

Clack® 

**WS1EI**

**WATER  
SPECIALIST  
CONTROL  
VALVE**



shown with optional bypass



Certified to NSF/ANSI 44, 61 and 372.

# Valf Öne Çıkanlar

- NSF/ANSI 44, 61 ve 372 sertifikalı
- Kolay erişim ön panel ayarlarına sahip katı hal mikroişlemci
- Günün saati, bir sonraki rejenerasyona kadar geçen günler, kalan hacim, mevcut akış hızı ve kullanılan toplam hacim için ön panel ekranı (Toplayıcı)
- Rejenerasyonu başlatmak için dört yöntem; sayaç anında, sayaç gecikmeli, zaman saati gecikmeli veya basınç farkı gecikmeli veya anında
- Tamamen ayarlanabilir 6 döngü kontrolü, kontrollü geri yıkama, aşağı akışlı brining/yavaş durulama, ikinci geri yıkama, hızlı durulama, yeniden doldurma ve aşağı akış hizmeti sunar
- Günleri geçersiz kılma özelliği 1 – 28 gün kullanılabilir
- 21” çapındaki tanklara ters yıkama ve brining özelliği
- Aşağı akış/ Yukarı akış rejenerasyonu
- Sistem yapılandırmasını ve çalışma verilerini kalıcı bellekte saklar
- 8 saatlik güç aktarımı ile madeni para hücreli lityum pil yedeği
- 12 volt çıkışlı UL CSA AC adaptör, güvenli ve kolay kurulum sağlar
- Kontrol valfi tasarımı, optimum servis ve geri yıkama oranları sağlar
- Ön veya Sonra Arıtılmış su rejenerant dolumu
- 1 Röle sürücüsü

# Özellikler



- Servis 102 lpm (6,12 m<sup>3</sup>/h) @ 1 bar/ 15 psi düşüş, sayaç ve baypas takılıken
- Metre ve baypas takılıken 102 lpm (6,12 m<sup>3</sup>/h) @ 1 bar/ 25 psi düşüşte geri yıkama
- 15' kablolu 12 volt çıkışlı UL CSA AC adaptör ile birlikte gelir
- 1.05" distribütör borusu kesme yüksekliği + 1/2" tank üstü
- Çoğu rejenerant için uygun malzemeler.
- Kolay çıkarma için kolay kilitleme tahliye/tuzlu su klipsi
- Kolay yönlendirme için 180° dönebilen standart 3/4" Erkek NPT 90° tahliye dirseği
- Kolay yönlendirme için 270° dönebilen 3/8" Parker Liquifit tuzlu su dirseği
- Kolay bakım için çıkış portunun yan tarafında yerleşik dahili akış ölçer
- 1,4 – 8,6 bar (20 psi – 125 psi) çalışma basıncı
- 4° - 43° C çalışma sıcaklığı) 40° - 110° F



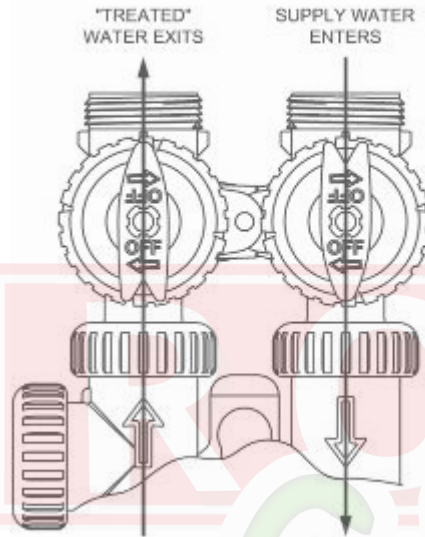
# Bypass



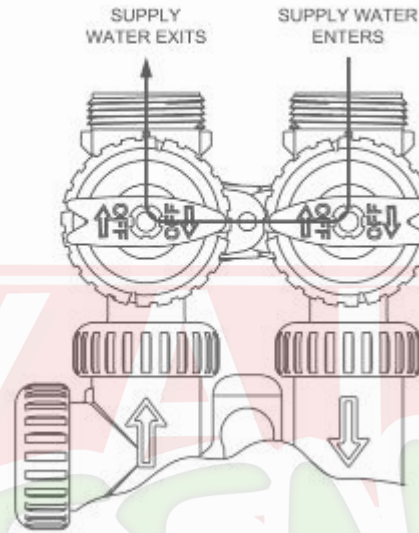
- Akış için yönlü kapatma okları: Normal, Baypas, Teşhis modu, Kapatma modu.
- Radyal contalar, yan yana ve yukarı/aşağı küçük tesisat yanlış hizalamalarına izin verir, bağlantıların yalnızca elle sıkılması gerekir.
- Rotordaki dahili olarak yağlanmış bir O-ring daha az sürtünme yaratır.

# Baypas Valfi Çalışması

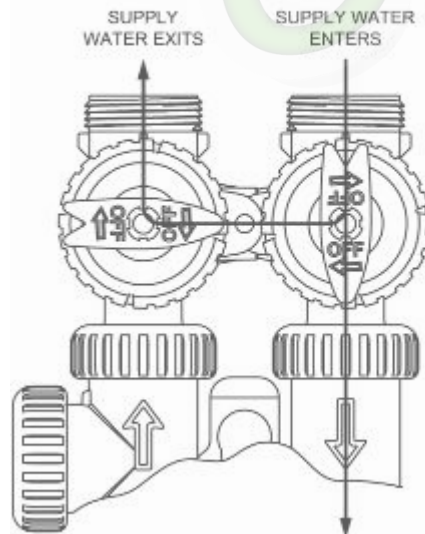
NORMAL OPERATION



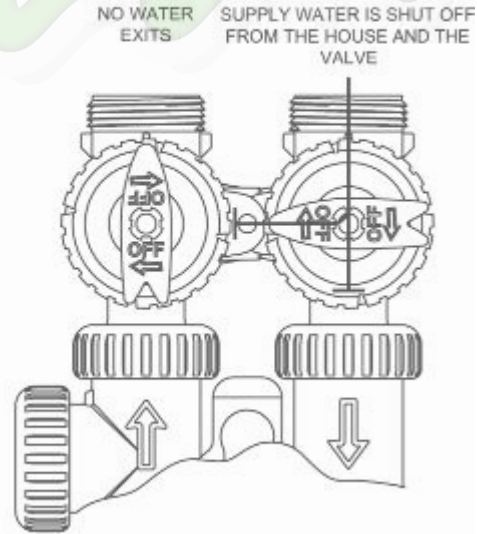
BYPASS OPERATION



DIAGNOSTIC MODE



SHUT OFF MODE



# Montaj Paketleri

**1" PVC Male NPT Elbow Assembly**



**Order No. V3007**

**3/4" x 1" PVC Solvent Elbow Assembly**



**Order No. V3007-01**

**1" Brass Sweat Assembly LF**



**Order No. V3007-02LF**

**3/4" Brass Sweat Assembly LF**



**Order No. V3007-03LF**

**1" Plastic Male NPT Assembly**



**Order No. V3007-04**

**1.25" Plastic Male NPT Assembly**



**Order No. V3007-05**

# Montaj Paketleri

**1" Plastic Male BSPT Assembly**



**Order No. V3007-06**

**1.25" & 1.5" PVC Solvent Assembly**



**Order No. V3007-07**

**1.25" Plastic Male BSPT Assembly**



**Order No. V3007-08**

**1.25" & 1.5" Brass Sweat Assembly LF**



**Order No. V3007-09LF**

**3/4" SharkBite® Assembly**



**Order No. V3007-12**

**1" SharkBite® Assembly**



**Order No. V3007-13**



# Montaj Paketleri ve Aksesuarları

**3/4" Plastic Male BSPT Assembly**



**Order No. V3007-14**

**3/4" John Guest QC Elbow Assembly**



**Order No. V3007-15**

**1" PVC Male BSPT Elbow Assembly**



**Order No. V3007-16**

**1" John Guest Straight QC**



**Order No. V3007-17**

**Bypass**



**Order No. V3006**

**1" Straight DLFC w/Silencer**



**Order No. V3008-02**



# Montaj Paketleri ve Aksesuarları

**1" Straight DLFC without Silencer**



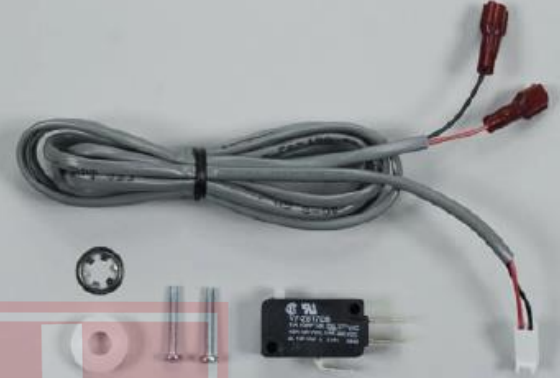
**Order No. V3008-04**

**Auxiliary Microswitch Kit**



**Order No. V3009**

**WS1 Series Microswitch Assembly**



**Order No. V3014**

**Vertical 90° Adapter Kit**



**Order No. V3191-01**

# Kapak Renkleri



V3175WC-W  
(Beyaz)

V3175WC-A  
(Badem)

# Rejenerant Dolum Seçenekleri



- 3/8 Parker Liquifit tuzlu su dirseği
- Kolay çıkarma için kilitleme klipsi
- Yalnızca BLFC 0,5 gpm dolum



0,5 gpm BLFC ile 1/2" OD boru için isteğe bağlı Brine dirsek mevcuttur



Yalnızca Geri Yıkamalı vanalarda yeniden doldurma ağzı tapası kullanılır



(Turuncu kanatlı valfler yeniden doldurma sırasında kapanır ve çekme sırasında daha fazla akışa izin vermek için daha yüksek çekme hızları için açılır)



# Drenaj Bağlantısı



V3962



H4615



V3159-01

- Kolay kilitleme klipsi çıkarma. Herhangi bir yöne yönlendirin
- 3/4" NPT dişli standart veya 5/8" OD çoklu boru (isteğe bağlı ayrı boru girişi ve somunu gerektirir)
- Tuzlu su ve drenaj armatürleri değiştirilemez (Yanlış uygulamayı önler)
- 0,7'den 10,0 gpm'ye kadar mevcut DLFC'ler

Opsiyonel Somun ve Ekleme



V4057

Ayrı ayrı satılır



V3192



PKP10TS8-TOPLU

# 1" Erkek NPT Düz Susturuculu V3008-02

**25 GPM'ye kadar Akışlar için**



9,0 GPM – 25.0 GPM arası ayrı DLFC düğmeleri mevcuttur

# Sayaç



- 0,95 - 129 lpm (0,056 - 7,7 m<sup>3</sup>/h) (0,25 - 34 gpm) + %5 doğruluk ölçümleri.
- Hall efekti çipi manyetik darbeyi ve Yumuşama veya Filtrelemeyi alır, su akarken ekranda yanıp söner
- Türbini değiştirmek kolay
- Korumalı miknatis



# Kolay erişim

Madeni Para  
Hücreli  
Lityum PİL  
(3 volt tipi  
2032)

Yazılım  
Revizyonu

Motor

Fark Basınç  
Şalteri  
Bağlantısı

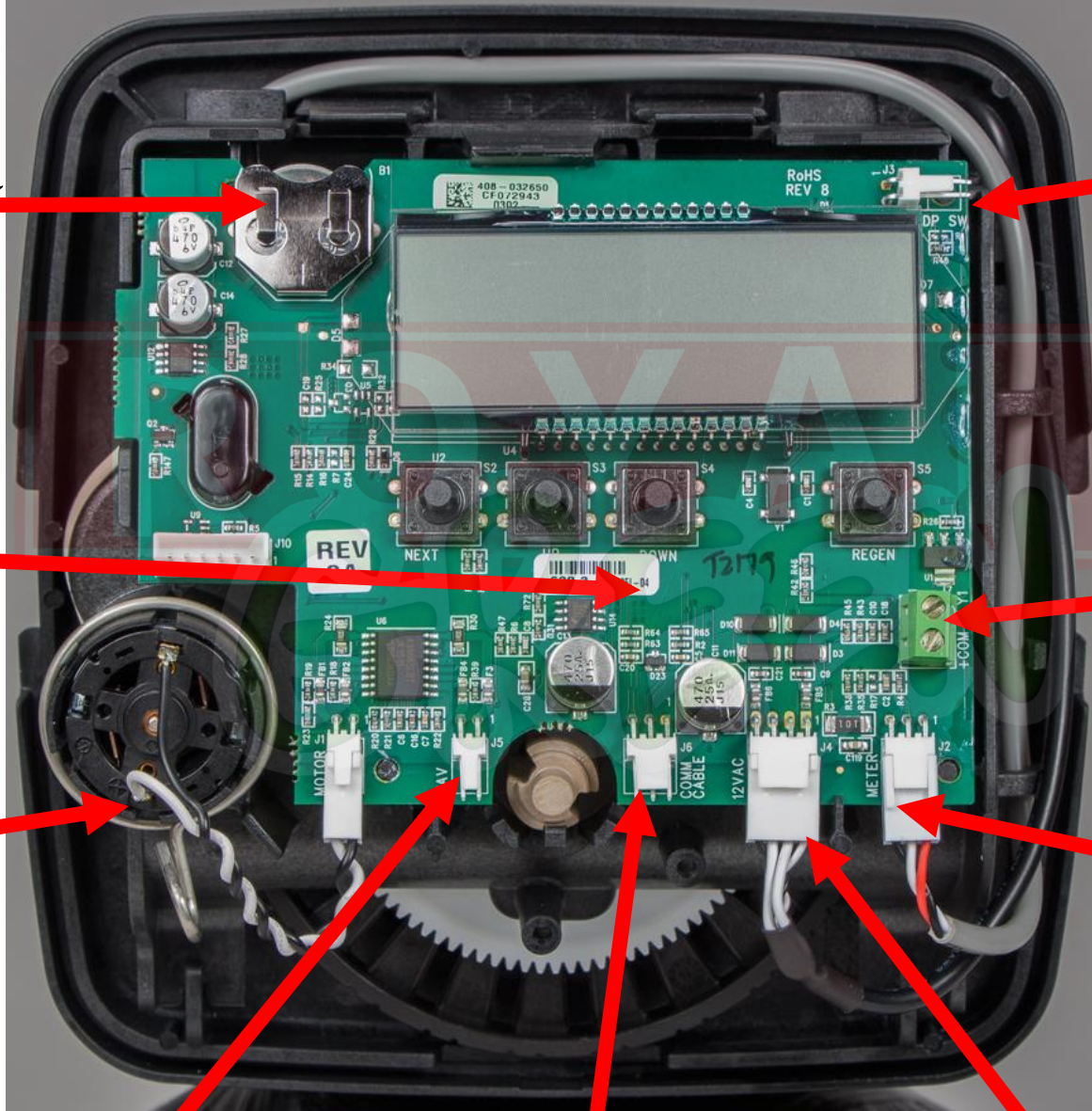
Röle 1  
sürücüsü için  
Terminal  
Bloğu

Sayaç

MAV/ NHWBP  
Sürücü Bağlantısı

MAV için Ara  
Bağlantı Kablosu

12VAC Güç

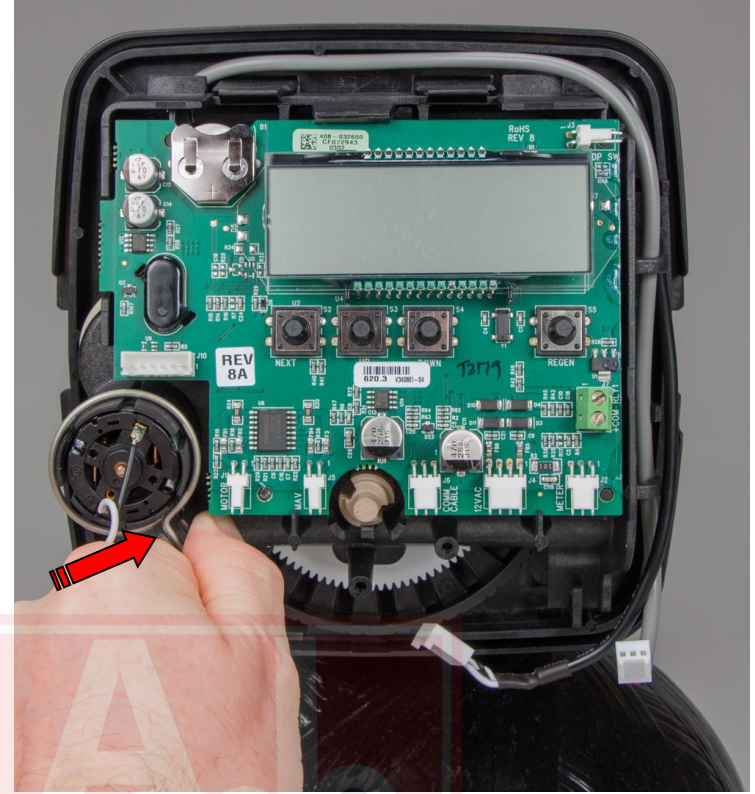


# Tahrik Motorunun Sökülmesi



12 VAC güç

- Kabloları PC Kartından ayırın, 1. güç
- Kabloları yeniden bağlarken gücü her zaman en son bağlayın



- Motor kilitleme yayını sağa doğru bastırın
- Diğer elinizle motor kablolarını motora yakın tutun ve çıkarmak için motoru dışarı çekerken motoru soldan sağa döndürün



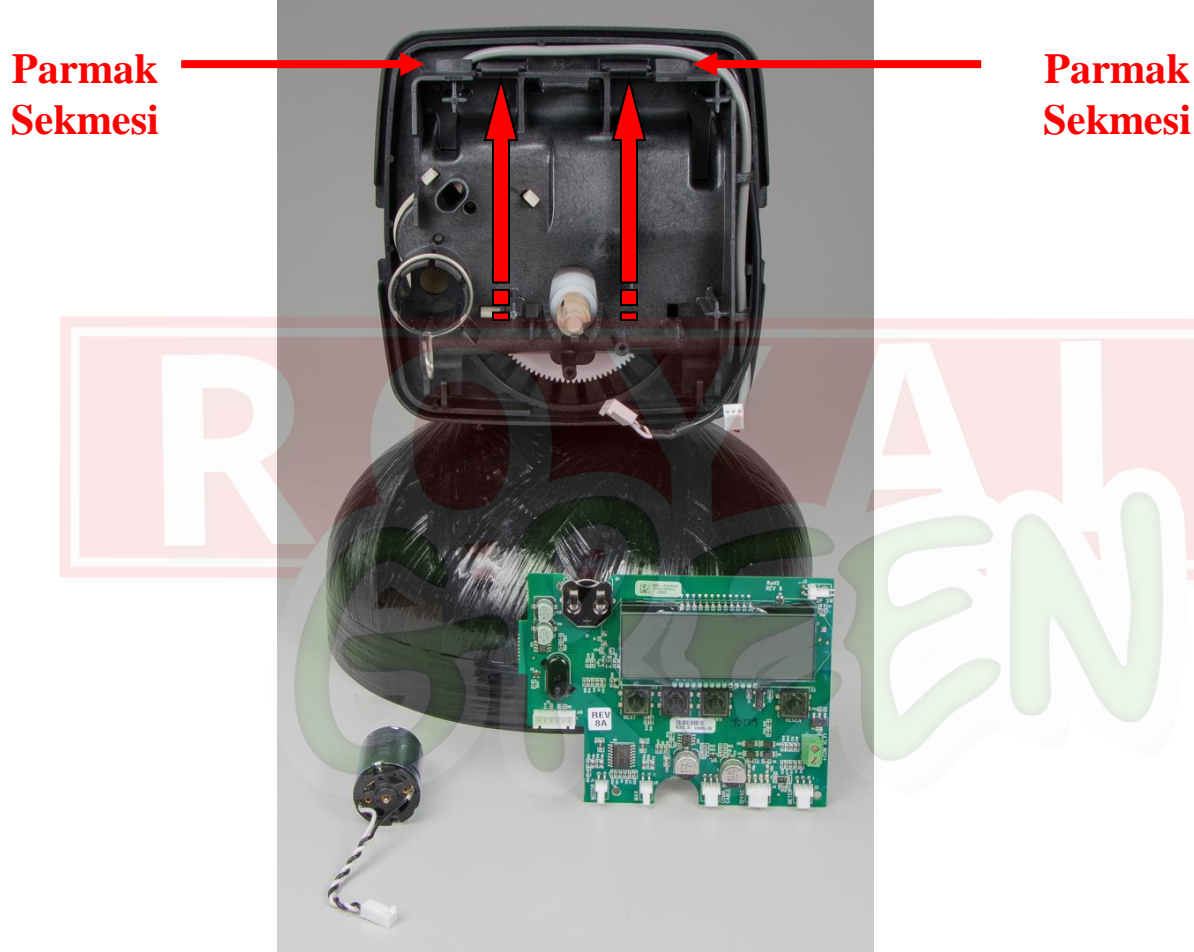
# PC Kartını Çıkarma



- Kilitleme sekmesine basın
- PC Kartının üst kısmını öne doğru çekin.

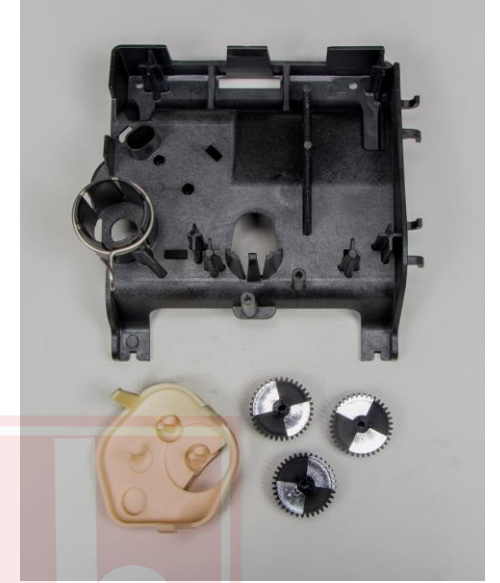
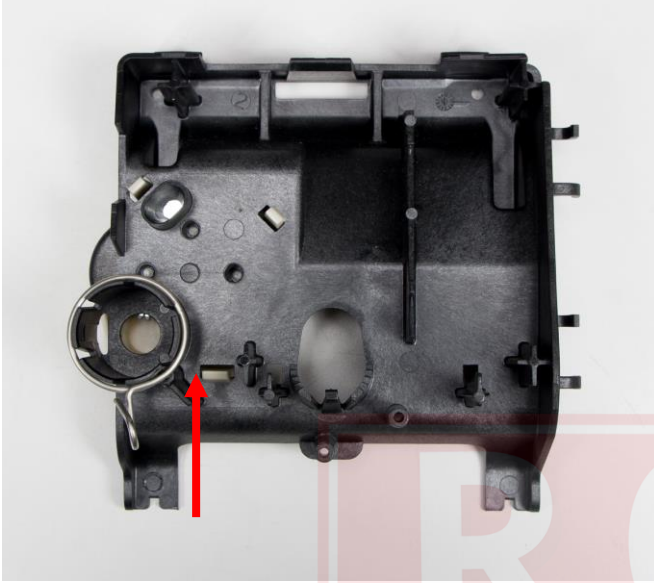


# Tahrik Braketini Çıkarma



- Belirtildiđi gibi iki tırnađı yukarı kaldırın
- Parmak tırnaklarını kullanarak sürücü braketinin üst kısmını öne doğru çekin.

# Dişli Kutusunu Çıkarma



- Bej kilitleme tırnaklarını içeri iterek dişli kutusunu çıkarın
- Dişliler, direklerinden çekilerek çıkarılabilir
- Üç dişli de aynıdır

# Sürücü Kapağını Çıkarma



•WS1 Servis Anahtarı



- Anahtarla tahrik kapağı tertibatını sökün





# Tuzlu Su Pistonu ıkarma



- Tuzlu su Pistonu, gemeli kilit baėlantısı ile kolayca ıkarılabilir.
- Tuzlu su Pistonu sadece geri yıkama filtresi ile kullanılmaz

# Ana piston



- Ana piston, geçmeli bağlantı ile piston koluna bağlıdır
- Pistonu çıkarmak için beyaz dişliyi döndürerek pistonu açığa çıkarın
- Pistonu koparabilmek için boşlukta # pistonu hafif bir yan basınç uygulayın

# Yukarı Akış ve Aşağı Akış Pistonları



- Yukarı akış veya aşağı akış uygulamaları için ayrı pistonlar kullanılır
- Aşağı akış pistonu düz bir kehribar rengidir
- Yukarı akış pistonu siyah ve kehribar rengidir

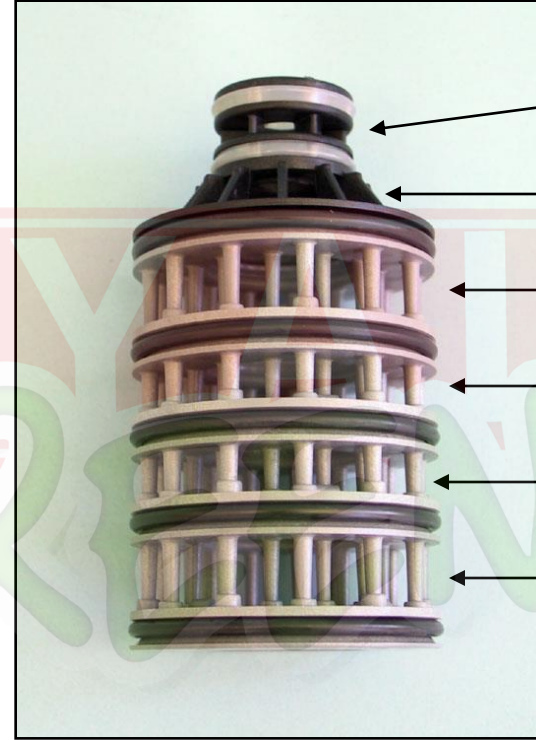
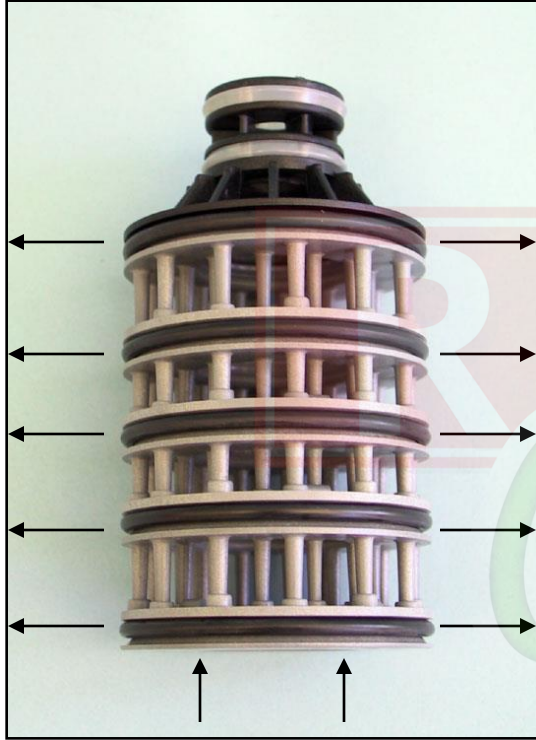
# Ara Para Yıđın Grubunu ıkarma



- Ara para yıđını tertibatı, yıđın basite dıřarı ekilerek ıkarılır.



# Ara Parça Yığını Montajı



- Tek parça değiştirilebilir montaj
- Montaj, tahrik kapağını kontrol valfine geri sıkarken sıkıştırmak ve mühürlemek için tasarlanmıştır

# Enjektör Kapağının Çıkarılması



- WS1 servis anahtarının açık ucu ile enjektör kapağını çıkarabilirsiniz



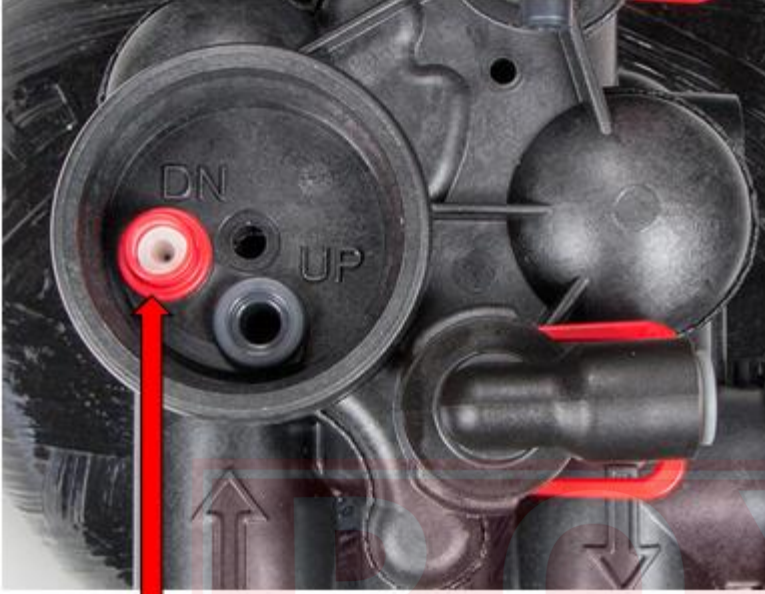
- WS1 servis anahtarının kapalı ucu ile enjektör kapağını da çıkarabilirsiniz.

# Enjektör Kapağı ve Ekranı

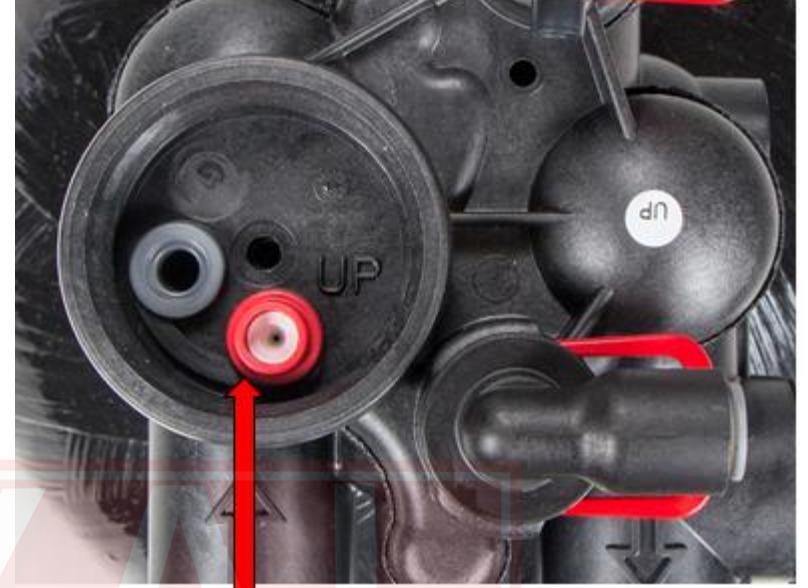


- Enjektör ekranı kolay temizlik için kapaktan çıkar.

# Enjektör Konumu



• **Downflow set up**



• **Upflow set up**

- Enjektör tuzlu su akış yönü deliğine yerleştirilir: DN - aşağı akışlı brining; YUKARI - yukarı akışlı salamura
- Diğer bağlantı noktasında bir fiş kullanılır
- Resim, aşağı akışlı brining için bir kontrol görüntüler
- **Not:** Bir aşağı akış kontrol valfi, bir yukarı akış kontrol valfine veya bir yukarı akış, bir aşağı akışa DÖNÜŞTÜRÜLEMEZ.

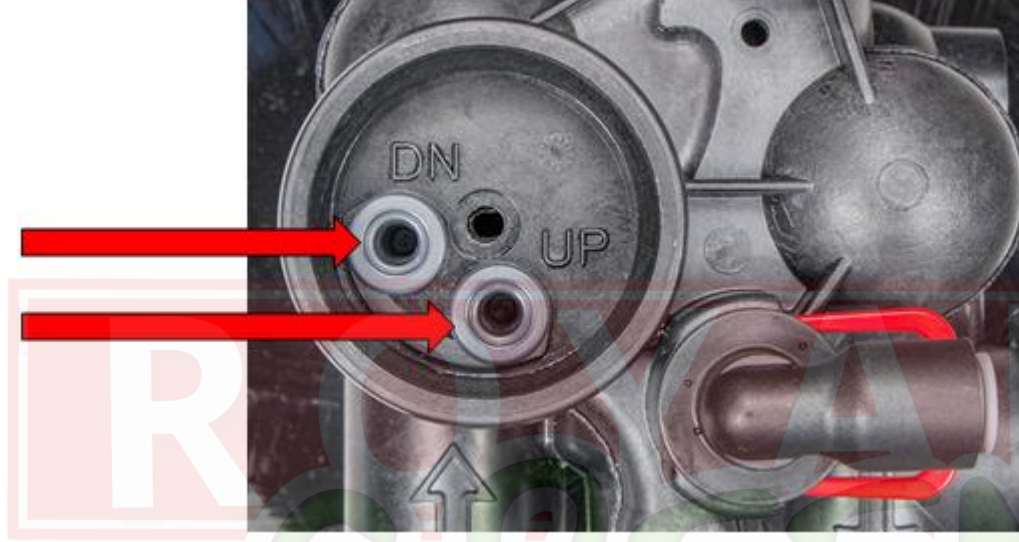


# Enjektörün Sökülmesi



**Enjektörü çıkarmak için enjektör kapağını kullanın ve enjektör kapağının alt kısmı ile enjektörün üst kenarını kepçeleysin**

# Enjektör Tapaları



- Fabrikadan sadece geri yıkama filtresi olarak sevk edildiğinde, tuzlu su pistonu ve enjektör dahil edilmeyecektir. (Enjektör geçişlerini engellemek için tapalar kullanılır.)
- Yumuşatıcıdan yalnızca geri yıkama filtresine alan dönüştürme işlemi yapılıyorsa, yalnızca bir yeniden doldurma portu tapası gereklidir.
- **Not:** Yalnızca geri yıkama filtresine dönüştürülürken tuzlu su pistonu kontrolde bırakılırsa, enjektör de kontrol valfinde bırakılmalıdır.

# Enjektör Boyutları

Enjektör Sipariş Numarası	Enjektör Rengi	Typical Tank Diameter	
		Aşağı akış WS1 & WS1.25	Yukarı akış Yalnızca WS1
V3010 – 1A	Siyah	6"	8"
V3010 – 1B	Kahverengi	7"	9"
V3010 – 1C	Mor	8"	10"
V3010 – 1D	Kırmızı	9"	12"
V3010 – 1E	Beyaz	10"	13"
V3010 – 1F	Mavi	12"	14"
V3010 – 1G	Sarı	13"	16"
V3010 – 1H	Yeşil	14"	18"
V3010 – 1I	Turuncu	16"	21"
V3010 – 1J	Açık Mavi	18"	
V3010 – 1K	Açık Yeşil	21"	

•Tipik tank çapına dayalı enjektör boyutları yalnızca standart katyon değişimli su yumuşatıcılar için tasarlanmıştır



# **Programlama Ekranları**

# Altı Seviye Programlama/Görüntüleme Bilgisi Artı Kilitleme Özelliği



- Kullanıcı ekranları
- Günün Saatini Ayarlama
- Valf Yapılandırma Ayarları
- Döngü Zamanlayıcılarını Ayarlama
- Yükleyici Ekran Ayarları
- Teşhis ekranları
- Kilitleme özelliği yalnızca Kullanıcı ve yükleyici ekranlarına erişime izin verir

# Düğme İşlemi ve İşlevleri

NEXT

Scrolls to the next display.

Pressing once and releasing will schedule a regeneration at the preset delayed regeneration time.

Pressing again and releasing will cancel the regeneration.

Pressing and holding for 3 seconds will initiate an immediate regeneration

Pressing while in regeneration will advance to the next cycle.

Pressing in the program levels will go backwards to the previous screen

REGEN



Changes variable being displayed.



NEXT



REGEN

Key sequence to lock and unlock program settings.

NEXT

REGEN

Holding for 3 seconds initiates a control reset. The software version is displayed and the piston returns to the home/service position, resynchronizing the valve.

REGEN



Used with valve type 1.0 $\Gamma$ , holding for at least 3 seconds causes a switch in the tank in Service without cycling the regeneration valve. After tank switch, days remaining and capacity remaining status is retained for each tank until the next regeneration.

# Rejenerasyon ve Hata Ekranları



## Regen Screen

Displays the time remaining in the current cycle. Pressing REGEN advances to the next cycle.



## Error Screen

Alternated flashing Err and error code every 3 seconds. Clear by disconnecting the power supply at the PC board and reconnecting, or press NEXT and REGEN simultaneously for 3 seconds.



# Rejenerasyon Döngüleri ve Süreleri

Cycle	Range		
	Softening	Filtering Regen	Filtering Backwash
Backwash	1-120 minutes	1-120 minutes	1-120 min.
Regenerant Draw/Slow Rinse (UP or DN)	1-180 minutes	1-180 minutes	NA
Fast Rinse	1-120 minutes	1-120 minutes	1-120 min.
Regenerant Refill	0.05-90.0 Kg	0.2-76.0 Liters	NA
Regenerant Refill 2.0 or 1.5 set to MIN (softening only)	0.1-99.0 minutes	0.1-99.0 minutes	NA
Service	1-480 minutes	NA	NA

All cycles can be set to “oFF”.

# Günün Saatini Ayarlama

The user can also set the time of day. Time of day should only need to be set after power outages lasting more than 24 hours, if the battery has been depleted and a power outage occurs or when daylight saving time begins or ends. If a power outage lasting more than 24 hours occurs, the time of day will flash on and off which indicates the time of day should be reset. If a power outage lasts less than 24 hours and the time of day flashes on and off, the time of day should be reset and the non rechargeable battery replaced.

## STEP 1U

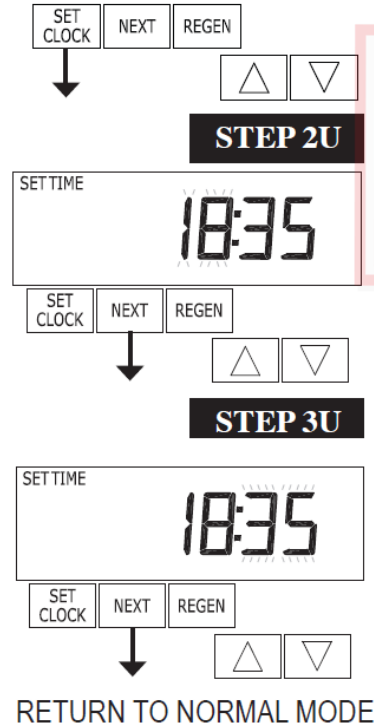
**STEP 1U** – Press SET CLOCK.

## STEP 2U

**STEP 2U** - Current Time (hour): Set the hour of the day using ▼ or ▲. Press NEXT to go to step 3U.

## STEP 3U

**STEP 3U** - Current Time (minutes): Set the minutes of the day using ▼ or ▲. Press NEXT to exit Set Clock. Press REGEN to return to previous step.



# Kullanıcı Ekranları

## General Operation

When the system is operating, one of five displays may be shown. Pressing NEXT will alternate between the displays shown below.

### User 1

Typical user display. Shows volume remaining to regeneration. This screen will not be viewed if the control is set for time-clock operation.



### User 2

Displays number of days to next regeneration. Only viewed if Step 11S or Step 5F is set to OFF.



### User 3

Displays flow rate L/min. If a meter is not used this display will be shown but 0 will be displayed. If 1.0Γ is selected in Step 2CS an "A" in front of the flow rate indicates that the tank with the control valve on it is in service. If "b" is displayed the tank with the in/out head is in service.



### User 4

Displays total volume in cubic meters since last reset. If a meter is not used this display will be shown but 0 will be displayed.  
PRESS ▼ FOR 3 SECONDS TO RESET TO 0.



### User 5

Shows current time.



# Koşullu Çalışma Görüntüleme Ekranları



In Alternator Systems when a unit is waiting to initiate the first cycle step of regeneration, “REGEN Pndg” is displayed.



“STbY” is displayed in Alternator Systems when a valve is in Standby state.



“REGEN Pndg RINSE FILL” is displayed whenever a zero-capacity tank has transferred to an off-line state and is currently waiting to initiate the second portion of a regeneration cycle. Viewed only when Delayed Rinse and Fill is set to ON.

ROYAL  
GREEN



# Vana Konfigürasyon Ekranlarına Erişmek İçin

## Step 1CS



**Step 1CS** – Press NEXT and ▼ simultaneously for 5 seconds and release. Press NEXT and ▼ simultaneously for 5 seconds and release. If the screen in Step 2CS does not appear, the lock on the valve is activated. To unlock, press ▼, NEXT, ▲ and REGEN in sequence, then press NEXT and ▼ simultaneously for 5 seconds and release. Press NEXT and ▼ simultaneously for 5 seconds and release.

## Step 2CS



**Step 2CS** – Use ▲ or ▼ to select 1.0 for 1" valve, 1.25 for 1.25" valve, 1.5 for 1.5" valve, 2.0 for 2" valve or 1.0Γ for twin valve. If 1.0, 1.25 or 1.0Γ are selected, press NEXT to go to Step 4CS. If 1.5 or 2.0 are selected, press NEXT to go to Step 3CS.. Press REGEN to exit Configuration Settings.

## Step 3CS

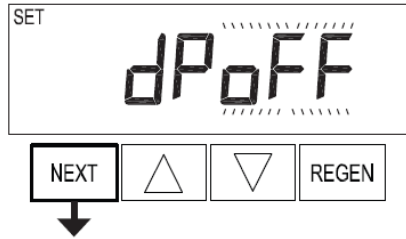


**Step 3CS** – Use ▲ or ▼ to select meter size. Settings available are 1.5, 2.0, 3.0, 1.0r (1.0 Remote Meter) or PUL (Variable Meter Calibration.) Variable meter pulses of 0.1-150.0 PPL can be selected. Press NEXT to go to Step 4CS. Press REGEN to return to previous step.



# Vana Konfigürasyon Ekranlarına Erişmek İçin

## Step 4CS



**Step 4CS** – Selecting the use of an outside signal to initiate a regeneration: Selection only matters if a connection is made to the two pin connector labeled DP SWITCH located on the printed circuit board. Following is an explanation of the options:

oFF - feature not used

NOTE: In a twin alternating system each control must have a separate dP signal or dP switch. One dP signal or one dP switch cannot be used for both controls.

on0 – If the dP switch is closed for an accumulative time of 2 minutes a regeneration will be signaled to the unit. In a twin alternating system the MAV will transition first to switch units so that the signaled unit can start regeneration. After the MAV has fully transitioned, the regeneration begins immediately. Note: For WS1 – WS1.5 control valves programmed for twin alternating: if the dP function “on0” is set, the Delayed Rinse and Fill feature is not available.

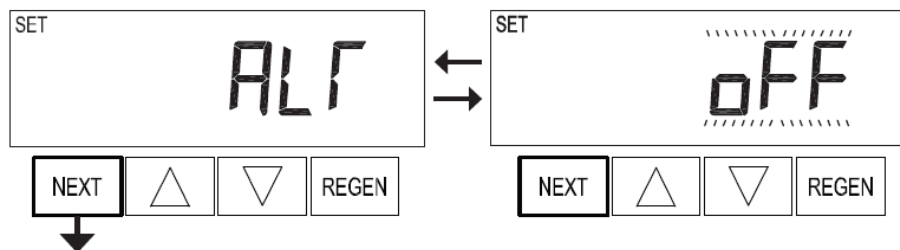
dEL – If the dP switch is closed for an accumulative time of 2 minutes a regeneration will occur at the scheduled delayed regeneration time. In a twin alternating system once the dP switch is triggered the PC Board will display “REGEN TODAY” and when the delayed regen time comes the control will switch tanks and the triggered unit will then go into regeneration. Note: For WS1 – WS1.5 control valves programmed for twin alternating: if the dP function “dEL” is set, the Delayed Rinse and Fill feature is not available.

HoLd – If the dP switch is closed a regeneration will be prevented from occurring while there is switch closure. In a twin alternating system the regeneration of a unit can be prevented upon switch closure. If the unit depletes the capacity down to zero, it will not be allowed to switch tanks to regenerate until the switch is open. Note: For WS1 – WS1.5 control valves programmed for twin alternating the Delayed Rinse and Fill feature can be set.

Press NEXT to go to Step 5CS. Press REGEN to return to previous step.

# Vana Yapılandırma Ekranları

## Step 5CS



**Step 5CS** – This display will not appear if 1.0Γ was selected in Step 2CS. Allows selection of one of the following using ▲ or ▼:

- the Control Valve to have no hard water bypass;
- the Control Valve to act as an alternator;
- the Control Valve to have a separate source during the regeneration cycle; or
- the Control Valve to operate with the System Controller.

Select OFF when none of these features are used.

Only use Clack No Hard Water Bypass Valves or Clack Motorized Alternating Valves (MAV) with these selections. Clack No Hard Water Bypass Valves (1" or 1.25" V3070FF or V3070FM) are not designed to be used with the alternator or separate source functions.

### Selecting the Control Valve to act as an alternator:

519.0 and higher = Use 3-wire Interconnect Cables for all communication between units.

518.3 and lower = Use 2-wire Interconnect Cables for twin alternators with independent flow meters.

Prior to starting the programming steps, connect the communication cable to each control valve board's three pin connector labeled "COMM CABLE". Also connect the meter cord to either control valve to the three pin connector labeled "METER".			
		Valve Programming Steps	
OEM Softener System Setup	Step 12S	Set regeneration time option to "On O".	Set regeneration time option to "On O".
Configuration Settings	Step 5CS	Set to ALT A Connect ALT A valve to the MAV's A port and connect the MAV's two pin wire connector to the two pin connector labeled "MAV" on the ALT A valve	Set to ALT B Connect ALT B valve to the MAV's B port. No connections between the ALT B valve and the MAV are made.
Installer Display Setting	Step 2I	Enter the Volumetric Capacity for the System	Enter the Volumetric Capacity for the System (the same as Valve A)
Installer Display Setting	Step 4I	Set Day Override to "oFF"	Set Day Override to "oFF"

NOTE: If the control valve is in an error state during regeneration mode the MAV will close the B port and keep open the A port until the error is corrected and reset.

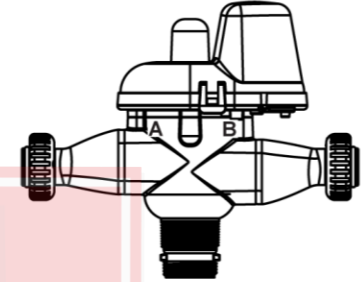
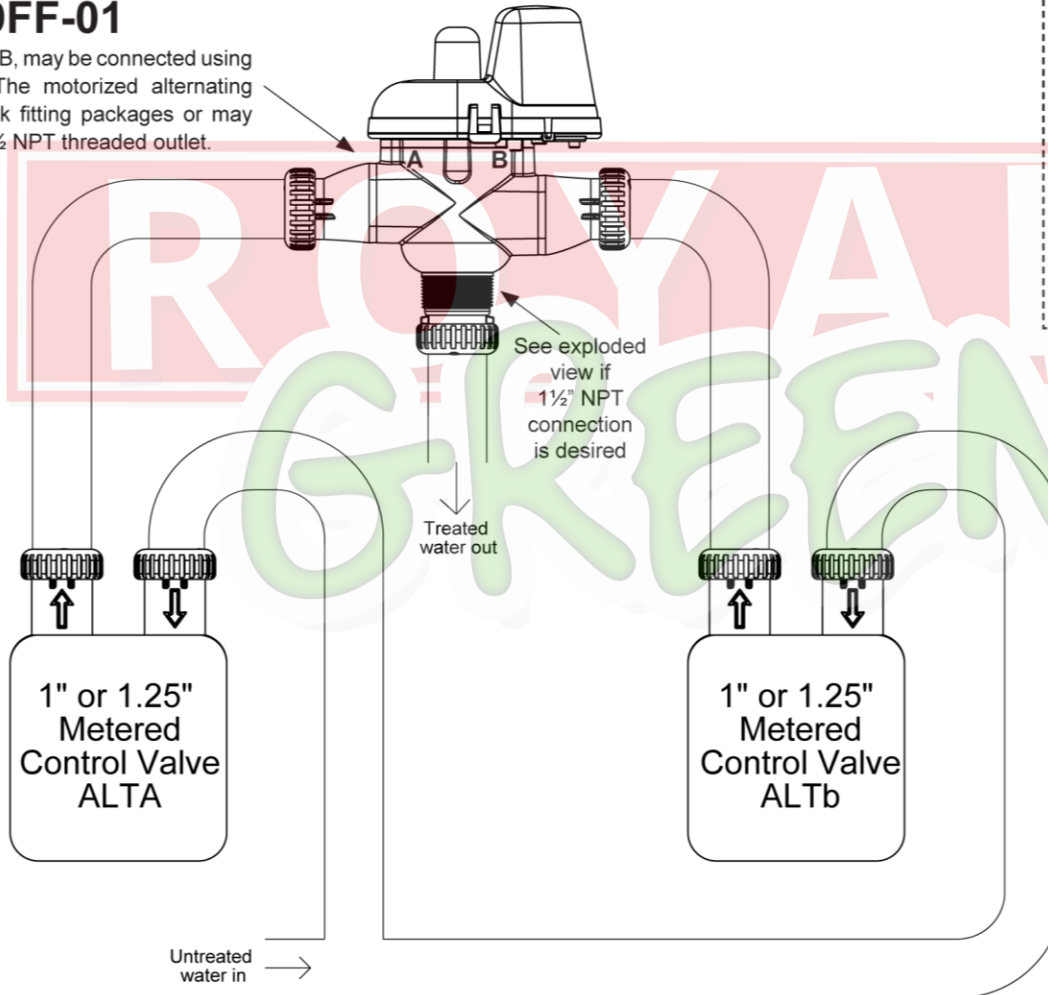
# Clack Motorlu Alternatif Vana (MAV) Seçenekleri

## Ham/İşlenmemiş Su Rejenerasyonu

### REGENERATION WITH HARD WATER

#### V3069FF-01

Female ports, labeled A or B, may be connected using Clack fitting packages. The motorized alternating valve outlet accepts Clack fitting packages or may be removed to use 1½ NPT threaded outlet.



#### V3069MM-01

Male ports, labeled A or B, may be connected directly to a Clack 1" or 1.25" control valve outlet or to a V3191-01 vertical bypass adapter assembly. The motorized alternating valve outlet accepts Clack fitting packages or may be removed to use 1½" NPT threaded outlet.



# Clack Motorlu Alternatif Vana (MAV) Seçenekleri

## Ham/İşlenmemiş Su Rejenerasyonu

V3069FF-01 MAV ile gösterilir



Interconnect piping not  
supplied by Clack

V3069MM-01 MAV ile gösterilir

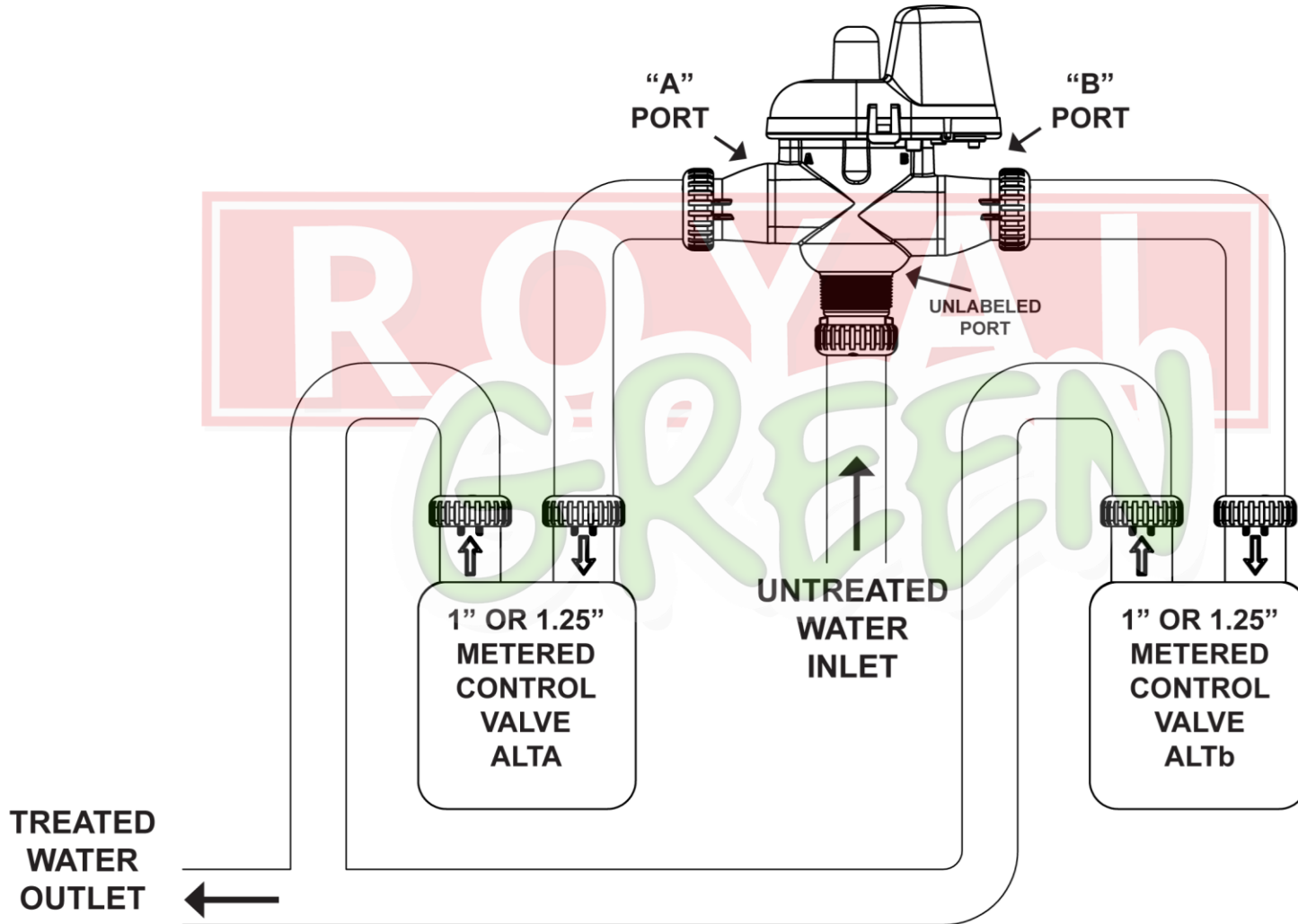


(2) V3191-01 Kitleri, Valfleri ve  
MAV'yi birbirine bağlamak için  
kullanılır, ayrı satılır

# Clack Motorlu Alternatif Vana (MAV) Seçenekleri

## Aritılmış Su Rejenerasyonu

REGENERATION WITH SOFT WATER



# Clack Motorlu Alternatif Vana (MAV) Seçenekleri

**Arıtılmış Su Rejenerasyonu**

V3069MM-01 MAV ile gösterilir

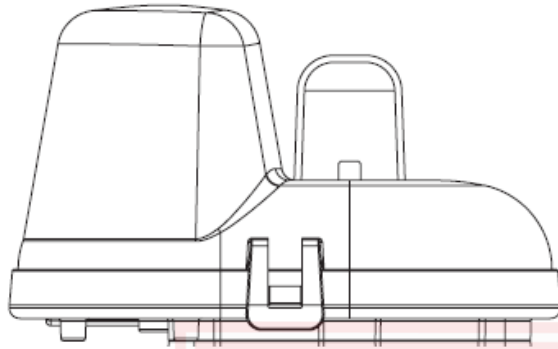
**Example of Twin Alt System  
with soft water regeneration.**

**RAW WATER INLET**



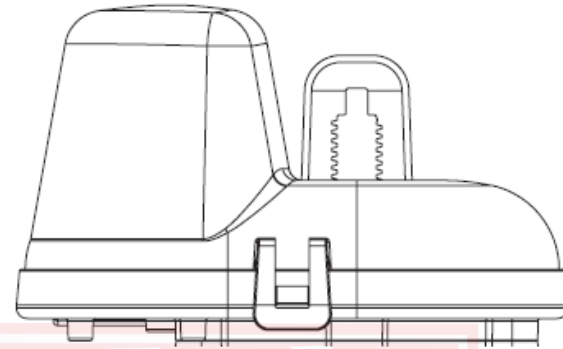
**TREATED WATER OUTLET**

# İkiz Alternatif Programlama Seçenekleri



**Retracted**

Valve “A” in Service Position =  
MAV piston rod Retracted



**Extended**

Valve “B” in Service Position = MAV  
piston rod Extended

## **Note: Clack Twin Alternator Operations**

- Twin alternating systems can be programmed with a day override setting combined with the normal volume-based regeneration programming. A twin alternating system in this configuration will then regenerate based on the volume used or the day override if there is a period of low water usage.
- Twin alternating systems can be programmed as a time clock only based regenerating system. In this configuration, the days remaining are counted only on the unit that is in service. The unit in Stand-by Mode only notes days in diagnostics, which results in time clock only twin regeneration initiation.
- Twin alternating systems can be programmed for a delayed regeneration time. The system will allow an immediate transfer of the MAV to switch tanks and place a fully regenerated unit in service once a unit becomes exhausted. The exhausted unit will then be placed into Stand-by Mode and allowed to have a delayed regeneration at the pre-set time.



# İkiz Alternatif Programlama Seçenekleri

## WS1, WS1.25 and WS1.5 Valves

For Clack Corporation alternator systems using WS1, WS1.25 and WS1.5 valves there will be an option to delay the last two cycles of regeneration (only “Rinse” and “Fill”). This feature splits the regeneration into two portions. The first portion of the regeneration will start immediately and all programmed cycles before the “Rinse” and “Fill” cycles will be performed. After all programmed cycles before “Rinse” and “Fill” are completed the control valve will drive to the service position (displaying “Delayed Rinse + Fill Pending”). When the volume of the on-line unit is depleted to 10% of its programmed capacity, the control valve will be triggered to finish the second portion of the regeneration and complete the “Rinse” and “Fill” cycles and return to Service and be placed into Standby mode, and wait to come on-line for service. Set to oFF to deactivate this feature.

SET  
ALF A

NEXT   REGEN



SET  
dELAY  
FILL RINSE

SET  
oFF



## WS2 Valve

For Clack Corporation alternator systems using the WS2 valve, when NEXT is pressed after selecting ALT A or ALT B, a display will allow the user to set the amount of pre-service rinse time for the standby tank just prior to returning to service. Set to oFF to deactivate this feature. With 1.0 set, the same display appears and is set in a similar manner.

SET  
ALF A

NEXT   REGEN



SET  
PrE 5 MIN  
RINSE

NEXT   REGEN



# Sert Su Bypass Programlama Seçeneđi Yok

## Configuring the Control Valve for No Hard Water Bypass Operation:

Select nHbP for control operation. For no hard water bypass operation the three wire communication cable is not used.



Selection requires that a connection to MAV or a Clack No Hard Water Bypass Valve is made to the two pin connector labeled MAV located on the printed circuit board. If using a MAV, the A port of the MAV must be plugged and the valve outlet connected to the B port. When set to nHbP the MAV will be driven closed before the first regeneration cycle that is not FILL or SOFTENING or FILTERING, and be driven open after the last regeneration cycle that is not FILL.

NOTE: If the control valve enters into an error state during regeneration mode, the no hard water bypass valve will return to the open Position, if not already there.

### **V3070FM**

İsteđe bađlı V3191-01 dikey adaptör kitiyle gösterilir



### **V3070FM**

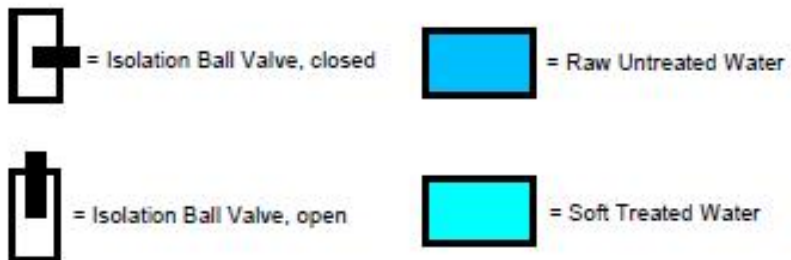


### **V3070FF**

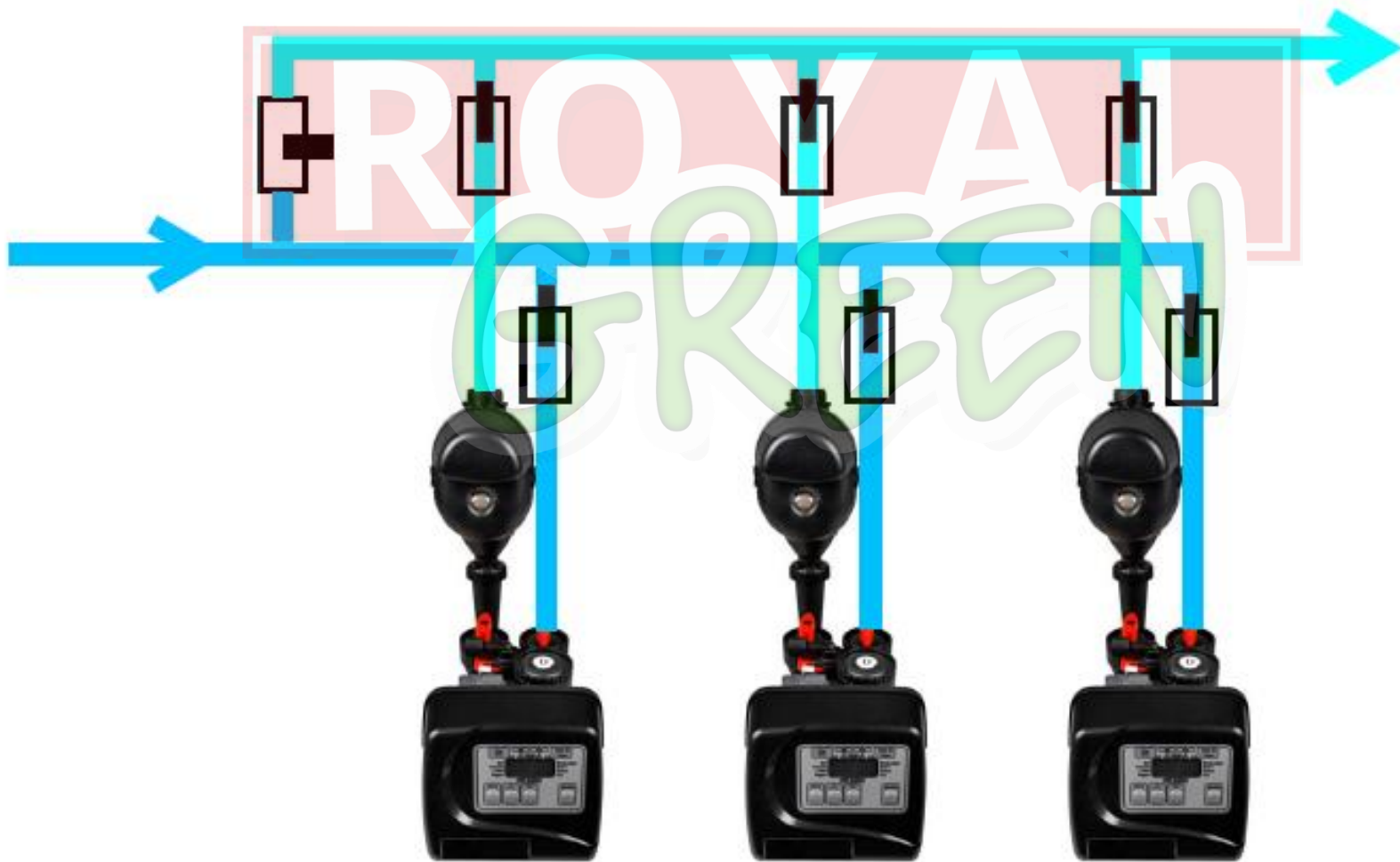
İsteđe bađlı V3191-01 dikey adaptör kitiyle gösterilir



# WS1/ WS1.25 EE Twin Parallel NHWBP with V3070FM




# WS1/ WS1.25 EE Triplex NHWBP with V3070FM



 = Isolation Ball Valve, closed

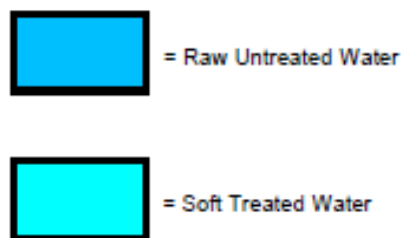
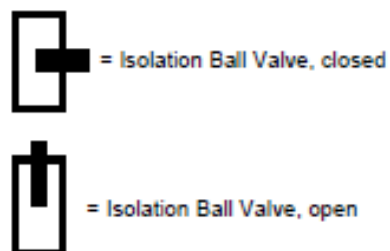
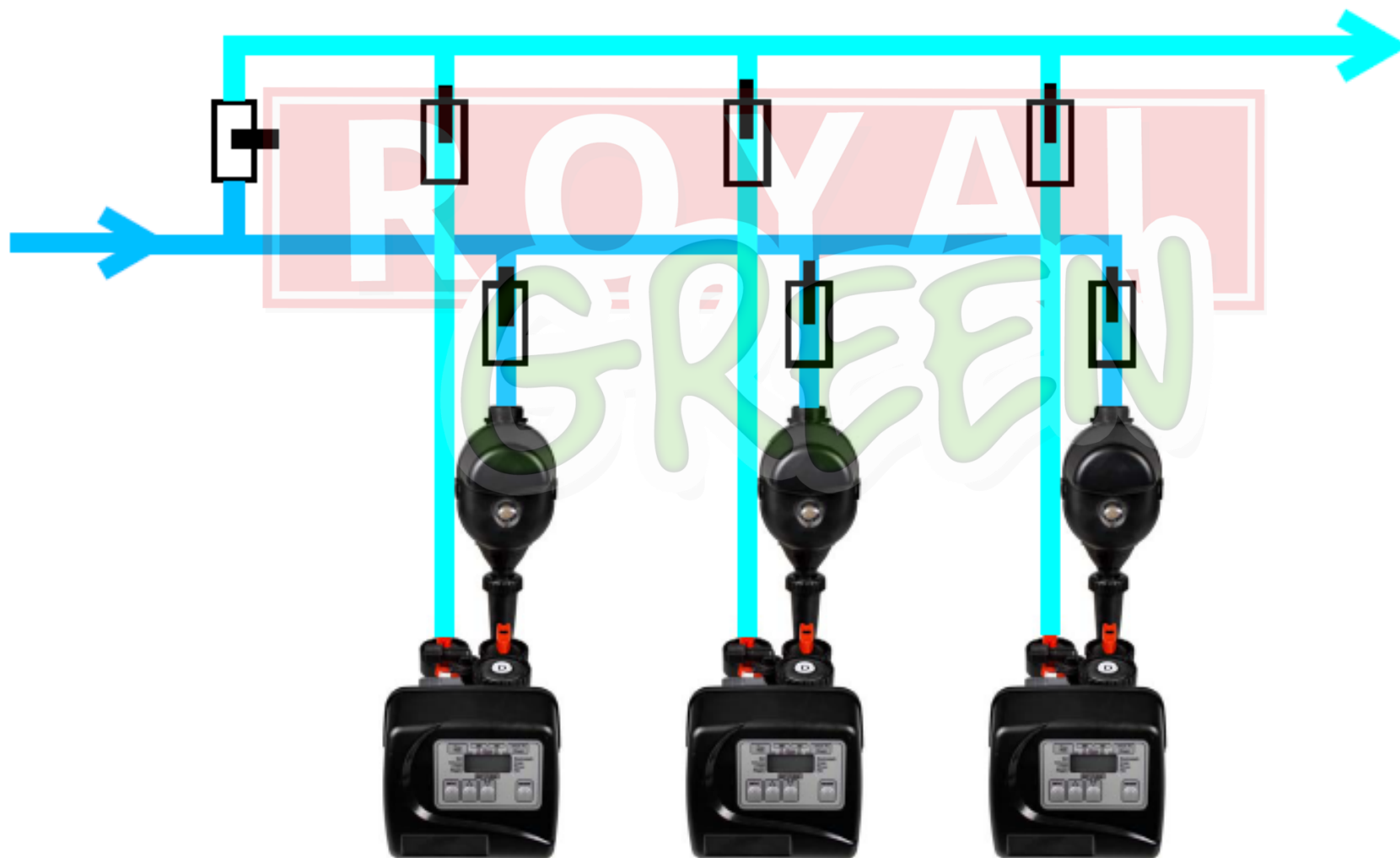
 = Raw Untreated Water

 = Isolation Ball Valve, open

 = Soft Treated Water



# WS1/ WS1.25 EE Triplex Treated Water Regeneration with V3070FM



NOTE: If metered, replace all V3003 meter assemblies with V3003-02 meter assemblies

# Ayrı Kaynak Yenileme Programlama Seçeneği

## Configuring the Control Valve for Separate Source Operation:

Select SEPS for control operation. For separate source operation the three wire communication cable is not used.

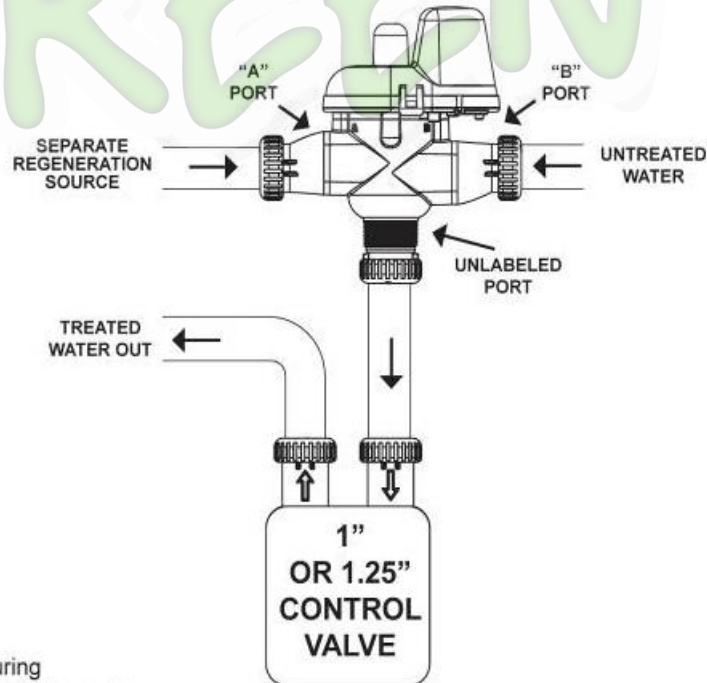
SET

SEPS

Selection requires that a connection to a Clack Motorized Alternator Valve (MAV) is made to the two pin connector labeled MAV located on the printed circuit board. The C port of the MAV must be connected to the valve inlet and the A port connected to the separate source used during regeneration. The B port must be connected to the feed water supply.

When set to SEPS the MAV will be driven closed before the first regeneration cycle, and be driven open after the last regeneration cycle.

NOTE: If the control valve enters into an error state during regeneration mode, the MAV will return to the open position, if not already there.



### Note:

If there is a treated water demand during regeneration, separate source water will be used.

# Vana Yapılandırma Ekranları

## Configuring the Control Valve for System Controller Operation:

Select "SYS" to link control valve to System Controller. For communication between control valve and System Controller, a three-wire communication cable is required.

Selection requires that a connection to a Clack No Hard Water Bypass (V3070FF or V3070FM) be made to the two-pin connector labeled MAV located on the printed circuit board for WS1 and WS1.25 control valves. For valve types WS1.5 and WS2, a connection from a Clack No Hard Water Bypass (V3097/BSPT or V3098/BSPT) to the two pin connector labeled MAV located on the printed circuit board is required.

Press NEXT to go to Step 6CS. Press REGEN to return to previous step.

SET

545

NEXT

REGEN

### Step 6CS

SET

HARDNESS

PPM

NEXT

REGEN

Step 6CS – Water Hardness Units. The choices are:

ppm parts per million

FH French degrees

dH German degrees

NOTE: If control is going to be used in a filter application none of these settings will be used.

Press NEXT to go to Step 7CS. Press REGEN to return to previous step.

### Step 7CS

SET

Kg

FILL

NEXT

REGEN

Step 7CS – Fill Units: If set as a softener, if Step 2CS is set to 1.5, and FILL is part of the Regeneration Cycle Sequence, FILL UNITS of MIN or kg can be selected. Press NEXT to exit OEM Configuration Setup. Press REGEN to return to previous step.

SET

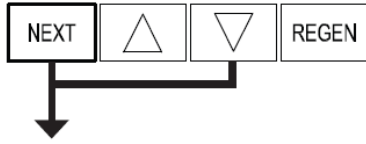
MIN

FILL

EXIT TO DISPLAY SCREENS

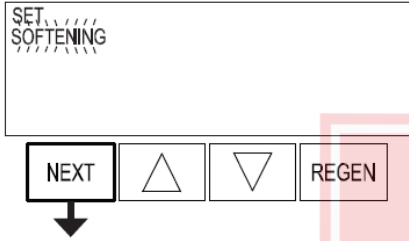
# OEM Yumuşatıcı Kurulumu

## Step 1S



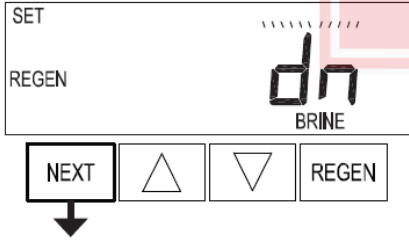
**Step 1S** - Press NEXT and ▼ simultaneously for 5 seconds and release. If screen in Step 2S does not appear, the lock on valve programming has been activated. To unlock press ▼, NEXT, ▲, REGEN in sequence, then press NEXT and ▼ simultaneously for 5 seconds and release.

## Step 2S



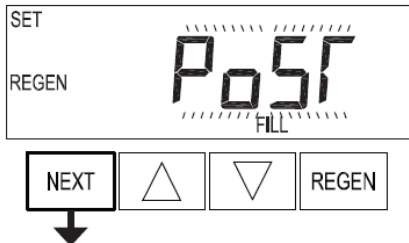
**Step 2S** – Choose SOFTENING using ▲ or ▼. Press NEXT to go to Step 3S. Press REGEN to exit OEM Softener System Setup.

## Step 3S



**Step 3S** – Choose Brining Direction using ▲ or ▼. This screen is not viewed when Step 2S is set to Filtering. Press NEXT to go to Step 4S. Press REGEN to return to previous step.

## Step 4S



**Step 4S** – Set Refill location using ▲ or ▼:

- “PoST” to refill the brine tank after the final rinse; or
- “PrE” to refill the brine tank four hours before the regeneration time set.

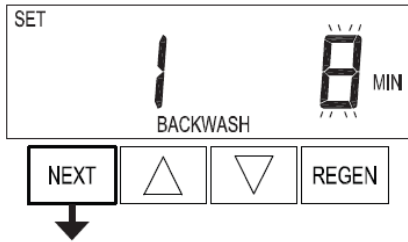
This screen is not viewed when Step 2S is set to Filtering.

Press NEXT to go to Step 5S. Press REGEN to return to previous step.



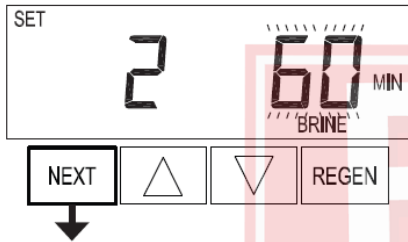
# OEM Yumuşatıcı Kurulumu

## Step 5S



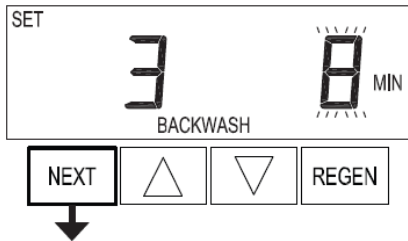
**Step 5S** – Select the time for the first cycle using ▲ or ▼.  
Press NEXT to go to Step 6S. Press REGEN to return to previous step.

## Step 6S



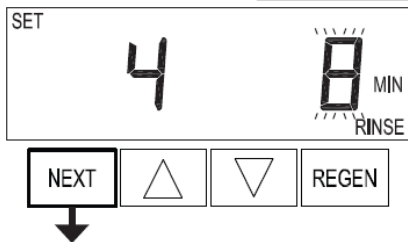
**Step 6S** – Select the time for the second cycle using ▲ or ▼.  
NOTE: The display will flash between cycle number and time, and brine direction (UP or dn).  
Press NEXT to go to Step 7S. Press REGEN to return to previous step.

## Step 7S



**Step 7S** – Select the time for the third cycle using ▲ or ▼.  
Press NEXT to go to Step 8S. Press REGEN to return to previous step.

## Step 8S



**Step 8S** – Select the time for the fourth cycle using ▲ or ▼.  
Press NEXT to go to Step 9S. Press REGEN to return to previous step.

# OEM Yumuşatıcı Kurulumu

## Step 9S

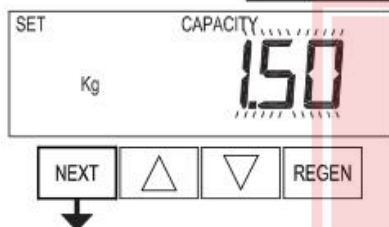


**Step 9S** – Select the kg for the fifth cycle using ▲ or ▼.

NOTE: if Step 2CS is set to 2.0 or Step 7CS is set to MIN, Fill will be in minutes.

Press NEXT to go to Step 10S. Press REGEN to return to previous step.

## Step 10S



**Step 10S** – Set System Capacity using ▲ or ▼. The System Capacity setting should be based on the volume of resin and Kg of salt fill set in Step 9S. When using ppm, dH, or FH the system capacity and hardness levels entered are used to determine the Volume Capacity. Press NEXT to go to Step 11S. Press REGEN to return to previous step.

## Step 11S



**Step 11S** – Set Volume Capacity using ▲ or ▼. If value is set to:

- “AUTO” capacity will be automatically calculated and reserve capacity will be automatically estimated;
- “oFF” regeneration will be triggered solely by the day override setting (see Installer Display/Settings Step 4I);
- a volume, regeneration will be triggered by the value specified (in M<sup>3</sup>).

If “oFF” or a volume is used, the hardness display will not be allowed to be set in Installer Display Settings Step 2I & 3I. See Setting Options Table for more detail. Press NEXT to go to Step 12S. Press REGEN to return to previous step.

# OEM Yumuşatıcı Kurulumu

## Step 12S

SET TIME

REGEN

NORMAL

NEXT

△

▽

REGEN

**Step 12S – Set Regeneration Time Options using ▲ or ▼.** If value is set to:

- “NORMAL” means regeneration will occur at the preset time;
  - “on 0” means regeneration will occur immediately when the volume capacity reaches 0 (zero); or
  - “NORMAL + on 0” means regeneration will occur at one of the following:
    - the preset time when the volume capacity falls below the reserve or the specified number of days between regenerations is reached whichever comes first; or
    - immediately after 10 minutes of no water usage when the volume capacity reaches 0 (zero).
- “NORMAL” is the default if Step 5CS is set to ALT A or ALT B, and “NORMAL + on 0” is not available.

“on 0” is the default if Step 2CS is set to 1.0 $\bar{f}$ , and “NORMAL + on 0” is not available.

This step will not appear if Step 11S is set to off or Step 5CS is set to “SYS”.

See Setting Options Table for more detail. Press NEXT to go to Step 13S. Press REGEN to return to previous step.

## Step 13S

SET

RELAY

NEXT

△

▽

REGEN

SET TIME

on

**Step 13S – Set Relay Operation using ▲ or ▼.** The choices are:

- Time on: Relay activates after a set time at the beginning of a regeneration and then deactivates after a set period of time. The start of regeneration is defined as the first backwash cycle or Dn brine cycle, whichever comes first.
- Liters Softening on: Relay activates after a set number of liters have

been used while in service and then deactivates after the meter stops registering flow and the set time period has expired.

- Liters Softening Regen on: Relay activates after a set number of liters have been used while in service, or during regeneration, and then deactivates after the meter stops registering flow and the set time period has expired.

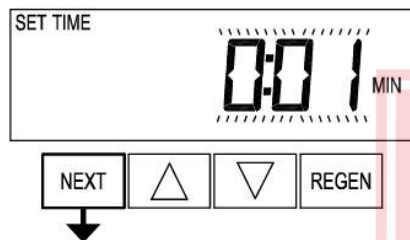
- ERROR: Relay closes whenever the valve enters error mode, and immediately deactivates when error mode is exited. If set to ERROR, Steps 14S and 15S will not be shown.

- Off: If set to Off, Steps 14S and 15S will not be shown.

Press NEXT to go to Step 14S. Press REGEN to return to previous step.

# OEM Yumuşatıcı Kurulumu

## Step 14S

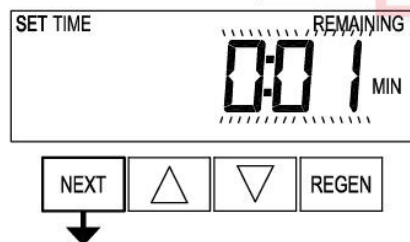


**Step 14S – Set Relay Actuation Time or Liters using ▲ or ▼.** The choices are:

- Relay Actuation Time: After the start of a regeneration the amount of time that should pass prior to activating the relay. The start of regeneration is defined as the first backwash cycle, Dn brine cycle or UP brine cycle whichever comes first. Ranges from 1 second to 200 minutes.
- Relay Actuation Liters: Relay activates after a set number of liters has passed through the meter. Ranges from 1 to 200 liters.

Press NEXT to go to Step 15S. Press REGEN to return to previous step.

## Step 15S



**Step 15S – Set Relay Deactivate Time using ▲ or ▼.**

- If Set Time on is selected in Step 13S the relay will deactivate after the time set has expired. Ranges from 1 second to 200 minutes.
- If Set Liters Softening on or Set Liters Softening Regen on is selected in Step 13S the relay will deactivate after the time set has expired or after the meter stops registering flow, whichever comes first. Ranges from 1 second to 20 minutes.

Press NEXT to exit OEM Softener System Setup. Press REGEN to return to previous step.

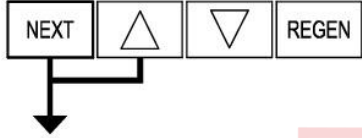
**EXIT OEM SOFTENER SYSTEM SETUP**



# Yükleyici Ekran Ayarları

## Step 1I

**Step 1I** - To enter Installer Display press NEXT and ▲ simultaneously for about 5 seconds and release.



## Step 2I

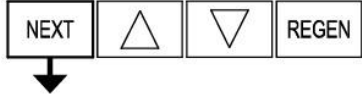
**Step 2I** – Hardness: Set the amount of influent hardness using ▲ or ▼. This display will not be viewed if FILTERING BACKWASH or FILTERING REGEN is selected in Step 2F OR if “oFF” or a number was selected in Step 1IS.

Press NEXT to go to step 3I. Press REGEN to exit Installer Display Settings.



## Step 3I

**Step 3I** – Hardness 2: If using a mixing valve, set the amount of effluent hardness using ▲ or ▼. Range of available values may vary depending on system capacity selected and hardness selected in Step 2I. This display will not be available if FILTERING BACKWASH or FILTERING REGEN is selected in Step 2F OR “oFF” or a number was selected in Step 1IS. Press NEXT to go to Step 4I. Press REGEN to return to previous step.





# Yükleyici Ekran Ayarları

## Step 4I

SET  
REGEN  
DAY

14

NEXT   REGEN

↓

**Step 4I – Day Override:** When volume capacity is set to “oFF”, sets the number of days between regenerations. When volume capacity is set to AUTO or to a volume, sets the maximum number of days between regenerations. If value set to “oFF”, regeneration initiation is triggered solely by volume used. If value is set in days (allowable range from 1 to 28) regeneration initiation will be called for on that day regardless of actual water usage. Set Day Override using ▲ or ▼:

- number of days between regeneration (1 to 28); or
- “oFF”.

See Setting Options Table for more detail on setup.

Press NEXT to go to step 5I. Press REGEN to return to previous step.

## Step 5I

SET TIME  
REGEN

2:00

NEXT   REGEN

↓

**Step 5I – Next Regeneration Time (hour):** Set the hour of day for regeneration using ▲ or ▼. The default time is 2:00. This display will show “REGEN on 0 M<sup>3</sup>” if “on 0” is selected in Set Regeneration Time Option in OEM Softener System Setup or OEM Filter System Setup.

Press NEXT to go to step 6I. Press REGEN to return to previous step.

## Step 6I

SET TIME  
REGEN

2:00

NEXT   REGEN

↓

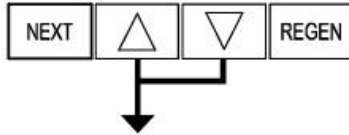
**Step 6I – Next Regeneration Time (minutes):** Set the minutes of day for regeneration using ▲ or ▼. This display will not be shown if “on 0” is selected in Set Regeneration Time Option in OEM Softener System Setup or OEM Filter System Setup.

Press NEXT to exit Installer Display Settings. Press REGEN to return to previous step.

**EXIT INSTALLER DISPLAY SETTINGS**

# Teşhis

## Step 1D



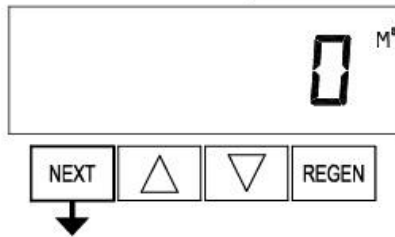
**Step 1D** – Press ▲ and ▼ simultaneously for 5 seconds and release. If screen in Step 2D does not appear the lock on the valve is activated. To unlock press ▼, NEXT, ▲, REGEN in sequence, then press ▲ and ▼ simultaneously for 5 seconds and release.

## Step 2D



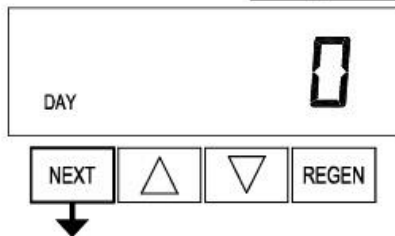
**Step 2D** – Software Version. Press NEXT to go to Step 3D. Press REGEN to exit Diagnostics.

## Step 3D



**Step 3D** – Volume, total used since start-up: This display shows the total cubic meters treated since startup. 0 M<sup>3</sup> will be shown when a water meter is not installed. Press the NEXT button to go to Step 4D. Press REGEN to return to previous step.

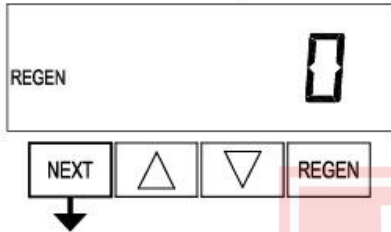
## Step 4D



**Step 4D** – Days, total since start-up: This display shows the total days since startup. Press the NEXT button to go to Step 5D. Press REGEN to return to previous step.

# Teşhis

## Step 5D



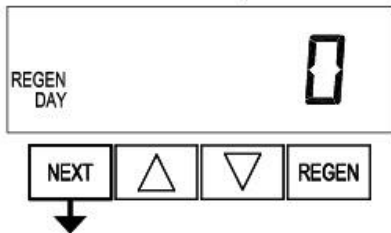
**Step 5D – Regenerations, total number since start-up:** This display shows the total number of regenerations that have occurred since startup. Press the NEXT button to go to Step 6D. Press REGEN to return to previous step.

## Step 6D



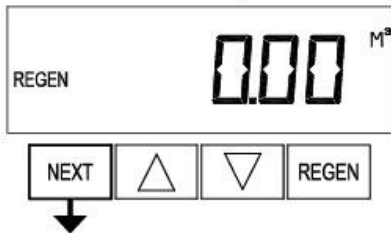
**Step 6D – Error Log:** This display shows a history of the last 10 errors generated by the control during operation. Press ▲ or ▼ to view each recorded error. Press NEXT to go to Step 7D. Press REGEN to return to previous step.

## Step 7D



**Step 7D – Days, since last regeneration:** This display shows the days since the last regeneration occurred. Press NEXT to go to Step 8D. Press REGEN to return to previous step.

## Step 8D

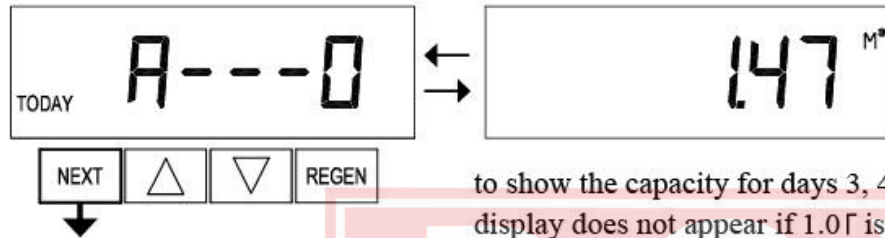


**Step 8D – Volume, since last regeneration:** This display shows the volume of water that has been treated since the last regeneration. 0.00 M<sup>3</sup> will be shown when a water meter is not installed. Press NEXT to go to Step 9D. Press REGEN to return to previous step.



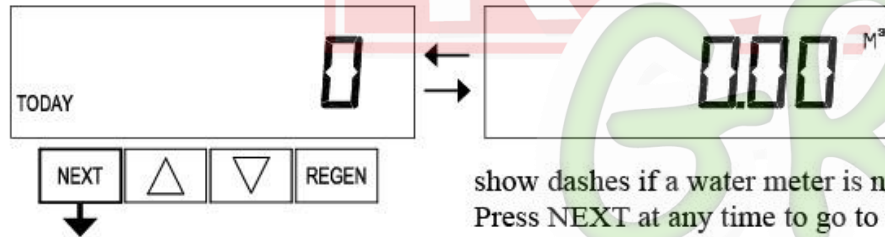
# Teşhis

## Step 9D



to show the capacity for days 3, 4, 5 and 6. ▼ can be pressed to move backwards in the day series. This display does not appear if 1.0Γ is set in Step 2CS, if ALT A or ALT B are selected in Step 5CS, or anytime the reserve capacity is not determined by the control. Press NEXT at any time to go to Step 10D. Press REGEN to return to previous step.

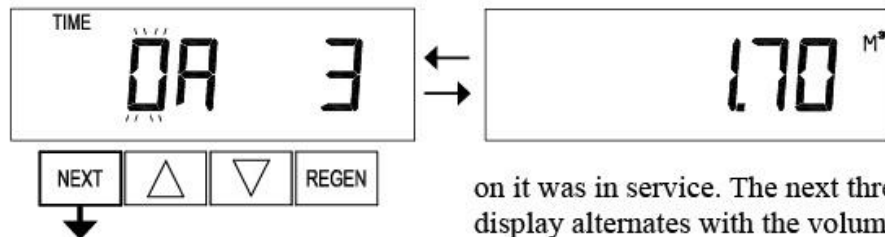
## Step 10D



show dashes if a water meter is not installed.

Press NEXT at any time to go to Step 11D. Press REGEN to return to previous step.

## Step 11D



on it was in service. The next three digits represent the number of hours ago that the transfer occurred. The display alternates with the volume that was treated before the tank transferred. Press NEXT at any time to go to Step 12D. Press REGEN to return to previous step.

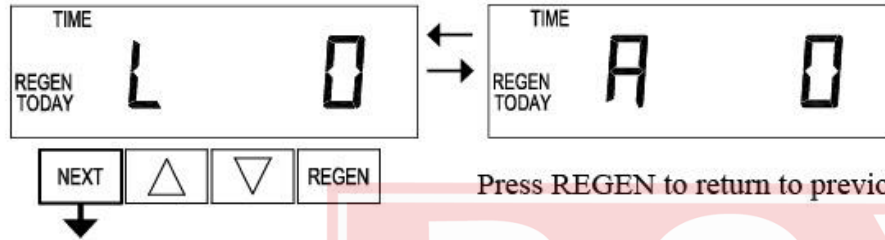
**Step 9D** – Volume, reserve capacity used for last 7 days: If the valve is set up as a softener, a meter is installed, and Set Volume Capacity is set to “Auto,” this display shows day 0 (for today) and flashes the reserve capacity. Pressing ▲ will show day 1 (which would be yesterday) and flashes the reserve capacity used. Pressing ▲ again will show day 2 (the day before yesterday) and the reserve capacity. Keep pressing ▲

**Step 10D** – Volume, 63-day usage history: This display shows day 0 (for today) and flashes the volume of water treated today. Pressing ▲ will show day 1 (which would be yesterday) and flashes the volume of water treated on that day. Continue to press ▲ to show the maximum volume of water treated for the last 63 days. If a regeneration occurred on the day the word “REGEN” will also be displayed. This display will

**Step 11D** – Twin Tank Valve transfer history: only displays when 1.0Γ was selected in Step 2CS. Use ▲ or ▼ to scroll through the last 10 tank transfers. The first position in the display ranges from 0 to 9 with the lowest number being the most recent transfer. The second position in the display will be either “A” or “b”. If “A” then the tank with the valve on it was in service, if “b” the tank with the in/out head

# Teşhis

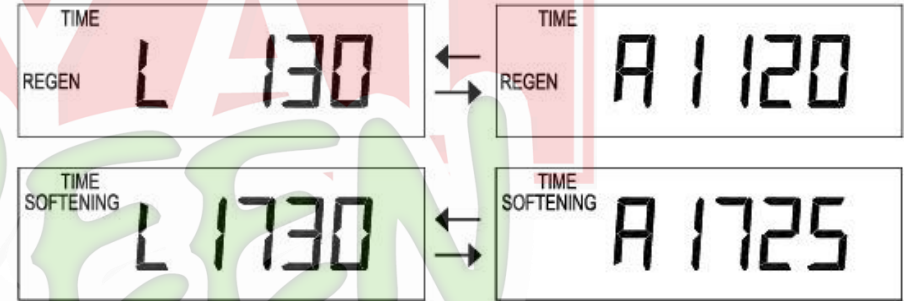
## Step 12D



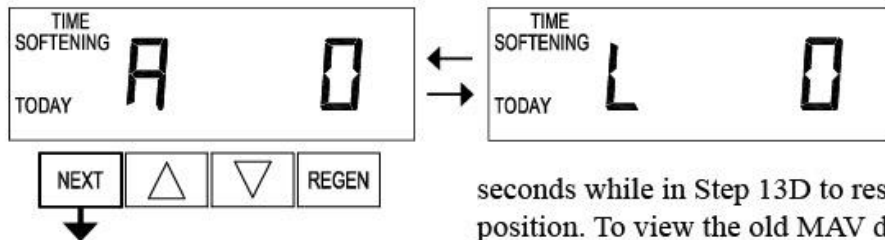
Press REGEN to return to previous step.

Press and hold ▲ and ▼ buttons for 3 seconds while in Step 12D to reset the MAV drive history in both the retracted and extended piston rod position. To view the old MAV drive history data for retracted and extended rod position press and hold REGEN and ▲ while in Step 12D. Press NEXT to advance display to the old MAV drive history.

**Step 12D – MAV Drive History in the direction of retracted piston rod position.** Display will only be shown if 1.0Γ is selected in Step 2CS, or OFF is not selected in Step 5CS. Up to a four digit number will appear after the “L” which stands for latest and “A” which stands for average. Drive time is measured in 1/100 of a second; i.e., a 17.10 second move is displayed as “1710”. Press NEXT at any time to go to Step 13D.



## Step 13D



**EXIT DIAGNOSTICS**

seconds while in Step 13D to reset the MAV drive history in both the extended and retracted piston rod position. To view the old MAV drive history data see Step 12D. Press NEXT at any time exit Diagnostics. Press REGEN to return to previous step.

**Step 13D – MAV Drive History in the direction of extended piston rod position.** Display will only be shown if 1.0Γ is selected in Step 2CS, or OFF is not selected in Step 4CS. Up to a four digit number will appear after the “L” which stands for latest and “A” which stands for average. Drive time is measured in 1/100 of a second; i.e., a 17.15 second move is displayed as “1715”. Press and hold ▲ and ▼ for 3