

Autotrol Performa™ Cv

Conditioner/Filter

Water Control System

Installation, Operation and Maintenance Manual

— n a :



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1.0 Performa Cv System

1.1 Specifications

1.1.1 Performa Cv Conditioner

Flow Rates (Valve Only)

@ 15 (1.03 a)	25.0	η (5.7 η ^{3/4})
Ba a (C) @ 25 (1.72 a)	20.0	η (4.5 η ^{3/4})
	C = 6.5 (K = 5.58)	
Ba a C	C = 4.0 (K = 3.46)	

Control Configurations

962 Microprocessor Demand System and 962 Electronic Timeclock

Ba a	4	60 η
B	E	a a a
	7	125 η
Fa	2	19 η
E a B a - η F		

Valve Connections/Dimensions

a a	2-1/2	- 8, η a
I ↓	1-3/4	- 12 C-2A, ., a027(. .)-27(.

1.1.2 Performa Cv Filter Specifications

Flow Rates (Valve Only)

@ 15 (1.03 a)	25.0	η (5.7 η ³)
Ba a (F) @ 25 (1.72 a)	25.0	η (4.5 η ³)
	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	η
F Fa	9	η

962F Microprocessor Demand

Ba a	4	60	η
Fa	2	19	η

962 FTC Electronic Time Clock

Ba a	4	60	η
Fa	2	19	η

Interval Regeneration.....Da a

Valve Connections/Dimensions

a a	2-1/2	- 8, ηa
I ↓	1-3/4	- 12 C-2A, ηa
D a L	3/4-	, ηa
B L	3/8-	, ηa
D ↓ .D.	1.050	(27 ηη)
D L	1/2, 1/2	(13 ηη, 13 ηη) a

Operating

a B	Ga -	a
C η	C η	a
(a - C)	4.5	(2.0)
a η ↓	12	AC 400 ηA (4.6 A)
a η I	115	50/60 H , 230 50/60 H
		100 50/60 H
↓ a	10	120 (1.37 8.27 a)
	Ca a a: 20	100 (1.37 6.89 a)
a η a	34°	100°F (1° 38°C)

Options

B a a , V _a 1265	1-3/4	- 12 C - 2A ηa
B a I ↓ F K :		
C , a A a	1-1/4-	, 1- , 3/4- , 28-ηη, 22-ηη
C C, A a	1-	, 3/4- , 25-ηη
a B A a	1-	ηa , 3/4- ηa
B a B A a	1-	ηa , 3/4- ηa

Flow Meter 962 Control 1- A

4.1 a a .

1.2 Installation

A. The water line connection should be made to the water line. The water line should be at least 1/2 inch (1.3 cm) larger than the water line.

Location Selection

1. The water line should be at least 1/2 inch (1.3 cm) larger than the water line.
 2. The water line should be at least 1/2 inch (1.3 cm) larger than the water line.
 3. The water line should be at least 1/2 inch (1.3 cm) larger than the water line.
 4. The water line should be at least 1/2 inch (1.3 cm) larger than the water line.
- H. The water line should be at least 1/2 inch (1.3 cm) larger than the water line.
- 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. The water line should be at least 1/2 inch (1.3 cm) larger than the water line.
6. The water line should be at least 1/2 inch (1.3 cm) larger than the water line.
7. The water line should be at least 1/2 inch (1.3 cm) larger than the water line.

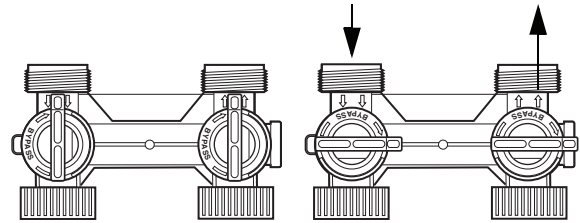
Water Line Connection

The water line connection should be made to the water line. The water line should be at least 1/2 inch (1.3 cm) larger than the water line.

The water line should be at least 1/2 inch (1.3 cm) larger than the water line.

The water line should be at least 1/2 inch (1.3 cm) larger than the water line.

Not in Bypass



F 1.1 - A

1265 B a a

F 1.2 - a G a B a n

Drain Line Connection

Note: The drain line connection should be made to the drain line. The drain line should be at least 1/2 inch (1.3 cm) larger than the drain line.

1. The drain line should be at least 1/2 inch (1.3 cm) larger than the drain line.
2. The drain line should be at least 1/2 inch (1.3 cm) larger than the drain line.
3. The drain line should be at least 1/2 inch (1.3 cm) larger than the drain line.

1.3 Placing Performa Cv Conditioner/Filter into Operation

A a a a a . F a

1. ၈၈

Note: ➤

— **COUNTERCLOCKWISE**

2. a a COUNTERCLOCKWISE
BACKWASH.

3. F ကလေးလေး
 အ. , အ. ()

 အ. 1/4 .

IMPORTANT: I _____ a _____ a, η a
 ကာ . | - 1/4 _____ , - - a
 a a _____ η a .

Conditioner

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 1 — (25 က) လ — လ က.

- 5.
- a. —
- a. — a a — a . H a —
— a a — D . a — a
A a — a
COUNTERCLOCKWISE
BRINE REFILL
- **COUNTERCLOCKWISE**
— **BRINE/SLOW RINSE**

Troubleshooting

COUNTERCLOCKWISE
REGENERATION COMPLETE

Filter

A η a a :

- a. A — a— a
 (a ————— a —————)
 ————— a— a. Ba ———
 a a a a a a 15 a
 a . a ————— a ———
 a.
 Ca ————— a ————— a a
 a a a 12 ————— a a
 a ————— a ——— .
 . A ————— a ————— a
 a a ————— a a BACKWASH
COMPLETE.

Electrical Connection

100 VAC, 115 VAC, and 230 VAC units: ๓

1. B. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

12 VAC: C — — a ၈ ()
 a a — ၈a — a a
 ၈ — ၈ — .B a — a ၈
 a — a — a
 a — a — a a — .

1.4 Disinfection of Water Conditioners

[illegible]

Sodium or Calcium Hypochlorite

Application

— ၈၈ —

5.25% Sodium Hypochlorite

a C B a * . | a a a , a

1. D a

a. :1.2

- a :0.8

2. B a

a. Ba a — a a —
 aη — — —
 — a . (a — — a
 a η — a
 — .)
 . — — ηa a .

Calcium Hypochlorite

[illegible]

1. D a

a. a (a ၇၈ 0.1)

2. B a

a. Ba a — a a —
 aη — — —
 a . (— a — — a a
 η — — a
)
 — — η a a .

*C Ba a a na - C C na .

2.2 Programming and Application

962
 2.4.1
 (a 2.4)
 "1."

Note: I a

Day of Week/Time of Day

SET
 Da
 UP ARROW (↑)
 DOWN ARROW (↓)
 LEFT ARROW (←)
 -7()7.-16.4-16.4(.2()7 D0.01 2()7

Level I Parameters (Table 2.1)

L I a a a
 LED a
 DOWN ARROW (↓)
 L I a a
 Da
 Ha
 a An
 Ca a
 DOWN ARROW (↓)
 Da
 UP ARROW (↑)
 a 2.1 a
 SET
 UP ARROW (↑)
 DOWN ARROW (↓)
 LEFT ARROW (←)
 LEFT ARROW (←)
 Note: I
 UP ARROW (↑)
 DOWN ARROW (↓)
 10
 LEFT ARROW (←)
 .C
 SET
 .A a na 30
 Ca a

Salt Amount

a An — a a . — a
 a a An 6 (2.7 an)
 a ; a 2.2 a .

Note: — — a an a a
 a , . l 6
 a a , — SET a — a —
 η . l 6 a a , — DOWN
ARROW (↓) .

Capacity

Ca a — a a a
 a (an). a 2.2 —
 a a .7(a)24.=23.1(1()8.8()-291.4()24.4(2.)-8.4(2 A1()-9.

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

P5 Capacity Setting K a (K aη)	η a ()				
	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)

L II a aη a 6 22 a
2.4. a L II a aη , η a
a — DOWN ARROW (↓) a UP
ARROW (↑) . A, = η
a .
a 2.4 — a aη a a —
a, = η . UP ARROW (↑)
DOWN ARROW (↓) η η a aη
— a — a — — = η
a 2.1 a a 2.4. — a
22; η a 1.
— a aη η a — a
a , LEFT ARROW (←)
a — a a a — a a aη . —
SET a a — η — a
a a . I a — a — η ,
UP ARROW (↑) DOWN ARROW (↓)
— η — — a , —
LEFT ARROW (←) . — — η
— SET — η a a
— a — . I a
— a a a . a 2.4
a a a — a a aη .
— a — a aη , — LEFT
ARROW (←) — a — a — =
η — UP ARROW (↑)
a (↓) η — a aη η
— a .
— L II a aη η , η a
a — DOWN ARROW (↓) a UP
ARROW (↑) — , a 30
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a a — a a , F
a a Ca a .
a a aη a — a
— — a — a a a
a a a a — a
— η a a

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 າ . າ SET າ າ
 າ . າ 2.2 າ າ
 ກ ລາ 7 າ າ ັ
 າ າ . າ SET າ າ າ
 າ . າ 2.2 າ າ
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 າ ັ າ (10) າ ັ
 າ B D າ / າ .
 ັ າ າ າ 8.
 ັ າ າ .

20 20 19 = 3 4.
 K-
 21
 1

Programming Day of the Week Regeneration/ Backwash

E Da — a / a a
 a a — LEFT ARROW (←)
 a — DOWN ARROW (↓)
 a a 3 . a a — a
 1, 2, 3, ., — a. — a —
 a / a a — . a a
 — a a, — a — 0 a 1. — a a a
 a 30 . l
 — a — a a
 — a — a
 — a / a a .

Table 2.3 - Day of Week Regeneration/Backwash

#	Description of Parameter	Set as required 0 = No - 1 = yes	Notes
1	a	A	0 = a a 1 = a a — a
2	V _a a	A	0 = a a 1 = a a — a
3	a	A	0 = a a 1 = a a — a
4	a	A	0 = a a 1 = a a — a
5	— a	A	0 = a a 1 = a a — a
6	F a	A	0 = a a 1 = a a — a
7	a a	A	0 = a a 1 = a a — a

Reserve Options

— a — a : — a a 16 30 — — a a
 a a a a a 30% — a a a — a
 a). — a — a a 15. a a a .

Fixed Reserve

— a a a 15 a — —
 — a a — a
 — a a 2 a a a , —
 — a a a a a —
 a a a a — a .

Smart Reserve (water usage pattern)

— — a — a —
 — a — a a a
 — a . — a — a
 a a a — a — a a ,
 a a a a 1.2 a — — a
 a . E a a a a ,
 a a — a , a a a . l — a
 10% a a , a a a a ,
 — a — a , a a . l a —
 a , a a , — a a a
 — a a .
 — a a a — a — a a ,
 — a a 16 — a a a
 a a a a a a — .

2.3 Conditioner Programming Tables

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

Parameter	Description	Range of Values	Minimum Increment	Recommended Program Value	Units of Measure	Notes
6		2-200	1	Selected from Table 2.2		
7	B	2-200	1	Selected from Table 2.2		
9	Ba	4-60	1	14*	Vb	*Vb

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	Day of the Week	(1-7) 1:00-12:59 A V V (1-7) 0:00-23:59	(1 a) 1 V	Current Day and Time	H V	13. F a =1, V =2, E=3, ED=4, H =5, F I=6, A =7, HI I HE LEF V DIGI HE DI LA
2	Time of Day	1:00-12:59 A V 00:00-23:59		As required	H V	a 13
3	A			10		
4	a a	.5-125.0 .2-50.0	.5 .2	Selected from Table 2.2	K a	
5	a a			10		
6		2-200	1	Selected from Table 2.2		
7	B a a	2-200	1	Selected from Table 2.2		
9	Ba a	4-60	1	14*	V	*V a a a
10		7-125	1	40*	V	*V a a a a a a a
11	Fa a	2-60	1	4*	V	*V a a a
12	a a	0-1	1	0		0 = , 1 = V
13	C a	0-1	1	0		0 = 12, 1 = 24
14	I a a Ca a	0-30	1	0	Da a	0 = a - *V a a a
15	D a a			0		
16	D a a			30		
17	a	3-4	1	6		6 = 962 C
18	a a L	0-1	1	0		0 = , 1 = a /Ca a a
19	D a a					
20	D a a					
21	a a	0-254	1	60		a a a a
22	Fa D CHANGE			99		

G 3.2 a a a a a a a

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	Day of Week	(1-7) 1:00-12:59 A/V (1-7) 0:00-23:59	(1 a) 1 V	Current Day and Time	H V	13. F a =1, V =2, E=3, ED=4, H =5, F I=6, A =7, HI I HE LEF V DIGI HE DI LA
2	Day of Week	1:00-12:59 A/V 00:00-23:59		As required	H V	a a 13
3	Day of Week			10 100	V	
4	Day of Week			0.5		
5	F a a			As required	V	D a a (a) a 100 a 5. D a a (a) 10 a a 5.
6	Day of Week			200		
7	Day of Week			200		
9	Ba a a	7-60	1	14*	V	*V a a a
10	Day of Week			8		
11	Fa a a	9-60	1	9*	V	*V a a a
12	a a	0-1	1	0		0 = , 1 = V
13	C a	0-1	1	0		0 = 12 1 = 24
14	I a a	0-30	1	0	Da	0 = a - *V a a a
15		0-3	1	0	F a a a a E a a a a a = F 2 a 24.	0 = a a , 1 = F a a , 2 = a a a a , 3 = a a a a a
16	F a	0-70	1	30	a Da A a	a Da A a
17	a a	0-7	1	4	4 = F a C	4 = F a C
18	a a L	0-1	1	0		0 = , 1 = a /Ca a a
19	F	1-4	1	1		1 = 1=A , 3 = D K- a , 2 = 2=A a , 4 = D
20	K- a E a	0.01-255.0	0.01	0.01	E a a a	E a a a
21	a a	0-254	1	60		a a a a
22	Fa D CHA GE			99		

G 2.2 a a a a a a a a

Table 3.2 - Programming Performance Cv 962F Five Cycle Filter

Parameter	Description	Range of Values	Minimum Increment	Recommended Program Value	Units of
-----------	-------------	-----------------	-------------------	---------------------------	----------

G 2.2 a a a 1 a a a a a 1 a .

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

Parameter	Description	Range of Values	Minimum Increment	Recommended Program Value	Units of Measure	Notes
1	Day of the Week	(1-7) 1:00-12:59 A V _h V _h V _h (1-7) 0:00-23:59	(1 a) 1 V _h	Current Day and Time	H V _h F a	a =1, V _h =2, E=3, 13.

G 2.2 a a a 1 a a a a 1 a .

Electronic Time Clock Operation

When the system is in the "On" position, the clock will automatically start the backwash cycle. The backwash cycle will run for a set time, typically 10 minutes, and then stop. The system will then return to the "On" position and the cycle will repeat.

The backwash cycle is controlled by the electronic time clock. The clock will start the backwash cycle at a set time, typically 10 minutes, and then stop. The system will then return to the "On" position and the cycle will repeat.

Interval Backwash — E The clock will start the backwash cycle at a set time, typically 10 minutes, and then stop. The system will then return to the "On" position and the cycle will repeat. The backwash cycle will run for a set time, typically 10 minutes, and then stop. The system will then return to the "On" position and the cycle will repeat.

Day of Week Backwash — E The clock will start the backwash cycle at a set time, typically 10 minutes, and then stop. The system will then return to the "On" position and the cycle will repeat. The backwash cycle will run for a set time, typically 10 minutes, and then stop. The system will then return to the "On" position and the cycle will repeat.

Application

The system is designed to operate at a temperature of 962°F. The system will automatically start the backwash cycle at a set time, typically 10 minutes, and then stop. The system will then return to the "On" position and the cycle will repeat.

Dual and Triplex Conditioners and Filters

The system is designed to operate at a temperature of 962°F. The system will automatically start the backwash cycle at a set time, typically 10 minutes, and then stop. The system will then return to the "On" position and the cycle will repeat. The backwash cycle will run for a set time, typically 10 minutes, and then stop. The system will then return to the "On" position and the cycle will repeat.

Series 942F Mechanical Control

η - α α η



Da Da Ba a a
na a a a 942F

a clockwise

a . na . -- na a
; a aa aa na 2:00
a.na.l - a - a aa aa
a a na , na na a
a .F ana , - a - a aa aa
4:00 a.na., - C Da E a - a -
a a na a.

C Da — Ca a Ca a . na a
— Ca a Ca , a — C Da
clockwise n a

Da a a a
C D a a a
a a a a a

a η :

1. a a a .
2. - - a () - a () - - a
 a a

2:00 a.m. Ca Ca
 EX DA
 2:00 a.m. F E

Manual Backwash

E a a 1 a

ka a 1 ka a a a 1

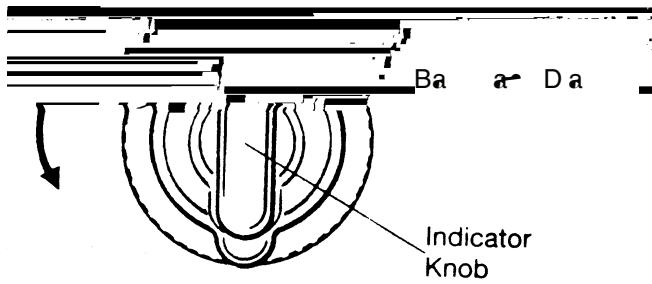
1 ka a 1 1 a K

$\frac{1}{n} \cdot n = 1$, $n - 1 = n - 1$

— ηαC 942F α24
— α. — α α, V α η =
— — — α 12:00 α.η. (η —) α
12:00 .η. (—) α α α
— η — 1 — 12, — 1 1:00 α.η. —
— — α 12:00 .η. (—) α 12:00
α.η. (η —) α α α —
η 13 — 24, — 13 1:00 .η. B
— — η α α

Adjusting the Backwash Setting

Ba a Da (F 3.2) a a
 n . I a K BACK A H
 Q V LE E , a Ba a Da
 a a a a
 .A a a
 a a a a
 a a a Ba a Da
 na a Ba a Da
 W E = a a n .



F 3.2 Ba a C n

Table 3.4 - Cycle Times for 942F Control

Cycle	Time (Minutes)
Ba a	8 - 30
	9

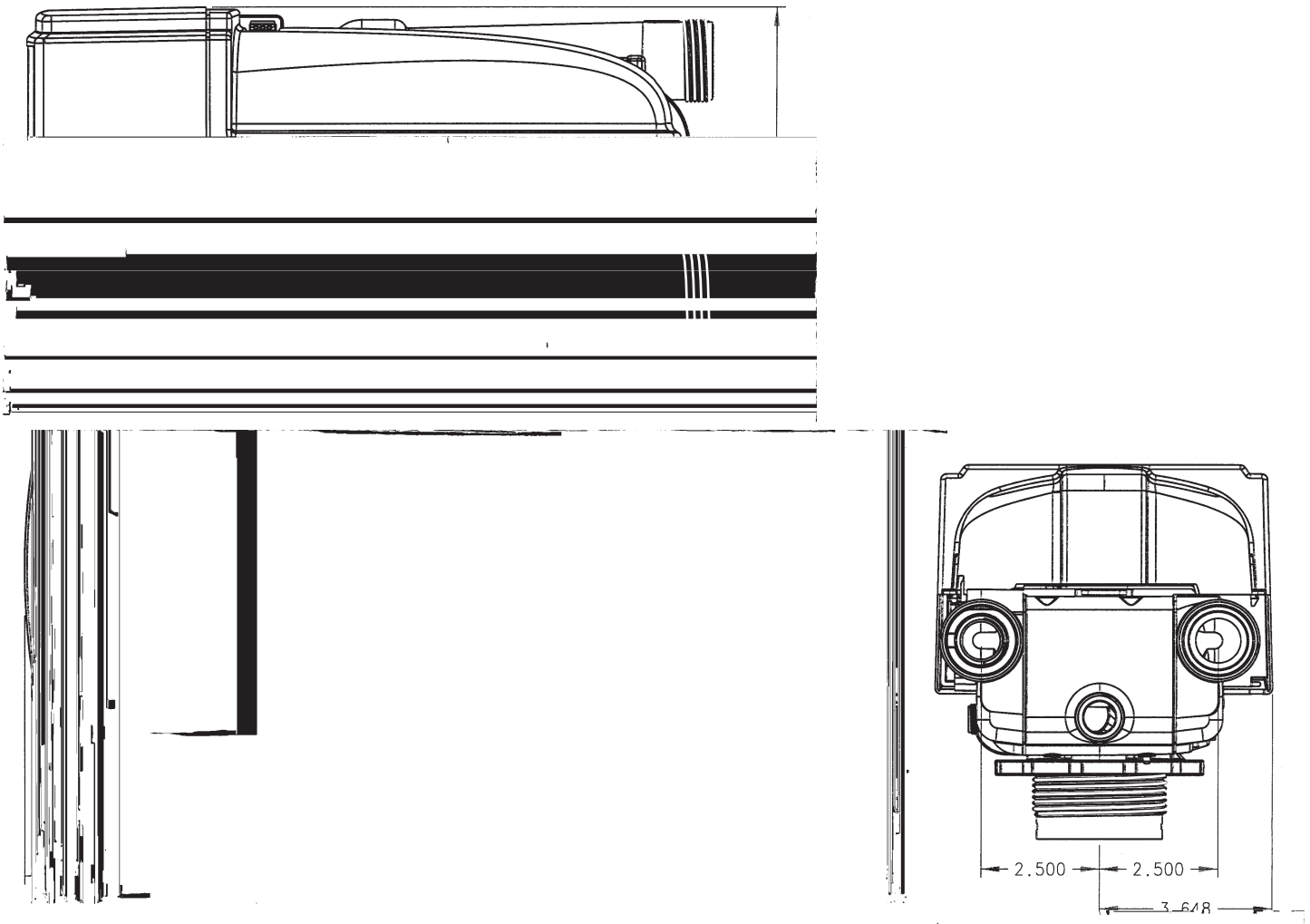
3.3 Explanation of Parameter Values for the 962 Single and Parallel Tank Controls

— a a a a a — a a a a a a — 962 .

Number	Description of Program Values	Explanation
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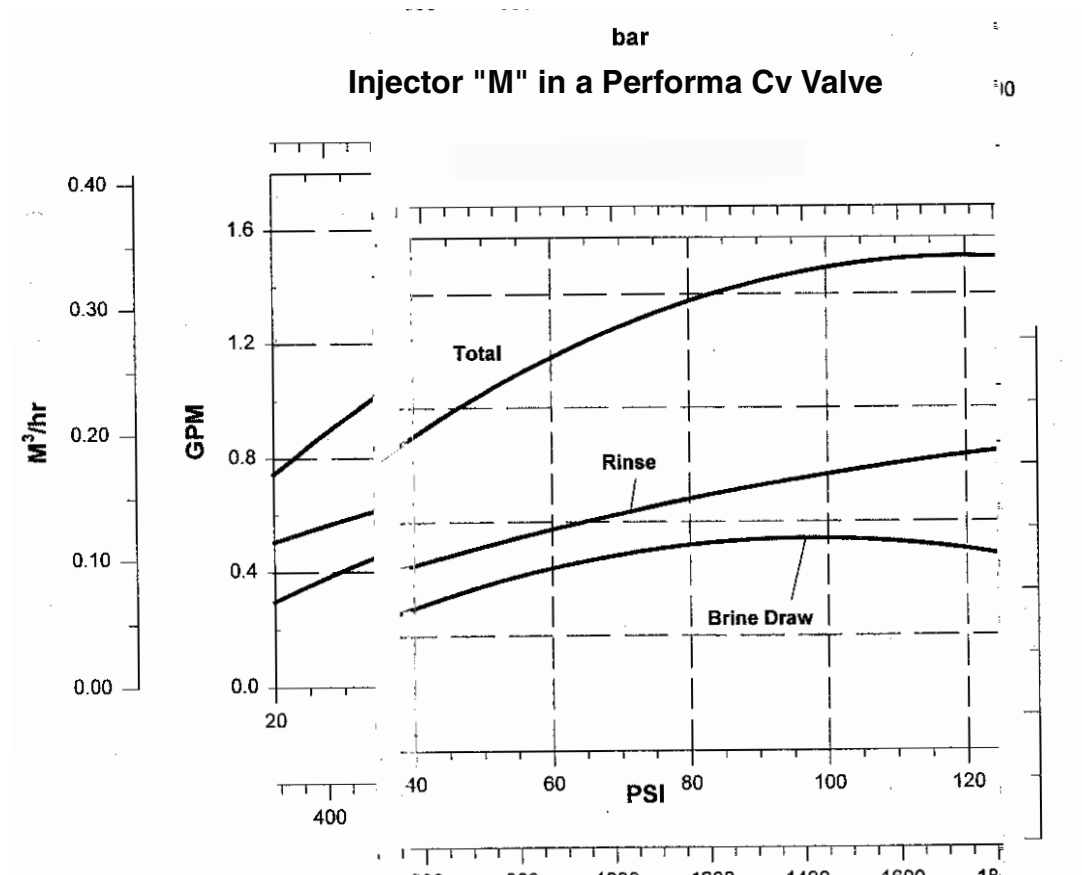
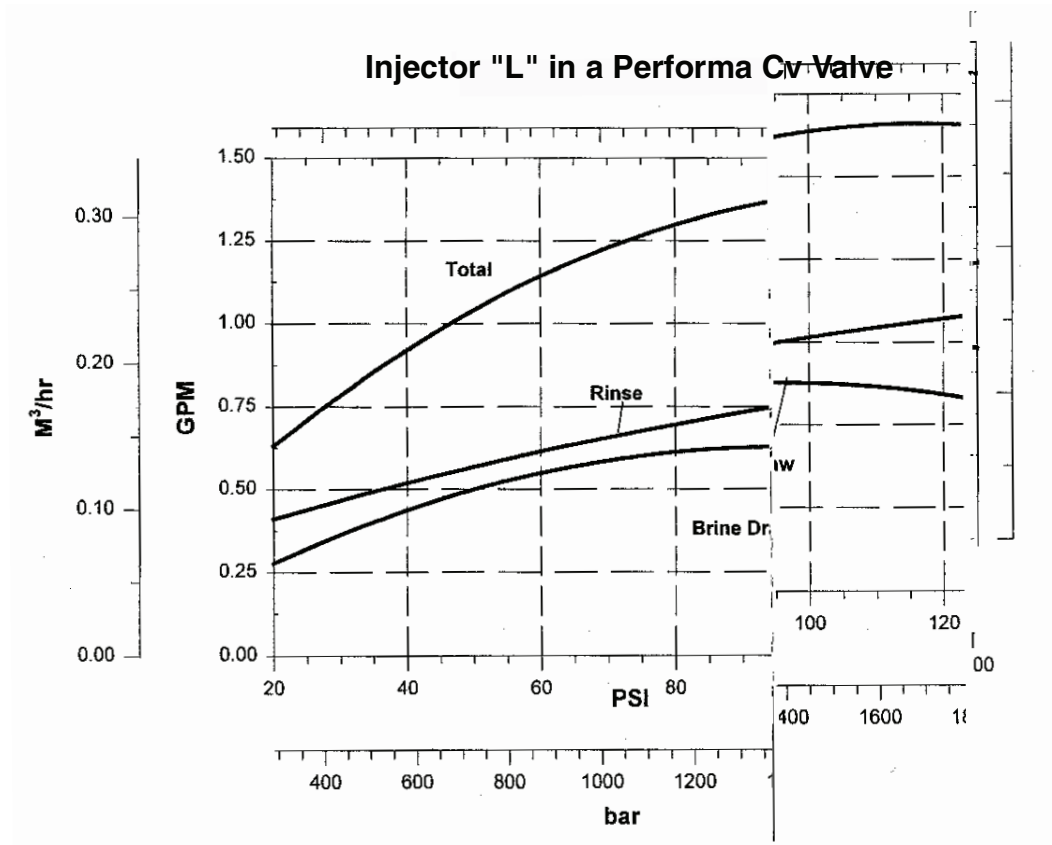
4.0 Performa Cv Performance Charts and Graphs

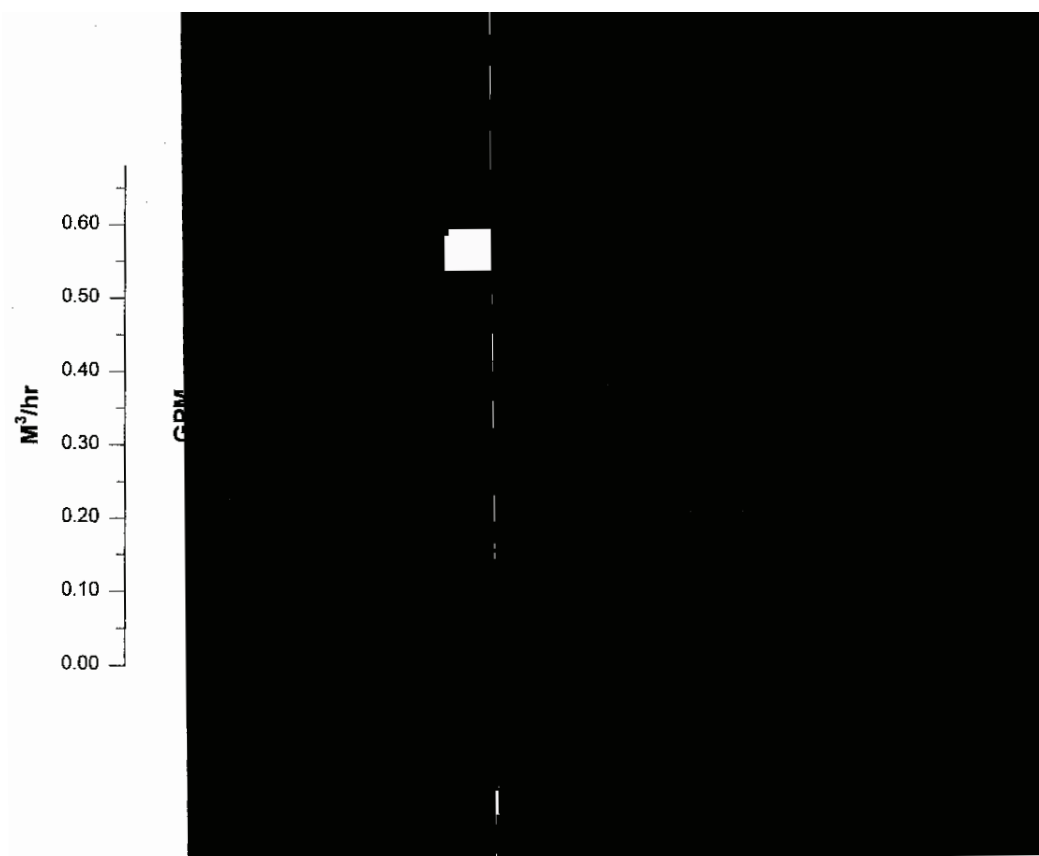
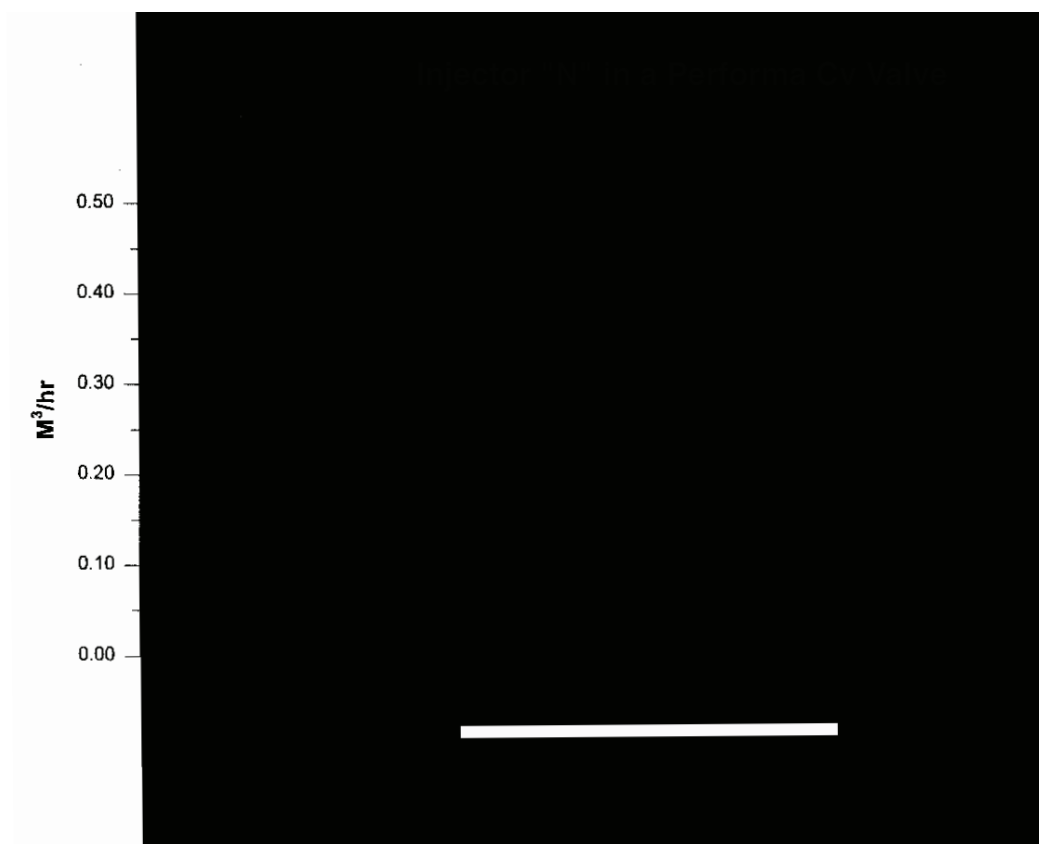
4.1 General Specification

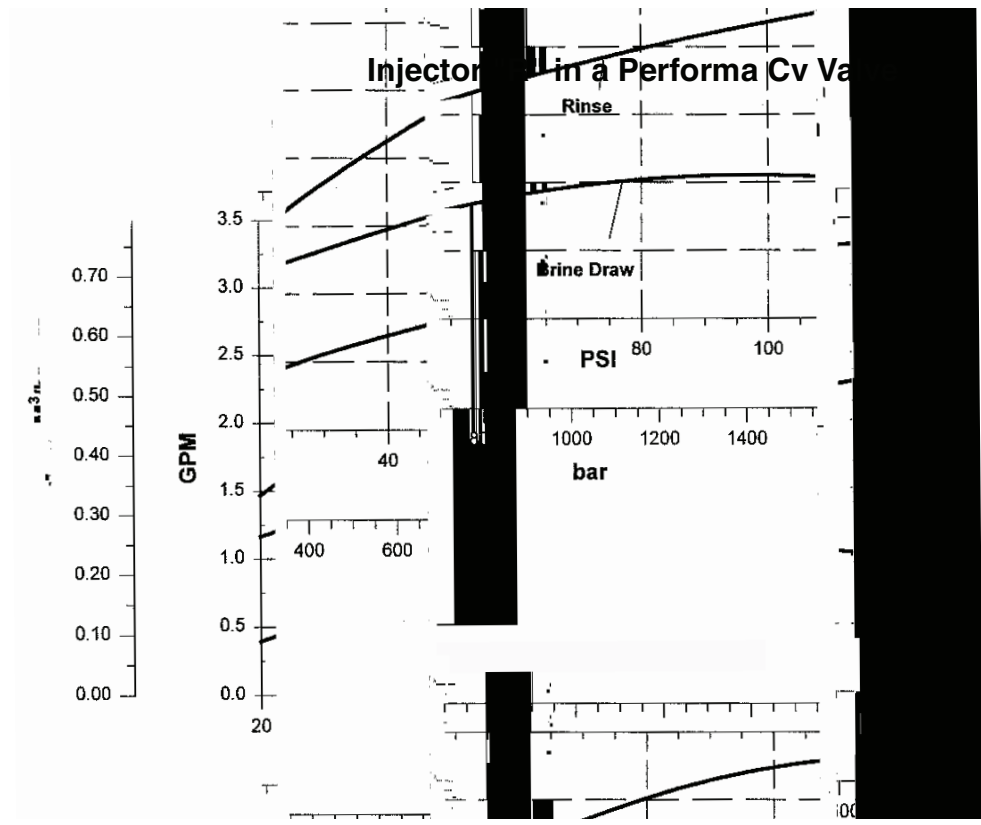


H	a		300	(20.69 a)
a	a	E a a	.....	20-120 (1.38 - 8.27 a)
		942F: 7 a 12 a /24 50 H 12 a n , 60 H 120 a 12 a n		
E	a	C (a a a )	.....	.60- (1.5-n) 3-
	a	a	.....	2-1/2- 8na
	D	a n	.....	1.050- D (26.7-nn)
	L	a	.....	1/2 - 1/2 - (13nn - 13nn) - a - a
a	a	C	.....	1- (25.4-nn) a a
a	a	C	.....	1-1/4- , 3/4- , 22-nn, a 28-nn a a
		3/4- B , 1- B , 1- a		a a
		3/4- , 1- , 1-1/4- , 25-nn C C		a a
B	L	C	.....	3/8- na
D	a	L C	.....	3/4- na
a	B	a a	.....	a - a , 1- , a
C	V	a A a	.....	a
	G		.....	C n a
a	n	C (n )	.....	942F: A a a 7- 12- a E - , G na , F - , la a , a - , Ja a
		962, 962F, 962 C, 962F C: A a a E - , G na , F - , la a , a - , Ja a		
B	C		.....	.0.74 a 1.3 G V
E	a	Ba a C	.....	.5, 7, 10, 12, 15, 20 G V B 20 G V n

4.2 Injector Curves







4.3 Performa Cv Conditioner Performance Data

Table 4.1 - Performa Cv Injector Performance Chart

Injectors L - R Flow Rate Charts (gpm)										
PSI	L		M		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		M		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 4.2 - 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)

Table 4.4 - Performa Filter

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)		
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°F (12.7°C) water temperature)

		GAC/CARBON FILTER-AG, CALCITE			
		GREENSAND			
			BIRM		
				SAND, MULTI-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)			

* $V_{\text{max}} = 25 \text{ ft}^3/\text{min}$ at 1.72 gpm/sq ft

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

Typical backwash flow requirements for various filter medias (based on 55°F (12.7°C) water temperature.					
		GAC/CARBON FILTER-AG, CALCITE			
		GREENSAND			
			BIRM		
				SAND, MULTI-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				

* $V_{\text{backwash}} = \frac{A \times \text{Flow Rate}}{2.31 \times \text{Head}}$

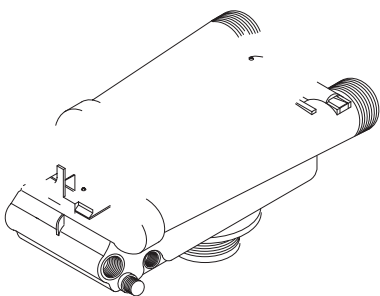
5.2 Preventative Maintenance

Injector Screen and Injector

1. Remove the injector screen and injector.
2. Clean the injector screen and injector.
3. (a) Remove the injector screen and injector.
4. (F 5.1).
5. Clean the injector screen and injector.
6. (F 5.1).
7. (F 5.1).
8. (F 5.1).
9. (F 5.1).
10. (F 5.1).

IMPORTANT: D

11. (F 5.1).
12. (F 5.1).



F 5.1

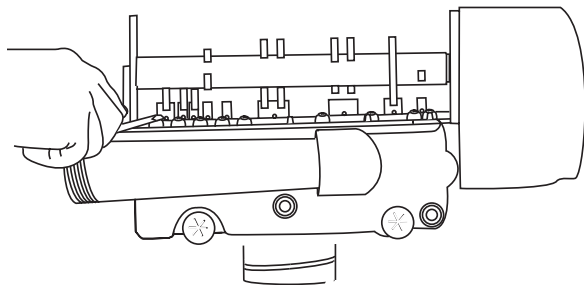
Water Meter Maintenance

1. Remove the water meter cover.
2. (F 5.1).
3. (F 5.1).
4. (F 5.1).
5. (F 5.1).
6. (F 5.1).
7. (F 5.1).
8. (F 5.1).
9. (F 5.1).

* (F 5.1).

5.3 Removing the Valve Assembly for Servicing

1. Remove the valve cover cap.
2. Remove the valve cover cap gasket ().
3. Remove the valve cover cap (F 5.2).



F 2

4. Remove the valve cover cap gasket ().
5. Remove the valve cover cap ().
6. Remove the valve cover cap ().

5.4 Removing

- C 960
1. Remove the valve cover cap ().
 2. Remove the valve cover cap ().
 3. Remove the valve cover cap ().
- 5.3. L

F 5.3

4. Remove the valve cover cap ().

F 5.4

5. Remove the valve cover cap ().
- 5.5.
- 5.6.

F 5.5

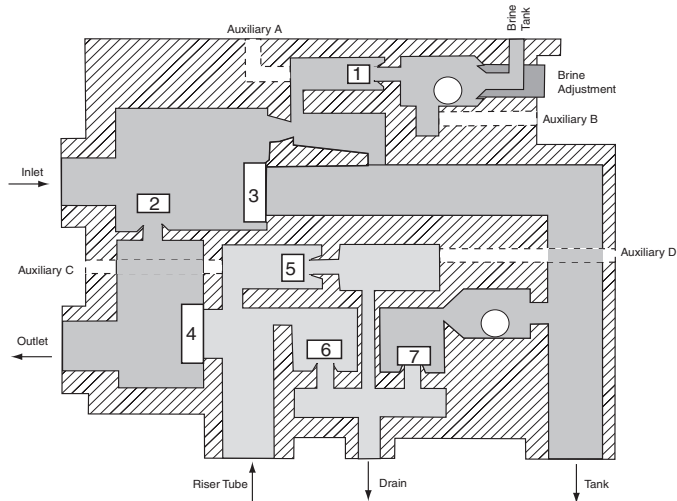


F 5.7

5. Identification

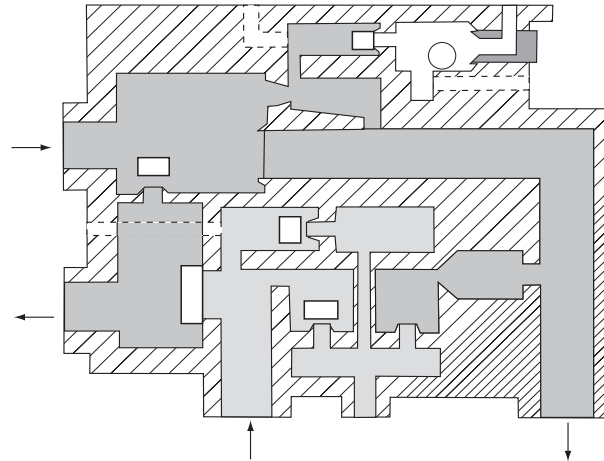


3 Brine/Slow Rinse Position



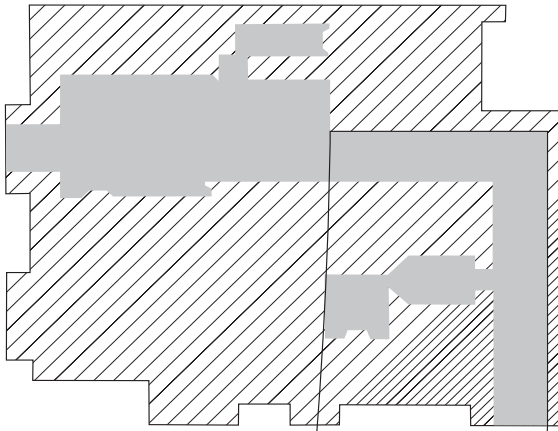
Name	Valve No.
Brine	1 - Open
By-Pass	2 - Open
Inlet	3 - Closed
Outlet	4 - Closed
2nd Tank Top	5 - Open
Purge	6 - Open
Backwash	7 - Closed

4 Fast Rinse Position

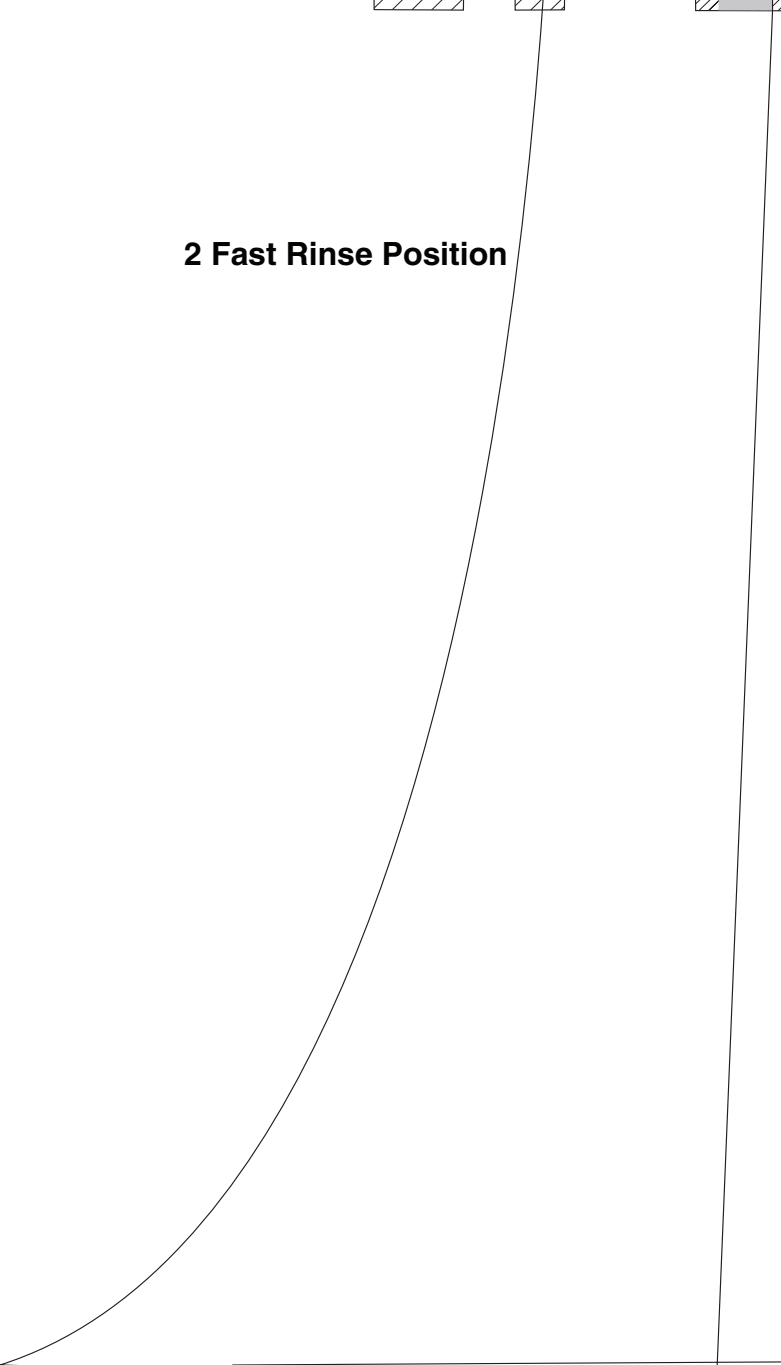


5.8 Performa Cv Filter Flow Diagrams

1 Backwash Position



2 Fast Rinse Position



5.9 Troubleshooting

IMPORTANT:

1. If the engine does not start, check the following:

- A. Fuel: Is the fuel tank full? Is the fuel valve open? Is the fuel filter clean?
- B. Air: Is the air filter clean? Is the air intake system free of obstructions?
- C. Spark: Is the spark plug clean and properly gapped? Is the spark plug wire connected correctly?
- D. Oil: Is the oil level correct? Is the oil clean?
- E. Battery: Is the battery fully charged? Are the battery terminals clean and tight?
- F. Ignition Switch: Is the ignition switch in the "ON" position?

Replacement Parts

Valve Troubleshooting

Problem	Possible Cause	Solution
1. C	a. L b. I c. I d. a (2 a / 4)	a. 30 b. C c. a d. 30
2. B	a. Dana b. B (1) c. a (3 4) d. A	a. 30 b. 30 c. 30 d. 30
3. F	a. I b. F	a. C b. 30
4. I	a. L b. D	a. 30 b. 30
5. a	a. a b. a	a. 30 b. 30
6. C	a. I b. F	a. C b. 30
7. F	a. D (6 7) b. a	a. 30 b. 30
8. Ha	a. I () 30.4 () 30.4 () 7(a)-30.2 0.4 () 4 () 6061 -1.	a. 30

962 Control Troubleshooting

Alarms

— V 962 n a



6.3 Performa Cv Controls

