

## Single Multimedia Filters

Model Number	Recommended Flow Rates <sup>(2)</sup>				Mineral Tank Size in.	Pipe Size in.	Max. Drain Flow GPM	Multi-Media Qty. Cu. Ft.	Space Reqmt <sup>(3)</sup> LxDxH in.
	Continuous		Peak						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
M-142A	11	8	22	20	14 x 66	1	15	3	14x14X73
M-182A	18	12	30	25	18 x 66	1	25	5	18x18X73
M-142B	11	6	22	12	14 x 66	1½	15	3	14x14X73
M-182B	18	7	35	18	18 x 66	1½	25	5	18x18X73
M-182C	18	6	35	12	18 x 66	2	25	5	18x18X79
M-242C	30	7	60	17	24 x 66	2	50	10	24X24x77
M-302C	50	9	100	25	30 x 66	2	70	15	30x30X77
M-362C	70	13	100	25	36 x 71	2	100	20	36x36X81
M-362E	70	7	140	15	36 x 71	3	100	20	36x36X86

## Single Greensand Plus Filters

Model Number	Recommended Flow Rates <sup>(2)</sup>				Mineral Tank Size in.	Pipe Size in.	Max. Drain Flow GPM	Media Qty. Cu. Ft.	Space Reqmt <sup>(3)</sup> LxDxH in.
	Continuous		Peak						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
G-142A	6	5	8	20	14 x 66	1	15	3	14x14X73
G-182A	7	7	13	25	18 x 66	1	25	5	18x18X73
G-142B	6	5	8	12	14 x 66	1½	15	3	14x14X73
G-182B	7	6	13	18	18 x 66	1½	25	5	18x18X73
G-182C	7	5	13	12	18 x 66	2	25	5	18x18X79
G-242C	15	5	23	17	24 x 66	2	50	10	24X24x77
G-302C	25	6	38	25	30 x 66	2	70	15	30x30X77
G-362C	35	7	53	25	36 x 71	2	100	20	36x36X81
G-362E	35	5	53	15	36 x 71	3	100	20	36x36X86

### NOTES:

- Units provided with 7-day time clock and by-pass during reconditioning. Other controls and no water by-pass available. Consult factory.
- Pressure drops are based on clean bed operation. Pressure drops and weights are estimates.
- Not including operating and maintenance areas.
- FM-6 is provided for chlorine reduction. FM-44 is recommended for organic applications, but must be specified when ordering. Cost adders will apply.

# Fleck® Lined Steel Filter Specs and Design Data (cont'd)

## Duplex Carbon Filters

Model Number	Recommended Flow Rates <sup>(2)</sup>				Mineral Tank Size in.	Pipe Size in.	Max. Drain Flow GPM	Carbon Media Qty. Cu. Ft. total	Space Reqmt <sup>(3)</sup> LxDxH in.
	Chlorine		Organic <sup>(4)</sup>						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
C-142A	22	6	12	3	14 x 66	1	10	6	34x14x73
C-182A	36	11	18	5	18 x 66	1	15	10	42x18x73
C-142B	22	4	12	3	14 x 66	1½	10	6	34x14x73
C-182B	36	5	18	3	18 x 66	1½	15	10	42x18x73
C-242B	60	9	30	5	24 x 66	1½	30	20	54x24x73
C-182C	36	4	18	3	18 x 66	2	15	10	42x18x79
C-242C	60	6	30	3	24 x 66	2	30	20	54x24x79
C-302C	100	8	50	4	30 x 66	2	50	30	66x30x77
C-362C	140	12	70	5	36 x 71	2	70	40	78x36x81
C-362E	140	5	70	3	36 x 71	3	70	40	78x36x86
C-422E	190	7	96	4	42 x 71	3	100	60	90x42x86
C-482E	250	8	126	4	48 x 71	3	100	80	102x48x86

## Duplex Multimedia Filters

Model Number	Recommended Flow Rates <sup>(2)</sup>				Mineral Tank Size in.	Pipe Size in.	Max. Drain Flow GPM	Multi-Media Qty. Cu. Ft. total	Space Reqmt <sup>(3)</sup> LxDxH in.
	Continuous		Peak						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
M-142A	22	8	44	20	14 x 66	1	15	6	34x14X73
M-182A	36	12	60	25	18 x 66	1	25	10	42x18X73
M-142B	22	6	44	12	14 x 66	1½	15	6	34x14X73
M-182B	36	7	70	18	18 x 66	1½	25	10	42x18X73
M-182C	36	6	70	12	18 x 66	2	25	10	42x18X79
M-242C	60	7	120	17	24 x 66	2	50	20	54X24x77
M-302C	100	9	200	25	30 x 66	2	70	30	66x30X77
M-362C	140	13	200	25	36 x 71	2	100	40	78x36X81
M-362E	140	7	280	15	36 x 71	3	100	40	78x36X86

## Duplex Greensand Plus Filters

Model Number	Recommended Flow Rates <sup>(2)</sup>				Mineral Tank Size in.	Pipe Size in.	Max. Drain Flow GPM	Media Qty. Cu. Ft. total	Space Reqmt <sup>(3)</sup> LxDxH in.
	Continuous		Peak						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
G-142A	12	5	16	20	14 x 66	1	15	6	34x14X73
G-182A	14	7	26	25	18 x 66	1	25	10	42x18X73
G-142B	12	5	16	12	14 x 66	1½	15	6	34x14X73
G-182B	14	6	26	18	18 x 66	1½	25	10	42x18X73
G-182C	14	5	26	12	18 x 66	2	25	10	42x18X79
G-242C	30	5	46	17	24 x 66	2	50	20	54X24x77
G-302C	50	6	76	25	30 x 66	2	70	30	66x30X77
G-362C	70	7	106	25	36 x 71	2	100	40	78x36X81
G-362E	70	5	106	15	36 x 71	3	100	40	78x36X86

### NOTES:

- 1) Units provided with 7-day time clock and by-pass during reconditioning. Other controls and no water by-pass available. Consult factory.
- 2) Pressure drops are based on clean bed operation. Pressure drops and weights are estimates.
- 3) Not including operating and maintenance areas.
- 4) FM-6 is provided for chlorine reduction. FM-44 is recommended for organic applications, but must be specified when ordering. Cost adders will apply.

# Fleck® Lined Steel Filter Specs and Design Data (cont'd)

## *Recommended Media Loading*

Tank Dia	Gravel (lbs)	Media Type						
		Carbon (ft3)	Multimedia			Greensand Plus		
			Anthracite (lbs)	Sand (lbs)	Garnet (lbs)	Anthracite (lbs)	Greensand (ft3)	Garnet (lbs)
14"	50	3	104	75	50	52	2	50
18"	100	5	208	100	75	104	4	75
21"	100	6	208	150	100	104	4	100
24"	150	10	312	250	150	156	6	150
30"	250	15	520	350	200	260	9	200
36"	300	20	728	500	300	364	13	300
42"	400	30	960	720	400	500	18	400
48"	600	40	1250	940	550	650	25	550
54"	800	50	1500	1200	650	850	29	650
60"	1100	60	1900	1500	800	1040	36	800
72"	1850	85	2800	2100	1200	1500	52	1200
84"	2800	115	3850	2900	1600	2000	76	1600
96"	4000	150	5100	3800	2100	2600	100	2100



# VIP-1E Control - Single Carbon Filters

## Epoxy Lined Steel Tank – Sngl

### Features:

- Single tank operation. Unfiltered water bypass during backwash.
- NEW! VIP-1E Electronic Time Clock feature & UL listed.  
Solid State single metered demand initiated backwash including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate backwash.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Sprayed lined tank with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-II Triplex and/or Quadraplex units available.**



C-242C-SNGL

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. per Tank (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	C-142A-SNGL	<b>902602</b>	14"x66"	3	280
1"		C-182A-SNGL	<b>902604</b>	18"x66"	5	410
1.5"	2850	C-142B-SNGL	<b>902603</b>	14"x66"	3	295
1.5"		C-182B-SNGL	<b>902605</b>	18"x66"	5	425
1.5"		C-242B-SNGL	<b>902607</b>	24"x66"	10	770
2"	2900	C-182C-SNGL	<b>902606</b>	18"x66"	5	435
2"		C-242C-SNGL	<b>902608</b>	24"x66"	10	780
2"	3150	C-302C-SNGL	<b>902610</b>	30"x66"	15	1145
2"		C-362C-SNGL	<b>902611</b>	36"x71"	20	1390
3"	3900	C-362E-SNGL	<b>902612</b>	36"x71"	20	1440
3"		C-422E-SNGL	<b>902613</b>	42"x71"	30	2010
3"		C-482E-SNGL	<b>902614</b>	48"x71"	40	2605

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order, see Section 14.

# VIP-1E Control – Duplex Alternating Carbon Filters

## Epoxy lined Steel Tank – Alt 2

### Features:

- Duplex Alternating Operation. No unfiltered water bypass during backwash
- NEW! VIP-1E Electronic Time Clock feature & UL listed.  
Solid State single metered demand initiated backwash including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate backwash.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Sprayed lined tank with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-IIE Triplex and/or Quadraplex units available.**



C-242C-Alt2

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. per Tank (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	C-142A-ALT2	<b>902636</b>	14"x66"	3	560
1"		C-182A-ALT2	<b>902638</b>	18"x66"	5	820
1.5"	2850	C-142B-ALT2	<b>902637</b>	14"x66"	3	590
1.5"		C-182B-ALT2	<b>902639</b>	18"x66"	5	850
1.5"		C-242B-ALT2	<b>902641</b>	24"x66"	10	1540
2"	2900	C-182C-ALT2	<b>902640</b>	18"x66"	5	870
2"		C-242C-ALT2	<b>902642</b>	24"x66"	10	1560
2"	3150	C-302C-ALT2	<b>902644</b>	30"x66"	15	2290
2"		C-362C-ALT2	<b>902645</b>	36"x71"	20	2780
3"	3900	C-362E-ALT2	<b>902646</b>	36"x71"	20	2880
3"		C-422E-ALT2	<b>902647</b>	42"x71"	30	4020
3"		C-482E-ALT2	<b>902648</b>	48"x71"	40	5210

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order, see Section 14.

# VIP-1E Control – Duplex Parallel Carbon Filters

## Epoxy lined Steel Tank –Par 2

### Features:

- Duplex Parallel Operation. No unfiltered water bypass during backwash
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated backwash including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- **Par 2 –Systems offer one single pipe size larger flow meter!**
- Sprayed lined tank with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-IIE Triplex and/or Quadraplex units available.**



C-242C-Par2

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. per Tank (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	C-142A-PAR2	<b>902650</b>	14"x66"	3	560
1"		C-182A-PAR2	<b>902652</b>	18"x66"	5	820
1.5"	2850	C-142B-PAR2	<b>902651</b>	14"x66"	3	590
1.5"		C-182B-PAR2	<b>902653</b>	18"x66"	5	850
1.5"		C-242B-PAR2	<b>902655</b>	24"x66"	10	1540
2"	2900	C-182C-PAR2	<b>902654</b>	18"x66"	5	870
2"		C-242C-PAR2	<b>902656</b>	24"x66"	10	1560
2"	3150	C-302C-PAR2	<b>902658</b>	30"x66"	15	2290
2"		C-362C-PAR2	<b>902659</b>	36"x71"	20	2780
3"	3900	C-362E-PAR2	<b>902660</b>	36"x71"	20	2880
3"		C-422E-PAR2	<b>902661</b>	42"x71"	30	4020
3"		C-482E-PAR2	<b>902662</b>	48"x71"	40	5210

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order, see Section 14.

**Note:** Duplex Parallel Systems have next size larger flow meter to handle double the flow rate. If not required, order Duplex Alternating system on previous page and program for Parallel Mode.

# Time Clock – Single Carbon Filters

## Epoxy lined Steel Tank – Single TC

### Features:

- Automatic time clock initiated backwash. Unfiltered Water bypass during backwash
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Sprayed lined tank with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH (24 volt AC operation)



7 Day Mech.  
Time Clock

**C-242C-TC**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	C-142A-TC	<b>12000075</b>	14"x66"	3	280
1"		C-182A-TC	<b>12000076</b>	18"x66"	5	410
1.5"	2850	C-142B-TC	<b>12000077</b>	14"x66"	3	295
1.5"		C-182B-TC	<b>12000078</b>	18"x66"	5	425
1.5"		C-242B-TC	<b>12000079</b>	24"x66"	10	770
2"	2900	C-182C-TC	<b>12000080</b>	18"x66"	5	435
2"		C-242C-TC	<b>12000081</b>	24"x66"	10	780
2"	3150	C-302C-TC	<b>12000082</b>	30"x66"	15	1145
2"		C-362C-TC	<b>12000083</b>	36"x71"	20	1390
3"	3900	C-362E-TC	<b>12000084</b>	36"x71"	20	1440
3"		C-422E-TC	<b>12000085</b>	42"x71"	30	2010
3"		C-482E-TC	<b>12000086</b>	48"x71"	40	2605

# Time Clock – Duplex Carbon Filters

## Epoxy lined Steel Tank – Duplex TC

### Features:

- Automatic time clock initiated backwash. Unfiltered Water bypass backwash
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Sprayed lined tank with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH (24 volt AC operation)



7 Day Mech.  
Time Clock

**C-242C-TC-D**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. per Tank (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	C-142A-TC-D	<b>(2) - 12000075</b>	14"x66"	3	560
1"		C-182A-TC-D	<b>(2) - 12000076</b>	18"x66"	5	820
1.5"	2850	C-142B-TC-D	<b>(2) - 12000077</b>	14"x66"	3	590
1.5"		C-182B-TC-D	<b>(2) - 12000078</b>	18"x66"	5	850
1.5"		C-242B-TC-D	<b>(2) - 12000079</b>	24"x66"	10	1540
2"	2900	C-182C-TC-D	<b>(2) - 12000080</b>	18"x66"	5	870
2"		C-242C-TC-D	<b>(2) - 12000081</b>	24"x66"	10	1560
2"	3150	C-302C-TC-D	<b>(2) - 12000082</b>	30"x66"	15	2290
2"		C-362C-TC-D	<b>(2) - 12000083</b>	36"x71"	20	2780
3"	3900	C-362E-TC-D	<b>(2) - 12000084</b>	36"x71"	20	2880
3"		C-422E-TC-D	<b>(2) - 12000085</b>	42"x71"	30	4020
3"		C-482E-TC-D	<b>(2) - 12000086</b>	48"x71"	40	5210

# VIP-1E Control – Single Multi-Media Filters

## Epoxy lined Steel Tank – Sngl

### Features:

- Single delayed or immediate regeneration. Unfiltered water bypass during backwash
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated backwash including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate backwash.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Sprayed lined tank with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-II-E Triplex and/or Quadraplex units available.**



M-242C-SNGL

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	M-142A-SNGL	<b>902616</b>	14"x66"	3	425
1"		M-182A-SNGL	<b>902618</b>	18"x66"	5	600
1.5"	2850	M-142B-SNGL	<b>902617</b>	14"x66"	3	440
1.5"		M-182B-SNGL	<b>902619</b>	18"x66"	5	615
2"	2900	M-182C-SNGL	<b>902620</b>	18"x66"	5	625
2"	3150	M-242C-SNGL	<b>902621</b>	24"x66"	10	1260
2"		M-302C-SNGL	<b>902622</b>	30"x66"	15	1795
2"		M-362C-SNGL	<b>902623</b>	36"x71"	20	2360
3"	3900	M-362E-SNGL	<b>902624</b>	36"x71"	20	2410

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order, see Section 14.

# VIP-1E Control – Duplex Alternating Multi-Media Filters

## Epoxy lined Steel Tank – Alt 2

### Features:

- Duplex Alternating Operation. No unfiltered water bypass during backwash
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated backwash including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate backwash.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Sprayed lined tank with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-IIE Triplex and/or Quadraplex units available.**



M-242C-Alt2

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. per Tank (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	M-142A-ALT2	<b>902664</b>	14"x66"	3	850
1"		M-182A-ALT2	<b>902666</b>	18"x66"	5	1200
1.5"	2850	M-142B-ALT2	<b>902665</b>	14"x66"	3	880
1.5"		M-182B-ALT2	<b>902667</b>	18"x66"	5	1230
2"	2900	M-182C-ALT2	<b>902668</b>	18"x66"	5	1250
2"	3150	M-242C-ALT2	<b>902669</b>	24"x66"	10	2520
2"		M-302C-ALT2	<b>902670</b>	30"x66"	15	3590
2"		M-362C-ALT2	<b>902671</b>	36"x71"	20	4720
3"	3900	M-362E-ALT2	<b>902672</b>	36"x71"	20	4820

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order, see Section 14.

# VIP-1E Control – Duplex Parallel Multi-Media Filters

## Epoxy lined Steel Tank – Par 2

### Features:

- Duplex Parallel Operation. No unfiltered water bypass during backwash
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated backwash including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- **Par 2 –Systems offer one single pipe size larger flow meter!**
- Sprayed lined tank with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-IIE Triplex and/or Quadraplex units available.**



M-242C-Par2

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. per Tank (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	M-142A-PAR2	<b>902674</b>	14"x66"	3	850
1"		M-182A-PAR2	<b>902676</b>	18"x66"	5	1200
1.5"	2850	M-142B-PAR2	<b>902675</b>	14"x66"	3	880
1.5"		M-182B-PAR2	<b>902677</b>	18"x66"	5	1230
2"	2900	M-182C-PAR2	<b>902678</b>	18"x66"	5	1250
2"	3150	M-242C-PAR2	<b>902679</b>	24"x66"	10	2520
2"		M-302C-PAR2	<b>902680</b>	30"x66"	15	3590
2"		M-362C-PAR2	<b>902681</b>	36"x71"	20	4720
3"	3900	M-362E-PAR2	<b>902682</b>	36"x71"	20	4820

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order, see Section 14.

**Note:** Duplex Parallel Systems have next size larger flow meter to handle double the flow rate. If not required, order Duplex Alternating system on previous page and program for Parallel Mode.



# Time Clock – Single Multi-Media Filters

## Epoxy lined Steel Tank – Single TC

### Features:

- Automatic time clock initiated backwash. Unfiltered Water bypass during backwash
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Sprayed lined tank with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH operation



7 Day Mech.  
Time Clock

**M-242C-TC**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	M-142A-TC	<b>12000099</b>	14"x66"	3	425
1"		M-182A-TC	<b>12000100</b>	18"x66"	5	600
1.5"	2850	M-142B-TC	<b>12000101</b>	14"x66"	3	440
1.5"		M-182B-TC	<b>12000102</b>	18"x66"	5	615
2"	2900	M-182C-TC	<b>12000103</b>	18"x66"	5	625
2"	3150	M-242C-TC	<b>12000104</b>	24"x66"	10	1260
2"		M-302C-TC	<b>12000105</b>	30"x66"	15	1795
2"		M-362C-TC	<b>12000106</b>	36"x71"	20	2360
3"	3900	M-362E-TC	<b>12000107</b>	36"x71"	20	2410

# Time Clock – Duplex Multi-Media Filters

## Epoxy lined Steel Tank – Duplex TC

### Features:

- Automatic time clock initiated backwash. Unfiltered Water bypass during backwash
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Sprayed lined tank with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH operation



**M-242C-TC-D**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. per Tank (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	M-142A-TC	<b>(2)-1200099</b>	14"x66"	3	425
1"		M-182A-TC	<b>(2)-1200100</b>	18"x66"	5	600
1.5"	2850	M-142B-TC	<b>(2)-1200101</b>	14"x66"	3	440
1.5"		M-182B-TC	<b>(2)-1200102</b>	18"x66"	5	615
2"	2900	M-182C-TC	<b>(2)-1200103</b>	18"x66"	5	625
2"	3150	M-242C-TC	<b>(2)-1200104</b>	24"x66"	10	1260
2"		M-302C-TC	<b>(2)-1200105</b>	30"x66"	15	1795
2"		M-362C-TC	<b>(2)-1200106</b>	36"x71"	20	2360
3"	3900	M-362E-TC	<b>(2)-1200107</b>	36"x71"	20	2410

# VIP-1E Control – Single Greensand Plus Filters

## Epoxy lined Steel Tank – Sngl

### Features:

- Single delayed or immediate regeneration. Unfiltered water bypass during backwash
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated backwash including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate backwash.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Sprayed lined tank with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-IIe Triplex and/or Quadraplex units available.**
- **Optional: Chemical feed pump & Chemical Draw tubes**



G-242C-SNGL

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	G-142A-SNGL	<b>902626</b>	14"x66"	3	470
1"		G-182A-SNGL	<b>902628</b>	18"x66"	5	635
1.5"	2850	G-142B-SNGL	<b>902627</b>	14"x66"	3	485
1.5"		G-182B-SNGL	<b>902629</b>	18"x66"	5	650
2"	2900	G-182C-SNGL	<b>902630</b>	18"x66"	5	660
2"	3150	G-242C-SNGL	<b>902631</b>	24"x66"	10	1365
2"		G-302C-SNGL	<b>902632</b>	30"x66"	15	1950
2"		G-362C-SNGL	<b>902633</b>	36"x71"	20	2600
3"	3900	G-362E-SNGL	<b>902634</b>	36"x71"	20	3150

Manganese Treated Greensand Plus must be supplied with Sodium Hypochlorite or Potassium Permanganate on a continuous basis. Normally a chemical feed pump is used for this purpose. Chemical is pumped into the raw water prior to contact with the Greensand Filter. Contact our Applications Engineering department for help with sizing and pricing of chemical pumps.

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order, See Section 14.

# VIP-1E Control - Duplex Alternating Greensand Plus Filters

## Epoxy lined Steel Tank – Alt 2

### Features:

- Duplex Alternating Operation. No unfiltered water bypass during backwash
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated backwash including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate backwash.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Sprayed lined tank with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-IIe Triplex and/or Quadraplex units available.**
- **Optional: Chemical feed pump & Chemical Draw tubes**



G-242C-ALT2

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. per Tank (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	G-142A-ALT2	<b>902684</b>	14"x66"	3	940
1"		G-182A-ALT2	<b>902686</b>	18"x66"	5	1270
1.5"	2850	G-142B-ALT2	<b>902685</b>	14"x66"	3	970
1.5"		G-182B-ALT2	<b>902687</b>	18"x66"	5	1300
2"	2900	G-182C-ALT2	<b>902688</b>	18"x66"	5	1320
2"	3150	G-242C-ALT2	<b>902689</b>	24"x66"	10	2730
2"		G-302C-ALT2	<b>902690</b>	30"x66"	15	3900
2"		G-362C-ALT2	<b>902691</b>	36"x71"	20	5200
3"	3900	G-362E-ALT2	<b>902692</b>	36"x71"	20	6300

Manganese Treated Greensand Plus must be supplied with Sodium Hypochlorite or Potassium Permanganate on a continuous basis. Normally a chemical feed pump is used for this purpose. Chemical is pumped into the raw water prior to contact with the Greensand Filter. Contact our Applications Engineering department for help with sizing and pricing of chemical pumps.

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order, See Section 14.

# VIP-1E Control – Duplex Parallel Greensand Plus Filters

## Epoxy lined Steel Tank –Par 2

### Features:

- Duplex Parallel Operation. No unfiltered water bypass during backwash
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated backwash including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller;
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- **Par 2 –Systems offer one single pipe size larger flow meter!**
- Sprayed lined tank with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-IIE Triplex and/or Quadraplex units available.**
- **Optional: Chemical feed pump & Chemical Draw tubes**



G-242C-PAR2

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. per Tank (Cu. Ft.)	Ship. Wt Lbs.
1"	2750	G-142A-PAR2	<b>902694</b>	14"x66"	3	940
1"		G-182A-PAR2	<b>902696</b>	18"x66"	5	1270
1.5"	2850	G-142B-PAR2	<b>902695</b>	14"x66"	3	970
1.5"		G-182B-PAR2	<b>902697</b>	18"x66"	5	1300
2"	2900	G-182C-PAR2	<b>902698</b>	18"x66"	5	1320
2"	3150	G-242C-PAR2	<b>902699</b>	24"x66"	10	2730
2"		G-302C-PAR2	<b>902700</b>	30"x66"	15	3900
2"		G-362C-PAR2	<b>902701</b>	36"x71"	20	5200
3"	3900	G-362E-PAR2	<b>902702</b>	36"x71"	20	6300

Manganese Treated Greensand Plus must be supplied with Sodium Hypochlorite or Potassium Permanganate on a continuous basis. Normally a chemical feed pump is used for this purpose. Chemical is pumped into the raw water prior to contact with the Greensand Filter. Contact our Applications Engineering department for help with sizing and pricing of chemical pumps.

**Note:** 1", 1-1/2" and 2" Flow Meters supplied with above products are Plastic. 3" and 4" are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order, See Section 14.

**Note:** Duplex Parallel Systems have next size larger flow meter to handle double the flow rate. If not required, order Duplex Alternating system on previous page and program for Parallel Mode.

# Time Clock – Single Greensand Plus Filters

## Epoxy lined Steel Tank – Single TC

### Features:

- Automatic time clock initiated backwash. Unfiltered Water bypass during backwash
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Sprayed lined tank with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.



7 Day Mech.  
Time Clock

**G-242C-TC**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. per Tank (Cu. Ft.)	Ship. Wt. Lbs.
1"	2750	G-142A-TC	<b>12000120</b>	14"x66"	3	280
1"		G-182A-TC	<b>12000121</b>	18"x66"	5	410
1.5"	2850	G-142B-TC	<b>12000122</b>	14"x66"	3	295
1.5"		G-182B-TC	<b>12000123</b>	18"x66"	5	425
2"	2900	G-182C-TC	<b>12000124</b>	18"x66"	5	435
2"	3150	G-242C-TC	<b>12000125</b>	24"x66"	10	780
2"		G-302C-TC	<b>12000126</b>	30"x66"	15	1145
2"		G-362C-TC	<b>12000127</b>	36"x71"	20	1390
3"	3900	G-362E-TC	<b>12000128</b>	36"x71"	20	1440

Manganese Treated Greensand Plus must be supplied with Sodium Hypochlorite or Potassium Permanganate on a continuous basis. Normally a chemical feed pump is used for this purpose. Chemical is pumped into the raw water prior to contact with the Greensand Filter. Contact our Applications Engineering department for help with sizing and pricing of chemical pumps.

# Time Clock – Duplex Greensand Plus Filters

## Epoxy lined Steel Tank – Duplex TC

### Features:

- Automatic time clock initiated backwash. Unfiltered Water bypass during backwash
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Sprayed lined tank with epoxy coated int/ext for corrosion resistance
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.



7 Day Mech.  
Time Clock

**G-242-TC-D**

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. per Tank (Cu. Ft.)	Ship. Wt. Lbs. Per Unit
1"	2750	G-142A-TC-D	<b>(2) - 12000120</b>	14"x66"	3	280
1"		G-182A-TC-D	<b>(2) - 12000121</b>	18"x66"	5	410
1.5"	2850	G-142B-TC-D	<b>(2) - 12000122</b>	14"x66"	3	295
1.5"		G-182B-TC-D	<b>(2) - 12000123</b>	18"x66"	5	425
2"	2900	G-182C-TC-D	<b>(2) - 12000124</b>	18"x66"	5	435
2"	3150	G-242C-TC-D	<b>(2) - 12000125</b>	24"x66"	10	780
2"		G-302C-TC-D	<b>(2) - 12000126</b>	30"x66"	15	1145
2"		G-362C-TC-D	<b>(2) - 12000127</b>	36"x71"	20	1390
3"	3900	G-362E-TC-D	<b>(2) - 12000128</b>	36"x71"	20	1440

Manganese Treated Greensand Plus must be supplied with Sodium Hypochlorite or Potassium Permanganate on a continuous basis. Normally a chemical feed pump is used for this purpose. Chemical is pumped into the raw water prior to contact with the Greensand Filter. Contact our Applications Engineering department for help with sizing and pricing of chemical pumps.

# SECTION 9



## Plastic Valve Nest Epoxy Lined Steel Filters 18" thru 48"



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# Plastic Valve Nest Filter Specs and Design Data

## **Single Carbon Filters – Lined Steel Tanks**

Model Number	Recommended Flow Rates <sup>(2)</sup>				Mineral Tank Size in.	Pipe Size in.	Max. Drain Flow GPM	Carbon Media Qty. Cu. Ft.	Space Reqmt <sup>(3)</sup> LxDxH in.
	Chlorine		Organic <sup>(4)</sup>						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
C-182C-PVN	18	4	9	3	18"x60"	2	15	5	30x18x72
C-242C-PVN	30	6	15	3	24"x60"	2	30	10	36x24x72
C-302C-PVN	50	8	25	4	30"x60"	2	50	15	42x30x72
C-362C-PVN	70	12	35	5	36"x60"	2	70	20	48x36x78
C-422E-PVN	95	7	48	4	42"x60"	3	100	30	54x42x78
C-482E-PVN	125	8	63	4	48"x60"	3	120	40	60x48x78

## **Single Multimedia Filters – Lined Steel Tanks**

Model Number	Recommended Flow Rates <sup>(2)</sup>				Mineral Tank Size in.	Pipe Size in.	Max. Drain Flow GPM	Multi-Media Qty. Cu. Ft.	Space Reqmt <sup>(3)</sup> LxDxH in.
	Continuous		Peak						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
M-182C-PVN	18	6	35	12	18"x60"	2	25	5	30x18x72
M-242C-PVN	30	7	60	17	24"x60"	2	50	10	36x24x72
M-302C-PVN	50	9	100	25	30"x60"	2	70	15	42x30x72
M-362E-PVN	70	8	105	14	36"x60"	3	100	20	48x36x78
M-422E-PVN	95	5	140	8	42"x60"	3	140	30	54x42x78
M-482E-PVN	125	4	190	10	48"x60"	3	180	40	60x48x78

## **Single Greensand Plus Filters – Lined Steel Tanks**

Model Number	Recommended Flow Rates <sup>(2)</sup>				Mineral Tank Size in.	Pipe Size in.	Max. Drain Flow GPM	Media Qty. Cu. Ft.	Space Reqmt <sup>(3)</sup> LxDxH in.
	Continuous		Peak						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
G-182C-PVN	7	5	13	12	18"x60"	2	25	5	30x18x72
G-242C-PVN	15	5	23	17	24"x60"	2	50	10	36x24x72
G-302C-PVN	25	6	38	25	30"x60"	2	70	15	42x30x72
G-362E-PVN	35	3	55	6	36"x60"	3	100	20	48x36x78
G-422E-PVN	50	3	75	6	42"x60"	3	140	30	54x42x78
G-482E-PVN	65	3	100	6	48"x60"	3	180	40	60x48x78

### NOTES:

1. Units provided with 7-day time clock and by-pass during reconditioning. Other controls and no water by-pass available. Consult factory.
2. Pressure drops are based on clean bed operation. Pressure drops and weights are estimates.
3. Not including operating and maintenance areas.
4. FM-6 is provided for chlorine reduction. FM-44 is recommended for organic applications, but must be specified when ordering. Cost adders apply.

# Plastic Valve Nest Filter Specs and Design Data (cont'd)

## **Duplex Carbon Filters – Lined Steel Tanks**

Model Number	Recommended Flow Rates <sup>(2)</sup>				Mineral Tank Size in.	Pipe Size in.	Max. Drain Flow GPM	Carbon Media Qty. Cu. Ft. per tank	Space Reqmt <sup>(3)</sup> LxDxH in.
	Chlorine		Organic <sup>(4)</sup>						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
C-182C-PVN	36	4	18	3	18"x60"	2	15	5	60x18x72
C-242C-PVN	60	6	30	3	24"x60"	2	30	10	72x24x72
C-302C-PVN	100	8	50	4	30"x60"	2	50	15	84x30x72
C-362C-PVN	140	12	70	5	36"x60"	2	70	20	96x36x78
C-422E-PVN	190	7	96	4	42"x60"	3	100	30	108x42x78
C-482E-PVN	250	8	126	4	48"x60"	3	120	40	120x48x78

## **Duplex Multimedia Filters – Lined Steel Tanks**

Model Number	Recommended Flow Rates <sup>(2)</sup>				Mineral Tank Size in.	Pipe Size in.	Max. Drain Flow GPM	Multi-Media Qty. Cu. Ft. per tank	Space Reqmt <sup>(3)</sup> LxDxH in.
	Continuous		Peak						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
M-182C-PVN	36	6	70	12	18"x60"	2	25	5	60x18x72
M-242C-PVN	60	7	120	17	24"x60"	2	50	10	72x24x72
M-302C-PVN	100	9	200	25	30"x60"	2	70	15	84x30x72
M-362E-PVN	140	8	210	14	36"x60"	3	100	20	96x36x78
M-422E-PVN	190	7	280	8	42"x60"	3	140	30	108x42x78
M-482E-PVN	250	8	380	10	48"x60"	3	180	40	120x48x78

## **Duplex Greensand Plus Filters – Lined Steel Tanks**

Model Number	Recommended Flow Rates <sup>(2)</sup>				Mineral Tank Size in.	Pipe Size in.	Max. Drain Flow GPM	Media Qty. Cu. Ft. per tank	Space Reqmt <sup>(3)</sup> LxDxH in.
	Continuous		Peak						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
G-182C-PVN	14	5	26	12	18"x60"	2	25	5	60x18x72
G-242C-PVN	30	5	46	17	24"x60"	2	50	10	72x24x72
G-302C-PVN	50	6	76	25	30"x60"	2	70	15	84x30x72
G-362E-PVN	70	3	110	6	36"x60"	3	100	20	96x36x78
G-422E-PVN	100	3	150	6	42"x60"	3	140	30	108x42x78
G-482E-PVN	130	3	200	6	48"x60"	3	180	40	120x48x78

### NOTES:

1. Units provided with 7-day time clock and by-pass during reconditioning. Other controls and no water by-pass available. Consult factory.
2. Pressure drops are based on clean bed operation. Pressure drops and weights are estimates.
3. Not including operating and maintenance areas.
4. FM-6 is provided for chlorine reduction. FM-44 is recommended for organic applications, but must be specified when ordering. Cost adders will apply.

## Plastic Valve Nest Filter Specs and Design Data (cont'd)

### *Recommended Media Loading*

Tank Dia	Gravel (lbs)	Media Type						
		Carbon (ft3)	Multimedia			Greensand Plus		
			Anthracite (lbs)	Sand (lbs)	Garnet (lbs)	Anthracite (lbs)	Greensand (ft3)	Garnet (lbs)
18"	100	5	208	100	75	104	4	75
20"	100	6	208	150	100	104	4	100
24"	150	10	312	250	150	156	6	150
30"	250	15	520	350	200	260	9	200
36"	300	20	728	500	300	364	13	300
42"	400	30	960	720	400	500	18	400
48"	600	40	1250	940	550	650	25	550

# Time Clock Micro-T Control – Plastic Valve Nest Carbon Filters Epoxy Lined Steel Tank – Single TC

## Features:

- Automatic Micro T electronic Time Clock initiated backwash
- Unfiltered water bypass during backwash
- Schedule 80 PVC valve nest header design, utilizing composite diaphragm valves for corrosion resistance.
- Spray Lined steel tank with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: VIP-1E or VIP-IIE demand initiated backwash controllers available.**
- **Optional: NEW! VIP-E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-IIE Triplex and/or Quadraplex units available.**



**C-422E-PVN**

Pipe Size	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. (Cu. Ft.)	Ship. Wt. Lbs.
2"	C-182C-PVN-TC	<b>12000180</b>	18"x60"	5	515
2"	C-242C-PVN-TC	<b>12000181</b>	24"x60"	10	935
2"	C-302C-PVN-TC	<b>12000182</b>	30"x60"	15	1385
2"	C-362C-PVN-TC	<b>12000183</b>	36"x60"	20	2170
3"	C-422E-PVN-TC	<b>12000184</b>	42"x60"	30	2810
3"	C-482E-PVN-TC	<b>12000185</b>	48"x60"	40	3600

# Time Clock Micro T Control – Plastic Valve Nest Carbon Filters Epoxy Lined Steel Tank – Duplex TC

## Features:

- Automatic Micro T electronic Time Clock initiated backwash
- No Unfiltered raw water bypass during regeneration
- Schedule 80 PVC valve nest header design, utilizing composite diaphragm valves for corrosion resistance.
- Spray Lined Steel tanks with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: VIP-1E or VIP-IIe demand initiated backwash controllers available.**
- **Optional: NEW! VIP-E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-IIe Triplex and/or Quadraplex units available.**



C-422E-PVN-D

Pipe Size	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. per Tank (Cu. Ft.)	Ship. Wt. Lbs.
2"	C-182C-PVN-TC-D	<b>12000186</b>	18"x60"	5	1030
2"	C-242C-PVN-TC-D	<b>12000187</b>	24"x60"	10	1870
2"	C-302C-PVN-TC-D	<b>12000188</b>	30"x60"	15	2770
2"	C-362C-PVN-TC-D	<b>12000189</b>	36"x60"	20	4340
3"	C-422E-PVN-TC-D	<b>12000190</b>	42"x60"	30	5620
3"	C-482E-PVN-TC-D	<b>12000191</b>	48"x60"	40	7200

# Time Clock Micro T Control – Plastic Valve Nest Multimedia Filters Epoxy Lined Steel Tank – Single TC

## Features:

- Automatic Micro T electronic Time Clock initiated backwash
- Unfiltered raw water bypass during regeneration
- Schedule 80 PVC valve nest header design, utilizing composite diaphragm valves for corrosion resistance.
- Spray Lined steel tank with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: VIP-1E or VIP-II demand initiated backwash controllers available.**
- **Optional: NEW! VIP-E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-II Triplex and/or Quadraplex units available.**



**M-422E-PVN**

Pipe Size	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. per Tank (Cu. Ft.)	Ship. Wt. Lbs.
2"	M-182C-PVN-TC	<b>12000210</b>	18"x60"	5	740
2"	M-242C-PVN-TC	<b>12000211</b>	24"x60"	10	1385
2"	M-302C-PVN-TC	<b>12000212</b>	30"x60"	15	2062
3"	M-362E-PVN-TC	<b>12000213</b>	36"x60"	20	3070
3"	M-422E-PVN-TC	<b>12000214</b>	42"x60"	30	4260
3"	M-482E-PVN-TC	<b>12000215</b>	48"x60"	40	5400

# Time Clock Micro T Control – Plastic Valve Nest Multimedia Filters Epoxy Lined Steel Tank – Duplex TC

## Features:

- Automatic Micro T electronic Time Clock initiated backwash
- No Unfiltered water bypass during regeneration
- Schedule 80 PVC valve nest header design, utilizing composite diaphragm valves for corrosion resistance.
- Spray Lined steel tank with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: VIP-1E or VIP-IIe demand initiated backwash controllers available.**
- **Optional: NEW! VIP-E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-IIe Triplex and/or Quadraplex units available.**



M-422E-PVN-D

Pipe Size	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. per Tank (Cu. Ft.)	Ship. Wt. Lbs.
2"	M-182C-PVN-TC-D	<b>12000216</b>	18"x60"	5	1480
2"	M-242C-PVN-TC-D	<b>12000217</b>	24"x60"	10	2770
2"	M-302C-PVN-TC-D	<b>12000218</b>	30"x60"	15	4124
3"	M-362E-PVN-TC-D	<b>12000219</b>	36"x60"	20	6140
3"	M-422E-PVN-TC-D	<b>12000220</b>	42"x60"	30	8520
3"	M-482E-PVN-TC-D	<b>12000221</b>	48"x60"	40	10,800



# Time Clock Micro T Control – Plastic Valve Nest Greensand Plus Filters Epoxy Lined Steel Tank – Single TC

**Features:**

- Automatic Micro T electronic Time Clock initiated backwash
- Unfiltered water bypass during regeneration
- Schedule 80 PVC valve nest header design, utilizing composite diaphragm valves for corrosion resistance
- Spray Lined steel tank with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: VIP-1E or VIP-IIE demand initiated backwash controllers available.**
- **Optional: NEW! VIP-E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-IIE Triplex and/or Quadraplex units available.**
- **Optional: Chemical feed pump & Chemical Draw tubes**



**G-422E-PVN**

Pipe Size	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. per Tank (Cu. Ft.)	Ship. Wt. Lbs.
2"	G-182C-PVN-TC	<b>12000222</b>	18"x60"	5	815
2"	G-242C-PVN-TC	<b>12000223</b>	24"x60"	10	1535
2"	G-302C-PVN-TC	<b>12000224</b>	30"x60"	15	2284
3"	G-362E-PVN-TC	<b>12000225</b>	36"x60"	20	3495
3"	G-422E-PVN-TC	<b>12000226</b>	42"x60"	30	4710
3"	G-482E-PVN-TC	<b>12000227</b>	48"x60"	40	6000

Manganese Treated Greensand Plus must be supplied with Sodium Hypochlorite or Potassium Permanganate on a continuous basis. Normally a chemical feed pump is used for this purpose. Chemical is pumped into the raw water prior to contact with the Greensand Filter. Contact our Applications Engineering department for help with sizing and pricing of chemical pumps.

## Time Clock Micro T Control – Plastic Valve Nest Greensand Plus Filters Epoxy Lined Steel Tank – Duplex TC

### Features:

- Automatic Micro T electronic Time Clock initiated backwash
- No Filtered water bypass during regeneration
- Schedule 80 PVC valve nest header design, utilizing composite diaphragm valves for corrosion resistance.
- Spray Lined steel tank with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: VIP-1E or VIP-IIe demand initiated backwash controllers available.**
- **Optional: NEW! VIP-E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-IIe Triplex and/or Quadraplex units available.**
- **Optional: Chemical feed pump & Chemical Draw tubes**



G-422E-PVN-D

Pipe Size	Model Number	Part Number	Mineral Tank Size (inches)	Media Qty. per Tank (Cu. Ft.)	Ship. Wt. Lbs.
2"	G-182C-PVN-TC-D	12000228	18"x60"	5	1630
2"	G-242C-PVN-TC-D	12000229	24"x60"	10	3070
2"	G-302C-PVN-TC-D	12000230	30"x60"	15	4570
3"	G-362E-PVN-TC-D	12000231	36"x60"	20	6990
3"	G-422E-PVN-TC-D	12000232	42"x60"	30	9420
3"	G-482E-PVN-TC-D	12000233	48"x60"	40	12000

Manganese Treated Greensand Plus must be supplied with Sodium Hypochlorite or Potassium Permanganate on a continuous basis. Normally a chemical feed pump is used for this purpose. Chemical is pumped into the raw water prior to contact with the Greensand Filter. Contact our Applications Engineering department for help with sizing and pricing of chemical pumps.

# SECTION 10



## Steel Valve Nest Filters 54" thru 72"

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# Spray Lined Steel Filters Specs and Design Data

## Single Carbon Filters – Chlorine Reduction

Model Numbers	Recommended flow Rates				Mineral Tank Size	Pipe Size In.	Max. Drain Flow GPM	Media Qty. FT <sup>3</sup>	Space Reqmt. LxDxH in.
	Continuous		Peak						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
CC-543E	160	10	318	21	54 x 60	3"	150	50	71 x 54 x 90
CC-603E	200	13	393	25	60 x 60	3"	190	60	77 x 60 x 91
CC-723F	280	8	566	18	72 X 60	4"	275	85	92 X 72 X 96

## Duplex Carbon Filters – Chlorine Reduction

Model Numbers	Recommended flow Rates				Mineral Tank Size	Pipe Size In.	Max. Drain Flow GPM	Media Qty. FT <sup>3</sup>	Space Reqmt. LxDxH in.
	Continuous		Peak						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
CC-543E	320	10	636	21	54 x 60	3"	150	50	148 x 54 x 90
CC-603E	400	13	768	25	60 X 60	3"	190	60	160 X 60 X 91
CC-723F	560	8	1132	18	72 x 60	4"	275	85	190 x 72 x 96

## Single Carbon Filters – Organic Reduction

Model Numbers	Recommended flow Rates				Mineral Tank Size	Pipe Size In.	Max. Drain Flow GPM	Media Qty. FT <sup>3</sup>	Space Reqmt. LxDxH in.
	Continuous		Peak						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
CL-543E	80	5	Not Recommended		54 x 60	3"	150	50	71 X 54 X 90
CL-603E	100	6			60 x 60	3"	190	60	77 x 60 x 91
CL-723F	150	5			72 x 60	4"	275	85	92 x 72 x 96

## Duplex Carbon Filters – Organic Reduction

Model Numbers	Recommended flow Rates				Mineral Tank Size	Pipe Size In.	Max. Drain Flow GPM	Media Qty. FT <sup>3</sup>	Space Reqmt. LxDxH in.
	Continuous		Peak						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
CL-543E	160	5	Not Recommended		54x 60	3"	150	50	148 x 54 x 90
CL-603E	200	6			60 x 60	3"	190	60	160 x 60 x 91
CL-723F	300	5			72 x 60	4"	275	85	190 x 72 x 96

# Spray Lined Steel Filters Specs and Design Data (cont'd)

## Single Multimedia Filters – Turbidity Reduction

Model Numbers	Recommended flow Rates				Mineral Tank Size	Pipe Size In.	Max. Drain Flow GPM	Media Qty. FT <sup>3</sup>	Space Reqmt. LxDxH in.
	Continuous		Peak						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
M-543F	160	7	300	15	54 x 60	4"	240	50	74 x 54 x 90
M-603F	190	5	350	14	60 x 60	4"	295	60	80 x 60 x 91
M-723F	275	7	400	16	72 x 60	4"	400	85	92 x 72 x 96

## Duplex Multimedia Filters – Turbidity Reduction

Model Numbers	Recommended flow Rates				Mineral Tank Size	Pipe Size In.	Max. Drain Flow GPM	Media Qty. FT <sup>3</sup>	Space Reqmt. LxDxH in.
	Continuous		Peak						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
M-543F	320	7	600	15	54 x 60	4"	240	50	154 x 54 x 90
M-603F	380	5	700	14	60 x 60	4"	295	60	166 x 60 x 91
M-723F	550	7	800	16	72 x 60	4"	400	85	190 x 72 x 96

## Single Greensand Plus Filters – Iron Reduction

Model Numbers	Recommended flow Rates				Mineral Tank Size	Pipe Size In.	Max. Drain Flow GPM	Media Qty. FT <sup>3</sup>	Space Reqmt. LxDxH in.
	Continuous		Peak						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
G-543F	48	3	80	5	54 x 60	4"	240	50	74 x 54 x 90
G-603F	59	3	98	5	60 x 60	4"	295	60	80 x 60 x 91
G-723F	85	3	141	5	72 x 60	4"	400	85	92 x 72 x 96

## Duplex Greensand Plus Filters – Iron Reduction

Model Numbers	Recommended flow Rates				Mineral Tank Size	Pipe Size In.	Max. Drain Flow GPM	Media Qty. FT <sup>3</sup>	Space Reqmt. LxDxH in.
	Continuous		Peak						
	GPM Flow	PSI Drop	GPM Flow	PSI Drop					
G-543F	96	3	160	5	54 x 60	4"	240	50	154 x 54 x 90
G-603F	118	3	196	5	60 x 60	4"	295	60	166 x 60 x 91
G-723F	170	3	282	5	72 x 60	4"	400	85	190 x 72 x 96

**Note:** Manganese Treated Greensand must be supplied with a continuous supply of Sodium Hypochlorite or Potassium Permanganate.

## Spray Lined Steel Filters Specs and Design Data (cont'd)

### *Recommended Media Loading*

Tank Dia	Gravel (lbs)	Media Type						
		Carbon (ft3)	Multimedia			Greensand Plus		
			Anthracite (lbs)	Sand (lbs)	Garnet (lbs)	Anthracite (lbs)	Greensand (ft3)	Garnet (lbs)
42"	400	30	960	720	400	500	18	400
48"	600	40	1250	940	550	650	25	550
54"	800	50	1500	1200	650	850	29	650
60"	1100	60	1900	1500	800	1040	36	800
72"	1850	85	2800	2100	1200	1500	52	1200
84"	2800	115	3850	2900	1600	2000	76	1600
96"	4000	150	5100	3800	2100	2600	100	2100

# Time Clock – Single Steel Valve Nest Carbon Filters Epoxy Spray Lined Steel Tank – Single TC

## Features:

- Ecodyne Micro –T electronic time clock initiated backwash
- Side mounted galvanized steel valve nest  
Pneumatic operated steel diaphragm valves or optional butterfly valves with pneumatic operators.
- NFS approved, food-grade epoxy lining that meets FDA leachability requirements
- Two 12" x 16" manways
- PVC Internals: Four Point upper distributor assembly; Lower hub and laterals for corrosion-resistant internal distribution system
- Spray Lined steel tank with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: PVC piping & Pneumatic butterfly valves.**



C-603F-TC

## Chlorine Reduction Carbon Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity FT <sup>3</sup>	Ship. Wt. Lbs.
3"	CC-543E-TC	<b>12000240</b>	54" x 60"	50	4500
3"	CC-603E-TC	<b>12000242</b>	60" x 60"	60	5900
4"	CC-723F-TC	<b>12000244</b>	72" x 60"	85	8700

## Organic Reduction Carbon Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity FT <sup>3</sup>	Ship. Wt. Lbs.
3"	CL-543E-TC	<b>12000246</b>	54" x 60"	50	4500
3"	CL-603E-TC	<b>12000248</b>	60" x 60"	60	5900
4"	CL-723F-TC	<b>12000250</b>	72" x 60"	85	8700



# Time Clock – Duplex Steel Valve Nest Carbon Filters Epoxy Spray Lined Steel Tank – Duplex TC

## Features:

- Ecodyne Micro –T electronic time clock initiated backwash
- Side mounted galvanized steel valve nest
- Pneumatic operated steel diaphragm valves or optional butterfly valves with pneumatic operators.
- NFS approved, food-grade epoxy lining that meets FDA leachability requirements
- Two 12" x 16" manways
- PVC Internals: Four Point upper distributor assembly; Lower hub and laterals for corrosion-resistant internal distribution system
- Spray Lined steel tank with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: PVC piping & Pneumatic butterfly valves.**



**C-603F-TC-D**

## Chlorine Reduction Carbon Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity per Tank FT <sup>3</sup>	Ship. Wt. Lbs.
3"	CC-543E-TC-D	<b>12000241</b>	54" x 60"	50	9,000
3"	CC-603E-TC-D	<b>12000243</b>	60" x 60"	60	11,800
4"	CC-723F-TC-D	<b>12000245</b>	72" x 60"	85	17,400

## Organic Reduction Carbon Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity per Tank FT <sup>3</sup>	Ship. Wt. Lbs.
3"	CL-543E-TC-D	<b>12000247</b>	54" x 60"	50	9,000
3"	CL-603E-TC-D	<b>12000249</b>	60" x 60"	60	11,800
4"	CL-723F-TC-D	<b>12000251</b>	72" x 60"	85	17,400

# VIP-1E Control – Single Steel Valve Nest Carbon Filters

## Epoxy Spray Lined Steel Tank – Sngl

### Features:

- Demand initiated backwash
- Side mounted galvanized steel valve nest
- Pneumatic operated steel diaphragm valves or optional butterfly valves with pneumatic operators.
- NFS approved, food-grade epoxy lining that meets FDA leachability requirements
- Two 12" x 16" manways
- PVC Internals: Four Point upper distributor assembly; Lower hub and laterals for corrosion-resistant internal distribution system
- Spray Lined steel tank with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: PVC piping & Pneumatic butterfly valves.**
- **Optional: NEW! VIP-1E "DCS" – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-IIE Triplex and/or Quadraplex units available.**



C-603F-SNGL

### Chlorine Reduction Carbon Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity per Tank FT <sup>3</sup>	Ship. Wt. Lbs.
3"	CC-543E-SNGL	12000252	54" x 60"	50	4500
3"	CC-603E-SNGL	12000253	60" x 60"	60	5900
4"	CC-723F-SNGL	12000254	72" x 60"	85	8700

### Organic Reduction Carbon Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity per Tank FT <sup>3</sup>	Ship. Wt. Lbs.
3"	CL-543E-SNGL	12000255	54" x 60"	50	4500
3"	CL-603E-SNGL	12000256	60" x 60"	60	5900
4"	CL-723F-SNGL	12000257	72" x 60"	85	8700

**Note:** 3" and 4" flow meters are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order.

# VIP-1E Control – Duplex Steel Valve Nest Carbon Filters

## Epoxy Spray Lined Steel Tank – Duplex Alternating or Parallel

### Features:

- Demand initiated backwash
- Side mounted galvanized steel valve nest
- Pneumatic operated steel diaphragm valves or optional butterfly valves with pneumatic operators.
- NFS approved, food-grade epoxy lining that meets FDA leachability requirements
- Two 12" x 16" manways
- PVC Internals: Four Point upper distributor assembly; Lower hub and laterals for corrosion-resistant internal distribution system
- Spray Lined steel tank with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: PVC piping & Pneumatic butterfly valves.**
- **Optional: NEW! VIP-1E "DCS" – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-II-E Triplex and/or Quadraplex units available.**



C-603F-VIP1-D

### Chlorine Reduction Carbon Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity per Tank FT <sup>3</sup>	Ship. Wt. Lbs.
3"	CC-543E-VIPI-D	<b>12000258</b>	54" x 60"	50	9,000
3"	CC-603E-VIPI-D	<b>12000259</b>	60" x 60"	60	11,800
4"	CC-723F-VIPI-D	<b>12000260</b>	72" x 60"	85	17,400

### Organic Reduction Carbon Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity per Tank FT <sup>3</sup>	Ship. Wt. Lbs.
3"	CL-543E-VIPI-D	<b>12000261</b>	54" x 60"	50	9,000
3"	CL-603E-VIPI-D	<b>12000262</b>	60" x 60"	60	11,800
4"	CL-723F-VIPI-D	<b>12000263</b>	72" x 60"	85	17,400

**Note:** 3" and 4" flow meters are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order.

# VIP-II Control – Triplex Steel Valve Nest Carbon Filters

## Epoxy Spray Lined Steel Tank – Triplex



### Features:

- Demand initiated backwash
- Side mounted galvanized steel valve nest
- Pneumatic operated steel diaphragm valves or optional butterfly valves with pneumatic operators.
- NFS approved, food-grade epoxy lining that meets FDA leachability requirements
- Two 12" x 16" manways
- PVC Internals: Four Point upper distributor assembly; Lower hub and laterals for corrosion-resistant internal distribution system
- Spray Lined steel tank with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: PVC piping & Pneumatic butterfly valves.**
- **Optional: NEW! VIP-II "DCS" – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**



C-603F-VIPII-T

### Chlorine Reduction Carbon Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity per Tank FT <sup>3</sup>	Ship. Wt. Lbs.
3"	CC-543E-VIPII-T	12000264	54" x 60"	50	13,500
3"	CC-603E-VIPII-T	12000265	60" x 60"	60	17,700
4"	CC-723F-VIPII-T	12000266	72" x 60"	85	26,100

### Organic Reduction Carbon Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity per Tank FT <sup>3</sup>	Ship. Wt. Lbs.
3"	CL-543E-VIPII-T	12000267	54" x 60"	50	13,500
3"	CL-603E-VIPII-T	12000268	60" x 60"	60	17,700
4"	CL-723F-VIPII-T	12000269	72" x 60"	85	26,100

**Note:** 3" and 4" flow meters are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order.

# VIP II – Steel Valve Nest Carbon Filters

## Steel Piping – Spray Lined Steel Tank – Quadraplex



### Features:

- Demand initiated backwash
- Side mounted galvanized steel valve nest
- Pneumatic operated steel diaphragm valves or optional butterfly valves with pneumatic operators.
- NFS approved, food-grade epoxy lining that meets FDA leachability requirements
- Two 12" x 16" manways
- PVC Internals: Four Point upper distributor assembly; Lower hub and laterals for corrosion-resistant internal distribution system
- Spray Lined steel tank with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: PVC piping & Pneumatic butterfly valves.**
- **Optional: NEW! VIP-IIE “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**



C-603F-VIPII-Q

### Chlorine Reduction Carbon Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity per Tank FT <sup>3</sup>	Ship. Wt. Lbs.
3"	CC-543E-VIPII-Q	12000270	54" x 60"	50	18,000
3"	CC-603E-VIPII-Q	12000271	60" x 60"	60	23,600
4"	CC-723F-VIPII-Q	12000272	72" x 60"	85	34,800

### Organic Reduction Carbon Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity per Tank FT <sup>3</sup>	Ship. Wt. Lbs.
3"	CL-543E-VIPII-Q	12000273	54" x 60"	50	18,000
3"	CL-603E-VIPII-Q	12000274	60" x 60"	60	23,600
4"	CL-723F-VIPII-Q	12000275	72" x 60"	85	34,800

**Note:** 3" and 4" flow meters are insertion type paddle wheel flow meters utilizing copper tees. Other materials are available on special order.

# Time Clock – Steel Valve Nest Multimedia Filters Steel Piping – Spray Lined Steel Tank – Single

## Features:

- Ecodyne Micro –T electronic time clock initiated backwash
- Side mounted galvanized steel valve nest
- Pneumatic operated steel diaphragm valves or optional butterfly valves with pneumatic operators.
- NFS approved, food-grade epoxy lining that meets FDA leachability requirements
- Two 12" x 16" manways
- PVC Internals: Four Point upper distributor assembly; Lower hub and laterals for corrosion-resistant internal distribution system
- Spray Lined steel tank with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: PVC piping & Pneumatic butterfly valves.**



M-603F-TC

## Turbidity Reduction Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity per Tank FT <sup>3</sup>	Ship. Wt. Lbs.
4"	M-543F-TC	<b>12000276</b>	54" x 60"	50	6550
4"	M-603F-TC	<b>12000278</b>	60" x 60"	60	8480
4"	M-723F-TC	<b>12000280</b>	72" x 60"	85	12,505

**Note:** Multimedia Filters are also known as depth filters. Turbidity reduction down to 10 micron is common.

# Time Clock – Steel Valve Nest Multimedia Filters Steel Piping – Spray Lined Steel Tank – Duplex



## Features:

- Ecodyne Micro –T electronic time clock initiated backwash
- Side mounted galvanized steel valve nest
- Pneumatic operated steel diaphragm valves or optional butterfly valves with pneumatic operators.
- NFS approved, food-grade epoxy lining that meets FDA leachability requirements
- Two 12" x 16" manways
- PVC Internals: Four Point upper distributor assembly; Lower hub and laterals for corrosion-resistant internal distribution system
- Spray Lined steel tank with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: PVC piping & Pneumatic butterfly valves.**



**M-603F-TC-D**

## Turbidity Reduction Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity per Tank FT <sup>3</sup>	Ship. Wt. Lbs.
4"	M-543F-TC-D	<b>12000277</b>	54" x 60"	50	13,100
4"	M-603F-TC-D	<b>12000279</b>	60" x 60"	60	16,960
4"	M-723F-TC-D	<b>12000290</b>	72" x 60"	85	25,010

**Note:** Multimedia Filters are also known as depth filters. Turbidity reduction down to 10 micron is common.

# VIP I – Steel Valve Nest Multimedia Filters

## Steel Piping – Spray Lined Steel Tank – Single



### Features:

- Demand initiated backwash
- Side mounted galvanized steel valve nest
- Pneumatic operated steel diaphragm valves or optional butterfly valves with pneumatic operators.
- NFS approved, food-grade epoxy lining that meets FDA leachability requirements
- Two 12" x 16" manways
- PVC Internals: Four Point upper distributor assembly; Lower hub and laterals for corrosion-resistant internal distribution system
- Spray Lined steel tank with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: PVC piping & Pneumatic butterfly valves.**
- **Optional: NEW! VIP-1E "DCS" – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-IIE Triplex and/or Quadraplex units available.**



M-603F-SNGL

### Turbidity Reduction Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity per Tank FT <sup>3</sup>	Ship. Wt. Lbs.
4"	M-543F-SNGL	<b>12000291</b>	54" x 60"	50	6550
4"	M-603F-SNGL	<b>12000292</b>	60" x 60"	60	8480
4"	M-723F-SNGL	<b>12000293</b>	72" x 60"	85	12,505

**Note:** Multimedia Filters are also known as depth filters. Turbidity reduction down to 10 micron is common.



# VIP I – Steel Valve Nest Multimedia Filters

## Steel Piping – Spray Lined Steel Tank – Duplex



### Features:

- Demand initiated backwash
- Side mounted galvanized steel valve nest
- Pneumatic operated steel diaphragm valves or optional butterfly valves with pneumatic operators.
- NFS approved, food-grade epoxy lining that meets FDA leachability requirements
- Two 12" x 16" manways
- PVC Internals: Four Point upper distributor assembly; Lower hub and laterals for corrosion-resistant internal distribution system
- Spray Lined steel tank with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: PVC piping & Pneumatic butterfly valves.**
- **Optional: NEW! VIP-1E "DCS" – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-IIE Triplex and/or Quadraplex units available.**



**M-603F-VIP1-D**

### Turbidity Reduction Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity per Tank FT <sup>3</sup>	Ship. Wt. Lbs.
4"	M-543F-VIPI-D	<b>12000294</b>	54" x 60"	50	13,100
4"	M-603F-VIPI-D	<b>12000295</b>	60" x 60"	60	16,960
4"	M-723F-VIPI-D	<b>12000296</b>	72" x 60"	85	25,010

**Note:** Multimedia Filters are also known as depth filters. Turbidity reduction down to 10 micron is common.

# VIP II– Steel Valve Nest Multimedia Filters

## Steel Piping – Spray Lined Steel Tank – Triplex

### Features:

- Demand initiated backwash
- Side mounted galvanized steel valve nest
- Pneumatic operated steel diaphragm valves or optional butterfly valves with pneumatic operators.
- NFS approved, food-grade epoxy lining that meets FDA leachability requirements
- Two 12" x 16" manways
- PVC Internals: Four Point upper distributor assembly; Lower hub and laterals for corrosion-resistant internal distribution system
- Spray Lined steel tank with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: PVC piping & Pneumatic butterfly valves.**
- **Optional: NEW! VIP-IIIE "DCS" – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**



M-603F-VIPII-T

### Turbidity Reduction Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity per Tank FT <sup>3</sup>	Ship. Wt. Lbs.
4"	M-543F-VIPII-T	12000297	54" x 60"	50	19,650
4"	M-603F-VIPII-T	12000298	60" x 60"	60	25,440
4"	M-723F-VIPII-T	12000299	72" x 60"	85	37,515

**Note:** Multimedia Filters are also known as depth filters. Turbidity reduction down to 10 micron is common.

# VIP II– Steel Valve Nest Multimedia Filters

## Steel Piping – Spray Lined Steel Tank – Quadraplex

### Features:

- Demand initiated backwash
- Side mounted galvanized steel valve nest
- Pneumatic operated steel diaphragm valves or optional butterfly valves with pneumatic operators.
- NFS approved, food-grade epoxy lining that meets FDA leachability requirements
- Two 12" x 16" manways
- PVC Internals: Four Point upper distributor assembly; Lower hub and laterals for corrosion-resistant internal distribution system
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: PVC piping & Pneumatic butterfly valves.**
- **Optional: NEW! VIP-IIIE “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**



M-603F-VIPII-Q

### Turbidity Reduction Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity per Tank FT <sup>3</sup>	Ship. Wt. Lbs.
4"	M-543F-VIPII-Q	<b>12000300</b>	54" x 60"	50	26,200
4"	M-603F-VIPII-Q	<b>12000301</b>	60" x 60"	60	33,920
4"	M-723F-VIPII-Q	<b>12000302</b>	72" x 60"	85	50,020

**Note:** Multimedia Filters are also known as depth filters. Turbidity reduction down to 10 micron is common.

# Time Clock – Steel Valve Nest Greensand Plus Filters Steel Piping – Spray Lined Steel Tank – Single

## Features:

- Ecodyne Micro –T electronic time clock initiated backwash
- Side mounted galvanized steel valve nest
- Pneumatic operated steel diaphragm valves or butterfly valves with pneumatic operators.
- NFS approved, food-grade epoxy lining that meets FDA leachability requirements
- Two 12" x 16" manways
- PVC Internals: Four Point upper distributor assembly; Lower hub and laterals for corrosion-resistant internal distribution system
- Spray Lined steel tank with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: PVC piping & Pneumatic butterfly valves.**
- **Optional: Chemical feed pump & Chemical Draw tubes**



G-603F-TC

## Iron Reduction Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity per Tank FT <sup>3</sup>	Ship. Wt. Lbs.
4"	G-543F-TC	<b>12000303</b>	54" x 60"	50	6910
4"	G-603F-TC	<b>12000304</b>	60" x 60"	60	9180
4"	G-723F-TC	<b>12000306</b>	72" x 60"	85	13,525

Manganese Treated Greensand Plus must be supplied with Sodium Hypochlorite or Potassium Permanganate on a continuous basis. Normally a chemical feed pump is used for this purpose. Chemical is pumped into the raw water prior to contact with the Greensand Filter. Contact our Applications Engineering department for help with sizing and pricing of chemical pumps.

# Time Clock – Steel Valve Nest Greensand Plus Filters Steel Piping – Spray Lined Steel Tank – Duplex



## Features:

- Ecodyne Micro –T electronic time clock initiated backwash
- Side mounted galvanized steel valve nest
- Pneumatic operated steel diaphragm valves or butterfly valves with pneumatic operators.
- NFS approved, food-grade epoxy lining that meets FDA leachability requirements
- Two 12" x 16" manways
- PVC Internals: Four Point upper distributor assembly; Lower hub and laterals for corrosion-resistant internal distribution system
- Spray Lined steel tank with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: PVC piping & Pneumatic butterfly valves.**
- **Optional: Chemical feed pump & Chemical Draw tubes**



**G-603F-TC-D**

## Iron Reduction Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity per Tank FT <sup>3</sup>	Ship. Wt. Lbs.
4"	G-543F-TC-D	<b>(2) 12000303</b>	54" x 60"	50	13,820
4"	G-603F-TC-D	<b>(2) 12000304</b>	60" x 60"	60	18,360
4"	G-723F-TC-D	<b>(2) 12000306</b>	72" x 60"	85	27,050

Manganese Treated Greensand Plus must be supplied with Sodium Hypochlorite or Potassium Permanganate on a continuous basis. Normally a chemical feed pump is used for this purpose. Chemical is pumped into the raw water prior to contact with the Greensand Filter. Contact our Applications Engineering department for help with sizing and pricing of chemical pumps.

# VIP I – Steel Valve Nest Greensand Plus Filters

## Steel Piping – Spray Lined Steel Tank – Single

### Features:

- Demand initiated backwash
- Side mounted galvanized steel valve nest
- Pneumatic operated steel diaphragm valves or butterfly valves with pneumatic operators.
- NFS approved, food-grade epoxy lining that meets FDA leachability requirements
- Two 12" x 16" manways
- PVC Internals: Four Point upper distributor assembly; Lower hub and laterals for corrosion-resistant internal distribution system
- Spray Lined steel tank with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: PVC piping & Pneumatic butterfly valves.**
- **Optional: NEW! VIP-1E "DCS" – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-II Triplex and/or Quadraplex units available.**
- **Optional: Chemical feed pump & Chemical Draw tubes**



G-603F-SNGL

### Iron Reduction Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity per Tank FT <sup>3</sup>	Ship. Wt. Lbs.
4"	G-543F-SNGL	12000308	54" x 60"	50	6910
4"	G-603F-SNGL	12000309	60" x 60"	60	9180
4"	G-723F-SNGL	12000310	72" x 60"	85	13,525

Manganese Treated Greensand Plus must be supplied with Sodium Hypochlorite or Potassium Permanganate on a continuous basis. Normally a chemical feed pump is used for this purpose. Chemical is pumped into the raw water prior to contact with the Greensand Filter. Contact our Applications Engineering department for help with sizing and pricing of chemical pumps.

# VIP I – Steel Valve Nest Greensand Plus Filters

## Steel Piping – Spray Lined Steel Tank – Duplex



### Features:

- Demand initiated backwash
- Side mounted galvanized steel valve nest
- Pneumatic operated steel diaphragm valves or optional butterfly valves with pneumatic operators.
- NFS approved, food-grade epoxy lining that meets FDA leachability requirements
- Two 12" x 16" manways
- PVC Internals: Four Point upper distributor assembly; Lower hub and laterals for corrosion-resistant internal distribution system
- Spray Lined steel tank with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: PVC piping & Pneumatic butterfly valves.**
- **Optional: NEW! VIP-1E "DCS" – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: VIP-II Triplex and/or Quadraplex units available.**
- **Optional: Chemical feed pump & Chemical Draw tubes**



G-603F-VIP1-D

### Iron Reduction Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity per Tank FT <sup>3</sup>	Ship. Wt. Lbs.
4"	G-543F-VIPI-D	<b>12000311</b>	54" x 60"	50	13,820
4"	G-603F-VIPI-D	<b>12000312</b>	60" x 60"	60	18,360
4"	G-723F-VIPI-D	<b>12000313</b>	72" x 60"	85	27,050

Manganese Treated Greensand Plus must be supplied with Sodium Hypochlorite or Potassium Permanganate on a continuous basis. Normally a chemical feed pump is used for this purpose. Chemical is pumped into the raw water prior to contact with the Greensand Filter. Contact our Applications Engineering department for help with sizing and pricing of chemical pumps.

# VIP II– Steel Valve Nest Greensand Plus Filters

## Steel Piping – Spray Lined Steel Tank – Triplex

### Features:

- Demand initiated backwash
- Side mounted galvanized steel valve nest
- Pneumatic operated steel diaphragm valves or optional butterfly valves with pneumatic operators.
- NFS approved, food-grade epoxy lining that meets FDA leachability requirements
- Two 12" x 16" manways
- PVC Internals: Four Point upper distributor assembly; Lower hub and laterals for corrosion-resistant internal distribution system
- Spray Lined steel tank with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: PVC piping & Pneumatic butterfly valves.**
- **Optional: NEW! VIP-IIE “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: Chemical feed pump & Chemical Draw tubes**



G-603F-VIPII-T

### Iron Reduction Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity per Tank FT <sup>3</sup>	Ship. Wt. Lbs.
4"	G-543F-VIPII-T	12000314	54" x 60"	50	20,730
4"	G-603F-VIPII-T	12000315	60" x 60"	60	27,540
4"	G-723F-VIPII-T	12000316	72" x 60"	85	40,575

Manganese Treated Greensand Plus must be supplied with Sodium Hypochlorite or Potassium Permanganate on a continuous basis. Normally a chemical feed pump is used for this purpose. Chemical is pumped into the raw water prior to contact with the Greensand Filter. Contact our Applications Engineering department for help with sizing and pricing of chemical pumps.



# VIP II– Steel Valve Nest Greensand Plus Filters

## Steel Piping – Spray Lined Steel Tank – Quadraplex

### Features:

- Demand initiated backwash
- Side mounted galvanized steel valve nest
- Pneumatic operated steel diaphragm valves or optional butterfly valves with pneumatic operators.
- NFS approved, food-grade epoxy lining that meets FDA leachability requirements
- Two 12" x 16" manways
- PVC Internals: Four Point upper distributor assembly; Lower hub and laterals for corrosion-resistant internal distribution system
- Spray Lined steel tank with epoxy coated int/ext for corrosion resistance.
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: PVC piping & Pneumatic butterfly valves.**
- **Optional: NEW! VIP-IIE "DCS" – Remote monitoring, programming & data reporting capability.**
- **Optional: Differential pressure backwash feature.**
- **Optional: Alternate Water Source (Backwash)**
- **Optional: Chemical feed pump & Chemical Draw tubes**



G-603F-VIPII-Q

### Turbidity Reduction Filters

Pipe Size	Model	Part Number	Mineral Tank Size	Media Quantity per Tank FT <sup>3</sup>	Ship. Wt. Lbs.
4"	G-543F-VIPII-Q	12000317	54" x 60"	50	27,640
4"	G-603F-VIPII-Q	12000318	60" x 60"	60	36,720
4"	G-723F-VIPII-Q	12000319	72" x 60"	85	54,100

Manganese Treated Greensand Plus must be supplied with Sodium Hypochlorite or Potassium Permanganate on a continuous basis. Normally a chemical feed pump is used for this purpose. Chemical is pumped into the raw water prior to contact with the Greensand Filter. Contact our Applications Engineering department for help with sizing and pricing of chemical pumps.

# SECTION 11



## Fleck® Fiberglass Chloride Dealkalizers

**Note: Steel tanks & Plastic Valve Nest (\*PVN) systems are offered on a custom quote basis**



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## What is a Chloride Anion Dealkalizer?

Chloride Anion Dealkalizers are primarily, used for the removal of alkalinity from boiler feed water. Removal of the alkalinity prevents insoluble carbonate precipitates from forming in the boiler tubes and stops corrosion, which may be due to carbonic acid formation. Dealkalization by ion exchange uses strong base anion resin, which is regenerated to the chloride form. A small amount of sodium hydroxide (caustic soda) may be utilized along with the sodium chloride (NaCl) to give slightly higher capacity and lower leakage.

Chloride Anion Dealkalizers will remove 90-95% of the carbonate ( $\text{CO}_3$ ) and bicarbonate ( $\text{HCO}_3$ ) alkalinity as well as 99% of the sulfates ( $\text{SO}_4$ ), nitrates ( $\text{NO}_3$ ) and fluoride when regenerated with salt (NaCl) only. Dealkalizers will remove all of the  $\text{CO}_2$  and give higher capacities when regenerated with both salt and sodium hydroxide (caustic soda).

Chloride anion dealkalizers normally use an economy salt setting of 6 lbs of salt per cubic foot of resin. Caustic may be added at a dosage of 0.6 lbs per cubic foot of resin. The capacity of the dealkalizer is based on the chloride content of the raw water.

System control can be provided using either VIP demand initiated controller or mechanical time clock, steel or fiberglass tanks.

Chloride Anion Dealkalizers with valve nest construction are available for high flow applications.

**VIPE controller** - This computer based demand initiated (metered) controller operates from 1 to 4 units, in either a parallel, alternating, *electronic time clock* or progressive configuration. The control will utilize alpha numeric, self-prompting programming for simple start up. EEPROM memory shall store the program data eliminating the need for a battery back-up or configuration input after power loss. It is prewired and includes twist lock electrical end connectors for installation ease.

The controller will constantly monitor current operating conditions and is capable of displaying instantaneous flow rate throughout the system. Flow and operational data for each unit shall be independently displayable. A resettable totalizing flow counter will be included to measure the total water processed.

The controller shall be self-diagnostic and capable of emitting an audible signal if it detects a system problem. The \*UL listed controller operation will be 24V, 60 Hz, 1 ph and a suitable sized UL approved transformer(s) will be provided to convert 120V, 60Hz, 1ph power for system operation. A NEMA 4X enclosure will be used to house the controller.

The VIP demand initiated controller offers a chemical feed pump relay. This chemical feed pump relay logic circuit provides a signal to activate an *optional* chemical feed pump to pre-feed sodium hydroxide (caustic soda) during regeneration, thereby increasing the capacity of tank's resin bed.

**Mechanical Time Clock** control can be set with dials to regenerate daily at a pre-set time of day, or it can be set to skip a day or several days. Regeneration is automatic. The control operates the multiport valve and advances it through the various regeneration steps of backwash, brine draw, slow rinse, fast rinse and refill of the brine tank.

Note: The dealkalizer's anion resin must be protected from hardness fouling. Ecodyne recommends installing a water softener ahead of the Dealkalizer to prevent anion resin fouling.

(\* ) Denotes new controller features

# Fiberglass Chloride Anion Dealkalizer - Specifications and Design Data

## Single Units – FRP Tanks

Model Number	Grains Capacity (gpg) <sup>(2)</sup>			Recommended Flow Rates				Mineral Tank Size in. <sup>(4)</sup>	Pipe Size in.	Anion Resin Qty Cu.Ft.	Max Drain Flow GPM	Brine Tank Capacity Lbs.	Space <sup>(5)</sup> Reqmt LxDxH in.
				Continuous		Peak <sup>(3)</sup>							
	15lb/CF	Salt Setting 10lb/CF		5lb/CF	GPM Flow	PSI Drop	GPM Flow						
CA-91A	4,000 to 20,000 <u>per ft<sup>3</sup></u> Anion resin (See Note 1.)			3	5	4	10	9x48	1	1	2	400	32x18x62
CA-121A				6	10	8	20	12x52	1	2	2	400	35x18x60
CA-141A				9	15	12	25	14x65	1	3	2	400	36x18x71
CA-141B				9	9	12	16	14x65	1½	3	2	400	36x18x71
CA-161B				12	12	16	22	16x65	1½	4	3	700	45x24x72
CA-181B				15	13	20	25	18x65	1½	5	3	700	46x24x72
CA-241B				30	15	40	25	24x72	1½	10	5	1000	52x24x82
CA-161C				12	7	16	12	16x65	2	4	3	700	45x24x72
CA-181C				15	9	20	16	18x65	2	5	3	700	46x24x72
CA-241C				30	15	40	25	24x72	2	10	5	1000	52x24x87
CA-301C				45	15	60	25	30x72	2	15	10	1500	65x30x100
CA-361C				60	15	80	25	36x72	2	20	15	2500	80x24x100
CA-301E				45	15	60	25	30x72	3	15	10	1500	65x32x104
CA-361E				60	15	80	25	36x72	3	20	15	2500	80x42x104
CA-421E				90	15	120	25	42x72	3	30	15	2500	85x42x112
CA-481E				120	15	160	25	48x72	3	40	25	4500	104x52x112

**NOTE:**

- Capacity is based on ratio of total exchangeable Anions (bi-carbonate, carbonate, sulfate and nitrate) to chlorides. The smaller the ratio the less capacity. The capacity can vary between 4,000 grains per cubic foot and 20,000 grains per cubic foot. Brine only regeneration can reduce up to 70% capacity.
- Weight and pressure drop data are estimates.
- Dimension refers to nominal vessel size only.
- When capacity is over 11,000 grains per cubic foot increase salt dosage to 8lbs per cubic foot and NaOH dosage to .8lbs per cubic foot to minimize alkalinity leakage.

**Quantity of Resin and Gravel required per above specifications**

Tank Size	9x48	12x52	14x65	16x65	18x65	24x72	30x72	36x72	42x72	48x72
Resin Qty.	1 ft3	2 ft3	3 ft3	4 ft3	5 ft3	10 ft3	15 ft3	20 ft3	30 ft3	40 ft3
Gravel Qty.	12 lbs	25 lbs	50 lbs	100 lbs	100 lbs	150 lbs	250 lbs	300 lbs	400 lbs	600 lbs

# Fiberglass Chloride Anion Dealkalizer Specifications and Design Data (cont'd)

## **Duplex Parallel Units – FRP Tanks**

Model Number	Grains Capacity <sup>(2)</sup>			Recommended Flow Rates				Mineral Tank Size in. <sup>(4)</sup>	Pipe Size in.	Anion Resin Qty Cu.Ft.	Max Drain Flow GPM	Brine Tank Capacity Lbs.	Space <sup>(5)</sup> Reqmt LxDxH in.
				Duplex Continuous		Duplex Peak <sup>(3)</sup>							
	15lb/CF	Salt Setting		GPM Flow	PSI Drop	GPM Flow	PSI Drop						
CA-91A	4,000 to 20,000 per ft <sup>3</sup> Anion resin (See Note 1.)			6	5	8	10	9x48	1	2	2	400	46x18x62
CA-121A				12	10	16	20	12x52	1	4	2	400	52x18x60
CA-141A				18	15	24	25	14x65	1	6	2	400	54x18x71
CA-141B				18	9	24	16	14x65	1½	6	2	400	54x18x71
CA-161B				24	12	32	22	16x65	1½	8	3	700	67x24x72
CA-181B				30	13	40	25	18x65	1½	10	3	700	68x24x72
CA-241B				60	15	80	25	24x72	1½	20	5	1000	80x24x82
CA-161C				24	7	32	12	16x65	2	8	3	700	67x24x72
CA-181C				30	9	40	16	18x65	2	10	3	700	68x24x72
CA-241C				60	15	80	25	24x72	2	20	5	1000	80x24x87
CA-301C				90	15	120	25	30x72	2	30	10	1500	100x32x100
CA-361C				120	15	160	25	36x72	2	40	15	2500	122x42x100
CA-301E				90	15	120	25	30x72	3	30	10	1500	100x32x104
CA-361E				120	15	160	25	36x72	3	40	15	2500	122x42x104
CA-421E				180	15	240	25	42x72	3	60	15	2500	133x42x112
CA-481E				240	15	320	25	48x72	3	80	25	4500	158x52x112

**NOTE:**

- Capacity is based on ratio of total exchangeable Anions (bi-carbonate, carbonate, sulfate and nitrate) to chlorides. The smaller the ratio the less capacity. The capacity can vary between 4,000 grains per cubic foot and 20,000 grains per cubic foot. Brine only regeneration can reduce up to 70% capacity.
- Weight and pressure drop data are estimates.
- Dimension refers to nominal vessel size only.
- When capacity is over 11,000 grains per cubic foot increase salt dosage to 8lbs per cubic foot and NaOH dosage to .8lbs per cubic foot to minimize alkalinity leakage.

<b>Quantity of Resin and Gravel required per above specifications</b>										
Tank Size	(2)9x48	(2)12x52	(2)14x65	(2)16x65	(2)18x65	(2)24x72	(2)30x72	(2)36x72	(2)42x72	(2)48x72
Resin Qty.	2 ft3	4 ft3	6 ft3	8 ft3	10 ft3	20 ft3	30 ft3	40 ft3	60 ft3	80 ft3
Gravel Qty.	24 lbs	50 lbs	100 lbs	200 lbs	200 lbs	300 lbs	500 lbs	600 lbs	800 lbs	1200 lbs

# VIP-1E Control – Single Demand Dealkalizer

## Fiberglass Tank - SNGL

### Features:

- Single tank operation. Hard water bypass during regeneration.
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Timed brine refills (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- High strength polyethylene tank liners for longer service life, FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source)**
- **Optional: Chemical Feed Pumps (caustic draw) & draw tubes.**



CA-241C-SNGL

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
1"	2750	CA-91A-SNGL	<b>15000039</b>	9" x 48"	400	18"x40"	175
1"		CA-121A-SNGL	n/a	12" x 52"	400	18"x40"	245
1"		CA-141A-SNGL	n/a	14" x 65"	400	18"x40"	340
1.5"	2850	CA-141B-SNGL	n/a	14" x 65"	400	18"x40"	350
1.5"		CA-161B-SNGL	n/a	16" x 65"	700	24"x41"	485
1.5"		CA-181B-SNGL	n/a	18" x 65"	700	24"x41"	565
1.5"		CA-241B-SNGL	n/a	24" x 72"	1000	24"x50"	920
2"	2900	CA-161C-SNGL	n/a	16" x 65"	700	24"x41"	530
2"		CA-181C-SNGL	n/a	18" x 65"	700	24"x41"	580
2"		CA-241C-SNGL	<b>15000033</b>	24" x 72"	1000	24"x50"	1000
2"		CA-301C-SNGL	<b>15000041</b>	30" x 72"	1500	30"x50"	1490
2"		CA-361C-SNGL	n/a	36" x 72"	2500	39"x48"	1880
3"	3900	CA-301E-SNGL	n/a	30" x 72"	1500	30"x50"	1515
3"		CA-361E-SNGL	n/a	36" x 72"	2500	39"x48"	1910
3"		CA-421E-SNGL	n/a	42" x 72"	2500	39"x48"	2835
3"		CA-481E-SNGL	n/a	48" x 72"	4500	52"x60"	3670

Note: 1" and 2" Flow Meters supplied with above products are Plastic.

n/a – Denotes that systems are available. However, no part number has been assigned.



# VIP-1E Control – Duplex Alternating Dealkalizer Fiberglass Tank – Alt 2

## Features:

- Duplex Alternating Operation; No hard water bypass during regeneration.
- NEW! VIP-1E Electronic Time Clock feature & UL listed. Solid State single metered demand initiated regeneration including rate of flow, re-settable totalizing meter, & self-diagnostic status monitoring. NEMA enclosed controller; Delayed or immediate regeneration.
- Lead-free brass multiport control valves with self-cleaning, hydraulically balanced positive acting piston.
- Timed brine refills (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- High strength polyethylene tank liners for longer service life, FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1pH transformer included/ twist lock style electrical connections/ 24V control voltage.
- **Optional: NEW! VIP-1E “DCS” – Remote monitoring, programming & data reporting capability.**
- **Optional: Alternate Water Source (Regeneration source)**
- **Optional: Chemical Feed Pumps (caustic draw) & draw tubes.**
- **Optional: VIP-IIe Triplex and/or Quadraplex units available.**



CA-241C-Alt2

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
1"	2750	CA-91A-ALT2	15000001	9" x 48"	400	18"x40"	350
1"		CA-121A-ALT2	15000002	12" x 52"	400	18"x40"	490
1"		CA-141A-ALT2	15000003	14" x 65"	400	18"x40"	680
1.5"	2850	CA-141B-ALT2	15000004	14" x 65"	400	18"x40"	700
1.5"		CA-161B-ALT2	15000005	16" x 65"	700	24"x41"	970
1.5"		CA-181B-ALT2	15000006	18" x 65"	700	24"x41"	1130
1.5"		CA-241B-ALT2	15000007	24" x 72"	1000	24"x50"	2270
2"	2900	CA-161C-ALT2	15000008	16" x 65"	700	24"x41"	1060
2"		CA-181C-ALT2	15000009	18" x 65"	700	24"x41"	1160
2"		CA-241C-ALT2	15000010	24" x 72"	1000	24"x50"	2000
2"		CA-301C-ALT2	15000011	30" x 72"	1500	30"x50"	2980
2"		CA-361C-ALT2	15000012	36" x 72"	2500	39"x48"	3760
3"	3900	CA-301E-ALT2	15000013	30" x 72"	1500	30"x50"	3030
3"		CA-361E-ALT2	15000014	36" x 72"	2500	39"x48"	3880
3"		CA-421E-ALT2	15000015	42" x 72"	2500	39"x48"	5670
3"		CA-481E-ALT2	15000016	48" x 72"	4500	52"x60"	7340

Note: 1" and 2" Flow Meters supplied with above products are Plastic.

n/a – Denotes that systems are available. However, no part number has been assigned.

# Time Clock Control – Single Dealkalizer

## Fiberglass Tank - Single

### Features:

- Automatic mechanical Time Clock initiated regeneration. Hard Water bypass during regeneration
- Lead-free brass multiport control valves with self- cleaning, hydraulically balanced positive acting piston.
- Timed brine refills (eliminates constant line pressure on shut off float devices)
- Standard safety-float valve shutoff on 400/700lb brine tanks. Optional on 1000lb and larger sizes.
- High strength polyethylene tank liners for longer service life, FRP wrapped for strength and corrosion resistance. ANSI/NSF listed tanks
- 120V/60Hz/1pH operation



CA-241C-TC

Pipe Size	Fleck Valve Type	Model Number	Part Number	Mineral Tank Size (inches)	Brine Tank Capacity (LBS)	Brine Tank Size	Ship. Wt. Lbs.
1"	2750	CA-91A-TC	<b>11001402</b>	9" x 48"	400	18"x40"	175
1"		CA-121A-TC	<b>11001403</b>	12" x 52"	400	18"x40"	245
1"		CA-141A-TC	<b>11001320</b>	14" x 65"	400	18"x40"	340
1.5"	2850	CA-91B-TC	n/a	14" x 65"	400	18"x40"	350
1.5"		CA-161B-TC	<b>11001321</b>	16" x 65"	700	24"x41"	485
1.5"		CA-181B-TC	n/a	18" x 65"	700	24"x41"	505
1.5"		CA-241B-TC	<b>11001323</b>	24" x 72"	1000	24"x50"	920
2"	2900	CA-161C-TC	n/a	16" x 65"	700	24"x41"	530
2"		CA-181C-TC	<b>11001405</b>	18" x 65"	700	24"x41"	580
2"		CA-241C-TC	<b>11001406</b>	24" x 72"	1000	24"x50"	1000
2"		CA-301C-TC	<b>11001324</b>	30" x 72"	1500	30"x50"	1490
2"		CA-361C-TC	<b>11001325</b>	36" x 72"	2500	39"x48"	1880
3"	3900	CA-301E-TC	<b>11001407</b>	30" x 72"	1500	30"x50"	1515
3"		CA-361E-TC	<b>11001408</b>	36" x 72"	2500	39"x48"	1910
3"		CA-421E-TC	<b>11001409</b>	42" x 72"	2500	39"x48"	2835
3"		CA-481E-TC	<b>11001410</b>	48" x 72"	4500	52"x60"	3670

n/a – Denotes that systems are available. However, no part number has been assigned.

# Dealkalizer Components and Accessories

## **Dealkalizer Caustic Pump & Draw Tube Assemblies**

Ecodyne offers LMI, Pulsafeeder and Neptune chemical feed pumps as options to regenerate with caustic. Dealkalizers using the VIP Control can utilize the Caustic Pump Control relay built-in. No need to purchase an additional control. Power to the pump (typically 120v) provided by others.

<b>Description</b>		<b>Part Number</b>
Neptune PZi4-32-VFC	Up to 5.7 gph	<b>201074</b>
Neptune PZi8-52-VFC	Up to 8.5 gph	<b>201067</b>
Neptune PZiG-700-VTCF	Up to 12 gph	<b>n/a</b>
Neptune PZiG-1000-VTCF	Up to 15.8 gph	<b>n/a</b>
Neptune PZiG-1300-VTCF	Up to 20.6 gph	<b>n/a</b>
LMI "A" series Caustic Pump <sup>1</sup>	Up to 2.0 gph	<b>201005</b>
LMI "B" series Caustic Pump <sup>1</sup>	Up to 4.5 gph	<b>201006</b>
LMI "C" series Caustic Pump	Up to 9.0 gph	<b>201007</b>
Pulsafeeder LC02SA-VTC1		<b>806010</b>
Pulsafeeder LC03SA-VTC1		<b>806011</b>
Pulsafeeder LC04SA-VTC1		<b>806012</b>
Pulsafeeder LPK2EA-KTC1	<ul style="list-style-type: none"> <li>• .13GPH / 3GPD</li> <li>• External Remote Pacing</li> <li>• 115V /50-60Hz</li> <li>• Tubing .25"IDx .38"OD</li> </ul>	<b>806018</b>
Pulsafeeder LPB4SA-VTC1	<ul style="list-style-type: none"> <li>• 1.00GPH / 24GPD</li> <li>• 4-20mADC Direct, w / Stop</li> <li>• 115V /50-60Hz</li> <li>• Tubing .25"IDx .38"OD</li> </ul>	<b>806049</b>
Kit Chemical Draw Tube assy, ¼"		<b>908005</b>
Kit Chemical Draw Tube assy, ½"		<b>908006</b>

# SECTION 12



## Softener and Filters Components and Accessories

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# Softener Components and Accessories

## **Skid Mounting:**

Factory assembled skid mounting for FRP Duplex Softener with mounting hardware & FRP tank supports.

Tank Diameters	Valve Pipe Size	Skid Size LxWxH	Part No.
9" thru 12"	1"	24" x 30" x 4"	<b>501141</b>
14" thru 18"	1-1/2" & 2"	42" x 30" x 4"	<b>501142</b>
24" thru 30"	1-1/2" & 2"	72" x 42" x 4"	<b>501143</b>
36"	1-1/2" & 2"	84" x 48" x 4"	<b>501144</b>
42"	3"	96" x 54" x 4"	<b>501145</b>
48"	3"	108" x 60" x 4"	<b>501146</b>



## **Interconnecting Piping Assembly (ICP):**

The interconnecting plumbing headers are sized based on the flow rate and designed for a maximum velocity of 10 feet per second.

Factory assembled **Sch80 PVC Duplex** Interconnecting piping / plumbing assembly:



Description	Part Number
1" Common I/O headers & bypass line with isolation valve. Includes: 1" tank I/O piping, manual tank I/O isolation valves.	<b>906098</b>
1.5" Common I/O headers & bypass line with isolation valve. Includes: 1.5" tank I/O piping, manual tank I/O isolation valves.	<b>906099</b>
2" Common I/O headers & bypass line with isolation valve. Includes: 2" tank I/O piping, manual tank I/O isolation valves.	<b>906100</b>
<b>3" Common I/O headers &amp; bypass line with isolation valve.</b> Includes: 2" tank I/O piping, manual tank I/O isolation valves.	<b>906584</b>
3" Common I/O headers & bypass line with isolation valve. Includes: 3" tank I/O piping, manual tank I/O isolation valves.	<b>906127</b>
<b>4" Common I/O headers &amp; bypass line with isolation valve.</b> Includes: 3" tank I/O piping, manual tank I/O isolation valves.	<b>906585</b>
<i>Note: Galvanized piping is available – contact factory for pricing.</i>	

## **Kit: Sample Valve & Pressure Gauge**

Description	Part Number
Kit: 2-1/2" Pressure Gauge 0-100psi with 1/4 Tee & 1/4" Sample Valve Test Cock	<b>908007</b>
<i>Used on above factory assembled inlet/outlet headers for ICP.</i>	



**Note: Skid number, ICP number and gauge/sample valve kit/s number – consummate a complete assembly.**

# Controls

VIP1E & VIP2E demand initiated controllers have been updated with the following standard features. They directly replace older style VIP controllers.

- Electronic time clock capability
- Delay regeneration on alternating systems
- UL listing

VIP3E controllers allow for progressive flow capabilities as the flow rate increases or decreases the controller will move units into and out of service. This eliminates the possibility of channeling through the resin during low flow conditions and lessens the pressure drop through the system during high flow conditions. Ideal for applications with varying flow rate demands such as hotels, condominiums or apartment buildings.

VIPE“DCS” controllers provide a 2 wire RS-485 MODBUS communication for monitoring or programming the controller using a plant management system.

Description	Part Number
VIP-1E Programmable Control – Single or Duplex	920182
VIP-2E Programmable Control – 2, 3, or 4 Tanks	920183
VIP-3E Variable-Demand Programmable Control	920184
VIP-1E with 2-Wire 485 Modbus “DCS”	920182-DCS
VIP-2E with 2-Wire 485 Modbus “DCS”	920183-DCS
VIP-3E with 2-Wire 485 Modbus “DCS”	920184-DCS
Time Clock – Valve Nest System – w/solenoids for filters	920122
Stager Control – Valve Nest System	920120
Micro-TR Time Clock with RO Lockout Board (Tank Mount)	920066
Pumped Brine Control	920166
Brine Reclaim Control	920169
Brine Day Tank Control	920167

VIP-1E CONTROL



VIP-2E/3E CONTROL



MICRO-T CONTROL



STAGER CONTROL



## VIP Control Extension Cables

Length (ft.)	Description	Part Number
10	Extends harness from valve to control	119068-10



## Transformers

Description	Part Number
50 VA – 120v x 24vac – Plug In	7022207
50 VA – 120v x 24vac – (NEMA BOX)	980019-24
100 VA – 220v x 24vac (NEMA BOX)	980059-24
108 VA – 120V x 24vac – (Encapsulated)	FLK41034



## Water Meters and Flow Sensors – Turbo Flow Meters

Ecodyne VIP water softeners and filters come with flow sensors. The standard 1", 1.5" and 2" flow meter (\*) in a plastic housing can be replaced with a brass housing. The standard 3" & 4" flow sensor (\*\*) in a copper tee assembly can be replaced with a PVC saddle fitting or an iron saddle fitting.

Description	Flow Rate (gpm)		Part Number
	Normal Range	Peak	
1" NPT Flow Meter - PVC (*)	½ - 30	40	930047
1-1/2" NPT Flow Meter - PVC (*)	1-1/2 - 60	125	930046
1" NPT Brass turbine assy	½ - 30	40	930015
1-1/2"x 2" NPT Brass turbine assy	1-1/2 - 60	125	930016
2" Water meter - PLASTIC(*)	4 - 90	125	7161679
2" NPT Flow Meter - PVC	4 - 90	125	930062
3" Flow Meter / CU fitting(**)	7 - 200	230	930049
3" Sensor assy / PVC saddle	7 - 200	230	930027
4" Sensor assy / Iron fitting(**)	12 - 350	395	930019
4" Sensor assy / PVC saddle	12 - 350	395	930028
Replacement Signet 2536 sensor assy for 3" & 4"			930022



930046



930016



930022

Sensor assy not shown with:

- CU tee
- PVC tee
- Iron tee



## Flow Sensor Extension Cables

Length (ft.)	Description	Part Number
10	Extends harness from flow sensor to control	119075-10



## Complete Brine Tank Assemblies

Polyethylene Brine Systems (includes brinewell and 1 air-check assembly). 400/700lb brine tanks come standard with brinewell, air/check and safety float valve style shutoff. Optionally, safety float valve style shutoff on 1000lbs and above systems, are offered at an additional cost only.

Description	Dimensions (Dia. x Height)	Part Number	
		Standard Air-check	Float Style
400 lb capacity	18" x 30"	940052	-
700 lb capacity	24" x 40"	940053	-
1,000 lb capacity	24" x 50"	940025	940042
1,500 lb capacity	30" x 50"	940026	940043
2,500 lb capacity	39" x 48"	940027	940044
4,500 lb capacity	52" x 60"	940007	940045
7,000 lb capacity	60" x 60"	940035	-
10,000 lb capacity	72" x 60"	940036	-

## Brinewell / Air-check Part Assemblies

Description		Part Number
Standard	400 lb & 700 lb Brinewell / Air-check assy	980100
	1000 lb Brine Brinewell / Air-check assy	980084
	1500 lb Brine Brinewell / Air-check assy	980065
	2500 lb, 4500 lb, 7000 lb or 10,000 Brinewell / Air-check assy	980008
Float Type	400 lb & 700 lb Brinewell / Air-check assy	980100
	1000 lb Brinewell / Air-check assy	980085
	1500 lb & 2500 lb Brinewell / Air-check assy	980082
	4500 lb Brinewell / Air-check assy	980083

## 2750 & 2850 - Stop Valve Part Assemblies

Description	Part Number
1" Valve assy, STEEL 24v NO BYP (complete)	910003
1-1/2" Valve assy, STEEL 24v NO BYP (complete)	910004
Solenoid Valve, 24v (replc part)	206004
Diaph/Seal Kit, 1" vlv 421 (replc part)	702021
Diaph/Seal Kit, 1-1/2" vlv 424 (replc part)	702022
AQM Internal Parts Kit 421 f/1" (replc part)	702047
AQM Internal Parts Kit 424 f/1-1/2" (replc part)	702048



## Fleck Replacement Power Heads (VIP/24V) with Cables

Power Head Description	Part Number
2750 / 2850 Power Head, (VIP config)	312311
2900 Power Head, (VIP config)	312313
3150 Power Head, (VIP config)	312314
3900 Power Head, (VIP config)	312315
9000/9500 Power Head, (VIP config)	312317
Environmental covers sold separately	



## Funnel Kit

Description	Part Number
Large Funnel for loading resin and media <i>Note: Funnel kits must be specified on order.</i>	980015



## Fleck Valve Covers

Description	Part Number
Black Environmental Cover w/ Clear Window 2750, 2850, "Upper 2900"	FLK60219-02
Black Environmental Cover <u>Lower 2900</u> Drive Motor Cover	FLK60217-02
Black Environmental Cover w/ Clear Window 3150 & "Upper 3900"	FLK60240-02
Black Environmental Cover w/ Black Window 3150 & "Upper 3900"	FLK-60240-22



## Composite Fiberglass ASME Code Vessels

Size (Dia. x Height)	Pressure Rating
24" x 72" - 6"t/b Flg	150 psi ASME
30" x 72" - 6"t/b Flg	150 psi ASME
36" x 72" - 6"t/b Flg	150 psi ASME
42" x 72" - 6"t/b Flg	150 psi ASME
48" x 72" - 6"t/b Flg	150 psi ASME

## Steel ASME Code Vessels

Size (Dia. x Height)	Pressure Rating Range
18" Dia x 60" Side Shell	100-150 psi
24" Dia x 60" Side Shell	100-150 psi
30" Dia x 60" Side Shell	100-150 psi
36" Dia x 60" Side Shell	100-150 psi
42" Dia x 60" Side Shell	100-150 psi
48" Dia x 60" Side Shell	100-150 psi
54" Dia x 60" Side Shell	100-150 psi
60" Dia x 60" Side Shell	100-150 psi
72" Dia x 60" Side Shell	100-150 psi

**Note: Special tank fittings, manways & port openings available – contact factory with requirements.**

## Liquid Brine Systems - BRYNEER™

Max. Capacity	Size	Usable Dry Salt Storage
27 Ton	8' x 15'	23 Ton
43 Ton	10' x 15'	36 Ton
56 Ton	11'6" x 15'	47 Ton
85 Ton	12' x 20'	72 Ton



### **Bryneer™ Features:**

- **Filament wound reinforced thermoset plastic vessel, manufactured in accordance with Specification ASTM-D-3299-10. Flat bottom and domed top, the inner surface and interior layers are included in the structural wall calculation. The inner corrosion liner is fabricated with isophthalic polyester resin reinforced with fiberglass. Exterior surface finished with a translucent protective coating with ultraviolet inhibitors. Vessel is to be designed for storage of Sodium Chloride Brine.**
- **Note: Optional features such as ladder with cage, thermal insulation digital salt monitoring or flow meters&gauges are available on request.**

# SECTION 13



## Reverse Osmosis Systems



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# Reverse Osmosis Units Specifications and Design Data

## *ECI HV Series 2,000 – 10,800 GPD Capacity (1.4 – 7.5 GPM)*

Model Number	R1F40	R2F40	R3F40	R4F40	R5F40	R6F40
<b>Product Flow</b> <sup>(1) (2)</sup>						
GPM	1.4	2.7	3.9	5.2	6.6	7.5
GPD	2,000	3,900	5,600	7,500	9,500	10,800
<b>Feed Flow (GPM)</b>	2.8	5.4	7.8	10.4	13.2	15
<b>Reject Flow (GPM)</b>	1.4	2.7	3.9	5.2	6.6	7.5
<b>Recycle (GPM)</b>	5.2	3.6	2.2	5.6	4.8	3.0
<b>Rejection</b>	98%	98%	98%	98%	98%	98%
<b>Recovery Range</b>	18 – 75%	32 – 75%	42 – 75%	34 – 75%	37 – 75%	42 – 75%
<b>Membrane Size</b>	4" x 40"	4" x 40"	4" x 40"	4" x 40"	4" x 40"	4" x 40"
<b>Vessel Size</b>	1M	1M	1M	1M	1M	1M
<b>Array</b>	1	1:1	1:1:1	2:1:1	2:2:1	2:2:1:1
<b>No. of Membranes</b>	1	2	3	4	5	6
<b>Prefilter</b>	1 – 10"	1 – 10"	1 – 10"	1 – 20"	1 – 20"	1 – 20"
<b>Pipe Size In</b>						
Feed – Pkg 1	0.75" FNPT	0.75" FNPT	0.75" FNPT	1.0" FNPT	1.0" FNPT	1.0" FNPT
Feed – Pkg 2	0.75" FNPT	0.75" FNPT	0.75" FNPT	1.0" FNPT	1.0" FNPT	1.0" FNPT
Feed – Pkg 3	0.75" FNPT	0.75" FNPT	0.75" FNPT	1.0" FNPT	1.0" FNPT	1.0" FNPT
Product – Pkg 1	0.375" Tube	0.375" Tube	0.375" Tube	0.5" Tube	0.5" Tube	0.5" Tube
Product – Pkg 2	0.5" FNPT	0.5" FNPT	0.5" FNPT	1.0" FNPT	1.0" FNPT	1.0" FNPT
Product - Pkg 3	0.75" FNPT	0.75" FNPT	0.75" FNPT	0.75" FNPT	0.75" FNPT	0.75" FNPT
Reject – Pkg 1	0.375" MNPT	0.375" MNPT	0.375" MNPT	0.5" MNPT	0.5" MNPT	0.5" MNPT
Reject – Pkg 2	0.5" FNPT	0.5" FNPT	0.5" FNPT	1.0" FNPT	1.0" FNPT	1.0" FNPT
Reject – Pkg 3	0.5" FNPT	0.5" FNPT	0.5" FNPT	1.0" FNPT	1.0" FNPT	1.0" FNPT
<b>Feed Pressure (psig)</b>	20 – 50	20 – 50	20 – 50	20 – 50	20 – 50	20 – 50
<b>Pump HP</b>	3/4	3/4	3/4	2	2	2
<b>Power</b>	220V/60Hz/1 ph	220V/60Hz/1 ph	220V/60Hz/1 ph	220V/60Hz/1 ph	220V/60Hz/1 ph	220V/60Hz/1 ph
<b>Amps</b>	8	8	8	17	17	17
<b>Dimensions (LxDxH)</b> <sup>(3)</sup>	26" x 16" x 54"	26" x 16" x 54"	26" x 16" x 54"	26" x 16" x 54"	38" x 16" x 54"	38" x 16" x 54"

**Notes:**

- (1) Based upon feed water: SDI<3, free chlorine 0.0 mg/l maximum, pH 2-11 and temperature 77<sup>o</sup> F.
- (2) System flows are design parameters.
- (3) All dimensions approximate. Additional space required for maintenance.



# Reverse Osmosis Units Specifications and Design Data

## *ECI PV Series 14,400 – 43,200 GPD Capacity (10 – 30 GPM)*

Model Number	R8F40	R12F40	R16F40	R20F40	R24F40
<b>Product Flow</b> <sup>(1)(2)</sup>					
GPM	10	15	20	25	30
GPD	14,400	21,600	28,800	36,000	43,200
<b>Feed Flow (GPM)</b>	33	48	45	58	70
<b>Reject Flow (GPM)</b>	23	33	24	32	39
<b>Recycle (GPM)</b>	8.0	10.0	5.0	8.0	10.0
<b>Rejection</b>	95 - 98%	95 - 98%	95 - 98%	95 - 98%	95 - 98%
<b>Recovery Range</b>	40% <sup>(4)</sup>	40% <sup>(4)</sup>	50% <sup>(4)</sup>	50% <sup>(4)</sup>	50% <sup>(4)</sup>
<b>Membrane Size</b>	4" x 40"	4" x 40"	4" x 40"	4" x 40"	4" x 40"
<b>Vessel Size</b>	4" x 2 Long	4" x 2 Long	4" x 2 Long	4" x 2 Long	4" x 2 Long
<b>No. of Membranes</b>	8	12	16	20	24
<b>Prefilter</b>	5 Micron	5 Micron	5 Micron	5 Micron	5 Micron
<b>Pipe Size In</b>					
Feed	1.5"	1.5"	2"	2"	2"
Product	1"	1"	1"	1.5"	1.5"
Reject	1.5"	1.5"	1.5"	1.5"	1.5"
<b>Feed Pressure (psig)</b>	20 – 50	20 – 50	20 – 50	20 – 50	20 – 50
<b>Pump HP</b>	3.0	5.0	7.5	7.5	10.0
<b>Power</b>	230V/460V 60Hz/3 ph	230V/460V 60Hz/3 ph	230V/460V 60Hz/3 ph	230V/460V 60Hz/3 ph	230V/460V 60Hz/3 ph
<b>Amps</b>	4.8	7.6	11.0	11.0	14.0
<b>Dimensions (LxDxH)</b> <sup>(3)</sup>	90" x 42" x 60"	90" x 42" x 60"	96" x 54" x 60"	96" x 54" x 60"	96" x 54" x 60"

**Notes:**

- (1) Based upon feed water: SDI<3, free chlorine 0.0 mg/l maximum, pH 3-11 and temperature 77<sup>o</sup> F.
- (2) System flows are design parameters.
- (3) All dimensions approximate. Additional 18" space required around system for maintenance.
- (4) Maximum recovery with recycle is 75%.

# Reverse Osmosis Systems – HV Series *2,000 to 10,800 GPD Capacity – Package I*

## High Volume Features:

- 4" x 40" low-energy TFC membranes
- Smooth, quiet operating stainless steel, multi-stage centrifugal pumps with plastic impellers
- 3/4 or 2 HP 230/60 Hz/1 pH motors providing up to 185 PSI pressure (1" inlet) with 5-micron filter
- Single power connection for all controls, switches, and solenoid valves
- Stainless Steel Membrane Housings
- Heavy-duty, Stainless Steel frame for durability and rust resistance
- All systems are fully tested and shipped fully assembled



## Feature Package I Features:

- Pretreatment lockout
- Low level connections
- Low-pressure protection
- Auto Re-start after shutdown
- Waste recycle

**R4F40 Package I**

Nominal Capacity GPD	Model Number	Part Number	Membranes No. & Size (vessel)	HP	Shipping Wt. Lbs.
2,000	R1F40-I	<b>13000060</b>	1 – 4 x 40 (1M)	3/4	195
3,900	R2F40-I	<b>13000057</b>	2 – 4 x 40 (1M)	3/4	220
5,600	R3F40-I	<b>13000054</b>	3 – 4 x 40 (1M)	3/4	245
7,500	R4F40-I	<b>13000051</b>	4 – 4 x 40 (1M)	2	275
9,500	R5F40-I	<b>13000048</b>	5 – 4 x 40 (1M)	2	300
10,800	R6F40-I	<b>13000045</b>	6 – 4 x 40 (1M)	2	325

# Reverse Osmosis Systems – HV Series *2,000 to 10,800 GPD Capacity – Package II*

## High Volume Features:

- 4" x 40" low-energy TFC membranes
- Smooth, quiet operating stainless steel, multi-stage centrifugal pumps with plastic impellers
- 3/4 or 2 HP 230/60 Hz/1 pH motors providing up to 185 PSI pressure (1" inlet) with 5-micron filter
- Single power connection for all controls, switches, and solenoid valves
- Stainless Steel Membrane Housings
- Heavy-duty, Stainless Steel frame for durability and rust resistance
- All systems are fully tested and shipped fully assembled



**R4F40 Package II**

## Feature Package II Features:

- Pretreatment lockout
- Low level connections
- Low-pressure protection
- Auto Re-start after shutdown
- Waste recycle
- **Product and waste flow meter (Pkg-II)**

Nominal Capacity GPD	Model Number	Part Number	Membranes No. & Size (vessel)	HP	Shipping Wt. Lbs.
2,000	R1F40-II	<b>13000059</b>	1 – 4 x 40 (1M)	3/4	195
3,900	R2F40-II	<b>13000056</b>	2 – 4 x 40 (1M)	3/4	220
5,600	R3F40-II	<b>13000053</b>	3 – 4 x 40 (1M)	3/4	245
7,500	R4F40-II	<b>13000050</b>	4 – 4 x 40 (1M)	2	275
9,500	R5F40-II	<b>13000047</b>	5 – 4 x 40 (1M)	2	300
10,800	R6F40-II	<b>13000044</b>	6 – 4 x 40 (1M)	2	325

# Reverse Osmosis Systems – HV Series 2,000 to 10,800 GPD Capacity – Package III

## High Volume Features:

- 4" x 40" low-energy TFC membranes
- Smooth, quiet operating stainless steel, multi-stage centrifugal pumps with plastic impellers.
- 3/4 or 2 HP 230/60 Hz/1 pH motors providing up to 185 PSI pressure (1" inlet) with 5-micron filter
- Single power connection for all controls, switches, and solenoid valves
- Stainless Steel Membrane Housings
- Heavy-duty, Stainless Steel frame for durability and rust resistance
- All systems are fully tested and shipped fully assembled



**R5F40 Package III**

## Feature Package III Features:

- Pretreatment lockout
- Low level connections
- Low-pressure protection
- Auto Re-start after shutdown
- Waste recycle
- Product and waste flow meter
- **Product TDS meter (Pkg-III)**
- **Automatic waste flush (Pkg-III)**

Nominal Capacity GPD	Model Number	Part Number	Membranes No. & Size (vessel)	HP	Shipping Wt. Lbs.
2,000	R1F40-III	<b>13000058</b>	1 – 4 x 40 (1M)	3/4	195
3,900	R2F40-III	<b>13000055</b>	2 – 4 x 40 (1M)	3/4	220
5,600	R3F40-III	<b>13000052</b>	3 – 4 x 40 (1M)	3/4	245
7,500	R4F40-III	<b>13000049</b>	4 – 4 x 40 (1M)	2	275
9,500	R5F40-III	<b>13000046</b>	5 – 4 x 40 (1M)	2	300
10,800	R6F40-III	<b>13000043</b>	6 – 4 x 40 (1M)	2	325

# Reverse Osmosis Systems – PV Series

## *14,400 – 43,200 GPD Capacity*

### Features:

- 5-micron pre-filter and housings
- 4" x 40" Low Energy Membranes
- Stainless Steel Membrane Housings
- Automatic inlet shut-off valve
- Pretreatment lockout
- Level Control
- Pre-filter, post-filter, feed and concentrate pressure gauges
- 3 Flow Meters - Permeate, Recycle and Concentrate
- Feed and Product sample ports.
- Product sample port on each membrane housing.
- Feed Conductivity
- Standard 230 / 460 Volt - 60 Hz / 3 ph Pump.
- Low inlet pressure shutdown
- Stainless Steel booster pump
- NEMA 4 Control Panel
- Adjustable Reject and Recycle
- Permeate Quality Rinse
- Auto Flush Standard
- Operating Hours Display



**PV Series - R12F40**

### Options:

- Clean in Place – CIP
- PLC Control
- SS high pressure piping
- PH Monitor and control
- Digital Flow Meters
- Digital Pressure Readouts
- Contact ECI for Custom Engineered Systems

<b>Nominal Capacity GPD</b>	<b>Model Number</b>	<b>Part Number</b>	<b>Membranes No. &amp; Size (vessel)</b>	<b>HP</b>	<b>Shipping Wt. Lbs.</b>
14,400	R8F40	<b>13000215</b>	8-4"x40"	3.0	720
21,600	R12F40	<b>13000216</b>	12-4"x40"	5.0	925
28,800	R16F40	<b>13000217</b>	16-4"x40"	7.5	1400
36,000	R20F40	<b>13000218</b>	20-4"x40"	7.5	1750
43,200	R24F40	<b>13000219</b>	24-4"x40"	10.0	2100

# Reverse Osmosis Systems – PRO-V Series

## 57,600 – 288,000 GPD Capacity

### Features:

- 5-micron pre-filters and housings
- 8" x 40" Low Energy Membranes
- Fiberglass Membrane Housings with White epoxy Finish.
- SS high pressure piping
- Automatic inlet shut-off valve
- Pretreatment lockout
- Level Control
- Pre-filter, post-filter, feed and concentrate pressure gauges.
- 3 Flow Meters - Permeate, Recycle and Concentrate
- Feed and Product sample ports.
- Product sample port on each membrane housing..
- Feed Conductivity
- Standard 230 / 460 Volt - 60 Hz / 3 ph Pump.
- Low inlet pressure shutdown
- Stainless Steel booster pump
- NEMA 4 Control Panel
- Adjustable Reject and Recycle
- Permeate Quality Rinse
- Auto Flush Standard
- Operating Hours Display



Pro-V Series – R8G40

### Options:

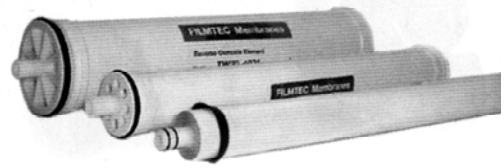
- Clean in Place - **CIP**
- PLC Control
- PH Monitor and control
- Digital Flow Meters
- Digital Pressure Readouts
- Contact ECI for Custom Engineered Systems



CIP

Nominal Capacity GPD	Model Number	Part Number	Membranes No. & Size (vessel)	Flow Rate GPM
57,600	R8G40	13000220	8 – 8"x40"	40
72,000	R10G40	13000221	10 – 8"x40"	50
108,000	R16G40	13000222	16 – 8"x40"	75
144,000	R20G40	13000223	20 – 8"x40"	100
216,000	R30G40	13000224	30 – 8"x40"	150
288,000	R40G40	13000225	40 – 8"x40"	200

# Reverse Osmosis Membranes



## **Low Energy Elements - TFC**

Manufacturer	Mfg. #	Size	Nominal Capacity	Ship Wt.	Part No.
<b>Axeon</b>	HF4-4040(*)	4" x 40"	2000 gpd	15lbs	<b>650188</b>
<b>Filmtec</b>	XLE-2540	2.5" x 40"	650 gpd	5 lbs	<b>650189</b>
	XLE-4040	4" x 40"	2000 gpd	15 lbs	-
	XLE-440	8" x 40"	12,700 gpd	45 lbs	<b>650191</b>
	LE-440i(*)	8" x 40"	12,650 gpd	45 lbs	<b>650243</b>

(\*) – Default membranes used on all ECI Reverse Osmosis equipment.

## **Brackish Water Elements – TFC – Tape Wrap**

<b>Filmtec</b>	TW30-2540	2.5" x 40"	750 gpd	5 lbs	<b>650011</b>
	TW30-4040	4" x 40"	2200 gpd	15 lbs	<b>650020</b>

## **Brackish Water Elements – TFC – FRP Wrap**

<b>Filmtec</b>	BW30-2540	2.5" x 40"	650 gpd	5 lbs	<b>650167</b>
	BW30-4040	4" x 40"	2200 gpd	15 lbs	<b>650170</b>
	BW30-400	8" x 40"	10,500 gpd	45 lbs	<b>650171</b>

Other membranes may be available for special order - Call the factory

# Reverse Osmosis Components and Accessories



**CJ90E/F**



**CIP**

**Level Float Switch**



**Pressure Switch**

Description	Part No.
Clean In Place (CIP) – Portable membrane cleaning unit	n/a
Liquid Level Float Switch (Adjustable cable type (SPDT) 10 ft. cord – RO shutoff for Storage Tank / Booster pump shutoff	653041
HV series: Filter Element – for “Big Blue” cartridge pre-filter ¾” x10” (R3 & below) Filter Element – for “Big Blue” cartridge pre-filter ¾” x20” (R4 & above)	810021 810022
PV Series: Filter Element – for “Big Blue” cartridge pre-filter 1.5” x20” (R8 & above)	810039
RO Inlet Pressure Switch ON/OFF, 1-15psi, SQ D	653060
Stainless Steel Booster/Re-pressurization pump – Sta-Rite Model CJ90E <b>1HP</b> 115/230 Volts, 1ph, 60hz <ul style="list-style-type: none"> <li>• Self -Priming</li> <li>• Body – 304 Stainless steel, Jet Assembly, Diffuser, Impeller – Noryl®, Shaft – One-piece threaded 416 grade stainless steel, Base – Polypropylene <b><u>built in pressure switch</u></b></li> </ul> <b>CJ90E – 10 gpm @ 50 psi</b>	299066
Stainless Steel Booster/Re-pressurization pump – Sta-Rite Model CJ90E <b>1.5HP</b> 115/230 Volts, 1ph, 60hz <ul style="list-style-type: none"> <li>• Self -Priming</li> <li>• Body – 304 Stainless steel, Jet Assembly, Diffuser, Impeller – Noryl®, Shaft – One-piece threaded 416 grade stainless steel, Base – Polypropylene <b><u>built in pressure switch</u></b></li> </ul> <b>CJ90F - 16 gpm @ 50 psi</b>	299060



# Atmospheric Storage Tanks *Polyethylene Construction*

U.S. Food & Drug Administration (FDA) Approved for use with Potable Water (Regulation No. 177.1520, formerly No. 121-2501)

Capacity (gal)	Size	Part Number
100	23 x 64	417001
200	31 x 72	417002
300	42 x 59	417004
500	64 x 42	417005
750	46 x 119	417007
1100	87 x 51	417008
1500	64 x 115	417010



Note: Other sizes available – contact factory.

## *Bulkhead Fittings – PVC*

When ordering fittings installed, the location of the fittings must be supplied with order. A Sketch or drawing must be provided.

Size	Loose	Installed
1/2"	405040	405046
3/4"	405041	405047
1"	405042	405048
1-1/2"	405043	405049
2"	405044	405050
3"	405045	405051



Floats and bulkhead fittings are shipped separate and require installation / assembly.

# Pressure Bladder Tanks

Description	Part Number
35 Gallon FRP Bladder Tank – SR35-10 20" Diameter x 39.50" Height - Maximum Capacity: 35 gallons Draw Down – 12.1 gallons @ 20-40 psi Draw Down – 10.3 gallons @ 30-50 psi Draw Down – 9.0 gallons @ 40-60 psi	<b>299059</b>
60 Gallon FRP Bladder Tank – SR60-18 24" Diameter x 45.75" Height - Maximum Capacity: 60 gallons Draw Down – 20.7 gallons @ 20-40 psi Draw Down – 17.7 gallons @ 30-50 psi Draw Down – 15.5 gallons @ 40-60 psi	<b>299067</b>
119 Gallon FRP Bladder Tank – SR119-35 24" Diameter x 59.5" Height - Maximum Capacity: 119 gallons Draw Down – 41.1 gallons @ 20-40 psi Draw Down – 35.1 gallons @ 30-50 psi Draw Down – 30.7 gallons @ 40-60 psi	<b>299068</b>



***Other tank sizes available – call factory with requirements. Complete repressurization systems also available.***

# SECTION 14



## Deionizer Systems Two Bed, Mixed Bed, Regeneration Plants and Jumbo Exchange Tanks

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# Dual-Bed Deionizers

## *Fiberglass Tanks – M Series Programmable Operation*

### Features:

- Automatic or Semi-automatic Operation – Automatic regeneration when water quality falls below pre-set limit or after manual initiation
- Constant monitoring of water quality
- Solid-state reliability for trouble-free service
- No untreated by-pass water
- Automatic shut down in the event of power failure
- Compact, non-corrosive components
- Fiberglass tanks for corrosion resistance
- Convenient, modular construction
- Easy, economical installation
- Optional recirculation pumps
- Parallel or Series Regeneration
- Programmable purge prior to regeneration
- 24 volt operation (120/60hz/1pH transformer included)



**DM12-Q-FRP  
Two Bed Deionizer**

Model Number	Nominal Capacity (gpg)	Part Number	Service Flow Rate (gpm)		Pipe Size	Mineral Tank Size	Resin Quantity (cu. ft.)		Ship Wt. Lbs.
			Min.	Peak			Cation	Anion	
DM12-Q-FRP	40,000	<b>14000027</b>	0.5	8.0	1"	12"x52"	2.0	2.0	400
DM14-Q-FRP	65,000	<b>14000028</b>	1.0	10.0	1"	14"x65"	3.25	3.25	800
DM18-Q-FRP	100,000	<b>14000029</b>	2.5	14.0	1"	18"x65"	5.0	5.0	1400

# Dual-Bed Deionizers

## Lined Steel Tanks – PVN Series Programmable Operation

### Features:

- Automatic or Semi-automatic Operation – Automatic regeneration when water quality falls below pre-set limit or after manual initiation
- Constant monitoring of water quality
- Solid-state reliability for trouble-free service
- No untreated by-pass water
- Automatic shut down in the event of power failure
- Compact, non-corrosive components
- Vinyl Ester Lined Steel Tanks with epoxy exterior for corrosion resistance
- Convenient, modular construction
- Easy, economical installation
- Optional recirculation pumps
- Parallel or Series Regeneration
- Programmable purge prior to regeneration
- 120 VAC power reduction transformer supplied inside control panel
- 24 volt operation (120/60hz/1pH transformer included)



DB48-PVN-Q

Model	Nominal Capacity (gpg)	Part Number	Service Flow Rate (gpm)		Pipe Size	Mineral Tank Size	Resin Quantity (cu. ft.)		Ship Wt. Lbs.
			Min.	Peak			Cation	Anion	
DB18-PVN	100,000	14000011	2.5	18.0	2"	18"x66"	5.0	5.0	1400
DB24-PVN	200,000	14000012	5.0	35.0	2"	24"x66"	10.0	10.0	2800
DB30-PVN	300,000	14000013	7.5	50.0	2"	30"x66"	15.0	15.0	3500
DB36-PVN	400,000	14000014	10.0	70.0	2"	36"x71"	20.0	20.0	5100
DB42-PVN	600,000	14000015	15.0	100.0	3"	42"x71"	30.0	30.0	7000
DB48-PVN	800,000	14000016	20.0	135.0	3"	48"x71"	40.0	40.0	9000

# Dual-Bed Deionizers

## Fiberglass Tanks – PVN Series Programmable Operation

### Features:

- Automatic or Semi-automatic Operation – Automatic regeneration when water quality falls below pre-set limit or after manual initiation
- Constant monitoring of water quality
- Solid-state reliability for trouble-free service
- No untreated by-pass water
- Automatic shut down in the event of power failure
- Compact, non-corrosive components
- Fiberglass Tanks for corrosion resistance
- Convenient, modular construction
- Easy, economical installation
- Optional recirculation pumps
- Parallel or Series Regeneration
- Programmable purge prior to regeneration
- 120 VAC power reduction transformer supplied inside control panel.
- 24 volt operation



DB30-PVN-FRP-Q

Model	Nominal Capacity (gpg)	Part Number	Service Flow Rate (gpm)		Pipe Size	Mineral Tank Size	Resin Quantity (cu. ft.)		Ship Wt. Lbs.
			Cont.	Peak			Cation	Anion	
DB18-PVN	100,000	14000042	2.5	18.0	2"	18"x65"	5.0	5.0	1,000
DB24-PVN	200,000	14000043	5.0	35.0	2"	24"x72"	10.0	10.0	2,100
DB30-PVN	300,000	14000044	7.5	50.0	2"	30"x72"	15.0	15.0	2,900
DB36-PVN	400,000	14000045	10.0	70.0	2"	36"x72"	20.0	20.0	4,800
DB42-PVN	600,000	14000046	15.0	100.0	3"	42"x72"	30.0	30.0	6,600
DB48-PVN	800,000	14000047	20.0	135.0	3"	48"x72"	40.0	40.0	8,500
DB63-PVN	1,200,000	14000054	30.0	200.0	3"	63"x86"	60.0	60.0	11,820



# Mixed-Bed Deionizers

## *Lined Steel Tanks – PVN Series Programmable Operation*

### Features:

- Automatic or Semi-automatic Operation – Automatic regeneration when water quality falls below pre-set limit or after manual initiation.
- Constant monitoring of water quality
- Solid-state reliability PLC Control for trouble-free service
- No untreated by-pass water
- Alternate regeneration water source piping - standard
- Automatic shut down in the event of power failure
- Two-stage Air Mix standard
- Compact, non-corrosive components
- Vinyl Ester Lined Steel Tanks with epoxy exterior for corrosion resistance.
- Convenient, modular construction
- Easy, economical installation
- Optional recirculation pumps
- Simultaneous regeneration and chemical displacement
- Brine kill option available for high purity systems
- Programmable purge prior to regeneration
- 24 volt operation (120/60hz/1pH transformer included)



**MB42-PVN**

Model	Part Number	Nominal Capacity (gpg)	Service Flow Rate (gpm)		Pipe Size	Mineral Tank Size	Resin Quantity (cu. ft.)		Ship Wt. Lbs.
			Cont.	Peak			Cation	Anion	
MB18-PVN	<b>14000001</b>	62,000	18.0	27.0	2"	18"x108"	2.0	2.5	1200
MB24-PVN	<b>14000002</b>	112,000	31.0	47.0	2"	24"x108"	4.0	5.0	1700
MB30-PVN	<b>14000003</b>	170,000	50.0	75.0	2"	30"x108"	6.0	7.5	2300
MB36-PVN	<b>14000004</b>	250,000	70.0	105.0	2"	36"x108"	10.0	12.5	3300
MB42-PVN	<b>14000009</b>	350,000	100.0	145.0	3"	42"x108"	12.0	15.0	4400
MB48-PVN	<b>14000010</b>	450,000	125.0	190.0	3"	48"x108"	16.0	20.0	5800
MB60-PVN	<b>14000055</b>	675,000	150.0	220.0	3"	60"x108"	24.0	30.0	8700

**Note: Cation resin is shipped in the Hydrogen form. Anion resin is shipped in the Chloride form. The quantities shown in the chart above are the quantities as shipped.**

# Portable Exchange Deionizer Regeneration Plants Lined Steel Tanks – PVN Series Programmable Operation

## Features:

- Separation Vessel with Sch. 80 PVC piping – designed for 100% expansion of Anion resin.
- Clear piping for resin transfer.
- Regeneration Skid with Cation and Anion regeneration vessels.
- Direct PLC - Koyo DL-240 with OP620 interface (2-line x 20-character LCD)
- Semi-automatic Operation – Automatic regeneration after initiation.
- Monitor for water quality.
- Temperature Gauge with shut down switch standard – system.
- Automatically shuts down if excessive temperature is detected
- Separate regeneration water source for Cation and Anion . Automatic shut-down in the event of power failure.
- Air Mix Vessel with Sch. 80 PVC piping
- Compact, non-corrosive components
- Vinyl Ester Lined Steel Tanks with epoxy exterior for corrosion resistance.
- Convenient, modular construction
- Full 3" x 12" viewing windows in all vessels
- Simultaneous regeneration of Cation and Anion Resin
- Brine regeneration standard (up-flow or down-flow)
- Programmable automatic rinse to quality
- 120 VAC power required



**60 ft<sup>3</sup> Regeneration Plant**

**RESIN SOLD SEPARATELY.**

Model	Part Number	Inlet Pipe Size	Separation Vessel Size	Cation Regen Vessel Size	Anion Regen Vessel Size	Mixing Vessel Size	Resin Quantity (cu. ft.)	
							Cation	Anion
20 ft <sup>3</sup> PEDI Plant	14000005	1.5"	30"x108"	20"x60"	24"x60"	36"x60"	8.0	12.0
40 ft <sup>3</sup> PEDI Plant	14000006	2"	42"x108"	30"x60"	36"x60"	42"x72"	16.0	24.0
60 ft <sup>3</sup> PEDI Plant	14000008	2"	54"x96"	42"x60"	48"x60"	48"x72"	24.0	36.0
100 ft <sup>3</sup> PEDI Plant	-	2"	60"x108"	42"x72"	48"x72"	60"x84"	40.0	60.0
200 ft <sup>3</sup> PEDI Plant	-	3"	84"x108"	60"x72"	72"x72"	84"x72"	80.0	120.0

**Note: Contact factory for special requirements. Tanks height is straight side shell height, not overall height.**

# Small Portable Exchange Fiberglass Tanks (P.E.D.I)

Tank Size	Part Number	Description	Inlet & Outlet
9" x 42"	<b>C2014N</b>	Natural Fiberglass Tank with Boot, Band, and XPI-25-3DS190 with Drop-in Inlet Screen	3/4"
12" x 42"	<b>C2014B</b>	Natural Fiberglass Tank with Boot, Band, and XTA-45-3-1-DS-IS with Drop-in Inlet Screen	1"
14" x 47"	<b>C2022-3</b>	Natural Fiberglass Tank with Boot, Band, and XTA-45-3-1 with DS-4 Distributor & IS-F Inlet Diffuser	1"



**RESIN SOLD SEPARATELY.**

## Jumbo P.E.D.I. Tanks

### *Fiberglass Tanks*

- FRP/Composite tripod base corrosion resistance tank.
- Inlet, outlet, fill port connections
- Hub-Radial PVC under-drain system
- Safety frame supports and steel skid

Part Number	Tank Diameter	Maximum Media Capacity
<b>602037</b>	24"	15 cu. ft.
<b>602038</b>	30"	25 cu. ft.
<b>602039</b>	36"	35 cu. ft.
<b>602040</b>	42"	45 cu. ft.
<b>602041</b>	48"	60 cu. ft.



### *Lined Carbon Steel Tanks*

- Vinyl Ester interior lined Steel tanks with epoxy exterior for corrosion resistance
- Inlet, outlet, fill ports all flanged connections
- Hub-Radial PVC under-drain system
- Steel skid

Part Number	Tank Diameter	Maximum Media Capacity
<b>602025</b>	24"	16 cu. ft.
<b>602026</b>	30"	24 cu. ft.
<b>602027</b>	36"	34 cu. ft.
<b>602028</b>	42"	45 cu. ft.
<b>602029</b>	48"	57 cu. ft.





**RESIN SOLD SEPARATELY.**

# Deionizer Components and Accessories

## System Components

### Controls

Type	Model#	Description	Voltage	Part Number	
"CQ"	DM	Quality initiated solid-state control panel – with resistivity meter for measuring water quality. <b>Use with 5-cycle Valve M-Series Deionizer.</b>	24V	<b>920023</b>	
"CQ"	DB	Quality initiated solid-state control panel – with resistivity meter for measuring water quality. NEMA-4X Enclosure <b>Use with DB series(Valve Nest) Deionizer</b>	24V	<b>920214</b>	

### Water Quality Instruments

Type	Description	Voltage	Part Number
S-100	Resistivity Meter w/set point, 2 range (0-500k ohm, 0-5 meg-ohm)	12V/24V	<b>920028</b>
BL983320-1	Hanna Digital Resistivity Monitor	120V	<b>118038</b>
HI 7634-00	Hanna Instrument Probe	120V	<b>118039</b>
M300	Thornton Resistivity Monitor (6 - 20 meg-ohm)	120V	<b>118043</b>
240-236	Resistivity Cell for M300 Monitor	120V	<b>118044</b>
58080204	25 ft. Sensor Cable	120V	<b>118045</b>

### Alternate Regeneration Water Source Kits

Type	Description	Voltage	Part Number
AWS-1	1" PVC Alternate Water Source Kit – Auxiliary Regen	12V	<b>980029</b>
AWS-2	2" PVC Alternate Water Source Kit - Auxiliary Regen	12V	<b>980030</b>
AWS-3	3" PVC Alternate Water Source Kit – Auxiliary Regen	12V	<b>980031</b>

# Deionizer Components and Accessories (cont.)

## System Accessories (cont.)

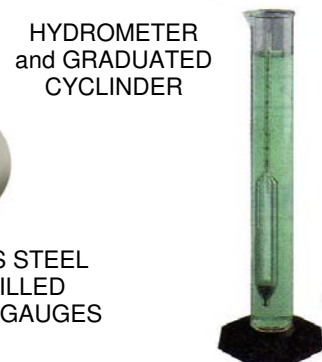
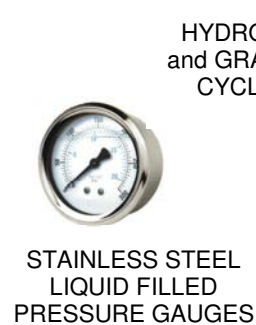
### Recirculation Pumps Assembly with Flow Meter

Type	Description	Pump Volts	Part Number Relay Voltage 24 VAC
2 GPM	For 3/4" and 1" Piping	120V	<b>988013</b>
7 GPM	For 3/4" and 1" Piping	120V	<b>988014</b>
7 GPM	For 2" Piping	120V	<b>988015</b>
20 GPM	For 3" Piping	120V	<b>988016</b>



### Miscellaneous

Description	Vac.	Part Number
Drum Heater for Metal or Plastic Drums	120V	<b>980012</b>
Thermostat Control for Drum Heater – 0-160°F	120V	<b>980013</b>
Chemical level monitor/switch – for 55 gallon drum	12/120V	<b>980039</b>
Kit, "M" series – converts 12V to 24V systems.		<b>980099</b>
Fail Safe Valve Assembly – 1" PVC	24V	<b>980010-24</b>
Pressure Gauge – 2.5" Dia., stainless steel, liquid filled, with range 0 – 160 psi	—	<b>236025</b>
Pressure Gauge – 2.5" Dia., stainless steel, liquid filled, with range 0 – 300 psi	—	<b>236026</b>
Plastic Hydrometer to Measure Chemical Concentration	—	<b>518006</b>
Plastic Graduated Cylinder for Hydrometer – 500ML	—	<b>518005</b>
Resin Loading Funnel Kit	—	<b>980015</b>



## Deionizer Components and Accessories (cont.) System Accessories (cont.)

### Skid Mounting

Factory assembled skid mounting for FRP Duplex Softener with mounting hardware & FRP tank supports.



Tank Diameters	Valve Pipe Size	Skid Size LxWxH	Part No.
9" thru 12"	1"	24" x 30" x 4"	501141
14" thru 18"	1-1/2" & 2"	42" x 30" x 4"	501142
24" thru 30"	1-1/2" & 2"	72" x 42" x 4"	501143
36"	1-1/2" & 2"	84" x 48" x 4"	501144
42"	3"	96" x 54" x 4"	501145
48"	3"	108" x 60" x 4"	501146

### Spent Regenerant Neutralization Systems

Type / Model	Size	Poly Tank Size Gallons
NT1000 Neutralizer System	64" x 90"	821
NT1600 Neutralizer System	86" x 72"	1,030
NT2200 Neutralizer System	95" x 80"	1,502
NT3200 Neutralizer System	95" x 112"	2,514
NT4000 Neutralizer System	95" x 140"	3,373
NT5000 Neutralizer System	102" x 151"	4,242
NT6800 Neutralizer System	120" x 150"	5,725
NT9000 Neutralizer System	141" x 144"	7,566



Neutralization Systems come complete with waste mixing system, automatic chemical feed pumps, automatic dump valve, and control panel with pH monitor/controller.

# SECTION 15



## Parts, Kits and Commodities

# Ion Exchange Resins

## *Equivalent Reference Chart*

<p>Note: Starting 2013 ECI will be stocking <b>Purolite</b> resins <u>exclusively</u>.          Sybron/Ionac resin available with special order.          All other referenced manufacturers are NOT available.</p>					
<b>*Purolite</b>	Sybron Ionac	ResinTech	Dow	Rohm & Haas	Culligan
<b><i>Cation Resins</i></b>					
<b>C-100E</b>	C-249NS	CG8	HCR-S	IR-120	CH-1
<b>C-100EG</b>	C-253	CG8-C	-	-	Hi-Velocity
<b>C-100H</b>	C-267	CG8-H	HCES-H	IR-120H	CH-1-H
<b>C-100EFM</b>	C-266	-	-	-	-
<b>C-150</b>	SP-112	SACMP	MSC-1	IR-200	CH-4
<b>C-104</b>	CNP80	WACMP	CCR-2	IRC-84	CH-5
<b>C-100x10</b>	S-110	CG10-Na	HGR	IR-122	-
<b>C-100x10H</b>	C-250H	CG10-H	HGR-H	IR-122H	-
<b><i>Anion Resins</i></b>					
<b>A-300</b>	ASB-2	SBG2	SAR	IRA-410	CS-2
<b>A-300-OH</b>	ASB-2-OH	SBG2-OH	SAR-OH	IRA-410(OH)	CS-2=OH
<b>A-400</b>	ASB-1P	SBG1P	SBRP	IRA-402	CS-1P
<b>A-500P</b>	A-642	-	-	IRA-904	CS-5
<b>A-100</b>	MP-64	WBMP	MWA-1	IRA-93/94	CW3/4
<b>A-600</b>	ASB-1	SBG-1	SBR	IRA-400	CS-1
<b>A-850</b>	-	SBACR1	-	IRA-458	-
<b>A-500</b>	A-641	SBMP1	MSA-1	IRA-900	CS-3
<b><i>Mixed Bed Resins</i></b>					
<b>MB400</b>	-	-	-	-	-
<b>C-100x10TL</b>	C-267	CG10-C	-	Amber 200H	-
<b>IP-5</b>	IP-275	-	-	Amber 359	-
<b>A-400-OHTL</b>	ASB-1P	SBG1P	-	Amber 900OH	-
<b>NRW-37</b>	NM-60	MBD-10	MR-3	IRN-150	CM-2
<b>NRW-38</b>	-	MBD-20	-	MB3	-
<b><i>Specialty Resins</i></b>					
<b>S-930</b>	SR-5	SIR-300	XFS-4196	IRC-718	-
<b>A500P</b>	A-642	SIR-22P	-	-	-
<b>A520E</b>	SR-6	SIR-100	-	-	-
<p>Purolite is a trademark of the Bro Tech Corporation (* <b>Purolite is ECI's standard resin</b>).</p> <p>Amberlite is a trademark of the Rohm &amp; Haas Company.</p> <p>ResinTech is a trademark of the ResinTech Corporation.</p> <p>Ionac is a trademark of the Sybron Chemical Company.</p> <p>Dowex is a trademark of the Dow Chemical Company</p> <p>Culligan is a trademark of the Culligan International Company.</p>					



# Ion Exchange Resins

## Cation Resins

Description	Mfg. #	Part No.	Ionic Form	Weight (lbs/ft <sup>3</sup> )
<b>Purolite</b>				
<b>C-100E</b> – Strong acid cation softening resin for use in industrial water softening. (E) - Specifically use in food processing. Maximum temperature limit 250° F	<b>C-100E(*)</b>	<b>991108</b>	Na	53
<i>*C100E – Standard ECI Softening Cation resin</i>				
<b>C-100EB</b> – Strong acid cation resin for Food Grade applications. Same characteristics as C-100E. Black in color. <i>(The standard C-100 and C-100E range in color from dark amber to honey blond, however, the quality &amp; performance are the same.);</i>	<b>C-100EB</b>	<b>991081</b>	Na	53
<b>C-100H</b> - 8% cross-linked strong acid cation resin in hydrogen form. Primarily used for deionization systems.	<b>C-100H</b>	<b>991116</b>	H	52
<i>*C-100H Standard ECI Hydrogen form Cation resin used on Dual bed DI &amp; Mixed bed DI</i>				
<b>C150</b> is a polystyrene macroporous strong acid cation exchanger crosslinked with divinylbenzene. C150 allows for high capacity and exceptional physical and chemical stability & primarily used in high temperature applications. Maximum temperature limit 285° F	<b>C-150</b>	<b>991119</b>	Na	52
<b>C-100x10E</b> – Premium grade, higher density 10% cross-linked strong acid cation resin for high chlorine use when softening; In mixed bed for better separation or condensate polishing.	<b>C-100x10E</b>	<b>991083</b>	Na	52
<b>C-100EFM</b> – Strong acid cation resin - fine mesh. High salt efficiencies; Faster Kinetics; More effective iron removal. Used for industrial/residential softening applications.	<b>C-100EFM</b>	<b>n/a</b>	Na	52
<b>SST-60</b> - Premium high efficiency softening resins is based on shallow shell technology. Maximum temperature limit 140° F.  The shorter the diffusion path, the more rapid the softening exchange occurs. Reducing the depth of penetration required to cleanse the resin allows for a more complete regeneration and provides a more efficient utilization of the regenerant. The result is unsurpassed salt efficiency, lower leakage, and reduced rinse water requirements.	<b>SST-60</b>	<b>991117</b>	Na	52

## Cation Resins (cont'd)

<b>Sybron/Ionac - Special order</b>				
<b>C-249</b> Ionac is a premium grade gel cation exchange resin which meets the most exacting requirements of the household and industrial water treatment industries. C-249 is a bead form, standard cross-link edstyrene / divinyl lbenzene resin which has excellent stability and operating characteristics. Color - Black/brown	<b>C-249</b>	<b>991025</b>	Na	52
<b>C-267</b> , 8% cross-linked strong acid cation resin in hydrogen form. Primarily used for deionization systems.	<b>C-267</b>	<b>991021</b>	H	50
<b>C-253</b> , 8% cross-linked strong acid cation resin – large beads for high flow rate softening systems.	<b>C-253</b>	<b>991015</b>	Na	52
<b>CFP-110</b> , 22% cross-linked strong acid cation resin – primarily used for lone cation systems, which required a high oxidation resistant resin.	<b>CFP-110 SP-112</b>	<b>991060</b>	Na	52

## Anion Resins

<b>Description</b>	<b>Mfg. #</b>	<b>Part No.</b>	<b>Ionic Form</b>	<b>Weight (lbs/ft<sup>3</sup>)</b>
<b>Purolite</b>				
<b>A-300</b> – Strong base Type II anion resin for use in deionization systems.	<b>A-300(*)</b>	<b>992115</b>	Cl	44
<b>A-400</b> – Strong base Type I porous anion resin for use in deionization systems.	<b>A-400(**)</b>	<b>992116</b>	Cl	43
<i>*A-300 Standard ECI Dual bed anion resin; **A400 Standard ECI Mixed bed anion resin</i>				
<b>A-600</b> – Strong base Type I anion resin for use in deionization systems for high silica removal.	<b>A-600</b>	<b>992117</b>	Cl	44
<b>A-520E</b> – Nitrate selective macroporous strong base anion resin. Prefers Nitrates over Sulfates. Regenerated with 8lbs of salt per cu ft.	<b>A-520E</b>	<b>992118</b>	Cl	42

<b>Sybron/Ionac – Special order</b>				
<b>SBG1P</b> – Strong base Type I macroporous anion resin for use in deionization applications. Resistant to organic fouling.	<b>SBG1P</b>	<b>992060</b>	Cl	45
<b>SBG1P-OH</b> – Hydroxide regenerated version of SBG1P.	<b>SBG1P-OH</b>	<b>992064</b>	OH	40
<b>SBG1</b> – Strong base Type I anion resin for use in deionization systems.	<b>SBG1</b>	<b>992061</b>	Cl	44
<b>SBG2</b> – Strong base Type II anion resin for use in deionization systems and dealkalization systems.	<b>SBG2</b>	<b>992062</b>	Cl	44
<b>SBG2-OH</b> – Hydroxide regenerated form of SBG2.	<b>SBG2-OH</b>	<b>992066</b>	OH	41

## Anion Resins (cont'd)

<b>SBG2-HP</b> – High purity version of SBG2 Specially treated to provide high quality water on initial regenerations.	<b>SBG2-HP</b>	<b>992088</b>	Cl	44
<b>SBMP1</b> – Strong base Type I macroporous anion resin.	<b>SBMP1</b>	<b>992091</b>	Cl	45
<b>WBMP</b> – Macroporous weak base anion resin, used in applications where high capacity and regeneration efficiency is desired but CO <sub>2</sub> and silica reduction is not necessary.	<b>WBMP</b>	<b>992057</b>	Free Base	40
<b>WBMP-HP</b> – High purity version of WBMP, treated to be taste, odor and foam free.	<b>WBMP-H</b>	<b>992092</b>	Free Base	40
<b>WBG30-B</b> – Super high capacity weak base bead resin used in single use applications or where high capacity is required.	<b>WBG30-B</b>	<b>992058</b>	Free Base	40

## Filter Media

### Activated Carbon

Note: Starting 2013 ECI will be stocking our standard filter media <u>exclusively</u> . All other non-standard media is available through special order.				
Description	Mfg. #	Part No.	Standard Package	Weight (lbs/ft <sup>3</sup> )
<b>Granular Activated Carbon</b> – used for general tastes and odors. Chlorine reduction in city water supplies. 12 x 40 mesh. Iodine # 850.	<b>*Carbsorb 20</b>	<b>993075</b>	1 CF	27.5
<i>*Standard ECI chlorine removal carbon provided with all GAC equipment</i>				
<b>Granular Activated Carbon</b> – used for general tastes and odors. Chlorine reduction in city water supplies. 12 x 40 mesh. Iodine # 1000.	<b>Carbsorb 40</b>	<b>993074</b>	1 CF	27.5
<b>Granular Activated Carbon</b> – select grades of bituminous coal used for chlorine & organic removal. (0.55 – 0.75 mm size) 12 x 40 mesh. Iodine # 850. <i>Mined in USA.</i>	<b>Filtersorb F-200 GLY</b>	<b>993065</b>	1 CF	27.5
<b>Calgon Filtersorb 400</b> – used for the reduction or removal of organics. Iodine # 1000 min. (0.55 - 0.65 mm size) 12 x 40 mesh. <i>Mined in USA.</i>	<b>Filtersorb F-400</b>	<b>993041</b>	1 CF	27.5
<b>Calgon CPG-LF</b> – Low acid washed granular activated carbon designed to purification and decolorization of many aqueous and organic liquids. Iodine # 950 min. (1.2 – 1.4 mm size) 12 x 40 mesh. <i>Metallurgical grade, bituminous coal</i>	<b>CPG-LF</b>	<b>993058</b>	2 CF	27.5
<b>Calgon Centaur</b> – Catalytically activated granular carbon used in the removal of iron, hydrogen sulfide and chloramines from water supplies. 12 x 40 mesh. <i>bituminous coal.</i>	<b>Centaur</b>	<b>993059</b>	1 CF	33
<b>Coconut Shell Carbon</b> – Activated carbon made from coconut shells rather than bituminous coal. Provides a harder abrasion resistant carbon. Commonly used in carbon/resin blend systems. 12 x 40 mesh. Iodine # 1050	<b>Calgon OLC</b>	<b>997033</b>	1 CF	30

## Other Filter Media

Description	FM #	Part No.	Standard Package	Weight (lbs/ft <sup>3</sup> )
<b>Anthracite</b> - 1.0 to 1.2 mm particle size. Used as top layer in multimedia filters. Will not remove chlorine from water supplies. Used to collect large size turbidity.	FM-53(*)	993070	52 lb	52 lb
<b>Sand</b> - 0.4 to 0.5 mm particle size. Used as second layer in multimedia filters.	FM-54(*)	993080	50 lb	100 lb
<b>Garnet #36</b> – 0.61 mm effective size. Used as third layer in standard ECI Industrial multimedia filters.	FM-55(*)	993090	50 lb	125 lb
<i>*FM-53, FM-54, FM-55 - ECI's Standard filtration multi-media</i>				
<b>Garnet #50</b> – 0.40 mm effective size. Used as third layer in specially designed multimedia filters.	-	A7086-50	50 lb	130 lb
<b>Garnet #12</b> – 1.4 mm effective size. Used as fourth layer in specially designed multimedia filters.	-	A7080-50	50 lb	140 lb
<b>Greensand Plus</b> – Used to reduce or remove iron, manganese and hydrogen sulfide. Continuous regenerated with potassium permanganate or chlorine.	FM-8(*)	993061	1 CF	85 lb
<i>*Greensand Plus - ECI's Standard Iron removal media</i>				
<b>Regular Birm</b> – Used to remove iron and hydrogen sulfide and reduce manganese. Requires a dissolved oxygen level equal to 15% of iron content. Effective size is 0.59 mm and mesh size is 9 x 35.	FM-16	993015	1 CF	47 lb
<b>Fine Birm</b> – Same use as Regular Birm, except mesh size is 10 x 40 and effective size is 0.48 mm.	FM-17	993016	1 CF	47 lb
<b>Filter-AG</b> – A non-hydrous silicon dioxide used for the reduction of suspended matter.	FM-11	993011	1 CF	25 lb
<b>Pyrolox</b> - A naturally mined mineral which effectively reduces iron, sulfur and manganese. Mesh size 8 x 20. Effective size 0.51 mm.	-	993017	60 lb / bag (0.5 CF)	120 lb
<b>Calcite</b> – Calcium carbonate media used to neutralize low pH waters. Usually mixed 50/50 with Corosex II.	FM-2	993031	1 CF	100 lb
<b>Corosex II-</b> Magnesium Oxide in bead-like form used to neutralize low pH water. Usually mixed with Calcite in 50/50 ratio.	FM-4	993033	1 CF	100 lb
<b>KDF-85</b> – Used for iron and H <sub>2</sub> S reduction.	-	993019	0.33 CF	171 lb
<b>KDF-55</b> - Used for chlorine reduction.	-	993018	0.33 CF	171 lb

## Gravel Underbedding

<p><b>Gravel #16 x 3/16"</b> – Washed and dried Quartz Gravel underbedding from Ohio. Not affected by dilute acid and caustic. Used for single media underbedding for softeners filters and deionizers.</p>	<p><b>FM-9(*)</b></p>	<p><b>994000</b></p>	<p>50 lb per bag</p>	<p>100 lb per ft<sup>3</sup></p>
<p><i>*Standard ECI Gravel</i></p>				
<p><b>Gravel #20 - (1/8" x1/16")</b> Washed Flint Gravel form Pennsylvania. Layered with larger gravel as underbedding for softeners and filters.</p>		<p><b>994007</b></p>	<p>50 lb per bag</p>	<p>100 lb per ft<sup>3</sup></p>
<p><b>Gravel 1/4" x 1/8"</b> – Washed Flint Gravel from Pennsylvania. Used along with #20 gravel for underbedding in softeners and filters.</p>		<p><b>994006</b></p>	<p>50 lb per bag</p>	<p>100 lb per ft<sup>3</sup></p>
<p><b>Gravel 1/2"x 1/4"</b> – Washed Flint Gravel specifically graded as lower level of underbedding in specific softeners and filters.</p>		<p><b>7127073</b></p>	<p>50 lb per bag</p>	<p>100 lb per ft<sup>3</sup></p>

# Replacement FRP Tanks, Adaptors & Kits

<b>Structural Fiberglass Tanks</b>		
<b>Tank Size</b>	<b>Description</b>	<b>Part No.</b>
9x48	Tank with Base – 2.5" Top Opening	<b>403110</b>
10x54	Tank with Base – 2.5" Top Opening	<b>403111</b>
12x52	Tank with Base – 2.5" Top Opening	<b>403112</b>
14x65	Tank with Base – 4" Top Opening	<b>403010</b>
16x65	Tank with Base – 4" Top Opening	<b>403009</b>
18x65	Tank with Base – 4" Top Opening	<b>403091</b>
18x65	Tank w/Tripod Base – 4" Top & Bottom	<b>403146</b>
21x62	Tank with Base – 4" Top Opening	<b>403013</b>
21x62	Tank w/Tripod Base – 4" Top & Bottom	<b>403143</b>
24x72	Tank with Base – 4" Top Opening	<b>403008</b>
24x72	Tank w/Tripod Base – 4" Top & Bottom	<b>403142</b>
30x72	Tank w/Tripod Base – 4" Top & Bottom	<b>403148</b>
30x72	Tank with Base – 6" Flanged Top & Bottom	<b>C1037A</b>
36x72	Tank w/Tripod Base – 4" Top & Bottom	<b>403149</b>
36x72	Tank with Base – 6" Flanged Top & Bottom	<b>C1038A</b>
42x72	Tank with Base – 6" Flanged Top & Bottom	<b>C1039</b>
48x72	Tank with Base – 6" Flanged Top & Bottom	<b>C1040</b>



**P/N 406047**  
3" Flange -  
2.5" Threads



**P/N 406049**  
4" Flange –  
4"-8un Threads

<b>Ecowater Systems Fiberglass Tanks</b>		
<b>Tank Size</b>	<b>Description</b>	<b>Part No.</b>
12x54	Tank with Base – 4" Top Opening	<b>7169457</b>
14x65	Tank with Base – 4" Top Opening	<b>7152832</b>
17x58	Tank with Base – 4" Top Opening	<b>7149994</b>
17x72	Tank with Base – 4" Top Opening	<b>7153561</b>
24x72	Tank with Base – 4" Top Opening	<b>7139062</b>

<b>Adapters and Kits</b>	
<b>Description</b>	<b>Part No.</b>
6" Thread x 4" Thread Adapter	<b>406018</b>
6" Flange x 4" Thread Adapter	<b>Q9058</b>
6" Blind Flange	<b>Q7010</b>
4" Thread x 2.5" Thread Adapter	<b>406025</b>
12 Bolt set f/6" Flg, 3" long	<b>D3341</b>
3" Flange x 2.5" Threads	<b>406047</b>
4" Flange x 4"-8"un Threads	<b>406049</b>



**P/N Q9058**  
6" Flange x 4" Thread Adapter



**P/N 406018**  
6" Thread x 4" Thread Adapter

## Fleck Valve Rebuild Kits

Valve Designation	Kit Part No.
2750	702150
2850	702151
2900 HWBP	702152
2900 NHWBP	702153
3150 HWBP	702154
3150 NHWBP	702155
3900 HWBP	702156
3900 NHWBP	702157
9000	702158
9500	702159



Rebuild kits include piston assemblies, seals and spacers, and o-rings for the tank and riser. O-rings for the couplings are also included with the 9000 and 9500 rebuild kits. See components below.

## Fleck Rebuild Kit Components

The rebuild kits above contain the following parts.

VALVE DESIGNATION	PART DESCRIPTION			
	Seals and Spacers	Piston Kit	Tank and Riser O-Ring Kit	Coupling O-ring Kit
2750	FLK60121	FLK60090-HF	312203	NA
2850	FLK60129	FLK60105	312205	NA
2900 HWBP	Upper – FLK60121 Lower – FLK60128	Upper – FLK60090-HF Lower – FLK60103	312205	NA
2900 NHWBP	Upper – FLK60121 Lower – FLK60128	Upper – FLK60090-HF Lower - 312026	312205	NA
3150 HWBP	FLK60131	FLK60106-00	FLK15210 & FLK15247	NA
3150 NHWBP	FLK60131	312131		
3900 HWBP	Upper – FLK60131 Lower – FLK60132	Upper – FLK60106-00 Lower - 312152	312211	NA
3900 NHWBP	Upper – FLK60131 Lower – FLK60132	Upper – FLK60106-00 Lower – 312053	312211	NA
9000	Upper – FLK60125 Lower – FLK60421	Upper – FLK60400 Lower – FLK60401	312202	312216
9500	Upper – FLK60134 Lower – FLK60133	Upper – FLK60108 Lower – FLK60109	312205	312217

## VIP Conversion Kits for Fleck Valves

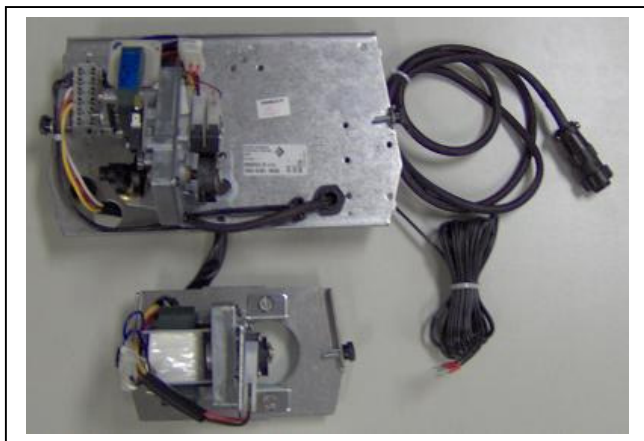
Convert the standard Fleck System-6 or System-7 to a VIP Duplex System. The conversion kits include everything needed to convert standard Fleck Control valves to utilize the VIP Control.

Description	Part Number
2750 / 2850 Conversion Kit	<b>702174</b>
2900 Conversion Kit	<b>702175</b>
3150 Conversion Kit	<b>702176</b>
3900 Conversion Kit	<b>702177</b>
9000 / 9500 Conversion Kit	<b>702178</b>



### Kits for duplex systems come complete with:

- 2 – Power Heads with VIP Cables already attached.
- 1 - Electronic Meter Head with 25 ft Cable for 1", 1-1/2", 2", or 3" Meters
- 1 - 100VA Power Reduction Transformer
- 1 – VIP-1E Control with Mounting Kit for wall or pipe mounting
- Installation Instruction
- VIP Programming Manual



2900 Power Head with VIP Cables

2750 / 2850 Power Head  
with VIP Cables

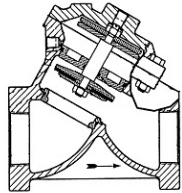


Single systems as well as triplex and quad systems are also available – contact ECI for pricing and delivery.

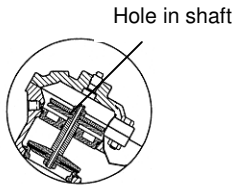


# Aquamatic Diaphragm Valves and Kits

## Steel Diaphragm Valves



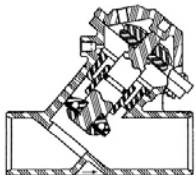
Normally Open Valve



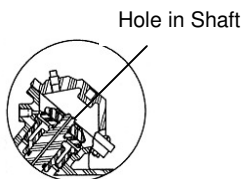
Normally Closed Valve

Valve Size	Description	Valve Part No.	Diaphragm/ Seal Kit Part No.
1"	421 NOSC	51895	<b>702021</b>
1"	421 NCSC	51896	<b>702021</b>
1-1/2"	424 NOSO	15080	<b>702022</b>
1-1/2"	424 NCSC	51896-02	<b>702022</b>
1-1/2"	424 NOSC	210005	<b>702022</b>
2"	425 NOSC	210004	<b>702023</b>
2"	425 NOSO	15080-03	<b>702023</b>
2-1/2"	426 NCSC	21896-03	<b>702024</b>
2-1/2"	426 NC-No Spring	210002	<b>702024</b>
2-1/2"	426 NOSC	210003	<b>702024</b>
2-1/2"	426 NOSO	15080-02	<b>702024</b>
3"	427 NOSO	15080-04	<b>702025</b>
4"	428 NO-No Spring	210009	<b>702045</b>

## Plastic Diaphragm Valves



Normally Open Valve



Normally Closed Valve

Valve Size	Description	Valve Part No.	Diaphragm/ Seal Kit Part No.
1"	521 NOSC-LS	211005	<b>56063-02</b>
1"	521 NCSC	51927	<b>56063-02</b>
1"	521 NOSC	51928	<b>56063-02</b>
2"	524 NOSC	211006	<b>56063</b>
2"	524 NO-No Spring	51925	<b>56063</b>
2"	524 NCSC	52713	<b>56063</b>
2"	524 NO-25lb Spring	211002	<b>56063</b>
2"	524 NO-LS	211004	<b>56063</b>
3"	526 NO-No Spring	211007	<b>56063-03</b>
3"	526 NO/LS	211001	<b>56063-03</b>
3"	526 NCSC	211003	<b>56063-03</b>