Autotrol Performa[™]Cv

Conditioner/Filter

Water Control System

Installation, Operation and Maintenance Manual



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2.() 2.1 I 2.2 2.3 C	ฑลCS ลุฑฑ	962 C - a A ann	ุฑลCC ล ล	a	F	¶1 · ·		 9 9 10 16
3.0) 3.1 3.2 E	ฑลCF ลุฑฑ ลูล	= a a A aan	a C a a ,	, 962F, 9 - 962	962F C, a	942F 		 18 18 24
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6.0) 6.1 a 6.2 a 6.3	ุฑลC เ C ฑ ล L ฑลC	a E C	· · · · · · · · · · · · · · · · · · ·					 44 44 45 46

1.0 Performa Cv System

1.1 Specifications

1.1.1 Performa Cv Conditioner

Flow Rates (Valve Only)

	@	15	(1.03	a)					 	 	 	 		 	 	 . 25	5.0	n (5	.7 m 3/)
Ba	a	(C)	@	25	(1	.72	a)		 	 	 		 	 	 . 20	0.0	n (4	.5 m 3/)
									 	 	 	 		 	 	 . C	= 6	6.5 (K	= 5.5	8)
Ba	a	С		•••					 	 	 	 	• •	 	 	 . C	= 4	4.0 (K	= 3.4	6)

Control Configurations

962	Micro	processor	Demand	Svstem	and 962	Electronic	Timeclock
			Domania	•,•.•			

Ba	a			 					 	 	 	 	 	 		 	 			 4	60 n	
В				 					 	 	 	 	 	 		 	 	. E	Е	a	a	a
				 					 	 	 	 	 	 		 	 			 . 7	125 n	
Fa				 					 	 	 	 	 	 		 	 			 2	19 n	
Е	аE	3	a		-	9	1	F														

Valve Connections/Dimensions

a	-	a2-1/2 🛏	- 8, ¶ a
I	Ţ		

1.1.2 Performa Cv Filter Specifications

Flow	Rates (Va	alve Only)	
	@ 15	(1.03 a)	')
Ba	a∽ (F) @ 25 (1.72 a)	')
		C = 6.5 (K = 5.5	;8)
Ba	a≁ F	C = 5.0 (K = 5.7	'8)

Control Operation

942F	Mechanical Clock Timer - 7 Day or 12 Day	
Ba	æ*	3-30 n
F	Fa	9 n
962F	Microprocessor Demand	
Ba	æ	60 n
Fa		19 n
962 F	TC Electronic Time Clock	
Ba	æ	60 n
Fa		19 n
Interv	al Regeneration	a

Valve Connections/Dimensions

a 🛥	a	- 8, ๆ ล
ΙĹ		C-2A, ma
Da L		🗕 , na
B L		🗕 , na
D	ي .D	- (27 ค.ค.)
D	L 🛥 1/2 - 1/2 - (13 nn - 13 nn) a	a

Operating

i	a	В				 		 							Ga-	í	a							
		C,	n			 		 				(C nn				a							
	-	(a		-	С).	 							4.5	(2.0))							
	a	n	3			 		 					12	A	C 400 🕈	A (4.6	i A)							
	a	n	Ι			 		 				. 115	50/6	60	H⁊, 230	50/60	0 H7							
																						100	50/60) H7
	a	L				 		 				. 10	120		(1.37	8.27	a)							
																Ca	a	a:	20	100		(1.37	6.89	a)
	a	n	í	a		 		 					. 34°		100°F (1° 38	8°C)							

Options

Ва	a, Vs	1265		 	 	1-3/4	<u>∽</u> - 1	2 C - 2/	Anna
Bal	Ţ	F K :							
С,	a	Аа		 	 1-1/4- 🛥	, 1- 🛥	, 3/4- 🛥	,28- n n,2	22- n n
CC,		Aa		 	 		1- 🛥	, 3/4- 🛥 , 2	25- n n
a	В	Aa		 	 	'	1- 🗝 na	a, 3/4- 🗝	na
Ва	В	Aa		 	 	••••	1- 🗝 na	a , 3/4- 🛥	na
Flow Me	ter 962 C	ontrol		 	 		1- 🛥	A	
	4.1	а	a.						

1.2 Installation

Ana ann a. I a a-aana.

Location Selection

1. 🗝 a a а a 🛥 а 2. I a a n а an , m a а а a а а а aaa З. a a а n a а а а 4. D a a а а (3 n) 10 a а a a а n a n а н a a an a . A 10-(3-m) а а а а а ٠, а а а a a a a , . If a check valve is **m** 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	-			
	(<u>∽</u> a	a)
		ฑ	n	a		34 F (1 C)
		120 F (49	C).			
6	П	0	~	~	0	•

6. Da aa a¶ 7. ∽ aa nn .

Water Line Connection

- aa aaa n nn a - - a n a - aa .
- А а a nn n n 1265 (F 1.1) a a а n (F 1.2).а а n a 1265 А а a a a n .



F	1.2 -	aG	a	В	a	n
			•••	_		11

Drain Line Connection

- Note:aa mmaaa - .La ma -a -.
 - 1. I a а ~ а а n . F 🛥 a 20 (6.1 m) а **n**a a a a а a a 1/2- 🛩 (1.3- m) а a a
 - 2. 🛏 5 a a n (22.7 L m) a 20 а n (6.1 m) m 3/4- 🛩 а (1.9- m) , 40 (12.2 m). A а a 3/4а 3/4- -a
 - 3. 1а а n 6 а na a 🛩 (1.8 m)15 (4.6 m) a а а 🛥 a 40 (2.76 a). na a a a 2 (61 m) a a a a 10 (0.69 **a**).

NI(W13-36.7 (n)t7 4



,a - an .





Note:aa nn aa ∽a ∽ .La na ∽a

Brine Line Connection

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

Overflow Line Connection

	a		a a	a		a	-	•	
ana		,-	В	ΙE	ΑK,	E	FĻ		
J		-	a		a			-	
-		a			a	a	na	.~	
		-		-	a			a	-
			,	a	-				a.
1			()	a	a	
-	a	- ๆ		a	a	a -	-		
(F	1.4	1). A ar	-	-	1/2	<u>-</u> -	(1.3	-m) I	.D.
	()		a			a. [)
a	l		-	-	🛥 a	3 🛩	•	(7.6	n)
		ฑ			. I	D			a
		5			ฑ	í	a	,	a a
	n				a,			. A	a
a a	a a	í	a			(F	1.3)).



F 1.4

Battery Back-Up

А	962 a	n		a	a		a	a	a.	А
9-		a	a	a	a	aa		n.,	n	,
/	1075	768.	-	a	a	А	Α,	E	7/8H	-
(A				Н	-91	• 9	150	n AH		
55	22). A	a	a	-	- a	a	a		a	
	a					a		a	ι,	
F	1.5	5.								

F 1.5

1.3 Placing Performa Cv Conditioner/Filter into Operation

- Aa ~a n , a a a.F ~ a. 1. n a ~
- a n -
- 2. a a COUNTERCLOCKWISE - BACKWASH.
- 3.F m aa 🗝 a.
- a. a , a a a () – , . a a a na – 1/4

IMPORTANT:I a a, m a na .I∽ 1/4 , ∽ ∽ a a a m∽ a .

Conditioner

- a. 🛥 a a- a **m** a (a а m a), na а а. a 🗝 . A a a а. a а а a a a a а n a а **m**
- 4. A a a (a).
 - а , a а na 4 a (15) a а - |-a 🗝 a a a a na n a,aa na а 1 🗝 (25 mm) a a ۹ı.
- 5. a 🗝 a .
- a. 🗕 🗕 а а n a a a а COUNTERCLOCKWISE -BRINE REFILL . Н aa a a.D n а
 - **ท**ิ.
 - A a a COUNTERCLOCKWISE -BRINE/SLOW RINSE

- COUNTERCLOCKWISE -REGENERATION COMPLETE a a na a a - a a a

Filter

- Annaa:
 - a. A a-a **m** а (a a) а **m** a 🛥 a.Ba æ na ลท ทท 15 m a n a.a ~ a 🗝 a . Ca n aa а а 12a ท ท ท а а а a . Α a 2 m
 - ลลลล BACKWASH COMPLETE.

Electrical Connection

100 VAC	, 115 [·]	VAC, a	nd 230 V	AC un	its:	ฑ	
• ۱۳			a				∽.
Vira			¶ a-	-	a		
~	. B	a	a a	-			-
12 VAC:	С	-	-	a	n	()
a	a	-	na		a-	a	
•	-	n 🛥	B	2		a	•

ฑ 🦟	n 🗝	. B	a 🛥	a	n
a		a			
a 🗝 a		a	a	∽.	

1.4 Disinfection of Water Conditioners



Sodium or Calcium Hypochlorite

Application

	ทล	a	a	a	a		-	•	
			,	-		7	,	a	a

5.25% Sodium Hypochlorite

-		a aa	a	a	ลท	-
a C	Ba-	*. I		a	,	-
a 🛥		ๆ ๆ	a a	, a	-	
a	a					

1. D a

: 1.2 a. : 0.8 🗝 a _ .

2. B a



Calcium Hypochlorite

Ca , 70% a a a ٩٣-~ , aaa a a n а ุกล a .~ a na -

.

1. D a

>) 0.1 a. a (a na

2. B a

a. Ba	a	a	a 🛥	
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	a.(~	a 🛥	🛥 a	a
	n 🗝 🛥		a	
-	.)			
	,	na	a.	

*C Cna. aama - C Bæ

2.2 Programming and Application

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2.4. I	i	a 🛥	a an	- a	
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(a 2.4)				"0" a	ฑ
	"1."				

Level I Parameters (Table 2.1)

L Iaam a a 🛥 ∽a∽a a LED a a a .— **__** n a ลๆก 🦟 а 🗝 a a a 🛥 aan .l → DOWN ARROW (↓) a, a∽ L Iaan, : -Da n . a n . , Ha . a Am Caa DOWN ARROW (\downarrow) L a an Da. - n а UP ARROW (1) a 🛥 a an 2.1 а ล ลๆ a 🗝 aaa a æ a an . 🛩 SET a 🛩 a 🛩 n .la a a a-- a → UP ARROW (↑) •n, а - DOWN ARROW (\downarrow) n າ 🛩 a 🛥 n -LEFT ARROW (←) - a . <u>~</u> LEFT ARROW a- а (←) a 🛥 . Note: | a - - UP ARROW (1) DOWN ARROW (\downarrow) 🦏 🗝 a a ฑ n 10 a an LEFT ARROW n , (←) n a 🛩 2 æ а - a n . C 🗝 a æ n n SET æ a a n a ~ na .Aa 30 ,a a 🛥 Da a a n Caa.



Day of Week/Time of Day

	-	SE	Т		~		a	-	-	n
Da	~~ ~~	•	ฑ					I	a	
- a	-		n	,		-	UP .	ARRC) W (1)
	a	-		n		-	DOW	/N AR	ROV	N (↓)
			a	-		n		-		ฑ
-	-	a		,	-	L	EFT A	RRO	₩ (←	-)

Salt Amount

a Am	-	a	a	a
a	a Am	6	(2.7	ลๆ)
a;	a	2.2	a	
Note: -	-	ล ลๆ	a	a
a	,		.16	j
a	a,	🛥 SET	a 🛩	a 🛥
n . ARROW	I6 (↓)	a a	, –	DOWN

Capacity

Ca	a	-		a	i	a	e	ı					
	a	(ลฑ).		a		2.2	-				
a	a	.7(a)24	4.=0.	005.4(2	1	1	J	*0)1	.3(04	3	-3.70	-9.7

P5 Capacity Setting			ฑ ล ()	
Ka (Kan)	3 ³ (85)	4 ³ (113)	5 ³ (142)	6 ³ (170)	7 ³ (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)

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

Level II Parameters (Table 2.4)

- L II aan a 6- - 22 a 2.4. a L II aan , n a a - - DOWNARROW(↓) a UP ARROW(↑) - .A, n a.

a 2.4 - a an a a a n . - UP ARROW (\uparrow) -DOWN ARROW (\downarrow) n n a an - a 2.1 a a 2.4. - a 22, n a 1.

---aan n a --a a, \sim LEFT ARROW (\leftarrow) a∽ aaa ∽aaan . SET a - a -າ 🛩 a aan.la na n 🛩 UP ARROW (↑) 🚽 🖌 DOWN ARROW (↓) . 🛩 n ∽ ∽a , -LEFT ARROW (\leftarrow) 🛩 SET a a - a -2.4 a

a a a 🗝 a aan .

a a an a - a -- .- a - a a a a a a a - a - na a .

Level II Programming

. aan 6 a a 🛩 n.SET a а a a 2.2 -a an 7 a a 🛩 a a 🧃 . 🛩 SET a а a. a 2.2 🛩 a a a 🛥 a n a 🗝 a an а n a – n (10) aBDa/ n. – aan m 8. ล ลๆ 🗝 aan .

. aan 12 - na .B -a- - a a aa aan 3,4 5. . aan 13 - an .1 - 12= n ,a ∿a .1- 24= n - ∨a

. |∽ 24* ¶ ,∽ ¼ a . . aan 15*a a a a a 0 1 a ∽ a a aan 2,

1 a – a aan 2, n a a , – a a 2 3 a – a – a a a – a a – a .

. – aan 15 ana , 02,aan 16 a a – a a a a a a a – n – a a a – a a an 16a

. ลลท 17 ท ลทท ---ล ล ลทท ล ไท ล 17 ล ---ท

. aan 18a - a - a An a Caa a - a -a - aan 18 1,a - -

a an 19 - - a -- n.- a a 1 a 1 - - .- a 1 - 4.1 = A 1 - - .2 = A 2 - .3 = anna K - a .4 = annaa .- K - a

a an ---- n naa.

. aan 20 ann 19=34. 20 - - a K-a a n ลทท

.aan 21a ∽ ∽ ∽ a an a~ n

a an	22.	a	a	a-
a	an a	-		a
	; 🖓		ลๆ	
a an	-		- a	-

Electronic Time Clock Operation

a : ลุกท a na _ Е n C a a :1 Da a a а а

aaa ฑล а ท ุกล ล n a na a a

Interval Regeneration Е С n ฑล ลุกท a а 30 a .--14 Ca а a an а 2.4). E an :15 (a ลๆๆ 14n а a a-2. ลุกท n

Day of Week Regeneration Е n С na ลุกท a a a a 15. a a 2.3 a

Application

naC 962C naC а 962F F na а a a a, ۹ı.

Dual and Triplex Conditioners and Filters

-	a	a			٩	n		a			ลๆ
🗝 a	~	ar	r - a	l		-					n .
-	a			a						í	a.
-	a	-		-	a			a		a	a
	a-	•			a			-	n	n	a
a		a		a	a		-				-
Da	a			,	~			ฑ		a a	-
a	-	. I	a۳	ר ו			¶ ~ ^	a	l	a	a
		, -	• •	-				-		n	.la
a			ฑ		i	a	n			~	a-
				a	a					n	I
<u>a</u>	a	l					a	í	2	a	-
-		-			-	a	a	-		.~	a
			,	a	4.6,			4	.0	a	
a		-	-		a	a				n.	-
				a		n	a	a	a	-	
	n		a	a	a	n					

А	a a	n		🛥 a	n	-	a	
-		ฑ	a :					
	Da	a a	С			/	1035923	
		a a	С			/	1035925	
	Da	a a	F			/	1035924	
		a a	F			/	1035926	
κ		a a	L	a	an a	-		
		a						

Manual Start Regeneration

~		ๆ ล	a	,	-
REGEN		a	-		-
· ••	-	REGEN		,-	
n a	a	-			

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	a	А	0 =	a	a	1 = a	a∽ ∽	a
2	V∎ a	А	0 =	a	a	1= a	a~ ∽	a
3	a	А	0 =	a	a	1= a	a~ ∽	a
4	a	А	0 =	a	a	1 = a	a~	a
5	∽ a	А	0 =	a	a	1= a	a~	a
6	Fa	А	0 =	a	a	1= a	a~ ∽	a
7	a a	А	0 =	a	a	1 = a	a∽ ∽	a

Reserve Options

-	a				:	🛩 a	í	a	16	30	n a	a 🛩 a
		a na	-	a a	a	30% 🛥	a	n a	a		-	a
a). 🗝	a	🗝 a an	15.		a a	a	a.				
Fix	ed Rese	erve				ลๆ	a an	15	a			~ ~
_			_			-	a	-	ฑ		a	
_			, -	ฑ		a an	2	a a		a,	-	
	na n	ฑ ฑ 16-	aa –	a		-	a	a	ግ ባ	าล	-	-
	સ સળ	10 a	- 6	ાંત	•	a a	n a	-	- a -			
~												

Smart Reserve (water usage pattern)

~ ~		a	-	a	-
	a	~ ~	a a	a	a
-	n. 🗝		a	- 6	ા
a	a-a	-	a	🗝 a	a'
a a	a n		1.2 a 🗝		🗝 a
a.E	a a-	n	í	a 🖵	
a a	🛥 a	'a a	a	a.l	🗝 a
10% a	a'a	a a	a	, •	
	a 🛥	a'a	a .lm,	🛥 a	-
a'a	a	,-	-	aa	a
~	a	a.			
a	a	a 🛩 a	~	a	a,
	n	-	a	a a	
a an	16 -	• a	n a	a	
ฑ	a	a a	a- a	-	

2.3 Conditioner Programming Tables

Parameter	Desc	ription	Range of Values	Minimum Increment	Recommended Program Value	Units of Measure		No	tes		
6			2-200	1	Selected from Table 2.2		<u>م</u>	n – a – a .	n n	- a a a a	
7 E	a	a	2-200	1	Selected from Table 2.2		`_ a a	n ∽ a ∽ n ∽ a a.	7 I	- a 	
9 E	a a-	۹	4-60	1	14*	V	* 🖓	a	a a		
10	(()-35.1(6 7()28.)-13 2	2 7 (6 7()* 1 31.0606 0	D364 98	80	(14)30.3(*40	J/F3 1	6.9091 0	D-0.0111 0

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

G	3.2	a	aa	-	ลิตท	a an	-	а	
<u>u</u>	0.2				441111				•

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 \begin{tabular}{lllllllllllllllllllllllllllllllllll	(1 a) 1 ∿∎	Current Day and Time	H V∎	a a 13. F a =1, '∮ =2, E=3, ED=4, H =5, F I=6, A =7,. HI I HE LEF '∮ DIGI , HE DI LA
2	n a a a	1:00-12:59 A № № 00:00-23:59		As required	H V∎	a a 13
3	A ฑฑ			10		
4	ล ลท	.5-125.0 .2-50.0	.5 .2	Selected from Table 2.2	K an	
5	ลๆาล ๆาๆา			10		
6		2-200	1	Selected from Table 2.2		- n a a a a - n a a an a a.
7	Ваа	2-200	1	Selected from Table 2.2		- n aaa - ⁷ n - a - aa.
9	Ba a~ n	4-60	1	14*	V	*Vna a a a
10	'n	7-125	1	40*	\ ^	*Vnaaaa. ∽n ∽ aa an.
11	Fa n	2-60	1	4*	\∕ ₽	*Maaaaa
12	n a	0-1	1	0		0 = , 1 = ^V ▶
13	C n	0-1	1	0		0 = 12 , 1 = 24
14	la a Caa	0-30	1	0	Da a	0= a∽ -*Vna a a a .
15	Da na			0		
16	Da na			30		
17	, a	3-4	1	6		6 = 962 C
18	a €a L	0-1	1	0		0= ,1= a/Caa ∽ a
19	Da na					
20	Da na					
21	n a Da	0-254	1	60		ทท∽ิกล ลลล
22	Fa - D CHAGE			99		
G	3.2 a	aa 🛥	ลุทุฑ	a an 🗕	a.	

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

3.1 Programming and Application

a a

Table 3.1 - Programming Performa Cv 962F Three Cycle Filter

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Parameter	Description	Range of Values	Minimum Increment	Recommended Program Value	Units of Measure	Notes
1	Da a ຖ a	(1-7) 1:00-12:59 A \/ _ / / (1-7) 0:00-23:59	(1 a) 1 ∿∎	Current Day and Time	H \/•	a a 13. F a =1, ¹ / ₉ =2, E=3, ED=4, H =5, F I=6, A =7,. HI I HE LEF ¹ / ₉ DIGI HE DI LA
2	୩ ର ର ର ନ^	1:00-12:59 A ∿ √₅ 00:00-23:59		As required	H V∎	a a 13
3	ลๆาล ๆาๆา			10 100	· . Ma	
4	ลๆ กุก			0.5		
5	Faa			As required	 V e	D - n aa (a) - 100 a - n 5. D - n aa (n) 10 a - n 5.
6	ลๆาล ๆาๆา			200		
7	 ลๆาล ๆาๆา			200		
9	Ba a - n	7-60	1	14*	\∕ ∌	*Vna a a a .
10	ลๆาล ๆาๆา			8		
11	Fa n	9-60	1	9*	* _	*Vna a a a .
12	୩ ଲ	0-1	1	0		0 = , 1 = [∨] ∎
13	C n	0-1	1	0		0 = 12 , 1 = 24
14	la a	0-30	1	0	Da	0= a∽ -*\/n a a a
15		0-3	1	0	Faa aa ⊧Eaa aam a 2 a 24.	0= ma ,1=F ,2= ma - Imm a a ,3= F - Imm a a .
16	F	0-70	1	30		∽ n a∽ aDaAa
17	, a	0-7	1	4		4 = F maC
18	a~⊖a L	0-1	1	0		0= ,1= a/Caa ∽a
19	F	1-4	1	1		1 = 1 A , 3 = D K-a , 2 = 2 A , 4 = D E a
20	K-a Ea	0.01-255.0	0.01	0.01		n V∎ K-a Ea.
21	n a ∽Da	0-254	1	60		nn ∽n a aaaa~
22	Fa - D CHA GE			99		
G	2.2 a	a a	-	ann aar	n 🛥 a	

Table 3.2 - Programming Performa Cv 962F Five Cycle Filter

Parameter	Description	Range of Values	Minimum Increment	Recommended Program Value	Units of
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G 2.2 a aa 🗝 amm aam 🛥 a.

Parameter	I	Description	Range of Values	Minimum Increment	Recommended Program Value	Units of Measure		Notes	
1	Da ฑ	a a	(1-7) 1:00-12:59 A \ \ \ \ (1-7) 0:00-23:59	(1 a) 1 ∿∎	Current Day and Time	H Vs	a Fa	a =1, \⁄g• =2,	13. E=3,

Table 3.3 - Programming Performa Cv 962 TC Electronic Time Clock Filter

G	2.2	a	aa		ลุกท	a an	-	a	
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Electronic Time Clock Operation

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Interval Backwash – E n C na ann a a a 30 a.– a a a Ca a . I a a 14.Ean :I5 ann 14– n a a– a a – n ann 2.

Day of Week Backwash - E n C na ann a a a a - - - a 2.3 a 17.

Application

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

Dual and Triplex Conditioners and Filters

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3.2 Mechanical

Series 942F Mechanical Control







3.2.1 Settings

– n Da,– Da Baara n naaaar – 942F .

Setting the Time of Day

a 🛩 C 🛛 Da clockwise a 🛥 a. 🛥 🛥 ฑ n a **,**a-aa 2:00 na a - a а a- a a a a **າ** , າ ฑ а a . F an, - a a a-a 4:00 a.n., 🛛 🛥 С Da 2a ∽a∽ a a n а.

Note: Do not rotate the Calendar Cap by hand.

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	CI	Da a		a		
a	a•.	a	-	n		

Setting the Days of Backwash

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Manual Backwash

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24 Hour Clock

n a C 942F 7 a 24+ _ a a,V∍a **n** . a .--12:00 .n. () a 12:00 a.ŋ. (ŋ 🖛) a - a a 1:00 a.n. 🗝 m 1- - 12, - 1 12:00 .¶.()a 12:00 🛥 a ล.ๆ. (ๆ 🦟) ล a a 🛩 m 13- - 24, - 13 1:00 .m.B -ฑ a a .



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 Explanat	ion	of	Paramet	er	Values	for the	962 Sir	ngle and	Para	Ilel Tank Controls	;
- A	a	a	a	a	a -	- 6	an n	a an	-	962	•

Number	Description of	Explanation
	Program Values	

Number	Description of Program Values	Explanation
5 a 12	Ca a	E - a a - , a (an). F an , a 3 ³ - a a a 25,000 a (1620 an) ³ , 75 . (25,000 a / ³) (3 ³) = 75,000 a = 75 a . (1620 an / ³) (3 ³) = 4860 an = 4.86 an . : 15 / a 30,000 a / 10 / a 25,000 a / 6 / a 20,000 a / a a a a a 1 a (1000 a) = 0.0648 an (64.8 an)
6 a 12		E a n a 2.1- – a – a n 100, – – n .F an , a 16-– a , – – – a 1.3 n.E 130 (1.3 n 100 = 130).
7 a 12	Baa	E a n a 2.1- a 12 na a. - a a n 100, - n . F an, a 16-a, - a a a 0.8 n. E 80 (0.8 n 100 = 80).
8	Ba ar n	8 . aa Ga 5 15 maaa
		a a a n.
10	Fa	n, n n n n n n a n n a n a n n a n a n n a n a n a a n a n a a n a n a n n a n a n a a n n n a a n n n a n n n n a n n n n a n n n <
		.F an , a a (I a C-249), a a 30 a (0.11 n ³) .A - 3 ³ 90 a (0.34 n ³) a a - na a ' nn a .(30 a/ ³ 3 ³) = 90 a .(0.11 n ³ / ³ 3 ³ = 0.34 n ³) a a - a .F - an , a n a 5 n (1.14 n ² /) a .E 18 n 10.(90 a /5 n) = 18 n (0.34 n ³ /1.14 n ³ / = 0.8 ⁻ / 60 n = 18 n).
12	n a Cn	aa.E0, 1 m. aa.E0.12== 1.24=
14	Ca a	$0 = a = a = 1 - 30 = \sqrt{16} n n n a$
15	່ Imm a a a	a/aa~. 2. Aan.
16 ***	F a a	I 15 a1 3, ∽ aa (a)(n ³)∽a ∽ aa 2a 15a. Aan
17	j a	aa.3= aaC a;4= aaF.

Number	Description of Program Values	Explanation
18	ล/ลล	A – 4a 5 – a a – 7 – a – ann a a na.
19	F	- $ -$
20	K- a a	- a 000.01 255.00 0.01 .H - n
21	ท a / a	- aan an - an aa a/aa a a - n a / a a 1 254 1- a 60 .A a - a a(a)A a/aa a a a na - ann n 7 - a a a 0.02 n a a na na a a n a a a
22	Fa	DO NOT CHANGE

– 962 – a12 24* n.ann 13(n) 12 naa – – aan.

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	ลๆ	n	12 (n	a)		3	4	
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***- a a a an a - a (L7- - L13)a A - , a a a .E an :90,000 a 5 10 a 3,90,000 / 10 = 9,000 a a a ,9,000 .3 (30% 16) = 2700 a , - - a L7 - -L13,- a a a .F - an ,- na a A - , 2700 a 1.2 (120% - a a a) = 3240 a .- a a a - a a a a a a na a .

4.0 Performa Cv Performance Charts and Graphs

4.1 General Specification



4.2 Injector Curves







4.3 Performa Cv Conditioner Performance Data

	Injectors L - R Flow Rate Charts (gpm)									
PSI	I	L	I	N		N		Q		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
	Injectors L - R Flow Rate Charts (Lpm)									
Bar	l	L	I	И		N		Q		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 4.1 - Performa Cv Injector Performance Chart

Table 4.2 - Service and Backwash Flow Performance Data

Flow vs Pressure Drop (gpm)			Flow vs Pressure Drop (Lpm)		
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°F (12.7°C) Water Temperature

Tank Diameter Inches (mm)	Bed Area sq. ft.	Anion Resin @ 3 gpm/sq ft (m ³ h/sq ft)	Cation Resin @ 5 gpm/ sq ft (m ³ 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)

Pressure Loss vs Flow (gpm)				
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 (Lpm	ו)		
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 4.4 - Performa Filter

Table 4.5 - Typical Backwash Flow Requirements for Various Filter Medias (based on 55°F (12.7°C) water temperature)

		GAC/CARBON FILT	FER-AG, CALCITE		
			GREENSAND		
			В	IRM	
				SAND, M	IULTI-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)	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)			

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* Vna 25 1.72 a

Typical backwash flow requirements for various filter medias (based on 55°F (12.7°C) water temperature.					
		GAC/CARBON FILT	ER-AG, CALCITE		
			GREENSAND		
			В	IRM	
				SAND, N	IULTI-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				
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Table 4.6 - Performa Cv Filter Sizing Selection Guide for Dual Unit Filters.

5.2 Preventative Maintenance

Injector Screen and Injector

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5.4 Removing the Control

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F 5.7

5.5 Identification of Control Valving



3 Brine/Slow Rinse Position



4 Fast Rinse Position



5.8 Performa Cv Filter Flow Diagrams

1 Backwash Position





Valve Troubleshooting

Problem	Possible Cause	Solution
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962 Control Troubleshooting

Alarms

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6.3 Performa Cv Controls



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