

Autotrol Performa™ Cv

Conditioner/Filter

Water Control System

Installation, Operation and Maintenance Manual

It is not to be installed

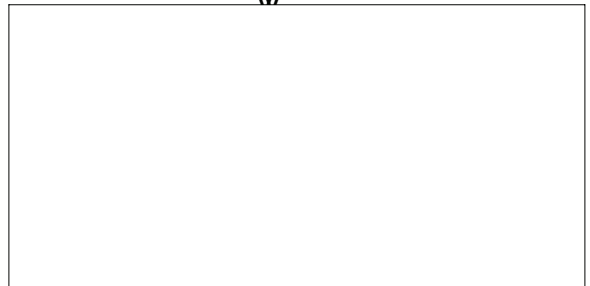


Table of Contents

1.0	rf rma Cv S et m	3
1.1	Sp cificati n	3
1.2	Insta ati n	5
1.3	Xacin rf rma Cv C n it n r/ iX r int Op rati n	7
1.4	Inf cti n f Wat r C n it n r	
2.0	rf rma Cv j62 C ntr X	j
2.1	Int ucti n t h rf rma CV C n it n r an iX r S et m	j
2.2	rammin an ppcati n	10
2.3	C n it n r rammin Tab	16
3.0	rf rma Cv iX r VaX an C ntr X, j62, j62 TC, j42	1
3.1	rammin an ppcati n	1
3.2	E p anati n f aram r VaX et rh j62 S in X an ara X Tan C ntr X	24
4.0	rf rma Cv rf rmanc a art an rap	27
4.1	n raXp cificati n	27
4.2	Inj ct r Curv	2
4.3	rf rma Cv C n it n r rf rmanc ata	31
5.0	rf rma Cv S rvic an Tr ubX .. tina	34
5.1	it ricaX ata	34
5.2	r v ntativ Maint nanc	35
5.3	R m vinah VaX et mbX f r S rvicina	36
5.4	R m vinah C ntr X	36
5.5	P ntificati n f C ntr X VaX ina	3
5.6	VaX isc rincipX f Op rati n	3
5.7	rf rma Cv C n it n r X v iaaram	3
5.8	rf rma Cv iX r X v iaaram	40
5.9	Tr ubX .. tina	41
6.0	rf rma Cv art	44
6.1	VaX C mp n nt E pX .. Vi v	44
6.2	art it	45
6.3	rf rma Cv C ntr X	46

1.0 Performa Cv System

1.1 Specifications

1.1.1 Performa Cv Conditioner

1.1.2 Performa Cv Filter Specifications

Flow Rates (Valve Only)

Service (15 psi (1.03 bar) max p)	25.0 gpm (5.7 m ³ /h)
Backwash (125 psi (8.6 bar) max p)	25.0 gpm (4.5 m ³ /h)
Service	Cv = 6.5 (v = 5.5)
Backwash (125 psi (8.6 bar) max p)	Cv = 5.0 (v = 5.7)

Control Operation

942F Mechanical Clock Timer - 7 Day or 12 Day

Backwash	30 minutes
Initial Fast Rinse	1 minute

962F Microprocessor Demand

Backwash	4 to 60 minutes
Fast Rinse	2 to 15 minutes

962 FTC Electronic Time Clock

Backwash	4 to 60 minutes
Fast Rinse	2 to 15 minutes

Interval Regeneration..... a full W R a n r a t i o n

Valve Connections/Dimensions

Top Thread	2-1/2 inb 3/4 - 14, max
Inlet/Outlet	1-3/4 inb 3/4 - 12 UN C-2, max
rain in	

1.2 Installation

Combination electrical connections must be made in accordance with the instructions.

Inspect unit carefully for carrier damage before installation.

Location Selection

- The distance between unit and air rain or water should be at least 100 mm.
- If it is installed at a supply vent or return vent, the unit should be installed in a location where the air flow is not obstructed.
- Since the unit must be installed in a location where the air flow is not obstructed, the unit should be installed in a location where the air flow is not obstructed.
- The unit should be installed in a location where the air flow is not obstructed. The unit should be installed in a location where the air flow is not obstructed. The unit should be installed in a location where the air flow is not obstructed.

6) On a flat

4. M r h rain n is vat but mpti int a
 rain b v h v f h nte vav , t rm a
 v-inb (1 -cm) path far n f h n h at
 h b t m f h p is v v h h rain n
 n n cti n. T is v v an a uat ip n
 trap.

5. M r h rain mpti int an v m a v r
 n , a in -t p trap must b u s .

IMPORTANT N v r in rt rain n int a rain, v r
 n r trap. va a v an air ap b t v nh rain
 n an h vast vat r t pr v nth p sibi f
 s va b in bac -ip n int h n it n r.

iaur 1.3

Note.7(an ov)-6.592681n ov ba0.6(l)8.1()prac-6.6(t)15.3(e)-16.3(lc-6.6(e)0.6(l)17.9()ha)-6.6(enbeien-23.8()2T62681n o

1.3 Placing Performa Cv Conditioner/Filter into Operation

ft raxor vi uet pñ av b n o mpXt v, h unitiè
r a v b p ac v int . p rati n . v h è èt pè
car fu.

1. R m v o nte vax v v r b first v pr èèina h
pæstic c p s f m h f e nt, f h v r. u x f e nt, f
v r up.

Note T h è v in a èt pè v i x v v uir turnina h
c c x in v icat r t vari u è p èti n è. Manua è tat
h cam è aft **COUNTERCLOCKWISE** n x unti x
c c x in v icat r p int è t è èir v p èiti n . (è
manua r a n rati n è cti n è f r ab v nte x è
manua p rati n .)

2. R tat c c x in v icat r **COUNTERCLOCKWISE**
unti x t p int è èir c t x t h è r **BACKWASH**.
3. i x m v ia tan v h vat r .
a. Wh vat r èuppX ff, p ac h b p a èè vax (è)
int h è r vic è p èiti n .
b. Op n vat r èuppX vax v r è x v x t
app è imat x h 1/4 p n p èiti n .

IMPORTANT: If p n è t è rap v x r t è far, m v ia
ma b è èt. In h 1/4 p n p èiti n , è u è è u h ar
air ècapina è x f m h è rain x n .

Conditioner

- a. V h n a x f h aih a è b n pura v f m h
tan (vat r b èin è t f è v èt a v i x f m h
è rain), è p nh main èuppX vax a è va .
 - b. è v vat r t è run t è è rain unti x ar.
 - c. Turn ff vat r èuppX an v x th unit èan v è r
ab ut fiv minut è. h è v i x a x v a x trapp è air
t ècap f m h tan .
4. è vat r t è brin tan (initia v i x .
Wh a buc t è h è è a è app è imat x
4 a x n è (15 x r è) f vat r t è brin tan . If h
tan h a è a è a p ètt r m ab v h b t è m è f h
tan , è vat r unti x v v è app è imat x
1 inb (25 mm) ab v h p ètt r m .
 5. è h è n v it è n r int è p rati n .
a. Wh h vat r èuppX vax è mpXt x è p n,
car fu è a vanc h c c x in v icat r
COUNTERCLOCKWISE è h c nt r è f h
BRINE REFILL p èiti n . è ath è è èiti n
unti x vat r ètarts è f è v h è u h h brin x n
int h brin tan . è n è trun è r m r h an t è
minut è.
b. è vanc h c c x in v icat r
COUNTERCLOCKWISE unti x t p int è t h
c nt r è f h **BRINE/SLOW RINSE** p èiti n .

- c. Wh h è n v it è n r int è è èiti n , b c t è
è if vat r è b in a è ra v n f m h brin tan .
T vat r x v x nh brin tan v i x c v r
è x v x . Obs v vat r x v è rat x a è h r
minut è. If h vat r x v è è n è r c è , è rif
it è è up, r f r nc h **Troubleshooting**
è cti n .

- è vanc h c c x in v icat r
COUNTERCLOCKWISE è h
REGENERATION COMPLETE p èiti n an v run
vat r f m a n arb fauc t unti x vat r è
c x ar an v è ft.

Filter

è x i x r m v ia è c pt carb n

- a. ft r h aih a è b n pura v f m h tan
(vat r b èin è t f è v èt a v i x f m h è rain)
è p nh main èuppX a è va . Bac v a è
m v ia è r a minimum, f 15 minut è r x n a r if
n c è èar . Wat r runnin a t h è è rain è è u b
c x ar.
Carb n m v ia è è u b a è v è t è a f r a
minimum, f 12h è ur è a è v air bubb è t è
ècap p r t è bac v a è in a .
- b. ft r h bac v a è è è mpXt p x in è nte x
an v a è v it è a vanc t **BACKWASH**
COMPLETE.

Electrical Connection

100 VAC, 115 VAC, and 230 VAC units: R m v t v èt
ti f m h è v r è r è an v t n è è r t è è fu x n h .
Ma è ur è v r è è urc matb è h ratina p rnt v è n
h è nte è B c rtain a vax è v itb è è n è è nte è
è ut x t .

12 VAC: è nn cth p x a è f h tran è è r m r (èuppX è)
è è n v ar cab x t h matina è c tath r ar, è
b t è m è f h tim h è è in a . B c rtain h tran è è r m r
è è è cur an v è è p x a è è int è a è v r è è urc è f è rr ct
v è x a h at è è n è è nte è è b a vax è v itb .

1.4 Disinfection of Water Conditioners

Th mat rix³ f³ c³ n³stru³cti³ n³ f³h m³ m³ v³at r³
 c³ n³i³t³i n³ r³ v³i³x³ t³ s³upp³rt b³act r³ia³ c³ h³ n³ r³ v³i³x³
 h³ e³ mat rix³ c³ n³taminat³ a³ v³at r³ s³upp³X³ . v³ v³ r³
 h³ n³ r³ma³ c³ n³i³t³i n³ e³ i³stina³ u³rina³ e³ i³ppina³ e³ t³ r³a³
 an³ i³nta³x³ati n³ i³n³ficat³ h³ a³ v³i³ab³i³ f³ i³nf³ctina³ a³
 c³ n³i³t³i n³ r³ast r³i³nta³x³ati n³ b³ f³ r³ h³ c³ n³i³t³i n³ r³i³s³
 u³s³ e³ t³ r³at p³ tab³ v³at r³. In a³ c³ n³i³t³i n³ u³rina³ n³ r³ma³
 u³s³ , a³ c³ n³i³t³i n³ r³ma³ b³ o³ m³ f³ u³x³ v³h³ r³o³anic
 matt³ r³ r³i³n³ e³ m³ ca³ e³ v³h³ b³act r³ia³ f³ m³h³ v³at r³
 s³upp³X³.

Th u s v r o n i t i n r b u x b i o i n f c t a f t r
i n s t a x t i n a m v i x v i r p r i c i o i n f c t i n
u r i n a r i r n m a x a n i n a f v c a s i o i n f c t i n
v h v r r a n r a t i n u x b r o m m n .

p n'ina up n h a n'iti n d, f u d, h t X. f
a n'iti n r, h t p. f i n b a n a r, a n' h
i s i n f t a n t a v a i a b X, a b. i c a n b m a' a m. n a h
f X v i n a m h. S.

Sodium or Calcium Hypochlorite

Appli mation

The material is satisfactory for use in
 printing, and the material is satisfactory for use in
 printing.

5.25% Sodium Hypochlorite

Ti ʔə Xiti nɛ ar avaiabX un^{*} r tra^{*} nam ʔə Sub
as CX Bxab *. If ʔtə hən r ʔti nɛ ar uš^{*}, ʔub
ash ʔə ʔə f r o mm rciaXauh^{*} ri ʔə a'justh
^{*}. ʔan acc^{*} r inoX.

1. a. X^{2+} et r^{n-} in 1.2 X^{2+} unc p^{n-} cubic f. t.
- b. N^{n-} et u^3 b an r^3 0. X^{2+} unc p^{n-} cubic f. t.
2. Brin tan a^{n-} it n^3
- a. Bac va^3 h a^{n-} it n^3 ran a^{n-} h r^{n-} uir a^{n-} unt h^3 p b X^{2+} rit a^{n-} it n^3 h brin v^3 f^3 h brin tan h^3 brin tan h^3 u h^3 av vat^3 rin it p^3 m it a^{n-} it n^3 b ca r^3 i r^3 int h^3 v^3 (b (i)-u5.3(c n)-23.-16. v^3 (c24.0053 Tc6i) (r r^3 p)-16. v^3 (c)-
- csr5

foot.

2

a. Back

Salt Amount

Salt amount is not variable. The faux
variable is 6 pounds (2.7 kilograms).

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

P5 Capacity Setting (in grains / dram)	R 3in V. Xim p r Tan (X r3)				
	3 ft ³ (5)	4 ft ³ (113)	5 ft ³ (142)	6 ft ³ (170)	7 ft ³ (198)
	P4 Salt Setting: 1.000 (1) f 5aX				
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)
P6 Refill Setting: 14 inb tan = 74 (.74 gpm) 16 inb thru 21 inb tan = 130 (1.39 gpm)					
P7 Brine Draw Setting. XvaX 3 ar ba3 0. n 50 psi (3.5 bar) inX t pr 33ur . 3 r pr 33ur 3. h rh an 50 psi r f r b. brin 3. ra v b arts in 3 ct3 n 4.0.					
Tan iam t r	Inj ct3 r	arN umb r	P7 equals	C3 Xr	
14 in (35.5 cm)	M	1055737	60	B3 vn	
16 in (40.6 cm)	Q	1035733	80	urpX	
1 in (45.7 cm)	Q	1035733	80	urpX	
21 in (53.3 cm)	R	1035 4	83	ar 3r	

Level II Parameters (Table 2.4)

The v XII aram t rē ar 6h r uh 22 in TabX 2.4. T acc ēē v XII aram t rē, simuxan . uē pr ēē an h . h DOWN ARROW (↓) an UP ARROW (↑) butt nē t r h r ē ē n ē . ē numb r v i s p ē .

R f r t TabX 2.4 t fin h param t r a s s c i a t v h ab ē numb r . ē h UP ARROW (↑) butt nē r h DOWN ARROW (↓) butt nē m v f r m n param t r t h n t . T i s p ē c c X ē h ē u h h ē numb r ē ē . V n in TabX 2.1 an TabX 2.4. M n ē u r ab 22, h n t numb r v i s ē bac t 1.

M n h param t r numb r ē u v a n t ē b a n a i ē . n h i s p ē , pr ēē h LEFT (←) butt nē t i s p ē h ē a t a a s s i a n ē t h at param t r . r ēē h SET butt n an h f a r r i h t numb r ē n h i s p ē ē a r t s f a s i n a . (←) u v a n t ē b a n a h (t)15./ 2. RRO12Tj053 Tc1 56-1.2h 2 . j(h)-1ē

aram t r 22. Sp ciaX. ar nt r ath
fact r t p aram aX fi p rtin nt X cati n t r
p cific n t X: M tric t r ampX. Th is
param t r b. uX n v r b b an a b h n
u t r.

Electronic Time Clock Operation

arammin a aut matic r a n rati n fr u nc
Th EX ct n ic Tim Cx ch a t t r a n rati n
p ti n s Int rvaX R a n rati n an a f W
R a n rati n.

Th initiat an aut matic r a n rati n n r b h ft
p ti n s mu t b b. t n. Th t t m ma a b
r a n rat r manuaX b pr t i n a h R a n rati n
butt n t r h r t a n s.

Interval Regeneration Th EX ct n ic Tim Cx c
ma b p aram m t r a n rat in int rvaX fup t
30 a t. Th is fatur is aram t r 14 CaX ar
Ov rr (t TabX 2.4). E ampX If 5 is p aram m
int 14 h n h t t m v i r a n rat v r fiv a t
ath tim p aram m t int 2.

Day of Week Regeneration Th EX ct n ic Tim
Cx c ma b p aram m t r a n rat n a p cific
a r n p cific a t ft v. Th instructi n t r
h is p ti n ar t un in TabX 2.3 n pa 15.

Application

Th r rma Cv 62 C n it n r an h r rma Cv
62 iX rma b p rat a t a i n aX u a r tripX
t t m.

Dual and Triplex Conditioners and Filters

Th u aX an r tripX t t m t r uir a iff r nt cam
h an h cam h at is u t in h i n aX unit t t m t.
Th a r uir an int r n n ct i n aX c ut cabX.
Th is aX v t h unit h at is in r a n rati n r bac va
t i n aX h r unit a n pr v nt h m f m tartin a
ar a n rati n r bac va unt h first unit is finia t.
u aX an r tripX unit t b uX b p x mb in paraX X h
ab h r. In a muX-unit t t m h bac va vat r is
tuppX b h h r unit r unit in h t t m. In a
u aX iX r t t m t n t rati n mu t b aiv n h ath
unit in t r vic is abX t tati t t r vic r uir m nt t
an b abX t tuppX tuffici nt bac va vat r t h
h r f iX r iX it is in h bac va c cX. Th r is a
t X ct n a uir, TabX 4.6, in t ct n 4.0 t a t t in
u aX i n a h b ic f a u aX r tripX t t m. Th is
t X ct n a uir is ba t n m ia bac va
r uir m nt t an t i am t r.

paraX X it mu t b purb a t r muX-unit p rati n.
Th it numb r t ar

uaX araX X C n it n r	N 1035J23
TripX araX X C n it n r	N 1035J25
uaX araX X iX r	N 1035J24
TripX araX X iX r	N 1035J26

it incX paraX X p rati n cam a n h p p r
int r n n ct cabX.

Manual Start Regeneration

Th t r h t n t X p r rma r a n rati n, pr t h
REGEN butt n. Th is butt n is X cat t n h f t n t ft
t n t X n u pr t h **REGEN** butt n, h t n t X
p r rma a fuX a n rati n ft t n it n r.

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. Th
is p t v iX r an n X h v h R a n Tim
R mainin a t an in i cati n h ath t a n
r a n rati n v iX p r r m t. V n h first
r a n rati n is t m pX t h t a n n v iX p a i n an
h is p t v iX r nat b t v n X v an R a n Tim
R mainin a.

Automatic Regeneration

Programming Day of the Week Regeneration/ Backwash

Enter a float W Ration/bac val
programminab pr **LEFT ARROW** (←)
button **DOWN ARROW** (↓) button
simulxan. us r3 q n. The a ar h. vn ad
1, 2, 3, tc., nh ipx. Xcth a a fh
r n rati n/bac val h. u. ccur. T activat
h at a, b and h 0 to a 1. The programminab
vixb it if n. ar pr r 30 q n. If
h is fatur is u. in a njuncti n th caX n ar. v rr
h caX n r. v rr tim r vixb r tath n. f
h is r n rati n/bac val.

Table 2.3 - Day of Week Regeneration/Backwash

#	Description of Parameter
---	-----------------------------

Reserve Options

The r ar t t p. fr r v. pti n. r h i. q n. t. X
fi r r v an. smar r r v h i. t. r i. ca. X. r u. a. a
patt rn). The ar r Xct. v. th aram t r 15.

Fixed Reserve

M nfi r r v i. r. Xct. v. h. q n. t. X. m. u. p. X. r
h ma imum. r. t. m. capacit b h p rc nt. v. X. r. t
in aram t r 16 an. u. r. r. u. X. a. r. r. v.

Smart Reserve (water usage pattern)

The h rr r v. pti n. X. v. h. q n. t. X. a. ju. th
r r v ba. r. u. p. nh h i. t. r i. ca. X. r u. a. a. patt rn
fh r. t. m. The q n. t. X. p. r. a. c. fh. r. v. a. r
u. a. a. r. ab. a. fh. v. an. u. r. r. at. a. r
av ra. u. a. a. m. u. p. X. b 1.2 a. h. r. r. v. r. h. at
a. Ev r. a. ath. Tim. f. R. n. rati n. h. q n. t. X
r ca. X. u. a. t. h. a. r. av ra. r. u. a. a. If. X. r. h. an
10%. fa. a. r. av ra. r. u. a. a. i. s. u. r. h. q n. t. X
vixb. t. b. and h. a. r. av ra. r. If. m. r. h. ant. v. i. c. h
a. r. av ra. r. i. s. u. r. h. q n. t. X. u. r. h. actua. X. u. a. a
in h. r. r. v. ca. X. u. a. t. i. n.

Sinc a n v i. n. s. t. a. t. i. h. a. n. h. i. t. r. f. r. u. a. a. ,
h q n. t. X. m. u. p. X. h p rc nt. f. capacit va. r. t. i. n
aram t r 16 b h t. ta. X. r. t. m. capacit t
t rmin starti. av ra. r. ab. a. fh. v.

The fact r r t va. r. t. r 16 i. s. 30 m i. b. m. an. h. at
30%. fh. t. ta. X. r. t. m. capacit i. s. u. r. h. r. h. starti. a
av ra. r. ab. a.

ram aram t r 15 i. s. a. r. u. r. t. r. Xct. m. h. r
h q n. t. X. v. a. i. t. s. u. n. t. i. l. Tim. f. R. n. rati n. t. i. n
aram t r 2 t. start a. r. n. rati n. r. i. f. h. q n. t. X
h. u. r. b. a. i. n. a. r. n. rati n. i. m. m. i. a. t. X. m. nh
capacit r maini. a. i. s. X. r. h. an. h. r. r. v.

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	R fix nte r	2-200	1	Selected from Table 2.2		This number is the number of rat for fix base. The number of inst. R fix v tim is ca. 100 to r fix p p ram unt. f vat r int brin tan.
7	Brin ra v rat	2-200	1	Selected from Table 2.2		This number is the number of rat rat base. The number of v tim inh ra v p site n inh n ca. 100.
8	Bac val tim	4-60	1	14*	Minut	*Ma b a just to r appcati n
10	SX r Ri (n) 15.1(6-14) 2 Ri-3X (6-14) 2 15.3(2) 46 15. 7(6-14) 5(0)-240 .2(6-14) 5(4)-30.3(1 1 Tf31.0606 0 T6364 1.9 Tc0 T v (14)30.3(40					

to Section 3.2 for further information. The programming parameters are as follows.

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

 t. S. cti n 3.2 f r^o tai^o p^o nati n. fli p^o rammina param t r^o nti i pa .

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

3.1 Programming and Application

This section describes the basic programming and control of the Performa Cv Filter Valve and Controls.

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	Filter Advance Time	(1-7) 1:00-12:59 M: r M M: tric	(1-7) a) 1 Minute	Current Day and Time	Hour Minute	Range of program values is 1 to 13. Filter Advance Time =1, M: r =2, T: r =3, WE =4, T: r =5, RI=6, S: T=7, T: r IS IS T: r E E T MOST I: r IT ON T: r E IS
2	Time for start back valve	(1-7) 0:00-23:59 1:00-12:59 M: r M 0:00-23:59		As required	Hour Minute	Range of program values is 1 to 13
3	Program alarm range			10 100	1.5 Metric	
4	Program alarm range			0.5		
5	Filter capacitance			As required	1.5 Metric	iv: r h v: r Xim tric capacit (na: r ns) f: r fi: r b 6.7 Jn a.1(n)30. () TJ0 - iv: r h v: r Xim tric capacit uM: r (20(p3J(s) 12c)-Ti (Mi)--1. ()-3-3 ()-

Table 3.2 - Programming Performance Cv 962F Five Cycle Filter

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

Electronic Time Clock Operation

To initiate an automatic backwash, the timer must be set to manual. The timer must be set to manual by pressing the manual button on the timer.

The timer will automatically reset to manual after the backwash cycle.

The Electronic Time Clock has a timer that can be set to manual or automatic. The timer can be set to manual or automatic by pressing the manual button on the timer.

Interval Backwash The Electronic Time Clock can be programmed to backwash at intervals up to 30 minutes. The timer is set to manual by pressing the manual button on the timer. The timer is set to manual by pressing the manual button on the timer. The timer is set to manual by pressing the manual button on the timer.

Day of Week Backwash The Electronic Time Clock can be programmed to backwash on a specific day of the week. The timer is set to manual by pressing the manual button on the timer. The timer is set to manual by pressing the manual button on the timer. The timer is set to manual by pressing the manual button on the timer.

Application

The timer can be set to manual or automatic. The timer can be set to manual or automatic by pressing the manual button on the timer. The timer can be set to manual or automatic by pressing the manual button on the timer.

Dual and Triplex Conditioners and Filters

The timer can be set to manual or automatic. The timer can be set to manual or automatic by pressing the manual button on the timer. The timer can be set to manual or automatic by pressing the manual button on the timer.

The timer is set to manual by pressing the manual button on the timer. The timer is set to manual by pressing the manual button on the timer. The timer is set to manual by pressing the manual button on the timer.

3.2 Mechanical

Series 942F Mechanical Control

The Series 942F mechanical control provides a mechanical timing function for fixed applications.

Figure 3.1

3.2.1 Settings

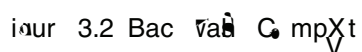
Setting the Time of Day and the Back Valve and pressure manual back valve in the 942 control.

Setting the Time of Day

Rotate the Clock dial clockwise until the pointer indicates the correct time of day. When the time of day is set, the indicator on the back valve at approximately 2:00 a.m. If it is desired to have the unit back valve at an earlier or later time, simply move the current time of day accordingly. For example, to have the unit back valve at 4:00 a.m., set the Clock dial 2 hours later than the actual current time of day.

Note: Do not rotate the Calendar Cap by hand. To Clock dial in the Calendar Cap. To manually in the Calendar Cap, rotate the Clock dial clockwise

Th Bac va^h iax^h iaur 3.2) q nte^h h bac va^h
tim . Wh h In'icat r n b inh B C W
COM ETEP p^h itti n, t tat h Bac va^h iax^h
q unt rc^h c vi^h at Xa^h t. n fu^h xturn t can^h tuth^h
curr nt^h tti^h a. h rc^h c in^h a^h un^h vi^h x r pac^h b^h
dh avi rc^h c in^h a^h un^h n nh pr vi^h u^h tti^h a^h
can^h t. Onc h h avi rc^h c in^h a^h ar^h h n v^h
t tti^h a^h ma b^h t b^h tati^h n h Bac va^h iax^h h^h
o^h air^h t tti^h a^h. Th numb r^h e nh Bac va^h iax^h
r pr^h t MN TES f bac va^h tim .



Cycle	Time (Minutes)
Bac Val	- 30
ura	0

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

This section contains a table explaining the programming parameters for the 962 electronic controls.

Number	Description of Program Values	Explanation
--------	-------------------------------	-------------

5
pa 12

1 Capacit $\frac{1}{C} = \frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3} + \frac{1}{C_4} + \frac{1}{C_5}$ $\frac{1}{C} = \frac{1}{10000} + \frac{1}{10000} + \frac{1}{10000} + \frac{1}{10000} + \frac{1}{10000}$ $\frac{1}{C} = \frac{1}{2500}$ $C = 2500$ $C = 2.5 \text{ mF}$

13 $\frac{1}{C} = \frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3} + \frac{1}{C_4} + \frac{1}{C_5}$ $\frac{1}{C} = \frac{1}{10000} + \frac{1}{10000} + \frac{1}{10000} + \frac{1}{10000} + \frac{1}{10000}$ $\frac{1}{C} = \frac{1}{2500}$ $C = 2500$ $C = 2.5 \text{ mF}$

20 $\frac{1}{C} = \frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3} + \frac{1}{C_4} + \frac{1}{C_5}$ $\frac{1}{C} = \frac{1}{10000} + \frac{1}{10000} + \frac{1}{10000} + \frac{1}{10000} + \frac{1}{10000}$ $\frac{1}{C} = \frac{1}{2500}$ $C = 2500$ $C = 2.5 \text{ mF}$

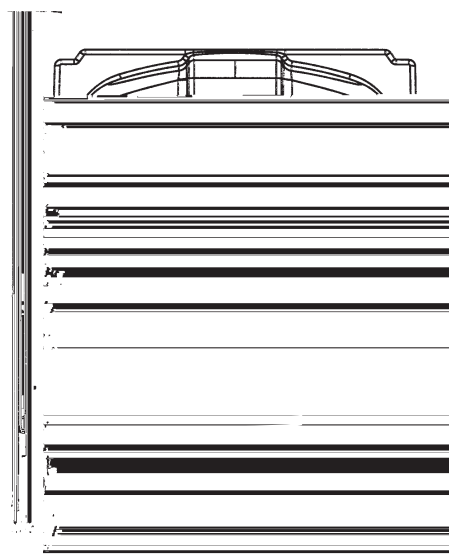
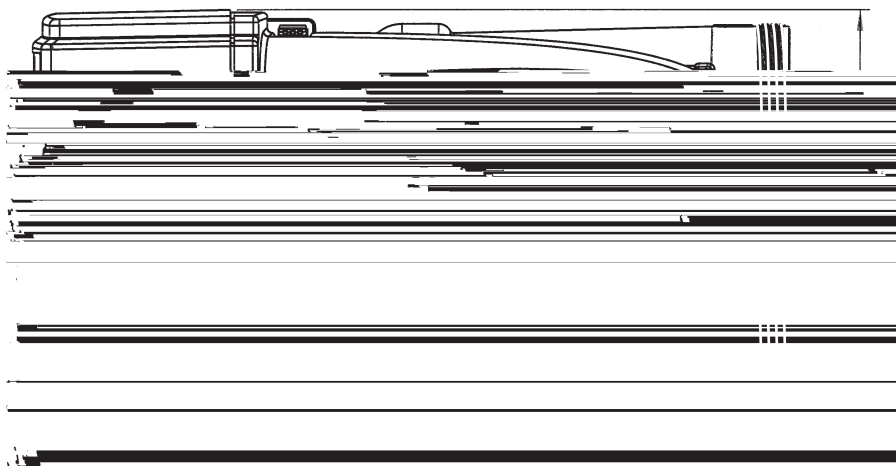
* $\frac{1}{C} = \frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3} + \frac{1}{C_4} + \frac{1}{C_5}$ $\frac{1}{C} = \frac{1}{10000} + \frac{1}{10000} + \frac{1}{10000} + \frac{1}{10000} + \frac{1}{10000}$ $\frac{1}{C} = \frac{1}{2500}$ $C = 2500$ $C = 2.5 \text{ mF}$

** $\frac{1}{C} = \frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3} + \frac{1}{C_4} + \frac{1}{C_5}$ $\frac{1}{C} = \frac{1}{10000} + \frac{1}{10000} + \frac{1}{10000} + \frac{1}{10000} + \frac{1}{10000}$ $\frac{1}{C} = \frac{1}{2500}$ $C = 2500$ $C = 2.5 \text{ mF}$

*** $\frac{1}{C} = \frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3} + \frac{1}{C_4} + \frac{1}{C_5}$ $\frac{1}{C} = \frac{1}{10000} + \frac{1}{10000} + \frac{1}{10000} + \frac{1}{10000} + \frac{1}{10000}$ $\frac{1}{C} = \frac{1}{2500}$ $C = 2500$ $C = 2.5 \text{ mF}$

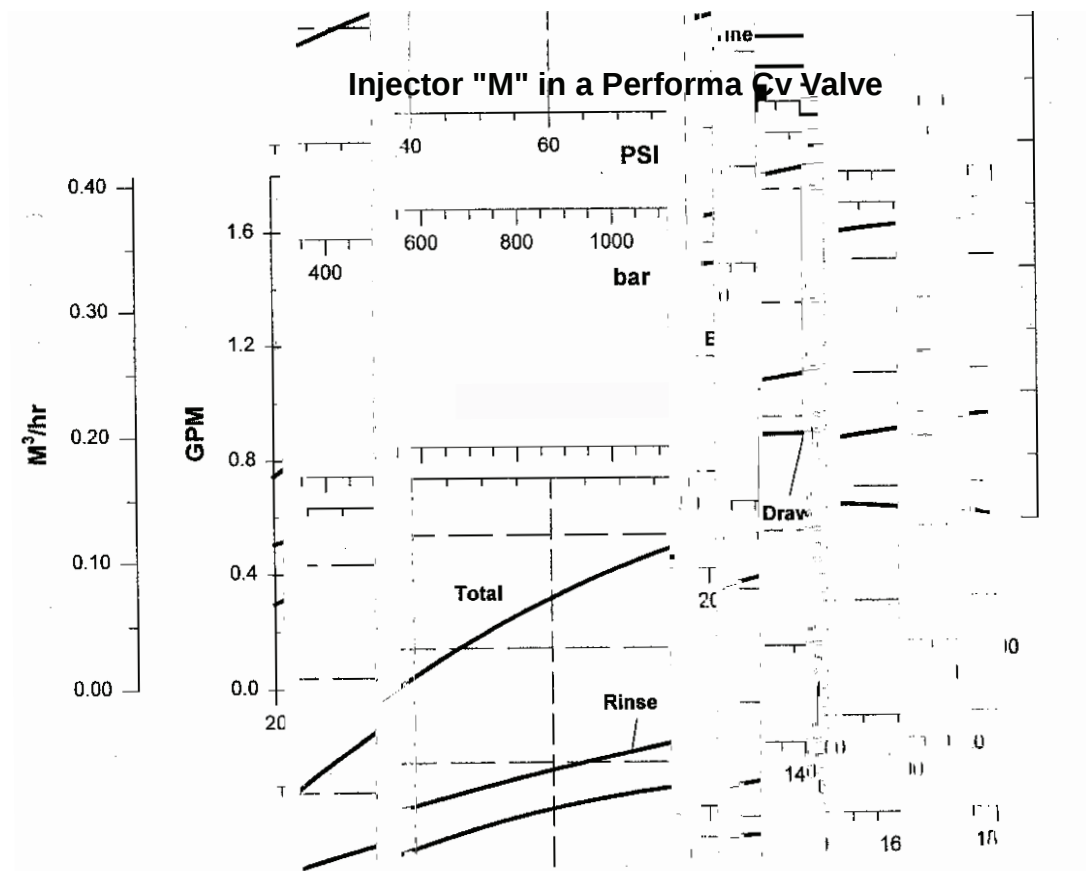
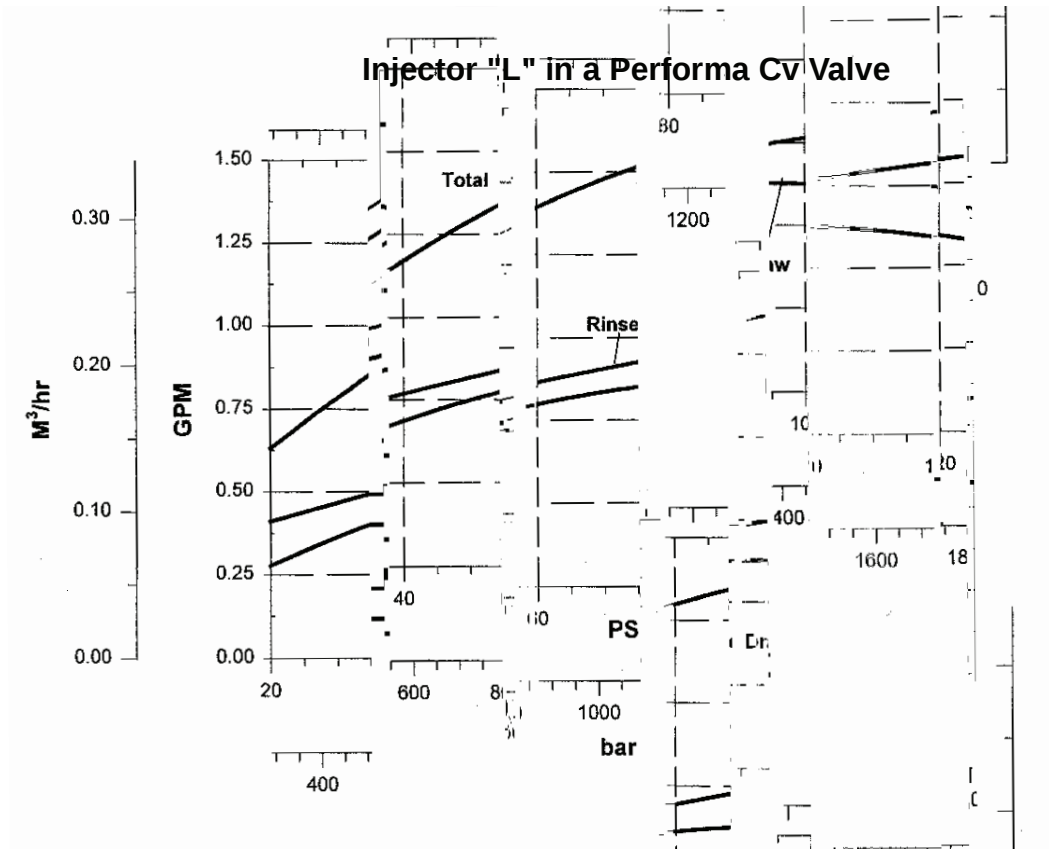
4.0 Performa Cv Performance Charts and Graphs

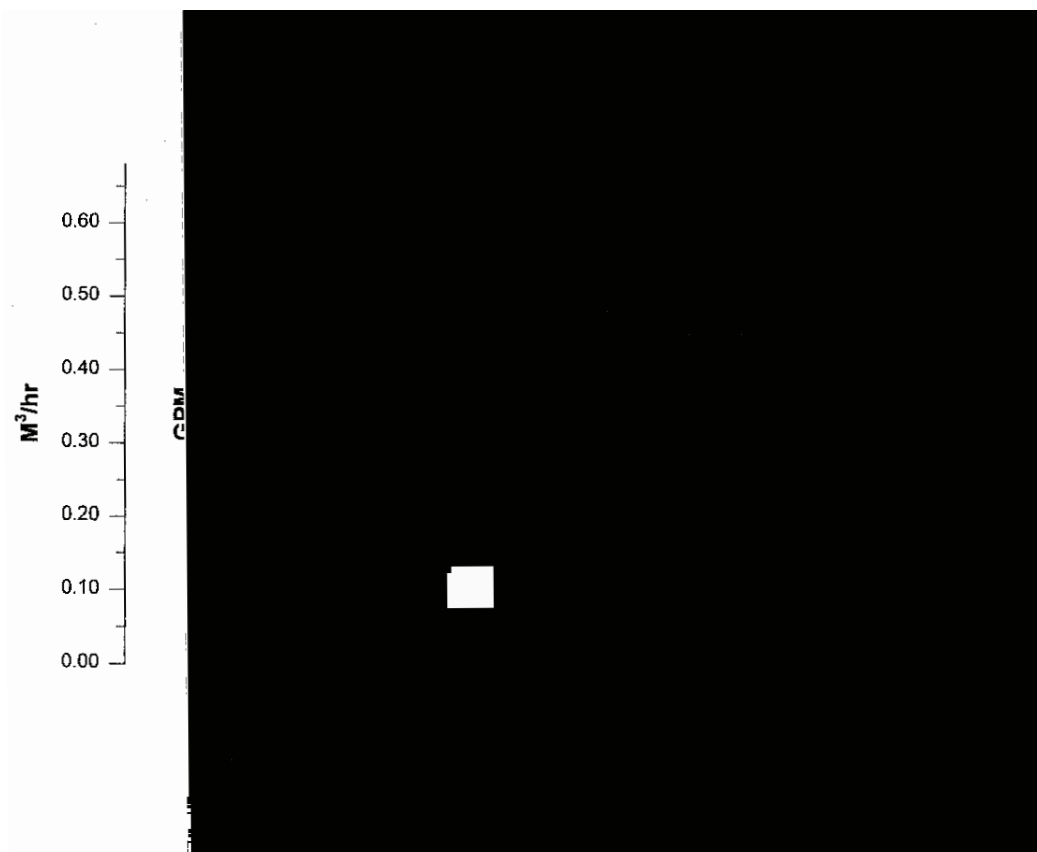
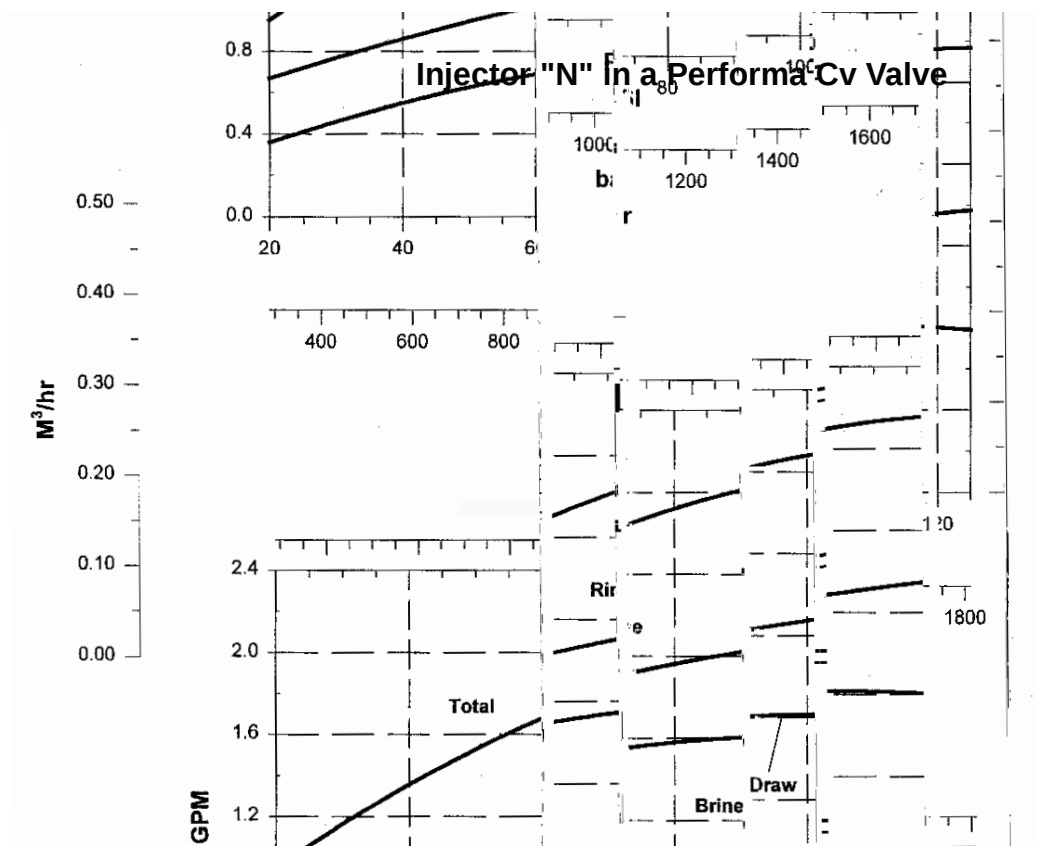
4.1 General Specification



Static T_{st} r_{dur} 300 psi (20.6 bar)
 W_r in_a r_{dur} 20-120 psi (1.3 - 27 bar)
 Stan^ar EXctricaXRating 362 3 r i vaXtrans^a rm r 12V 60 , 12V 50
 342 1^a r 12^a /24^a ur 50 12 V trans^a rm r, 60 120 Vac, r 12 V trans^a rm
 EXctricaXC^a (Stan^ar rating)60-inb (1.5-m) 3- vir v^a p^a
 r_{dur} Tan T_r a^a 2-1/2-inb max
 Ri_r ip iam t r R^auir^a 1.050-inb O (26.7-mm)
 Ri_r ip n^a 1/2 inb ~ 1/2 inb (13 mm~ 13 mm) h^a rh^a an^a i^a p^a f tan
 Stan^ar C^ann cti^an 1-inb (25.4-mm) a^a pp r tub a^a apt r^a
 Opti naXC^a nn cti^an 1-1/4-inb , 3/4-inb , 22-mm, an^a 2 -mm a^a pp r tub a^a apt r^a
 3/4-inb B^a T, 1-inb B^a T, 1-inb N T bra^a pip a^a apt r^a
 3/4-inb , 1-inb , 1-1/4-inb , 25-mm C VC tub a^a apt r^a
 Brin in C^ann cti^an 3/ -inb N T maX
 rain in C^ann cti^an 3/4-inb N T maX
 Opti naXB pas^a VaX R^a tatin^a an^a X^a, fuX^a 1-inb p^a rtina^a, r inf rc^a a^actic
 C^ante X^a uX^a, Tan^a apt r^a R inf rc^a a^actic
 Rubb r^a C^a mp un^a r^a r^a vat r^a r^avic
 a^a ram C^axc (Tim r) 342 vaiXbX in^a 12^a a En^a X^a, e^a rman, r nb , Ita^aan, Spani^a, Japan
 362, 362 , 362TC, 362 TC vaiXbX in En^a X^a, e^a rman, r nb , Ita^aan, Spani^a, Japan
 Brin R fixXC^a ntr^a X^a 0.74 an^a 1.3 e^a M
 E t maXBac va^a C^ante X^a r^a 5, 7, 10, 12, 15, 20 e^a M. B^a n^a 20 e^a M must b^a ut^a a^a urc^a

4.2 Injector Curves





Injector "R" in a Performa Cv Valve

13000

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	0.8	1.4	0.9	1.75
90	0.6	0.65	0.7	0.9	0.8	1.1	0.9	1.6	1	2
100	0.6	0.7	0.7	0.9	0.8	1.6	0.95	1.7	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	0.9	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	2.6	2.8	3.1	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)	1.3	4 (.9)	7 (1.5)
18 (45.7)	1.76	5 (1.1)	9 (1.9)
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	66	61
1	75	72
1.4	109	93
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	(30)	10 (3)	12 (45)	15 (57)
16 (40.6)	1.3	11 (42)	13 (49)	16 (61)	20 (76)
1 (45.7)	1.76	14 (53)	17 (64)	21 (79)	*26 (98)
21 (53.3)	2.4	19 (72)	24 (91)	*29 (110)	
24 (60.9)	3.14	25 (95)			

*Maximum at 25 psi or 1.72 bar pressure drop.

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	(30)	10 (3)	12 (45)	N R
16 (40.6)	1.3	11 (42)	13 (49)	N R	N R
18 (45.7)	1.6	*14 (53)	N R	N R	N R
21 (53.3)	2.4	N R	N R	N R	N R

* Maximum flow rate is 25 psi or 1.72 bar per square foot of filter area.

N R = Not Recommended. For units with 12 inch diameter, the flow rate should be 12 gpm/sq ft. For units with 18 inch diameter, the flow rate should be 15 gpm/sq ft. For units with 21 inch diameter, the flow rate should be 18 gpm/sq ft.

5.2 Preventative Maintenance

Injector Screen and Injector

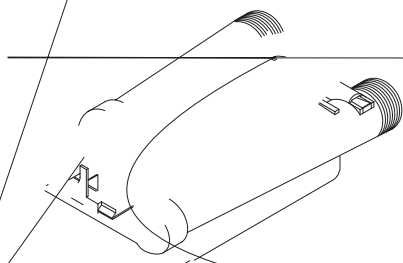
Inspekte an der Cxanbrin tank an der Injektoren. n. n. f. brinpic up tub. nc. a. ar. r. m. n. e. im nt app are in h. b. t. m. f. h. brin tan.

Cxan inj. ct. r. scr. n. an. inj. ct. r. nc. a. ar.

1. Inp. x. h. v. x. m. unt trans. r. m. r.
2. In. ut. ff. vat. r. supp. x. r. put. b. pass. v. x. (e) int. b. pass. p. e. it. n.
3. R. x. v. e. et. m. pr. e. ur. b. p. n. in. a. v. x. N. . v. (at. r. ar) v. h. a. e. cr. v. r. v. r.
4. In. in. a. e. cr. v. r. v. r. r. m. v. inj. ct. r. e. cr. n. an. inj. ct. r. cap. (i. our. 5.1).
5. Cxan e. cr. n. u. in. a. fin. br. u. . x. h. unt. x. Cxan.
6. In. in. a. n. x. n. e. p. x. r. e. p. u. x. inj. ct. r. e. train. t. ut.
7. x. h. vat. r. int. h. inj. ct. r. e. cr. n. r. c. e. e. f. h. v. x. b. . t. f. u. h. . b. r. i. e. u. t. h. u. h. h. inj. ct. r. r. c. e. e.
- . Cxan an. f. u. h. h. inj. ct. r.
8. u. b. r. i. c. a. t. h. O- r. i. n. a. . n. h. inj. ct. r. , inj. ct. r. cap. an. inj. ct. r. e. cr. n. v. h. **silicone lubricant only!**
10. R. in. s. t. a. x. inj. ct. r. , inj. ct. r. cap. an. inj. ct. r. e. cr. n.

IMPORTANT: . n. t. v. r. t. h. t. n. h. p. e. s. t. i. c. cap. . S. at. h. cap. x. h. t. x. int. p. e. i. t. n. . Ov. r. t. h. t. n. i. n. a. m. a. cau. e. br. a. a. . f. h. p. e. s. t. i. c. cap. h. at. m. a. n. t. b. imm. i. at. x. v. r. nt.

11. x. h. v. x. m. unt trans. r. m. r. int. . ut. x. t. r. e. t. c. c. if. n. c. e. ar.
12. x. x. p. n. vat. r. supp. x. v. x. . r. r. turn. b. pass. v. x. (e) t. h. e. r. v. i. c. p. e. i. t. n.



iaur 5.1

Water Meter Maintenance

Ti. m. t. r. i. n. a. vic. u. e. . v. h. h. 362 Cv. . man. . a. n. t. e. . m. a. r. . u. i. r. . s. i. m. p. . x. . m. a. i. n. t. n. a. n. c. . In. r. ar. in. s. t. a. n. c. e. , h. t. u. r. b. i. n. m. x. f. h. vat. r. m. t. r. can. a. x. c. t. e. m. a. x. p. a. r. t. i. c. x. e. . f. . r. i. . i. e. n. , v. n. t. u. a. x. p. r. v. n. t. i. n. a. h. m. x. f. e. m. t. u. r. n. i. n. a.

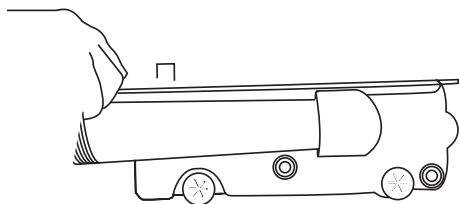
1. In. ut. ff. h. vat. r. supp. x. r. put. h. b. pass. v. x. (e) int. h. b. pass. p. e. i. t. n.
2. R. x. v. pr. e. ur. b. p. n. in. a. h. Bac. v. a. h. rain. V. x. h. e. v. r. h. bac. f. e. m. h. a. n. t. e. . v. h. a. e. cr. v. r. v. r.
3. . . e. n. an. r. m. v. h. pip. /tub. a. apt. r. e. r. 1265 b. pass. f. e. m. h. in. x. t. an. . ut. x. t. f. h. v. x. b. . .
4. In. in. a. n. x. n. e. p. x. r. e. r. m. v. h. turbin. f. e. m. h. . ut. x. h. . u. e. i. n. a. . g. r. a. p. n. . f. h. t. u. r. v. a. n. e. . f. h. . ut. r. a. n. . an. . p. u. x. t. r. a. i. h. t. e. ut. r. m. v. turbin. a. e. e. m. b. x. f. e. m. h. . ut. x. t. f. h. v. x. (i. our. 5.1).
5. Car. fu. x. r. m. v. h. turbin. m. x. f. e. m. h. h. . u. e. i. n. a. . In. a. t. e. h. br. u. e. t. x. h. t. x. e. r. u. b. h. i. e. n. . f. f. h. m. a. n. t. l. e. n. b. u. i. x. u. p. n. h. s. u. r. f. a. c. e. can. b. r. m. v. . b. e. a. in. a. h. m. x. i. n. a. m. i. x. e. i. u. m. h. . e. u. x. i. t. (e. u. b. a. e. R. V. r.) . x. i. t. n. i. r. a. f. v. m. i. n. u. t. e. . x. h. h. . e. u. h. x. v. h. vat. r.
6. Car. fu. x. r. in. s. t. a. x. turbin. m. x. int. h. turbin. ca. h. . u. e. i. n. a. . M. a. e. ur. h. a. t. h. a. a. f. t. f. h. m. x. e. a. t. e. int. h. b. a. r. i. n. a. f. h. ca. . R. a. e. e. m. b. x. h. turbin. ca. an. b. c. h. a. t. h. m. x. e. t. a. t. e. fr. x.
7. R. in. s. t. a. x. turbin. ca. int. h. . ut. x. t. f. h. v. x. .
- . R. in. s. t. a. x. pip. /tub. a. apt. r. e. r. 1265 b. pass. t. h. in. x. t. an. . ut. x. t. f. h. v. x. .
8. Turn. n. h. vat. r. supp. x. r. put. h. b. pass. v. x. (e) int. h. e. r. v. i. c. p. e. i. t. n. an. . p. u. r. a. h. air. ut. f. h. e. et. m.

T. b. c. f. r. p. e. p. r. m. t. r. e. p. r. a. t. i. n. , e. p. n. a. . v. n. s. t. r. a. m. fau. c. t. an. . b. e. r. v. h. vat. r. f. x. v. in. i. c. a. t. i. n. , b. x. i. n. a. . x. n. , n. h. a. n. t. e. . x. i. s. p. a. .

*R. V. r. i. e. a. t. r. a. mar. . f. ab. @. mica. x. m. p. a. n. .

5.3 Removing the Valve Assembly for Servicing

1. InpXah p r o r.
2. A ut, ff vat r suppX. r put b passvax (a) int
b pass p siti n.
3. R m v o v r an r h scr r riv r, r X v tan
pr seur b pub ins, p nvaX N. . r (r arfapp r)
n o nte Xas a. vn (iour 5.2).



jour 5.2

I n u s v h a x b v a x b p a s s , x s n a n
 t a b h i n x t , u t x t , b r i n a n r a i n x n f m
 v a x . I f u s i n h 1 2 6 5 b p a s s , x s n a n
 m v v a x f m b p a s s a s v x a s s n i n a n
 r m v i n h b r i n a n r a i n x n s .

Inscripțiunile (a) sunt relexice vizibile, iar (b) sunt relexice
fantomă.

- The process of controlling variables in a process.

5.4 Removing the Control

CompXt h f X vlna st p t r m v h j60 r 2 ft
c ntr X f r v r vlna

1. $\text{Inp} \times \text{oh} \quad \text{va} \times \text{m} \quad \text{unt trans} \times \text{rm} \quad \text{r}.$
2. $\text{ut} \cdot \text{ffh} \quad \text{vat} \text{ r} \times \text{supp} \times \text{r} \text{puth} \quad \text{b} \text{ pass} \times \text{va} \times (\text{e})$
 $\text{int} \quad \text{b} \text{ pass} \times \text{p} \times \text{iti} \quad \text{n}.$
3. $\text{R} \text{ m} \cdot \text{v} \text{ h} \quad \text{r} \text{ arc} \cdot \text{v} \text{ r} \text{ b} \quad \text{pr} \times \text{sin} \text{oh} \quad \text{t} \times \text{tab} \times$
 $\text{p} \times \text{vi} \times \text{n} \text{h} \quad \text{v} \text{ r}, \text{ iaur} \text{ 5.3.} \quad \text{ifh} \quad \text{f} \times \text{nt}, \text{ f}$
 $\text{h} \quad \text{v} \text{ r} \text{ an} \times \text{r} \text{ m} \cdot \text{v} \text{ t} \quad \text{p} \times \text{h} \quad \text{va} \times \text{b} \times \text{r}.$

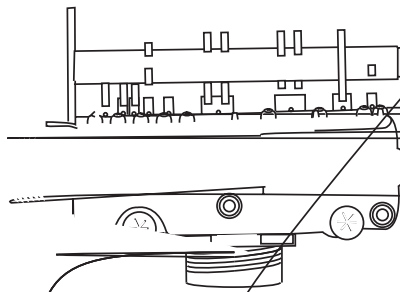
jour 5.3

4. R v 3 st m pr 33ur b p ninah Bac val
rain Vax (t 3 v rh vax bac f m h
Q ntr X rh a scr v riv r, iaur 5.4.

jour 5.4

5. T r m v h cam̃ aft. r t r instaxit, h ar̃ v
 . nh r ar. fh cam̃ aft must b p̃ intina ath
 x̃n . nh r arh . . p̃ fh t p̃ p̃ at . T̃ is̃ ccure
 n nh c c̃x iñ icat̃ r̃ is̃ tat̃ . ṽ h r fix
 p̃ it̃ n. r s̃ s̃ . ṽn. nh bac . fh cam̃ aft t̃
 . is̃ ñaa it̃ f̃ m̃ h r arh . . p̃ fh t p̃ p̃ at ,
 iaur 5.5.
 s̃ x̃ h cam̃ aft bac t̃ . is̃ ñaa it̃ f̃ m̃ h
 tim r. iaur 5.6.

jour 5.5



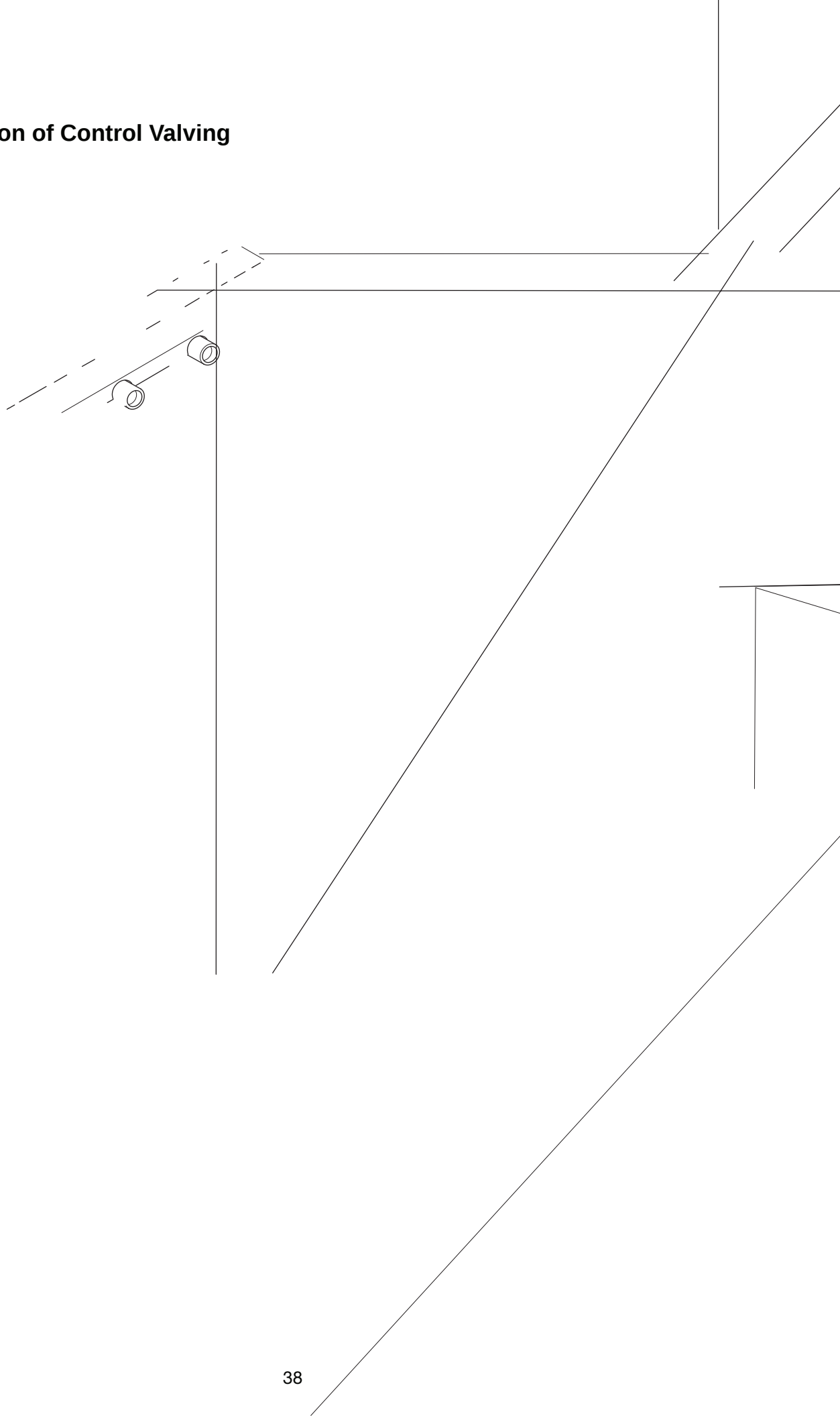
iaur 5.6

6. isann cth turbin pab fcmh turbin
aeb mbX.

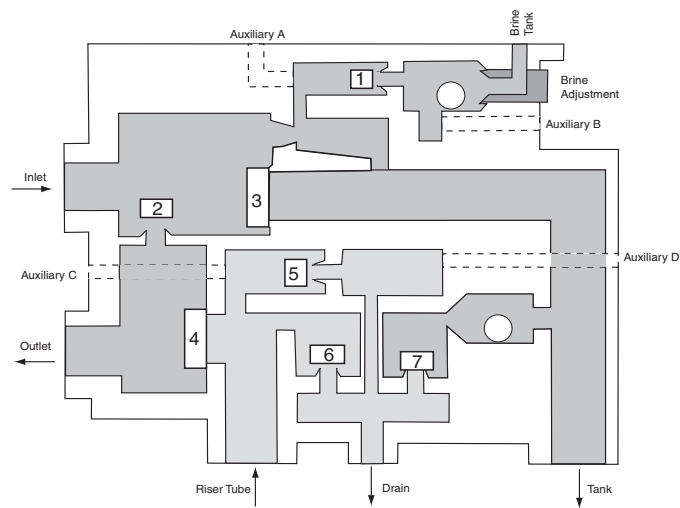
7. ifh cnts xffh vaX, iaur 5.7. Tr pxc
h cnts xrv r h av pxc ur N. t h at
h camh aft n .st b p .iti n .orr ctX
b r it can b inrt .int h bac .fh cnts X
Th r is a xcating ar .v. nh camh aft . .iti n
h ar .v. nh t p .fh h aft an .st h
camh aft int h cnts X u h up .nh n .fh
camh aft, futh st fcmh tim r, enapping it int
p .ac .

iaur 5.7

5.5 Identification of Control Valving

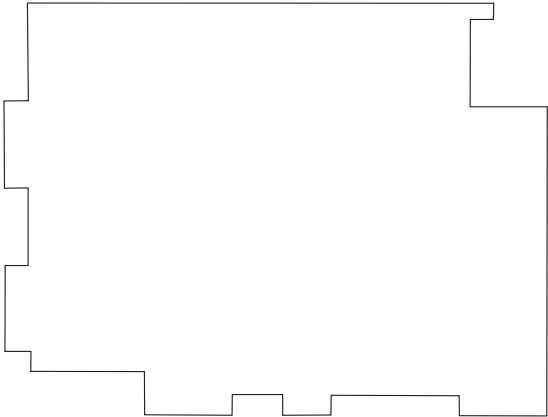


3 Brine/Slow Rinse Position



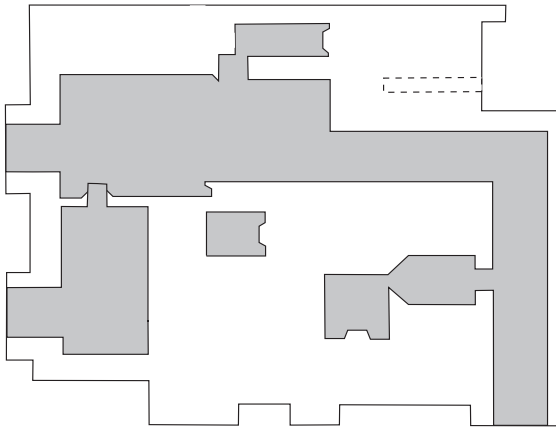
Name	Valve No.
Brine	1 - Open
By-Pass	2 - Open
Inlet	3 - Closed
Outlet	4 - Closed
2nd Tank Top	5 - Open
Purge	6 - Open
Backwash	7 - Closed

4 Fast Rinse Position



5.8 Performa Cv Filter Flow Diagrams

1 Backwash Position



2 Fast Rinse Position

5.9 Troubleshooting

The following table provides information on the most common problems and their causes. For more information, see the Replacement Parts section in the manual.

IMPORTANT: The service personnel should always wear the appropriate personal protective equipment (PPE) when working on the machine. The service personnel should always use the correct tools and techniques to avoid injury or damage to the machine.

Valve Troubleshooting

Problem	Possible Cause	Solution
1. The pump does not start.	a. The pump is not primed. b. The pump is not running. c. The pump is not connected to the power source. d. The pump is not connected to the water supply.	a. The pump should maintain 30 psi at the inlet. b. The pump should be running. c. The pump should be connected to the power source. d. The pump should be connected to the water supply.
2. The pump is not working properly.	a. The pump is not working properly. b. The pump is not working properly. c. The pump is not working properly. d. The pump is not working properly.	a. The pump should be working properly. b. The pump should be working properly. c. The pump should be working properly. d. The pump should be working properly.
3. The pump is not working properly.	a. The pump is not working properly. b. The pump is not working properly. c. The pump is not working properly. d. The pump is not working properly.	a. The pump should be working properly. b. The pump should be working properly. c. The pump should be working properly. d. The pump should be working properly.
4. The pump is not working properly.	a. The pump is not working properly. b. The pump is not working properly. c. The pump is not working properly. d. The pump is not working properly.	a. The pump should be working properly. b. The pump should be working properly. c. The pump should be working properly. d. The pump should be working properly.
5. The pump is not working properly.	a. The pump is not working properly. b. The pump is not working properly. c. The pump is not working properly. d. The pump is not working properly.	a. The pump should be working properly. b. The pump should be working properly. c. The pump should be working properly. d. The pump should be working properly.
6. The pump is not working properly.	a. The pump is not working properly. b. The pump is not working properly. c. The pump is not working properly. d. The pump is not working properly.	a. The pump should be working properly. b. The pump should be working properly. c. The pump should be working properly. d. The pump should be working properly.
7. The pump is not working properly.	a. The pump is not working properly. b. The pump is not working properly. c. The pump is not working properly. d. The pump is not working properly.	a. The pump should be working properly. b. The pump should be working properly. c. The pump should be working properly. d. The pump should be working properly.

962 Control Troubleshooting

Alarms

The Model 962 continuously monitors the status of the alarm system. If an alarm is initiated, the alarm is a built-in feature of the system. The alarm is a built-in feature of the system.

The alarm system is a built-in feature of the system. The alarm is a built-in feature of the system. The alarm is a built-in feature of the system. The alarm is a built-in feature of the system.

Model 960 Alarms

Indication	Description	Cause	Solution
Err1	Excessive air	Control system is not working properly.	Reset the alarm system. If the alarm system is not working properly, the alarm system is not working properly.
Err2	Impulse start of rotation (mit) with control unit (p.n).	Valve cannot be opened manually. The valve cannot be opened manually. The valve cannot be opened manually.	Reset the alarm system. If the alarm system is not working properly, the alarm system is not working properly.
Err3	Impulse finish of rotation (mit) with control unit (p.n).	Valve cannot be opened manually. The valve cannot be opened manually. The valve cannot be opened manually.	Reset the alarm system. If the alarm system is not working properly, the alarm system is not working properly.
Err4	Impulse rotation (mit) with control unit (p.n).	On the alarm system, the alarm system is not working properly.	Reset the alarm system. If the alarm system is not working properly, the alarm system is not working properly.

Problem

6. N. Vat r f. V. is p. M n
Vat r is f. V. in a (G. n.)
n. t b n).

7. G. nte X. is p. is f. n at
R. n Tim R main in a.
. G. nte X. n rat a th
V. n a tim. f. a.

Possible Cause

- B. p. a. v. in b. p. a. a. it. n.
- M. t. r. p. b. is. G. n n. ct. r. n. t. f. u.
G. n n. ct. t. m. t. h. u. a. in a.
- R. a. t. r. i. c. t. m. t. r. t. u. r. b. i. n. t. a. t. i. n. u. t.
t. r. i. a. n. m. a. t. r. i. a. n. m. t. r. i.

- f. c. t. i. v. m. t. r. p. b.
- f. c. t. i. v. c. i. r. c. u. i. t. b. a. r.

- B. a. c. t. b. a. c. r. a. n. r. a. t. i. n. e. v. r.
r. u. a. t. i. v.

- V. r. a. u. t. a. a. e.
- T. i. m. f. a. a. t. i. n. g. r. r. c. t. X.
- T. i. m. f. r. a. n. r. a. t. i. n. e. t. i. n. g. r. r. c. t. X.

Solution

- L. i. f. t. b. p. a. a. v. i. n. t. a. r. v. i. c. p. a. a. i. t. i. n.
- u. x. i. n. e. r. t. p. b. i. n. t. m. t. h. u. a. i. n. a.

- R. m. v. m. t. h. u. a. i. n. a. f. r. u. p. t. u. r. b. i. n. a. n.
f. u. a. v. h. c. x. a. n. V. a. t. r. T. u. r. b. i. n. h. u. a. i. n. e. p. i. n.
f. r. X. I. f. n. t. r. f. r. t. h. W. a. t. r. M. t. r.
M. a. i. n. t. n. a. n. c. a. c. t. i. n.

- R. p. a. c. G. n. t. e. X.
- R. p. a. c. G. n. t. e. X.

- R. f. r. t. h. M. a. n. u. a. l. R. a. n. r. a. t. i. n. e. c. t. i. n.

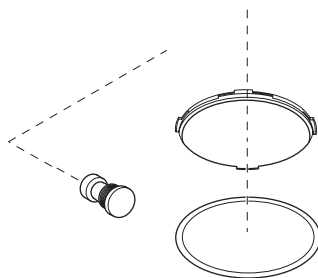
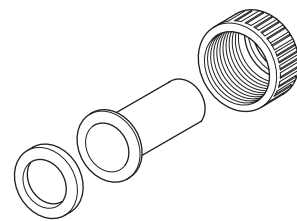
- R. a. t. t. i. m. f. a. t. a. r. r. c. t. t. i. m. f. a.
- R. a. t. t. i. m. f. a. t. a. r. r. c. t. t. i. m. f. a.

- R. a. t. t. i. m. X. 6(t)-30.23.2(f. a. 0t)-31.1(i)-30.-25.4224.1()-30.3

61-415.2(4)54(4)5anT (14(13(a) ()-0.34(a)4.7(Jan-2(54ac)3.4(0

6.0 Performa Cv Parts

6.1 Valve Component Exploded View



6.2 Parts List

Part				Part			
Code	No.	Description	Qty.	Code	No.	Description	Qty.
1	1000413	rf rma Cv G n'iti n r VaX 33 , 7%	1	10	1010423	O-Ring	1
		X V G nte X		11	1035622	Tan Ring	1
	100041	rf rma Cv iX r VaX 33 , 7% X V G nte X		12		Ximbin apt r it	1
2	1035611	62 G n'iti n r Cam 33 , Sin X nit	1	1001606	3/4-inb C pp r Tub apt r it		
	1030377	62 G n'iti n r Cam 33 , MuX nit		1001670	1-inb C pp r Tub apt r it		
	10303 0	62 iX r Cam 33 , Sin X nit		1041210	1-1/4-inb C pp r Tub apt r it		
	10303 4	62 iX r Cam 33 , MuX nit		100160	22-mm C pp r Tub apt r it		
3		rain C nte X 33 mbX	1	1001603	2 -mm C pp r Tub apt r it		
	1030355	C 33 , 5 apm		1001613	3/4-inb C VC Tub apt r it		
	1030356	C 33 , 6 apm		1001614	1-inb C VC Tub apt r it		
	1030357	C 33 , 7 apm		1001615	25-mm C VC Tub apt r it		
	103035	C 33 , 8 apm		1001663	3/4-inb N T Xstic ip apt r it		
	1030353	C 33 , 9 apm		1001603	1-inb N T Xstic ip apt r it		
	1030360	C 33 , 10 apm		1001604	3/4-inb BS T Xstic ip apt r it		

N . t . n . n

6.3 Performa Cv Controls

