Culligan®

Culligan Hi-Flo® 3e Automatic Water Softener

Introducing the Most Versatile Water Softener in the Industry

Expandable - Additional tanks can be easily added. As many as 6 controls may be linked together allowing for simple, future expansion.

Progressive Flow - Culligan's patented feature permits smaller systems to provide greater flow rates and treatment capacities by taking tanks on-line or off-line based on system flow rate.

Brine Reclaim - Optional feature allows system to recycle a portion of regeneration water. The system not only conserves water, but also makes your water softener more environmentally friendly.

Electronics - State-of-the-art 24 VAC solid state electronics allow the controller to be used as a simple timer or a more complex system integrator. Can be regenerated based on time or volume. Configuration settings are accessed from a user-friendly programmable interface.

Diagnostics - The controller provides sophisticated diagnostics which allows for easy system analysis.

Wide Range of Capacities and Flow Rates - Available with capacities ranging from 60,000 grains to 450,000 grains per tank. Peak flow rates from 29 gpm to 100 gpm per tank.

Retrofit Existing Systems - Our retrofit kits can be used on any existing Fleck® 2850 (1-1/2") valve or 2900 (2") valve. The kits add full MVP™ capabilities to these systems allowing for the use of features such as progressive flow and brine reclaim.

"Hey Culligan Man!"®

- Local Water Expertise
- Trusted Leader for Over 65 Years
- Certified Sales, Installation and Service Professionals
- 100% Satisfaction Guarantee
- Full Service (salt delivery, filter changes and more)
- Affordable Water Solutions for Home and Business

Trust The Water Experts®

The Best Choice Is Culligan®!

Discover all the benefits ...

Culligan has been a premier provider of quality water treatment products and services for over 65 years. When it comes to providing commercial and industrial water treatment solutions no one is better positioned than Culligan to deliver results with your needs in mind.

assisted living facilities
cafeterias
casinos
corporate campuses
educational facilities
food service
grocery
hotel/hospitality
institutions
laundry
theme parks
vehicle wash

Culligan's Hi-Flo® 3e Automatic Water Softener

Standard Features

- 24 Volt MVP™ Controller — Field programmable with a back-lit LCD display and UL listed 120v/24v transformer.
- Single, Duplex, Triplex, or Quad Configurations — Hardness removal capacities up to 450,000 grains per tank, and continuous flow rates up to 75 gpm per tank.
- Regeneration cycle may be initiated by timeclock any day of the week. Optional flow meter starts cycle after preset volume of water has been softened.
- Corrosion Resistant Tanks — Made from fiberglass reinforced polyester. Additional reinforcement from continuous fiberglass overwrap. Underdrain design maximizes softener's capacity, reduces pressure loss.
- Positive Motor-Driven Regeneration Valve — Motor driven piston is reliable under severe water conditions, resists dirt, iron, turbidity.

Applications and Benefits

- RO/DI Pretreatment
- Apartment buildings, assisted living facilities and hotels—Quality water for laundry, dishwashers, boilers.
- Office buildings—For heating plant pretreatment, tenant convenience, general housekeeping.
- Restaurants—For dishwashing, cleaning material savings, scale reduction.
- Car washes—Quality results, detergent and water heating savings, scale reduction.
- Light industry—For process and make-up water, boiler and cooling system pretreatment, general housekeeping.

Culligan®

Culligan's MVP™ Designed With The Ease of 24-volt Operation.

Time of Day
Displays time in 12 hour (AM/PM) or 24 hour formats.

EEPROM
Saves programmed and statistical functions.

One-Touch Program Update
Update multiple controls through the touch of a button on the primary control.

Lock/Unlock
Allows the control to be easily locked out from inadvertent program changes or abuse.

Screen Blanking
Allows the screen to go blank once programming is complete (After 5 minutes of no keypad activity).

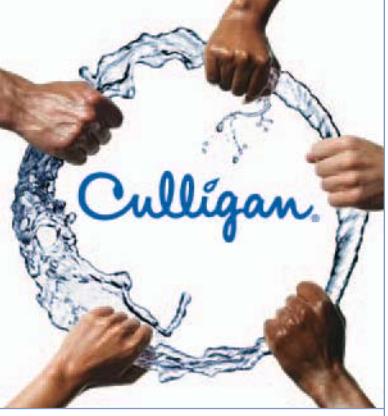
Power Source
Electrical power required for the control is 24-volt 50/60 Hz AC current. A plug-in transformer (120v/24v) is provided.

Program Beeper
Emits an audible beep when key pads are depressed to help identify valid (short beep) or invalid (3 short beeps) key pad touches. Can be enabled or disabled as desired.

Multi-Unit Communication Input/Output (RS485)
The communication input/output feature routinely recognizes when another controller within a multiple controller system is in a regeneration sequence, prohibiting the chance of multiple units regenerating simultaneously.

Additional MVP™ Features

- **Battery Backup** - The optional battery backup will maintain the time of day for a minimum of 4 weeks using a 3.6V 1/2AA-lithium type battery as supplied by Culligan.
- **Regeneration Start Delay** - A user determined number of hours (up to 9) can be input for the purpose of increasing time between multiple regeneration initiations.
- **Progressive Flow Trip Point** - Use of this patented feature allows multiple tank systems operating with water meters to be brought online or offline as facility flow demands increase or decrease.
- **Flow Meter/Sensor Input** - Various types of Hall effect flow sensors can be used to measure the amount of treated water provided and initiate a regeneration sequence.
- **Segmented Brine Draw/Rinse Cycle - Brine Reclaim Capability** - allows the user to configure the system for brine reclaim with a minimum of additional valves and/or other types of hardware.
- **Auxiliary Input** - capable of accepting a remote signal from a dry contact device such as an operator push-button for the purpose of initiating the regeneration sequence.
- **Auxiliary Outputs** - Two auxiliary outputs can be programmed to be active or deactive at any point of the regeneration process.



Quality products and services you can count on.

Culligan's Hi-Flo® 3e Automatic Water Softener

Options

- Dubl-Safe™ Brine System—Positive overfill protection. Automatic refill control is backed up by shutoff float valve to minimize chance of overflow.
- Patented Progressive Flow – Culligan's MVP™ Control can monitor flow demands bringing additional softening tanks on-line or offline as flows increase or decrease.
- Flow Measuring Devices—are available for direct connection to the MVP™ controller for volume based regeneration initiation.

Warranty

Culligan's Hi-Flo® 3e water softeners are backed by a limited 1-year warranty against defects in materials, workmanship, and corrosion. The plastic conditioner tank has a 5-year warranty. See printed warranty for details.*

Some localities have corrosive water. A softener cannot correct this condition, so its printed warranty disclaims liability for corrosion of plumbing lines, fixtures, or water-using equipment. If you suspect corrosion, your independently operated Culligan® dealer has equipment to control the problem.

*See printed warranty for details. Culligan will provide a copy of the warranty upon request.

System Specifications

Pressure:	30–120 psig 210–830 kPa
Power:	24 Volts 50/60hz[1]
Power Consumption:	3/100 Watts Min/Max
Vacuum:	None[2]
Temperature:	40–100°F 4 - 38°C
Turbidity:	5 NTU, max.[3]
Chlorine:	1 mg/L, max.[3]
Iron:	5 mg/L

[1]120 Volt/24 Volt CUL/UL listed Transformer Included.
[2]Tank warranty is void if subject to vacuum
[3]See media specification for details

Model	Resin Qty. (Ft^3)	Pipe Size	Flow Rates (gpm)		Tank Size***	
			Continuous*	Peak**	Softener	Brine****
HCE-60-1.5	2	1.5"	22	29	12 x 52	18 x 38
HCE-90-1.5	3	1.5"	29	37	14 x 65	24 x 40
HCE-120-1.5	4	1.5"	29	37	16 x 65	24 x 40
HCE-150-1.5	5	1.5"	40	55	21 x 54	24 x 48
HCE-120-2	4	2"	45	60	16 x 65	24 x 48
HCE-150-2	5	2"	60	78	21 x 54	24 x 48
HCE-210-2	7	2"	58	76	21 x 69	24 x 48
HCE-300-2	10	2"	65	85	24 x 72	30 x 48
HCE-450-2	15	2"	75	100	30 x 72	30 x 48

*Flow rate at a 15 psi pressure loss.
**Flow rate at a 25 psi pressure loss.
***Dimensions are diameter by tank height.
****Brine systems are optional. Size shown is size most commonly selected.
Flow rates shown are per tank. Low flow channeling (flow rates less than 0.5 gallons per minute per cubic foot of resin) may cause hardness leakage into effluent.

Culligan's Hi-Flo® 3e Retrofit Kit

Features and Benefits

- Retrofit any existing Hi-Flo® 3 system.
- Retrofit any existing Fleck® 2900 (2") system.
- Retrofit any existing Fleck® 2850 (1-1/2") system.
- Provides full MVP™ functionality.
- Add exclusive features such as progressive flow or brine reclaim to existing systems.
- Can be used with virtually any Hall effect type flow meter.
- Additional kits are available to convert existing Fleck® flow meter.

"Hey Culligan Man!"®

Culligan
Trust the Water Experts®

www.culligancommercial.com™

1-800-CULLIGAN

Printed in USA (2/06)
MooreWallace PART NO. 46932

Progressive Flow Patent # US 5,060,167, # US 5,351,199

The contaminants or other substances removed or reduced by this water treatment device are not necessarily in your water.

Hi-Flo® 3e

Automatic Water Softeners

Specifications and Operating Data

Single Tank Models	Exchange Capacity[1] @ Salt Dosage			Service Flow Rates[2]		Pipe Size	Resin Qty	Softener Tank Size	Brine Tank Size[3]	Approx. Ship. Weight[3]
	Minimum	Standard	Maximum	Peak Flow	Cont. Flow					
	gr @ lb	gr @ lb	gr @ lb	gpm	gpm	in.	ft³	in	in	lb
	g @ kg	g @ kg	g @ kg	m³/hr	m³/hr	in.	L	mm	mm	kg
HCE-120-2	80,000/24	100,000/40	120,000/60	60	45	2	4	16 x 65	24 x 48	465
	5,184/10.9	6,480/18.1	7,776/27.2	13.6	10.2	2	113	406 x 1,651	610 x 1,219	211
HCE-150-2	100,000/30	125,000/50	150,000/75	78	60	2	5	21 x 54	24 x 48	555
	6,480/13.6	8,100/22.7	9,720/34	17.7	13.6	2	142	533 x 1,372	610 x 1,219	252
HCE-210-2	140,000/42	175,000/70	210,000/105	76	58	2	7	21 x 69	24 x 48	680
	9,072/19.1	11,340/31.8	13,608/47.6	17.3	13.2	2	198	533 x 1,753	610 x 1,219	308
HCE-300-2	200,000/60	250,000/100	300,000/150	85	65	2	10	24 x 72	30 x 48	935
	12,960/27.2	16,200/45.4	19,440/68	19.3	14.8	2	283	610 x 1,829	762 x 1,219	424
HCE-450-2	300,000/90	375,000/150	450,000/225	100	75	2	15	30 x 72	30 x 48	1420
	19,440/40.8	24,300/68	29,160/102	22.7	17	2	425	762 x 1,829	762 x 1,219	644

[1] Exchange capacities based on treating water containing 10 grains per gallon (171 mg/l) of hardness (expressed as calcium carbonate), free of color, oil, turbidity and at a service flow rate of approximately 50 percent of the peak flow rate. These are nominal capacities and will vary with influent water characteristics, water temperature and other factors.

[2] Operation of a softener at peak flow rate for extended periods of time may result in a slight reduction of softening capacity. This is due to premature hardness breakthrough. Peak flow shown is at a 25 psi (172 kPa) pressure loss. Continuous flow shown is at a 15 psi (103 kPa) pressure loss.

[3] Brine system shown is optional. Multiple sizes are available. Size shown is size most often selected for the system. Shipping weight includes brine system.

NOTE: Operational, maintenance and replacement requirements are essential for this product to perform as advertised. Specifications shown are for single models. Also available in multiple tank configurations.

Culligan

Commercial Systems

1-800-Culligan

www.culligan.com

CULLIGAN LIFETIME LIMITED WARRANTY

SOFT-MINDER® TWIN PLUS /HI-FLO® 3 WATER SOFTENERS

You have just purchased one of the finest water conditioners made. As an expression of our confidence in Culligan International Company products, your water conditioner is warranted to the original end-user, when installed in accordance with Culligan International Company specifications, against defects in material and workmanship from the date of original installation, as follows:

For a period of ONE YEAR	**The entire unit**
For a period of THREE YEARS	**The control valve body, but excluding its internal parts**
For a period of FIVE YEARS	**The fiberglass-reinforced conditioner tank***
For a period of FIVE YEARS	**The conditioner tank if it has an epoxy-phenolic coated interior**
For the LIFETIME of the original consumer purchaser	**The Tripl-Hull™ conditioner tank**

*The tank must be protected by a vacuum breaker device as described in the unit's operating manual. Damage to the tank caused by vacuum is not covered by this warranty. The unit must be used in operating conditions that conform to Culligan's recommended design guidelines.

If a part described above becomes defective, within the specified period, you should notify your independently operated Culligan dealer and arrange a time during normal business hours for the dealer to inspect the water conditioner on your premises. Any part found defective within the terms of this warranty will be repaired or replaced by the dealer. You pay only freight from our factory and local dealer charges.

We are not responsible for damage caused by accident, fire, flood, freezing, Act of God, misuse, misapplication, neglect, alteration, installation or operation contrary to our printed instructions, or by the use of accessories or components which do not meet Culligan specifications, is not covered by this warranty.

Our product performance specifications are furnished with each water conditioning unit. TO THE EXTENT PERMITTED BY LAW, CULLIGAN DISCLAIMS ALL IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE; TO THE EXTENT REQUIRED BY LAW, ANY SUCH IMPLIED WARRANTIES ARE LIMITED IN DURATION TO THE ONE-YEAR PERIOD SPECIFIED ABOVE FOR THE ENTIRE CONDITIONER. As a manufacturer, we do not know the characteristics of your water supply or the purpose for which you are purchasing a water conditioner. The quality of water supplies may vary seasonally or over a period of time, and your water usage rate may vary as well. Water characteristics can also differ considerable if your water conditioner is moved to a new location. For these reasons, we assume no liability for the determination of the proper equipment necessary to meet your requirements, and we do not authorize others to assume such obligations for us. Further, we assume no liability and extend no warranties, express or implied, for the use of this product with a non-potable water source. CULLIGAN'S OBLIGATIONS UNDER THIS WARRANTY ARE LIMITED TO THE REPAIR OR REPLACEMENT OF THE FAILED PARTS OF THE WATER CONDITIONER, AND WE ASSUME NO LIABILITY WHATSOEVER FOR DIRECT, INCIDENTAL, CONSEQUENTIAL, SPECIAL, GENERAL, OR OTHER DAMAGES.

Some states do not allow the exclusions of implied warranties or limitations on how long an implied warranty lasts, so the above exclusion may not apply to you. Similarly, some states do not allow the exclusion of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Consult your telephone directory for your local independently operated Culligan dealer, or write Culligan International Company for warranty and service information.

CULLIGAN INTERNATIONAL COMPANY
One Culligan Parkway
Northbrook, Illinois 60062

00881551 DCO#1083

Printed in USA (Rev. A 7/11/00)

NOTES:

(1) ITEMS SHOWN IN BROKEN LINES TO BE FURNISHED BY OTHERS.

(2) ALL DIMENSIONS ARE ± 1 INCH (25mm) AND SUBJECT TO CHANGE WITHOUT NOTICE.

(3) UNIONS SHOULD BE LOCATED ON INLET AND OUTLET CONNECTIONS OF CONTROL VALVE TO FACILITATE SERVICING.

(4) THE USE OF DISSIMILAR METALS IN A PIPING SYSTEM IS NOT RECOMMENDED. WHERE DISSIMILAR METALS MUST BE CONNECTED IN A WATER SYSTEM. THE USE OF NONCONDUCTIVE (DIELECTRIC) FITTINGS MAY REDUCE GALVANIC CORROSION.

(5) AN ELECTRICAL OUTLET SHOULD BE PROVIDED WITHIN FIVE FEET OF THE EQUIPMENT LOCATION.

(6) ALLOW A MINIMUM OF 24 INCHES ABOVE SOFTENER FOR FILLING.

(7) TO PERMIT THE OBSERVATION OF THE DRAIN FLOW DO NOT MAKE A DIRECT CONNECTION TO THE DRAIN. PROVIDE AN AIR GAP OF AT LEAST FOUR TIMES THE DIAMETER OF THE DRAIN PIPE OR CONFORM TO LOCAL SANITATION CODES.

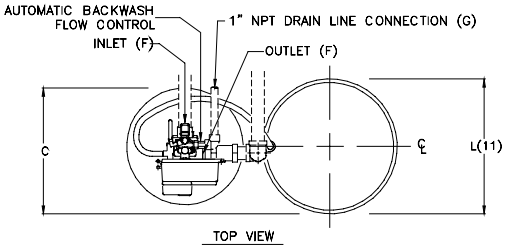
(8) WHEN USING A WATER METER, THERE MUST BE A MINIMUM AMOUNT OF STRAIGHT PIPE BEFORE AND AFTER THE SENSOR. REFER TO THE INSTALLATION INSTRUCTIONS FOR DETAILS.

(9) SYSTEM USES FRP TANKS WHICH MUST NOT BE SUBJECTED TO VACUUM. INSTALL SIPHON BREAK ON DRAIN LINE. INSTALL VACUUM BREAKER ON INLET PIPING IF THE SERVICE LINE IS SUBJECT TO A VACCUM.

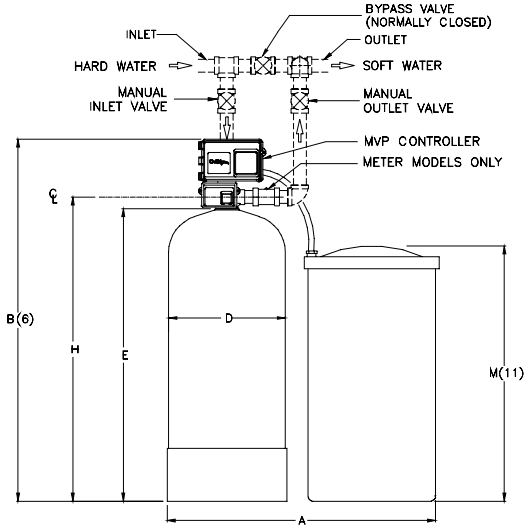
(10) FOR MAXIMUM PROTECTION OF THE CONTROLLER, IT IS RECOMMENDED THAT A DEDICATED 120 VOLT CIRCUIT IS PROVIDED.

(11) BRINE TANK DIMENSIONS SHOWN ARE FOR THE BRINE TANK MOST COMMONLY SELECTED FOR USE WITH THIS SIZE SYSTEM.

	DIMENSIONS (INCHES)										UNIT DATA PER TANK							
MODEL	WIDTH A	HEIGHT B(6)	DEPTH C	TANK DIA. D	TANK HEIGHT E	INLET/OUTLET PIPE SIZES F	DRAIN SIZE G	FLOOR TO INLET H	BRINE TANK DIA. L(11)	BRINE TANK HEIGHT M(11)	MAX. CAPACITY KGR @ SALT DOSAGE	RESIN VOLUME ft^3	CONTINUOUS FLOW gpm @ 15 psi drop	PEAK FLOW gpm @ 25 psi drop	DRAIN FLOW gpm	MIN. DRAIN PIPE SIZE IN.	SIMPLEX OPER. WT. lbs.	SIMPLEX SHIP. WT. lbs.
HCE-120-2	45	78	21	16	65	2.0	1.0	67.2	24	48	120 @ 60	4	45	60	8	1.0	1630	465
HCE-150-2	50	68	24	21	55	2.0	1.0	57.2	24	48	150 @ 75	5	60	78	12	1.0	1810	555
HCE-210-2	50	84	24	21	71	2.0	1.0	73.2	24	48	210 @ 105	7	58	76	8	1.0	1970	680
HCE-300-2	60	86	28.50	24	73	2.0	1.0	75.2	30	48	300 @ 150	10	65	85	15	1.25	2775	935
HCE-450-2	65	94	31.50	30	81	2.0	1.0	83.0	30	48	450 @ 225	15	75	100	25	1.5	3580	1420



TOP VIEW



SINGLE INSTALLATION

DO NOT SCALE DRAWING
TOLERANCES: ±1/8" UNLESS OTHERWISE NOTED

Let.	Change	By	App	Date

Culligan® ENGINEERED SYSTEMS
NORTHBROOK, ILLINOIS

NAME: HI-FLO® 3 AUTOMATIC SOFTENER SINGLE TECHNICAL DATA SHEET

DETAILED BY:	APP. BY:	SHEET
KMR 5/03/05		1 OF 1

REF. NO.

PART NO. S3e_1_MVP

NOTES:

(1) ITEMS SHOWN IN BROKEN LINES TO BE FURNISHED BY OTHERS.

(2) ALL DIMENSIONS ARE ± 1 INCH (25mm) AND SUBJECT TO CHANGE WITHOUT NOTICE.

(3) UNIONS SHOULD BE LOCATED ON INLET AND OUTLET CONNECTIONS OF CONTROL VALVE TO FACILITATE SERVICING.

(4) THE USE OF DISSIMILAR METALS IN A PIPING SYSTEM IS NOT RECOMMENDED. WHERE DISSIMILAR METALS MUST BE CONNECTED IN A WATER SYSTEM. THE USE OF NONCONDUCTIVE (DIELECTRIC) FITTINGS MAY REDUCE GALVANIC CORROSION.

(5) AN ELECTRICAL OUTLET SHOULD BE PROVIDED WITHIN FIVE FEET OF THE EQUIPMENT LOCATION.

(6) ALLOW A MINIMUM OF 24 INCHES ABOVE SOFTENER FOR FILLING.

(7) TO PERMIT THE OBSERVATION OF THE DRAIN FLOW DO NOT MAKE A DIRECT CONNECTION TO THE DRAIN. PROVIDE AN AIR GAP OF AT LEAST FOUR TIMES THE DIAMETER OF THE DRAIN PIPE OR CONFORM TO LOCAL SANITATION CODES.

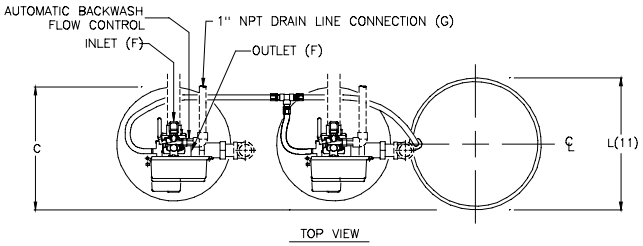
(8) WHEN USING A WATER METER, THERE MUST BE A MINIMUM AMOUNT OF STRAIGHT PIPE BEFORE AND AFTER THE SENSOR. REFER TO THE INSTALLATION INSTRUCTIONS FOR DETAILS.

(9) SYSTEM USES FRP TANKS WHICH MUST NOT BE SUBJECTED TO VACUUM. INSTALL SIPHON BREAK ON DRAIN LINE. INSTALL VACUUM BREAKER ON INLET PIPING IF THE SERVICE LINE IS SUBJECT TO A VACCUM.

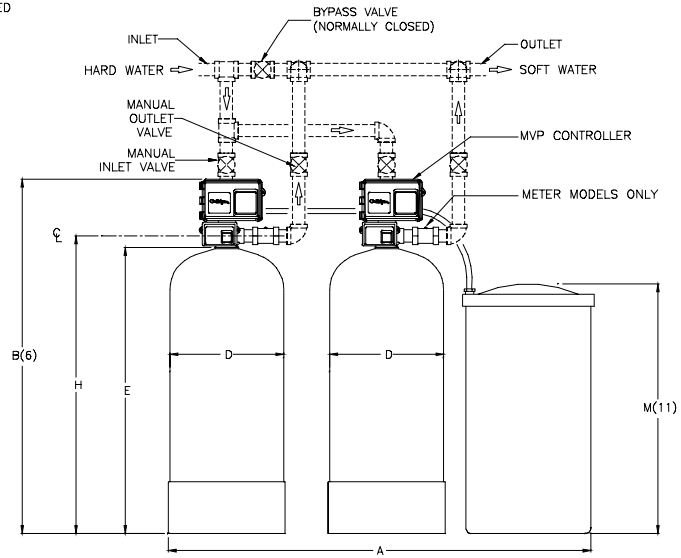
(10) FOR MAXIMUM PROTECTION OF THE CONTROLLER, IT IS RECOMMENDED THAT A DEDICATED 120 VOLT CIRCUIT IS PROVIDED.

(11) BRINE TANK DIMENSIONS SHOWN ARE FOR THE BRINE TANK MOST COMMONLY SELECTED FOR USE WITH THIS SIZE SYSTEM.

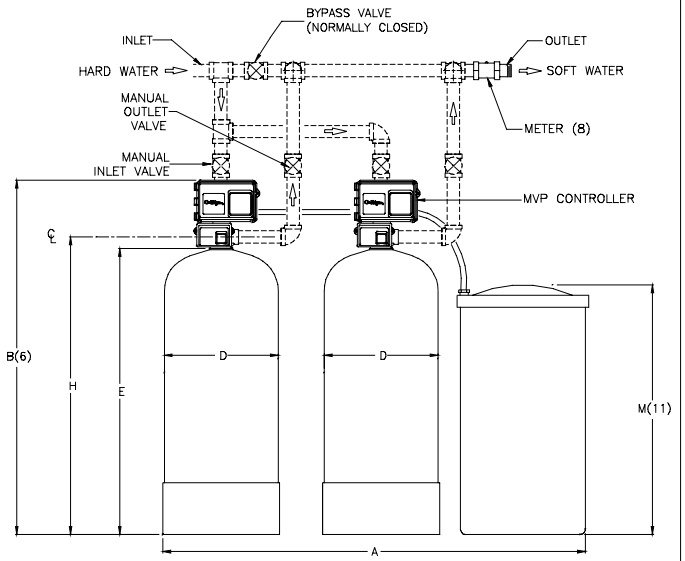
	DIMENSIONS (INCHES)										UNIT DATA PER TANK							
MODEL	WIDTH A	HEIGHT B(6)	DEPTH C	TANK DIA. D	TANK HEIGHT E	INLET/OUTLET PIPE SIZES F	DRAIN SIZE G	FLOOR TO INLET H	BRINE TANK DIA. L(11)	BRINE TANK HEIGHT M(11)	MAX. CAPACITY KGR @ SALT DOSAGE	RESIN VOLUME ft^3	CONTINUOUS FLOW gpm @ 15 psi drop	PEAK FLOW gpm @ 25 psi drop	DRAIN FLOW gpm	MIN. DRAIN PIPE SIZE IN.	DUPLEX OPER. WT. lbs.	DUPLEX SHIP. WT. lbs.
HCE-120-2	72	78	21	16	65	2.0	1.0	67.2	24	48	120 @ 60	4	45	60	8	1.0	2210	880
HCE-150-2	82	68	24	21	55	2.0	1.0	57.2	24	48	150 @ 75	5	60	78	12	1.0	2600	1060
HCE-210-2	82	84	24	21	71	2.0	1.0	73.2	24	48	210 @ 105	7	58	76	8	1.0	2950	1310
HCE-300-2	93	86	28.50	24	73	2.0	1.0	75.2	30	48	300 @ 150	10	65	85	15	1.25	4080	1800
HCE-450-2	106	94	31.50	30	81	2.0	1.0	83.0	30	48	450 @ 225	15	75	100	25	1.5	5590	2770



TOP VIEW



PARALLEL DUPLEX INSTALLATION



ALTERNATING DUPLEX INSTALLATION

DO NOT SCALE DRAWING
TOLERANCES: ±1/8" UNLESS OTHERWISE NOTED

Let.	Change	By	App	Date

Culligan® ENGINEERED SYSTEMS
NORTHBROOK, ILLINOIS

NAME
HI-FLO® 3
AUTOMATIC SOFTENER DUPLEX
TECHNICAL DATA SHEET

DETAILED BY:	APP. BY:	SHEET
KMR 5/03/05		1 OF 1

REF. NO.

PART NO.
S3e_2_MVP

NOTES:

(1) ITEMS SHOWN IN BROKEN LINES TO BE FURNISHED BY OTHERS.

(2) ALL DIMENSIONS ARE ± 1 INCH (25mm) AND SUBJECT TO CHANGE WITHOUT NOTICE.

(3) UNIONS SHOULD BE LOCATED ON INLET AND OUTLET CONNECTIONS OF CONTROL VALVE TO FACILITATE SERVICING.

(4) THE USE OF DISSIMILAR METALS IN A PIPING SYSTEM IS NOT RECOMMENDED. WHERE DISSIMILAR METALS MUST BE CONNECTED IN A WATER SYSTEM. THE USE OF NONCONDUCTIVE (DIELECTRIC) FITTINGS MAY REDUCE GALVANIC CORROSION.

(5) AN ELECTRICAL OUTLET SHOULD BE PROVIDED WITHIN FIVE FEET OF THE EQUIPMENT LOCATION.

(6) ALLOW A MINIMUM OF 24 INCHES ABOVE SOFTENER FOR FILLING.

(7) TO PERMIT THE OBSERVATION OF THE DRAIN FLOW DO NOT MAKE A DIRECT CONNECTION TO THE DRAIN. PROVIDE AN AIR GAP OF AT LEAST FOUR TIMES THE DIAMETER OF THE DRAIN PIPE OR CONFORM TO LOCAL SANITATION CODES.

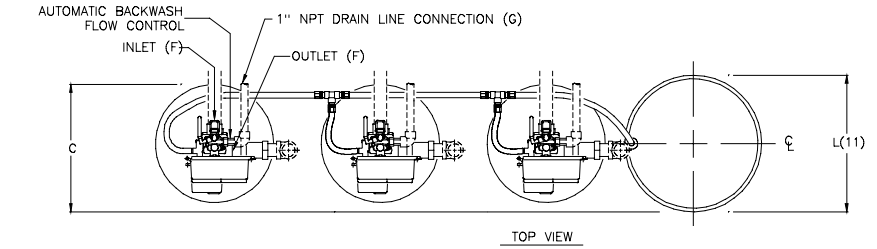
(8) WHEN USING A WATER METER, THERE MUST BE A MINIMUM AMOUNT OF STRAIGHT PIPE BEFORE AND AFTER THE SENSOR. REFER TO THE INSTALLATION INSTRUCTIONS FOR DETAILS.

(9) SYSTEM USES FRP TANKS WHICH MUST NOT BE SUBJECTED TO VACUUM. INSTALL SIPHON BREAK ON DRAIN LINE. INSTALL VACUUM BREAKER ON INLET PIPING IF THE SERVICE LINE IS SUBJECT TO A VACCUM.

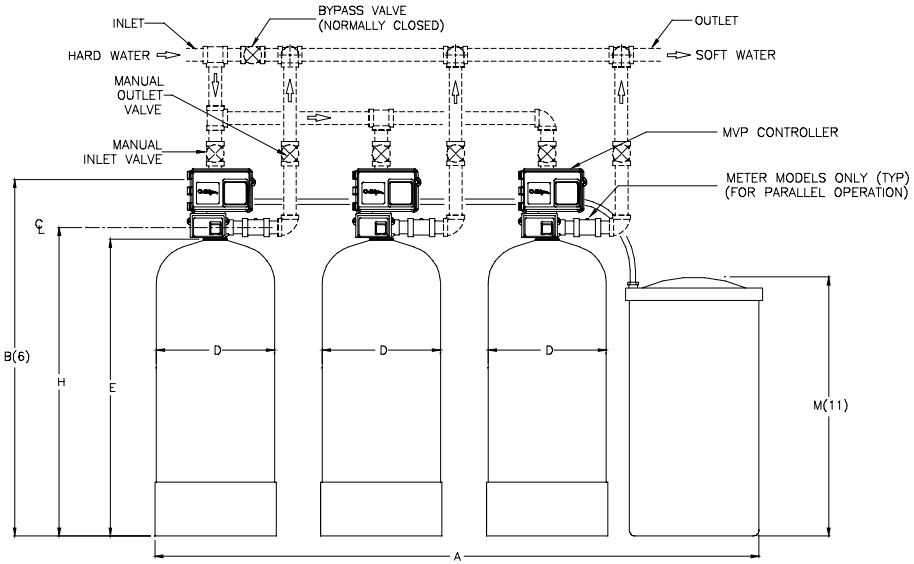
(10) FOR MAXIMUM PROTECTION OF THE CONTROLLER, IT IS RECOMMENDED THAT A DEDICATED 120 VOLT CIRCUIT IS PROVIDED.

(11) BRINE TANK DIMENSIONS SHOWN ARE FOR THE BRINE TANK MOST COMMONLY SELECTED FOR USE WITH THIS SIZE SYSTEM.

	DIMENSIONS (INCHES)										UNIT DATA PER TANK							
MODEL	WIDTH A	HEIGHT B(6)	DEPTH C	TANK DIA. D	TANK HEIGHT E	INLET/OUTLET PIPE SIZES F	DRAIN SIZE G	FLOOR TO INLET H	BRINE TANK DIA. L(11)	BRINE TANK HEIGHT M(11)	MAX. CAPACITY KGR @ SALT DOSAGE	RESIN VOLUME ft^3	CONTINUOUS FLOW gpm @ 15 psi drop	PEAK FLOW gpm @ 25 psi drop	DRAIN FLOW gpm	MIN. DRAIN PIPE SIZE IN.	TRIPLEX OPER. WT. lbs.	TRIPLEX SHIP. WT. lbs.
HCE-120-2	**99**	**78**	**21**	**16**	**65**	**2.0**	**1.0**	**67.2**	**24**	**48**	**120 @ 60**	**4**	**45**	**60**	**8**	**1.0**	**2790**	**1295**
HCE-150-2	114	68	24	21	55	2.0	1.0	57.2	24	48	150 @ 75	5	60	78	12	1.0	3390	1565
HCE-210-2	114	84	24	21	71	2.0	1.0	73.2	24	48	210 @ 105	7	58	76	8	1.0	3930	1940
HCE-300-2	126	86	28.50	24	73	2.0	1.0	75.2	30	48	300 @ 150	10	65	85	15	1.25	5385	2665
HCE-450-2	147	94	31.50	30	81	2.0	1.0	83.0	30	48	450 @ 225	15	75	100	25	1.5	7600	4120



TOP VIEW



PARALLEL AND ALTERNATING TRIPLEX INSTALLATION

DO NOT SCALE DRAWING
TOLERANCES: ±1/8" UNLESS OTHERWISE NOTED

Let.	Change	By	App	Date

Culligan® ENGINEERED SYSTEMS
NORTHBROOK, ILLINOIS

NAME
HI-FLO® 3
AUTOMATIC SOFTENER TRIPLEX
TECHNICAL DATA SHEET

DETAILED BY:	APP. BY:	SHEET
KMR 5/03/05		1 OF 1

REF. NO.

PART NO.
S3e_3_MVP

NOTES:

(1) ITEMS SHOWN IN BROKEN LINES TO BE FURNISHED BY OTHERS.

(2) ALL DIMENSIONS ARE ± 1 INCH (25mm) AND SUBJECT TO CHANGE WITHOUT NOTICE.

(3) UNIONS SHOULD BE LOCATED ON INLET AND OUTLET CONNECTIONS OF CONTROL VALVE TO FACILITATE SERVICING.

(4) THE USE OF DISSIMILAR METALS IN A PIPING SYSTEM IS NOT RECOMMENDED. WHERE DISSIMILAR METALS MUST BE CONNECTED IN A WATER SYSTEM. THE USE OF NONCONDUCTIVE (DIELECTRIC) FITTINGS MAY REDUCE GALVANIC CORROSION.

(5) AN ELECTRICAL OUTLET SHOULD BE PROVIDED WITHIN FIVE FEET OF THE EQUIPMENT LOCATION.

(6) ALLOW A MINIMUM OF 24 INCHES ABOVE SOFTENER FOR FILLING.

(7) TO PERMIT THE OBSERVATION OF THE DRAIN FLOW DO NOT MAKE A DIRECT CONNECTION TO THE DRAIN. PROVIDE AN AIR GAP OF AT LEAST FOUR TIMES THE DIAMETER OF THE DRAIN PIPE OR CONFORM TO LOCAL SANITATION CODES.

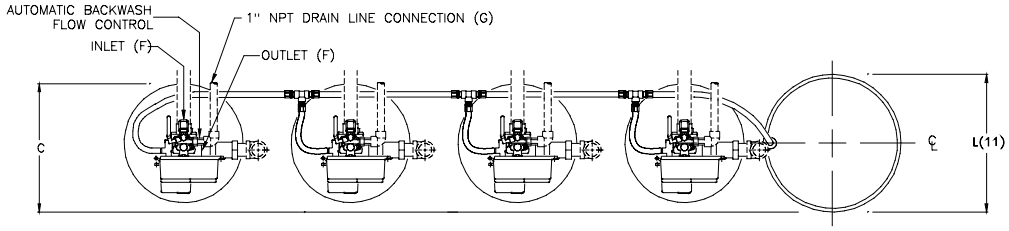
(8) WHEN USING A WATER METER, THERE MUST BE A MINIMUM AMOUNT OF STRAIGHT PIPE BEFORE AND AFTER THE SENSOR. REFER TO THE INSTALLATION INSTRUCTIONS FOR DETAILS.

(9) SYSTEM USES FRP TANKS WHICH MUST NOT BE SUBJECTED TO VACUUM. INSTALL SIPHON BREAK ON DRAIN LINE. INSTALL VACUUM BREAKER ON INLET PIPING IF THE SERVICE LINE IS SUBJECT TO A VACCUM.

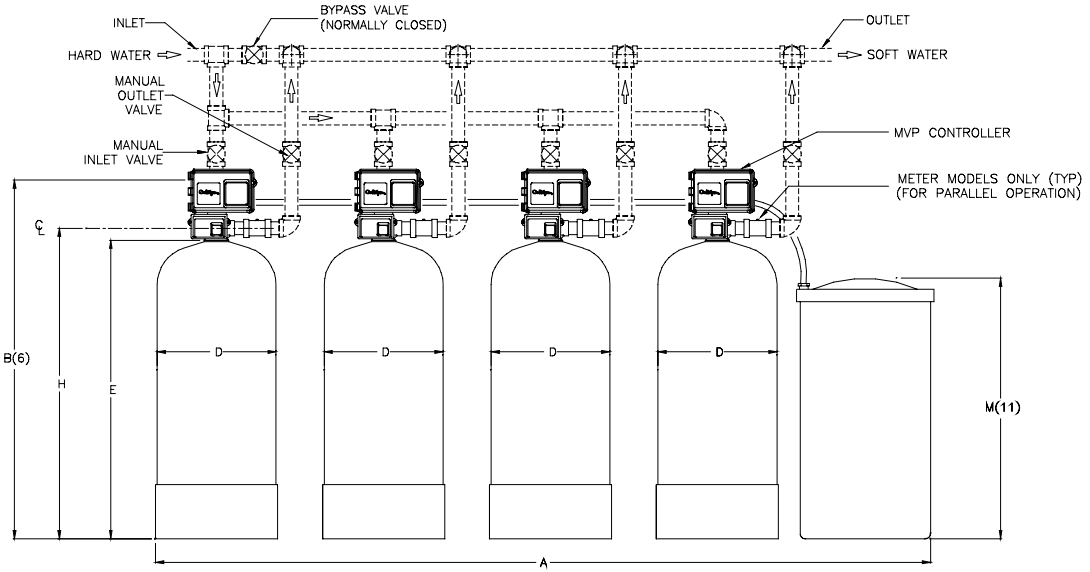
(10) FOR MAXIMUM PROTECTION OF THE CONTROLLER, IT IS RECOMMENDED THAT A DEDICATED 120 VOLT CIRCUIT IS PROVIDED.

(11) BRINE TANK DIMENSIONS SHOWN ARE FOR THE BRINE TANK MOST COMMONLY SELECTED FOR USE WITH THIS SIZE SYSTEM.

	DIMENSIONS (INCHES)										UNIT DATA PER TANK							
MODEL	WIDTH A	HEIGHT B(6)	DEPTH C	TANK DIA. D	TANK HEIGHT E	INLET/OUTLET PIPE SIZES F	DRAIN SIZE G	FLOOR TO INLET H	BRINE TANK DIA. L(11)	BRINE TANK HEIGHT M(11)	MAX. CAPACITY KGR @ SALT DOSAGE	RESIN VOLUME ft^3	CONTINUOUS FLOW gpm @ 15 psi drop	PEAK FLOW gpm @ 25 psi drop	DRAIN FLOW gpm	MIN. DRAIN PIPE SIZE IN.	QUAD OPER. WT. lbs.	QUAD SHIP. WT. lbs.
HCE-120-2	**126**	**78**	**21**	**16**	**65**	**2.0**	**1.0**	**67.2**	**24**	**48**	**120 @ 60**	**4**	**45**	**60**	**8**	**1.0**	**3370**	**1710**
HCE-150-2	146	68	24	21	55	2.0	1.0	57.2	24	48	150 @ 75	5	60	78	12	1.0	4180	2070
HCE-210-2	146	84	24	21	71	2.0	1.0	73.2	24	48	210 @ 105	7	58	76	8	1.0	4910	2570
HCE-300-2	159	86	28.50	24	73	2.0	1.0	75.2	30	48	300 @ 150	10	65	85	15	1.25	6690	3530
HCE-450-2	188	94	31.50	30	81	2.0	1.0	83.0	30	48	450 @ 225	15	75	100	25	1.5	9610	5470



TOP VIEW



PARALLEL AND ALTERNATING QUAD INSTALLATION

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Let.	Change	By	App	Date

Culligan® ENGINEERED SYSTEMS
NORTHBROOK, ILLINOIS

NAME
HI-FLO® 3
AUTOMATIC SOFTENER QUAD
TECHNICAL DATA SHEET

DETAILED BY:	APP. BY:	SHEET
KMR 5/03/05		1 OF 1

REF. NO.	PART NO.
	S3e_4_MVP