# Autotrol Performa™Cv

## **Conditioner/Filter**

Water Control System

Installation, Operation and Maintenance Manual

_	n	a	:	

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						 F					
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# 1.0 Performa Cv System

## 1.1 Specifications

### 1.1.1 Performa Cv Conditioner

••••		ina ov oona.			
Flov	Rates (Va	lve Only)			
	@ 15	(1.03 a)			
Ba					20.0 $n (4.5 n^{3})$
					C = 6.5 (K = 5.58)
Ba	ar C				C = 4.0 (K = 3.46)
Con	trol Config	jurations			
962	Microproc	essor Demand	System and 9	2 Electronic Timeclock	
Ba	a				4 60 n
В					E a a a
					7 125 m
Fa					2 19 m
Ε	aВ	a -	•n F		
Valv	e Connect	ions/Dimensior	าร		
a					2-1/2 8, n a

#### 1.1.2 Performa Cv Filter Specifications

1.1.2 Performa CV Filter Specifications	
Flow Rates (Valve Only)	
@ 15 (1.03 a)	
Ba a- (F ) @ 25 (1.72 a)	
	C = 6.5 (K = 5.58)
Ba a- F	$C = 5.0 (K = 5.78)$
Control Operation	
942F Mechanical Clock Timer - 7 Day or 12 Day	
Ba a	8-30 n
F Fa	
962F Microprocessor Demand	
Ba a	4 60 n
Fa	2 19 n
962 FTC Electronic Time Clock	
Ba a	4 60 n
Fa	2 19 n
Interval Regeneration	Da → a
•	
Valve Connections/Dimensions	
a - a	2-1/2 🗕 - 8, ฑล
I [	1-3/4 12 C-2A, na
Da L	3/4- 🗕 🗼 , ฑล
B L	
D .D	1.050 🛥 (27 n n)
D L	l3ฑฑ 13ฑฑ)a a
Operating	
a B	
C n	
→ (a → C )	
a n =	12 AC 400 n A (4.6 A)
a η Ι	115 50/60 H , 230 50/60 H
	100 50/60 H
_ a	10 120 (1.37 8.27 <b>a</b> )
	a: 20 100 (1.37 6.89 a)
a na	34° 100°F (1° 38°C)
Options	
B a a , 🕩 1265	. 1-3/4 🕶 -12 C-2Anna
Bal / FK:	
C , a A a1-1/4- →	, 1- 🗕 , 3/4- 🛏 , 28-ทุท, 22-ทุท
C C, A a	1- 🕶 , 3/4- 💳 , 25-n n
a B Aa	1- ∸ ทุล ,3/4- ∸ ทุล
Ba B Aa	1- – ทุล ,3/4- – ทุล
Flow Meter 962 Control	1- <b>~</b> A

4.1 a a .

#### 1.2 Installation

Anaann a. Iaaa-aana.

#### **Location Selection**

- 1. a a a a a a a a a .

- H a a ama .A

  10- (3-m) a , , , a a a a ...

  .A a ...

  .If a check valve is

installed, make certain the water heating unit is equipped with a properly rated temperature and pressure safety relief valve. Also, be certain that local codes are not violated.

- 5. D a ( a a ) ) ( h h a 34 F (1 C) 120 F (49 C).
- 6. D a aa a n .
  7. → a a a
  nn .

#### **Water Line Connection**

nn a - a a

n a - a a

n n a - a a

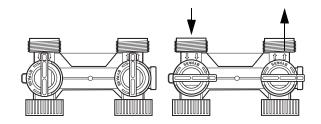
n nn a n a - A

1265 a a (F 1.1) a n 
a (F 1.2) - - - a n a

- A 1265 a

n a a a a

#### Not in Bypass



F 1.1 - A 1265 B a a

F 1.2 - a G a B a n

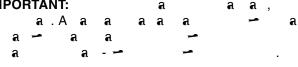
#### **Drain Line Connection**

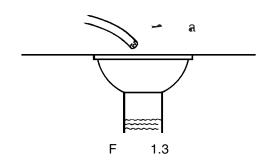
Note: a a nn a a a

- .L a na - a 
1. I a a - a a

- a 20 (61n) n- a F -

- 2. I a a a a 5 m  $(22.7 \, \text{L m})$  - a m - a 20  $(6.1 \, \text{m})$  m a , 3/4 -  $(1.9 \, \text{m})$  40  $(12.2 \, \text{m})$ . A , - a a a - 3/4 - a



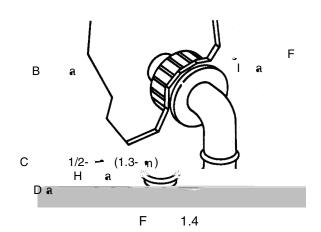


Note: a a nn a a -a - a - .L a na - a

#### **Brine Line Connection**

I a a a na C a na (3/8- - ).
B a a a a - .

#### **Overflow Line Connection**



#### **Battery Back-Up**

F 1.5

# 1.3 Placing Performa Cv Conditioner/Filter into Operation

note:—

a a . Vma a a

— amp a COUNTERCLOCKWISE

a .(

maa a a .)

2. a COUNTERCLOCKWISE - BACKWASH.

3. F n aa - a .

a. - a , a - a a ()

a a a

a na - 1/4

IMPORTANT: I a a, n a a a, n a a a a a a a a .

#### Conditioner

4. A a a (a).

— a — ,a a na
4 a (15 ) a a. I—
a—aaaana— n —
a,a a — a na
1 — (25 nn)a — a n.

5. a — a a n a counterclockwise — BRINE REFILL . H a — a a . D n — a n . A a — COUNTERCLOCKWISE — BRINE/SLOW RINSE — BRINE/SLOW RINSE

a a m a

a a a a

n . - a

Troubleshooting

A a a

COUNTERCLOCKWISE 
REGENERATION COMPLETE

a n a a

a a

Filter

n a a

(a n a a)

#### **Electrical Connection**

#### 1.4 Disinfection of Water Conditioners

## **Sodium or Calcium Hypochlorite**

#### **Application**

- ηaaaaa - , aa

#### 5.25% Sodium Hypochlorite

#### **Calcium Hypochlorite**

Ca m - ,70% aaa - , aaa a n a a a a - n a a n a - n a a n a - .

- 1. D a a. a (a na 0.1 )
- 2. B a
  a. Ba a-- a a -an -- a -- a a
  n-- a
  .)
  . -- na a

\*C Ba- aana - C Cna.

## 2.2 Programming and Application a a ลฑฑ ∸ 962 ∸a naan ∸a a ล ลๆ ∽aaAn ลๆ . aa, ŢΕ n a 2.1 a 2.4.1 a — aan — a — — a a .F an , aan 12 "0" a Level I Parameters (Table 2.1) L I a an a a - a- a a LED a - a .- a ~ an ~ a r a a a r a aη a, r DOWN ARROW (↓) a ∽ L Iaan ∽ . •n Da , **୩** . На . a A∙n . Caa l ∽ aan a **→** DOWN ARROW (↓) Da. UP ARROW (↑) a ∸ ล ลๆ 2.1 – aan a – aaa a ล ลๆ . ∽ SET a ∽ a ∽ n aaa a . la a a a n , - UP ARROW (↑) **→** DOWN ARROW (↓) ar n. rn - a , - LEFT ARROW (←) . - A . LEFT ARROW (←) . - A . . . a - UP ARROW (1) Note: | - DOWN ARROW (↓) - a n n - a 10 - a 10

n

.A a na 30 a a a - a

Caa.

→ LEFT ARROW

Da a

SET

#### Salt Amount

#### Capacity

Caa - a a a a (an). a 2.2 -

Table 2.2 - Suggested Settings for P4, P5, P6, P7

P5 Capacity Setting			n a (	( )	
K a (K a <sub>m</sub> )	3 <sup>3</sup> (85)	4 <sup>3</sup> (113)	5 <sup>3</sup> (142)	6 <sup>3</sup> (170)	7 <sup>3</sup> (198)
		P4 Salt	Setting: (	) a	
60 (3.9)	18 (8.2)	-	-	-	-
80 (5.2)	-	24 (10.9)	-	-	-
84 (5.4)	30 (13.6)	-	-	-	-
90 (5.8)	45 (20.4)	-	-	-	-
100 (6.4)	-	-	30 (27.2)	-	-
112 (7.2)	-	40 (18.1)	-	-	-
120 (7.7)	-	60 (27.2)	-	36 (16.3)	-
140 (9.0)	-	-	50 (22.7)	-	42 (19)
150 (9.7)	-	-	75 (34)	-	-
168 (10.8)	-	-	-	60 (27.2)	-
180 (11.6)	-	-	-	90 (40.8)	-
196 (12.7)	-	-	-	-	70 (31.8)
210 (13.6)	-	-	-	-	105 (47.6)

Level II Parameters (Table 2.4) a an 12 na.B - a--- L II aan, a 6-- -- 22 3, 4 a aa ล ลๆ 5. 2.4. a L II aan, na 13 an .l ล ลๆ a → → DOWN ARROW (↓) a UP ARROW (↑) 1<del>2-</del> **∽** . A **9**1 . |--2<del>4-</del> m **a** . a a 2.4 🕶 ลลๆ ล ล ลๆ 1<del>5</del> a a **9**1 . **→ UP ARROW** (↑) 1 2, a 🕶 DOWN ARROW (↓) ท ท ล ลๆ a a 2 3 a . a a 2.1 a 2.4. 🕶 a a a a 1. n - a – – aan **9**1 ล ลๆ LEFT ARROW (←) 15 ล ๆ ล 0 2, a an 16 a∽ aaa SET a → a a a a a∽ .l ฑ ✓ UP ARROW (↑) **→** DOWN ARROW (↓) ล ลๆ 16 a **- -a** , a a **LEFT ARROW** (←) a a 🕶 → SET aa, . I a . aan 17n ลๆ ๆ 2.4 ล ลๆๆ a .lnn ∸a aan . 17 LEFT n ล ลๆ ARROW (←) ~ a ~ a ~ 18 a 🛥 ล ลๆ **UP ARROW** (↑) a Caa a Αn a (↓) .**∽** aan 18 ท ∸ ลลท n **–** a **-** - a a **→** L || ลๆๆ ๆ l۹n a an  $a \rightarrow DOWN ARROW (\downarrow) a$ UP ARROW (↑) 18 Caa a Am a a 30 l L II. a , F ล ลๆ 19 າn. → a 1 a a Caa. .**∽** a 1 - 4. 1 = A a aan , 2 = A 2- ~ ลๆ ๆ a K-a , 4 = ลๆๆล a a a aa .— K-a – naa ล ๆ ฑล ล **9**1 Level II Programming ลุทท 19 = 3 4. 20 aan 6 K-a **∽** a SET n . ลทุท . **9**1 a . a 2.2 - a an 7 -- - -a-- դ 21 a 🕶 ล ลๆ a an 7 a an → SET an. 2()-6.6.8()-a n \* 5.3(-6.7())23.9(5 5.3(616.3)2()0.5( 2.2 ล ลๆ n (10) a B Da/ **n** .

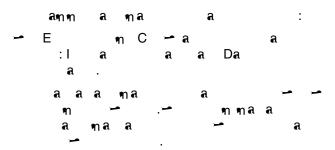
8.

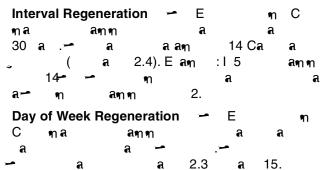
ล ลๆ

∸ aan .

୍ a a୩	22.	a	a	a~
a	44/11 44	-		a
	; №		ลฑ	.~
ล ลๆ	_		<b>∽</b> a	-

#### **Electronic Time Clock Operation**

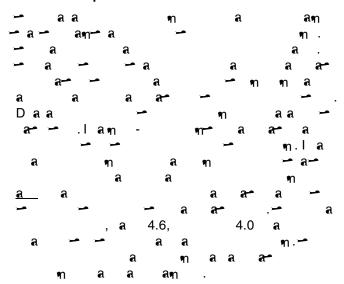


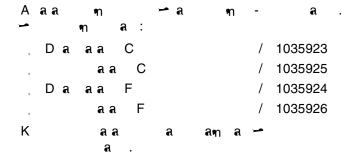


#### **Application**

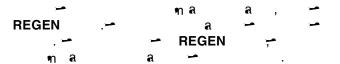
- naC 962C a - naC 962FF na a a a a , a, n.

#### **Dual and Triplex Conditioners and Filters**

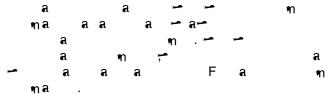




#### **Manual Start Regeneration**



If you press this button again more than one minute after regeneration begins, but before the regeneration is complete, a second regeneration will start when the first regeneration is finished.



#### **Automatic Regeneration**

#### Programming Day of the Week Regeneration/ Backwash

Table 2.3 - Day of Week Regeneration/Backwash

#	Description of Parameter	Set as required 0 = No - 1 = yes	Notes						
1	а	Α	0 = a a 1 = a a - a						
2	∨ <b>∍</b> a	Α	0 = a a 1 = a a a a a						
3	a	Α	0 = a a 1 = a a - a						
4	a	Α	0 = a a 1 = a a - a						
5	→ a	Α	0 = a a 1 = a a a a a						
6	Fa	А	0 = a a 1 = a a a a a a a a a a a a a a a						
7	a a	А	0 = a a 1 = a a a a						

а

2 a

ๆ ล

ทท

a 🕶

ล ลๆ

a a

#### **Reserve Options**

16 30 - -ทล 15. ). -ล ลๆ 15 a **Fixed Reserve** ลฑ ล ลๆ

ล ลๆ 16 a

#### **Smart Reserve (water usage pattern)**

1.2 a -.l•n a' a a a a ล ลๆ 16 a a a a **9**1

## 2.3 Conditioner Programming Tables

Table 2.4 - Level II Programming Performa Cv 962 Parallel Multi Tank or Single Tank Conditioner

Parameter	D	escri	iptio	าท	nge of alues	Minimur Increme		Units of Measure			No	tes			
6				2	-200	1	Selected from Table 2.2		-		a – a,	∙n n	a a	a	
7	В	a	a	2	-200	1	Selected from Table 2.2		r_a a	ๆ ล ๆ ล	-		 		
9	Ba	æ	n	2	4-60	1	14*	<b>Vp</b>	* \/ <b>IR</b>		a	a	a		
10		13.	.6(	5.1(16 <del>7(</del> )28.	)-13 )-25	5.3()	167(2 )-21.3( 2)-4685.8(	716 <del>7(</del> )-)50	_	1	31.0606 0	D364	98	0	(14)30.3(*40 J

G 3.2 a aa - ann aan - a

Table 2.5 - Programming Performa Cv 962TC Electronic Time Clock Conditioner

Parameter	Description	Range of Values	Minimum Increment	Recommended Program Value	Units of Measure	Notes
1	Da a n Da	(1-7) 1:00-12:59 A \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	(1 a) 1 ⅓s	Current Day and Time	H V»	a a =1, 'y =2, E=3, ED=4, H =5, F I=6, A =7,. HI I HE LEF 'y DIGI HE DI LA
2	n a a	1:00-12:59 A V 00:00-23:59		As required	H V∌	a a 13
3	A nn			10		
4	ล ลๆ	.5-125.0 .2-50.0	.5 .2	Selected from Table 2.2	K an	
5	ลๆ ล ๆๆ			10		
6		2-200	1	Selected from Table 2.2		- n
7	B a a	2-200	1	Selected from Table 2.2		- n
9	Ba a- n	4-60	1	14*	<b>/▶</b>	*Vna a a a
10	*n	7-125	1	40*	V <sub>B</sub>	*Vma a a a . 
11	Fa n	2-60	1	4*	<b>/</b>	* V1na a a a
12	n a	0-1	1	0		0 = , 1 = №
13	C n	0-1	1	0		0 = 12 , 1 = 24
14	la a Caa	0-30	1	0	Da a	0 = a → -*\/ma a a a .
15	D a n a			0		
16	D a			30		
17	, a	3-4	1	6		6 = 962 C
18	a <del>e</del> a L	0-1	1	0		0 = ,1 = a /Ca a → a
19	D a					
20	D a					
21	n a → Da	0-254	1	60		n n ∽n a aa a
22	Fa - D CHA GE			99		

U J.E स सस - समृत्या ससमृत - स

## 3.0 Performa Cv Filter Valve and Controls, 962F, 962FTC, 942F

## 3.1 Programming and Application

Table 3.1 - Programming Performa Cv 962F Three Cycle Filter

Parameter	Description	Range of Values	Minimum Increment	Recommended Program Value	Units of Measure	Notes
1	Da a	(1-7) 1:00-12:59 A \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	(1 a) 1 ⅓∎	Current Day and Time	H V∎	a a =1, 13. F a =1, 13. F a =1, 14. F =2, E=3, ED=4, H =5, 15. F =6, A =7,. HI I HE 15. LEF 19. DIGI HE 16. HE
2	ท ล ล ล ล-	1:00-12:59 A V 00:00-23:59		As required	H V∌	a a
3	ลๆ ล ๆ ๆ	00.00 20.00		10 100	 Vp	
4	ลๆกล ๆๆ			0.5		
5	F aa			As required	 V <b>a</b>	D - n aa (a ) - 100 a - n 5. D - n aa ( n ) 10 a - n n 5.
6	ลๆกล ๆกๆก			200		
7	ลๆกล			200		
9	ทท Baa <del>-</del> ท	7-60	1	14*	V∎	*Vna a a a.
10	ลๆกล ๆๆ			8		
11	Fa 🔊	9-60	1	9*	<b>∀p</b>	* Maaaa.
12 13	n a C n	0-1 0-1	1	0		0 = , 1 =  \( \bullet \) 0 = 12^\dagger ,
13	C n I a	0-1	1	U		1 = 24
14	a	0-30	1	0	Da	0 = a → - * \/ma a a a
15		0-3	1	0	Faa aa Eaa aan a 2 a 24.	0 = na ,1 = F ,2 = na
16	F a	0-70	1	30		r n aran aDaAa.
17	a a	0-7	1	4		4 = F na C 0 = ,1 = a /Ca a → a
18	a <del>C</del> a L	0-1	1	0		
19	F	1-4	1	1		1 = 1 A , 3 = D
20	K-a E a	0.01-255.0	0.01	0.01		າn V∎ K-a Ea.
21	n a → Da	0-254	1	60		n n → n a aaa a~
22	Fa - D CHA GE			99		
G	2.2 <b>a</b>	a a		ลฑฑ ลลฑ	ı <b>∽</b> a	

Table 3.2 - Programming Performa Cv 962F Five Cycle Filter

Parameter Description Range of Minimum Program Units of Values Increment Value

Table 3.3 - Programming Performa Cv 962 TC <u>Electronic Time Clock Filter</u>

Parameter	Description			Range of Values	Minimum Increment	Recommended Program Value	Units of Measure	Notes				
1	Da •n	a	a	(1-7) 1:00-12:59 A / h / h / h (1-7) 0:00-23:59	(1 a) 1 V∎	Current Day and Time	H V∌	a F a ED=4, H =5,	a =1, \( \overline{9} = 2, \) F l=6061 6( )-9	13. E=3, . 788 74 ┡()7.36.16(6)		

G 2.2 a a a a - ann a an - a

#### **Electronic Time Clock Operation**

 Interval Backwash
 →
 E
 n
 C
 n

 ann
 a
 a
 30

 a
 a
 a
 Ca
 a
 .

 I
 a
 a
 14
 ann
 a

 14 n
 a
 a
 a

 n
 ann
 2.

 Day of Week Backwash
 —
 E
 n
 C

 na
 ann
 a
 a
 a
 a
 a

 a
 2.3
 a
 17.

#### **Application**

– naC 962C a – naC 962FF na a a a , a, n.

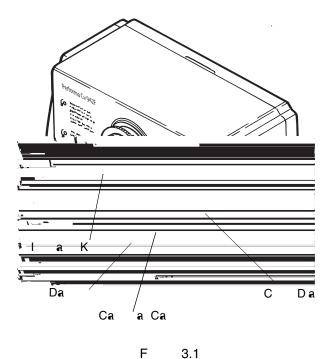
#### **Dual and Triplex Conditioners and Filters**



#### 3.2 Mechanical

#### **Series 942F Mechanical Control**

- 942F n - a a ท 🗝 ล ล ท



#### 3.2.1 Settings

Da 😁 🖸 Da Ba a- a n naaa a-942F

#### **Setting the Time of Day**

a - C Da clockwise a 🕶 n a. -a a-aa ๆ ล 2:00 a-aa a a n, n — a .F an, — a — 4:00 a.n., → C Da 2a - aaa na.

#### Note: Do not rotate the Calendar Cap by hand.

C Da - Ca aCa a. maa → Ca a Ca, a → C Da clockwise **9**1 . Da C Da a aar. a

#### Setting the Days of Backwash

a - a-

**n** : a 🕶 a 1. a () - a() -- a a a-NOTE: → EX DA a a ຖa 2:00 a.ຖ. a Ca ∽ Ca a EX DA ทท ล aa aa a a n a 2:00 a.m. -

a a-

a a F

#### DA .

#### Manual Backwash

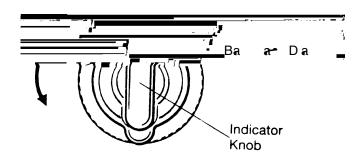
E a a ๆาล ล COUNTERCLOCKWISE na 🕶 a a-.

#### 24 Hour Clock

- - a 12:00 a.m. (m - ) a 12:00 .m. ( ) a a - a n 13- - 24, - 13 1:00 .n.B ∸ naa

### **Adjusting the Backwash Setting**





F 3.2 Ba a C n

Table 3.4 - Cycle Times for 942F Control

Cycle	Time (Minutes)
Ba a∽	8 - 30
	9

## 3.3 Explanation of Parameter Values for the 962 Single and Parallel Tank Controls

– a a a a a – ann aan – 962

Number

Description of Program Values Explanation

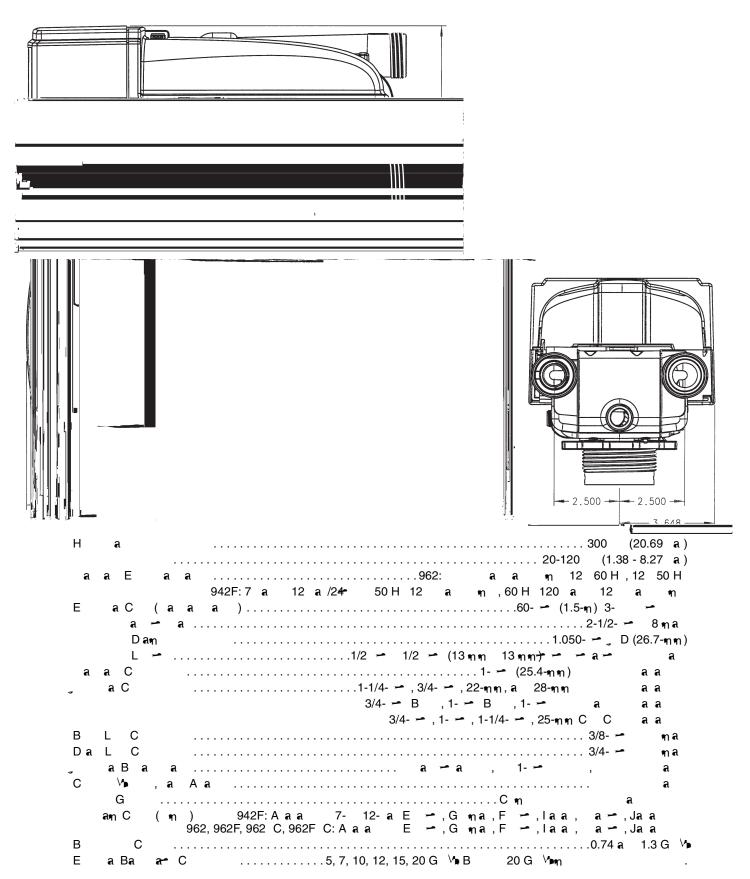
Number	Description of Program Values	Explanation
5 a 12	Ca a	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
6 a 12		E a m a 2.1 - a 12 maa.  — a — a n 100, — —  n .F an , a 16 - — a ;— — — — — — — — a a  1.3 n.E 130 (1.3 n 100 = 130).
7 a 12	B a a	E a n a 2.1- a 12 na a.  - a a n 100, - n .  F an , a 16 a , - a a a a 0.8 n.  E 80 (0.8 n 100 = 80).
9	Ba a- n	aa.Ga,515maaa aaan.
10		n, n, a a a nn a - a nn a a a nn a a a nn a a a nn a a a 16 65,50 ann 43 nn a a 16 - a . F n - a n a a 1.4 n . 60 a nn a 1.4 a n a a 42.8 n . 43 n a 10.
11	Fa	n, $n$ ,
13	n a C n	aa.E0,1 n. aa.E0.12
14	Ca a	aa.E 0 12• , 1 24• . 0= a a .1-30= √nann n a
15	Out of	a /a a+.  2. A a n .
10	Inn a a	
16 ***	F aa	l 15 a 1 3, — aa (a)(n³)—a — aa 2a 15a. Aan.
17	_ a	aa .3= aa C a;4= aa F .

Number	Description of Program Values	Explanation
18	a / a a	A - 4a 5 - a a a a na.
19	F	- aan
20	K- a a	- a 000.01 255.00 0.01 .H - n - a 12( na)a 19(  ). 12 a (0=a,1=  ). 19 K-a a (3=K-a,4=  a). K-a a a . a a-F a na a a ann K-a a a a a  12=0, 19=4a 20=5.00.Ba na a 19=4  ( a). a a a a na 10  a a a a na 10  a a a a na na na na na na na na na a a na a na n
21	n a / a a a	- aan an - an - an - an - a a a / a a a a 1 254 1-  n a / a - a 1 254 1-  a 60 .A a - a a  a ( a )A a / a a a  a na - ann n - ann n - a  n a a a na na a  a / a a n  a / a a a  a / a a a  a / a a a  a / a a a  a / a a a  a / a a a  a / a a a
22	Fa	DO NOT CHANGE

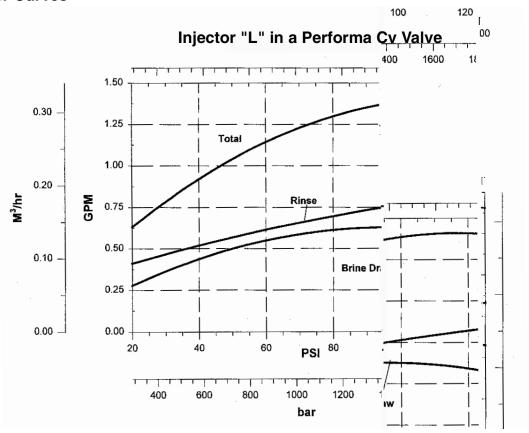
a a a an a — (L7— — L13) a A - , — a aa .E an :90,000 a \***~** 962 a 12• ลๆ ๆ 13 ( **n** ) 1 2 ท ล ล 3, 90,000 / 10 = 9,000 a a a , 9,000 .3 ล ลๆ 16) = 2700 a , -- -(30% L7- -\*\***-** 962 L13<del>;</del>∽ aaa.F 🗕 an 🖵 na ลทท 12 ( 3 2700 a 1.2 (120% - a n a a a ) = 3240 a.− aaa −a ล ลฑ a a a ๆ ล

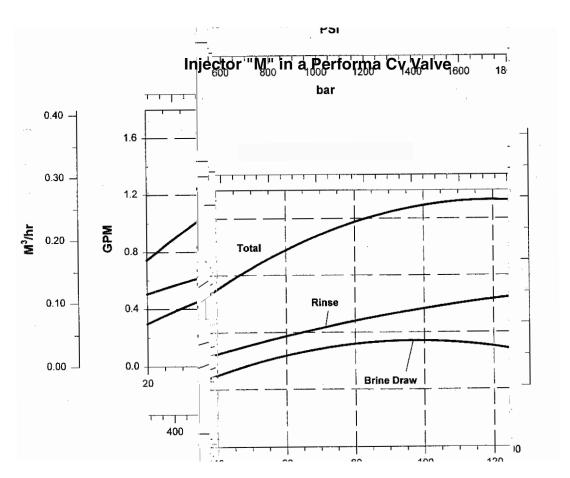
## 4.0 Performa Cv Performance Charts and Graphs

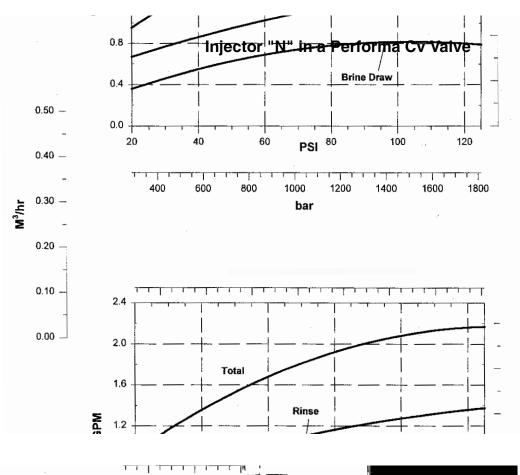
### 4.1 General Specification

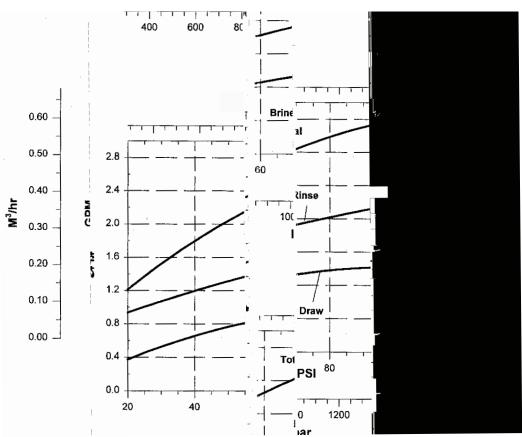


## **4.2 Injector Curves**











### 4.3 Performa Cv Conditioner Performance Data

**Table 4.1 - Performa Cv Injector Performance Chart** 

			Inject	ors L - R F	low Rate C	harts (gpn	n)			
PSI	I	L	ı	И		N		Q	į	R
	Draw	Rinse	Draw	Rinse	Draw	Rinse	Draw	Rinse	Draw	Rinse
20	0.26	0.4	0.3	0.5	0.4	0.65	0.4	0.9	0.45	1.2
30	0.3	0.45	0.4	0.55	0.45	0.75	0.5	0.95	0.5	1.3
60	0.5	0.6	0.6	0.8	0.75	1	0.82	1.4	0.9	1.75
80	0.6	0.65	0.7	0.85	0.8	1.1	0.9	1.6	1	2
100	0.6	0.76	0.7	0.9	0.8	1.6	0.95	1.8	1.1	2.2
			Inject	ors L - R F	low Rate C	harts (Lpn	n)			
Bar		L	ı	VI		N	(	Q	ĺ	R
	Draw	Rinse	Draw	Rinse	Draw	Rinse	Draw	Rinse	Draw	Rinse
1.4	0.98	1.5	1.1	1.9	1.5	2.5	1.5	3.4	1.7	4.5
2.1	1.1	1.7	1.5	2.1	1.7	2.8	1.9	3.6	1.9	4.9
4.2	1.9	2.3	2.3	6	2.8	3.8	3.1	5.3	3.4	6.6
5.6	2.3	2.5	2.6	3.2	3	4.2	3.4	6	3.8	7.6
7	2.3	2.9	2.6	3.4	3	4.9	3.6	6.8	4.2	8.3

Table 4.2 - Service and Backwash Flow Performance Data

F	Flow vs Pressure Drop (gpm)			Flow vs Pressure Drop (Lpm)		
PSI	PSI Service (Cv 6.5) Backwash (Cv 4.0)		Bar	Service (Cv 6.5)	Backwash Cv 4.0)	
5	15	9	0.35	56	34	
10	20	13	0.7	76	49	
15	25	16	1	95	61	
20	29	18	1.4	109	68	
25	32	20	1.7	121	76	
30	35	22	2.1	132	83	

Table 4.3 - Recommended Drain Flow Controls (Backwash Anion and Cation Resin @  $55^{\circ}$ F (12.7°C) Water Temperature

Tank Diameter Inches (mm)	Bed Area sq. ft.	Anion Resin @ 3 gpm/sq ft (m <sup>3</sup> h/sq ft)	Cation Resin @ 5 gpm/ sq ft (m <sup>3</sup> h/sq ft)
14 (35.6)	1.02	3 (.7)	5 (1.1)
16 (40.6)	1.38	4 (.9)	7 (1.5)
18 (45.7)	1.76	5 (1.1)	8 (1.8)
21 (53.3)	2.4	7 (1.5)	12 (2.7)

Table 4.4 - Performa Filter

Pressure Loss vs Flow (gpm)						
PSI	PSI Service (Cv 6.5) Backwash (Cv 5.0					
5	15	11				
10	20	16				
15	25	19				
20	29	22				
25	32	25				
30	35	27				
	Pressure Loss vs Flow (Lp	m)				
Bar	Service (Kv 5.6)	Backwash (Kv 5.8)				
0.35	56	42				
0.7	76	61				
1	95	72				
1.4	109	83				
1.7	121	95				
2.1	132	102				

Table 4.5 - Typical Backwash Flow Requirements for Various Filter Medias (based on  $55^{\circ}$ F (12.7°C) water temperature)

		GAC/CARBON FILT	TER-AG, CALCITE		
			GREENSAND		
			BIRM		
				SAND, M	ULTI-MEDIA
Tank Dia. inches (mm)	Bed Area sq. ft.		10 gpm/sq ft (Lpm/sq ft)	12 gpm/sq ft (Lpm/sq ft)	15 gpm/sq ft (Lpm/sq ft)
14 (35.6)	1.02	8 (30)	10 (38)	12 (45)	15 (57)
16 (40.6)	1.38	11 (42)	13 (49)	16 (61)	20 (76)
18 (45.7)	1.76	14 (53)	17 (64)	21 (79)	*26 (98)
21 (53.3)	2.4	19 (72)	24 (91)	*29 (98)	
24 (60.9)	3.14	25 (95)			

<sup>\*</sup> Ma 25 1.72 a .

 Table 4.6 - Performa Cv Filter Sizing Selection Guide for Dual Unit Filters.

		GAC/CARBON FILT	TER-AG, CALCITE		
			BIRM SAND, N		
					NULTI-MEDIA
Tank Dia. inches (mm)	Bed Area sq. ft.	8 gpm/sq ft (Lpm/sq ft)	10 gpm/sq ft (Lpm/sq ft)	12 gpm/sq ft (Lpm/sq ft)	15 gpm/sq ft (Lpm/sq ft)
14 (35.6)	1.02	8 (30)	10 (38)	12 (45)	
16 (40.6)	1.38	11 (42)	13 (49)		
18 (45.7)	1.76	*14 (53)			
21 (53.3)	2.4				

\* Vna 25 1.72 a a a- . = nn .A - a- a- a na a a- n a a- .

#### **5.2 Preventative Maintenance**

### **Injector Screen and Injector**

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3. n a .7 (a a) → a .

4. a , n a a a (F 5.1).

5. C a a - . F - a .

6. **a** - , **a-**

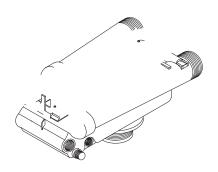
8. C a a -- .

9. L a - , a a silicone lubricant only!

10. a → , a a

11. **→ a-**n a n ;

12. a a a a a



F 5.1

#### **Water Meter Maintenance**

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3. L a n - / aa 1265

4. a - , n - . Ga - a - a - a - n - a (F 5.1).

7. a - a - -

8. a / a a 1265 a - a .

9. — a — a a () — a — a —

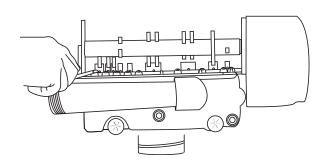
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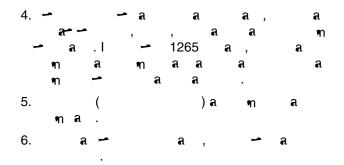
# **5.3 Removing the Valve Assembly for Servicing**

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F 5.2



## **5.4 Removing the Control**

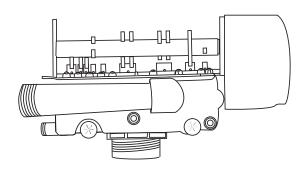
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F 5.4



F 5.6

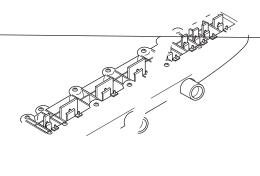
6. D — •n—•

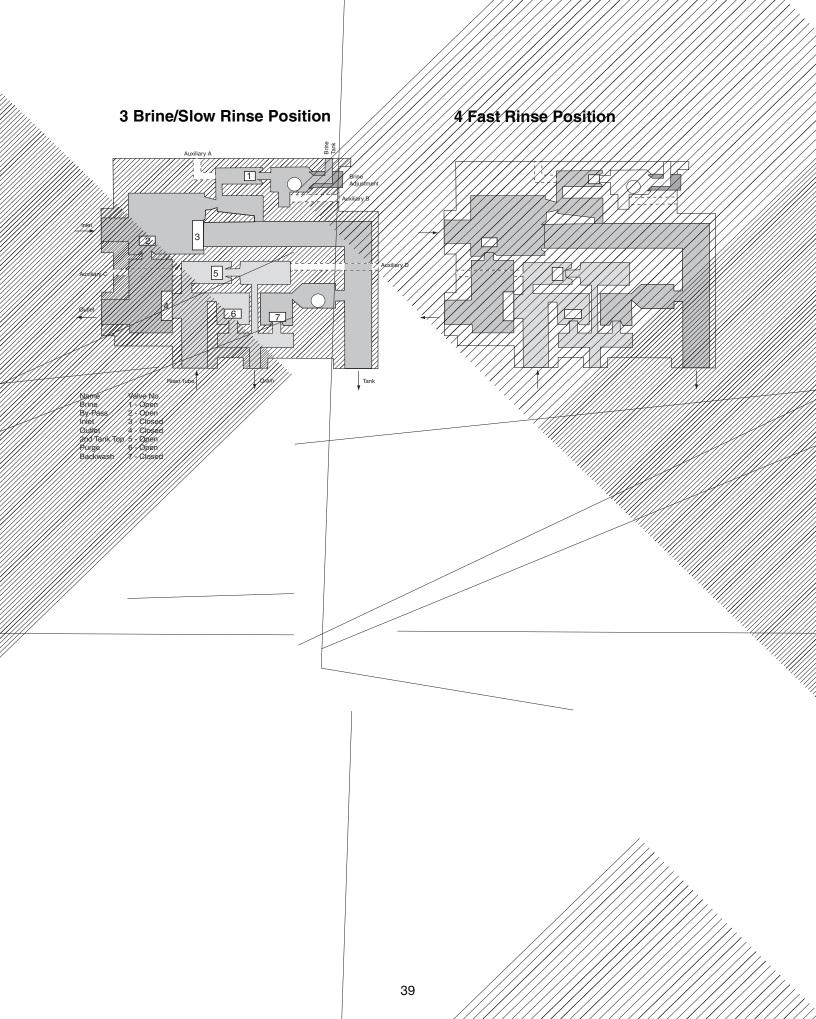
7. L - - a , F 5.7. a - a . - a . - a

a .

5.7

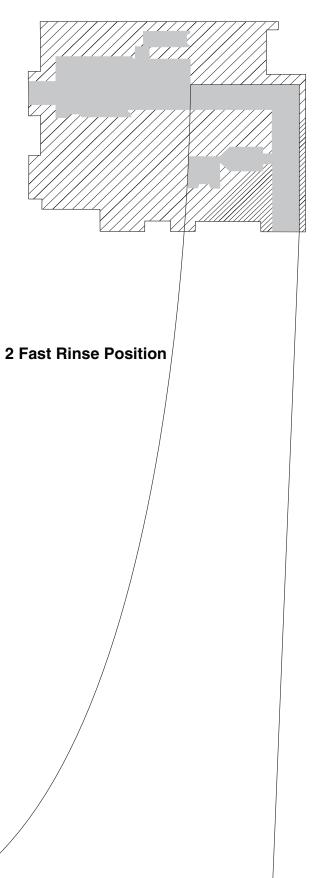
## 5.5 Identification of Control Valving





### **5.8 Performa Cv Filter Flow Diagrams**

#### 1 Backwash Position



#### **5.9 Troubleshooting**

**IMPORTANT**: ฑล a!a 🗕 - a **Replacement Parts** 

#### **Valve Troubleshooting**

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#### 962 Control Troubleshooting

#### Alarms

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# Performa Cv F

Valve Component Exr

