

HP-500 SURGE MASTER VALVE AND LVC-6 "SIMPLE SURGE" CONTROLLER

- Superior Design
- Superior Field Adaptability
- Superior Performance with optional "Automation Plus" and remote, automatic pump start and stop.
- The Easiest to Operate Controller
- The Only Controller that Provides the Full Benefits of Surge Irrigation



THE RUGGED WATERMAN SURGE VALVE WITH SELF-CONTAINED, REMOVABLE CONTROLLER



THE WATERMAN SOLAR PANEL ASSURES A CONTINUING POWER SUPPLY



EXCELLENCE IN FURROW IRRIGATION WITH THE WATERMAN SURGE SYSTEM



SOLAR PANEL RAISED: CONTROLLER IS EASILY ACCESSED AND OPERATED

Simple Surge

4 ADV LEV. 1 TOT 08:00
0:33L 0:33R 00:00

PROGRAM	STANDARD	FURROW	MEASURED
<input type="button" value="▶"/>	<input type="button" value="S"/>	<input type="button" value="F"/>	<input type="button" value="M"/>
SELECT	PROGRAM	LENGTH	ADVANCE

ON OFF	L R	PAUSE	REPEAT HOLD 3 SEC.
<input type="button" value="RUN"/>	<input type="button" value="+"/>	<input type="button" value="-"/>	<input type="button" value="ENTER"/>
INCREASE	DECREASE		

EXETER, CA - USA
MODEL: LVC - 6

WHAT IS SURGE IRRIGATION?

Surge irrigation is the application of water in a series of surges or advances down the furrow rather than a continuous stream.

Between surges (advances) of the water, time is created for the water to recede and infiltrate the soil and provide a smooth, sealed surface for the next surge of water to pass over, increasing its rate of advance down the furrow with each successive surge.

WHAT ARE THE ADVANTAGES OF SURGE IRRIGATION?

1. Less water used or more acres irrigated with the same amount of water.
2. Greater opportunity for increased yields.
3. Ability to apply a smaller depth of water more uniformly.
4. Allows user to apply small supplemental irrigations with a high degree of accuracy.
5. Less water lost to deep percolation, and less opportunity for leaching nutrients, chemicals and minerals into the groundwater.
6. Less runoff at end of field, most noticeably with soils having lower intake rates.
7. Increased distribution uniformity. Upper and lower ends receive essentially the same amounts of water.
8. Allows user to adjust water infiltration times to enhance efficiencies and uniformities.

WHY DOES THE WATERMAN LVC-6 CONTROLLER OUTPERFORM ANY OTHER SURGE CONTROLLER?

1. It is simple and easy to operate, and allows quick adaptation to any field condition.
2. It allows the user a selection of modes, from simple pre-set procedures to measured advance method programming that responds automatically to furrow flow rate, soil moisture content, furrow slope, infiltration rate, furrow condition and soil type.
3. It provides for automatic "finishing surges," to ease the water to the end of the furrow. The durations may be adjusted up or down.
4. Integral solar panel assures continuing power to run the programs and operate the surge valve.
5. LCD Display continuously monitors and shows:
 - Program level
 - Total out time
 - ½ cycle time remaining (countdown) left and right
 - Disk position - left or right

WHAT HAPPENS TO THE CONTROLLER PROGRAM IF I LOSE POWER TO MY PUMP?

With the optional "power interrupt" feature installed, the Waterman LVC-6 controller "senses" the loss of flow through use of a pressure differential switch. The LVC-6 simply goes into "pause" mode until it senses a restoration of flow in the pipe. No reprogramming is necessary.

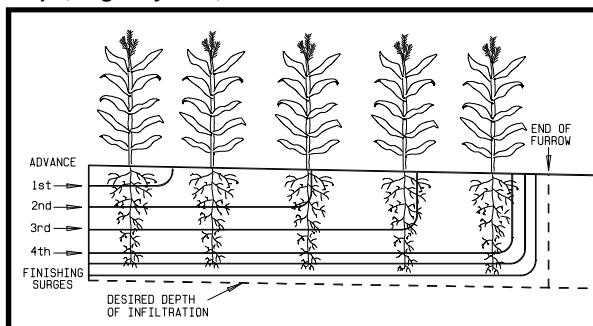
CAN THE PUMP BE PROGRAMMED FOR REMOTE, AUTOMATIC START AND STOP THROUGH THE WATERMAN CONTROLLER TO COINCIDE WITH IRRIGATION DEMANDS?

Yes, if this option is installed, the Surge Master provides a remote signal to activate the pump in conjunction with a surge program.

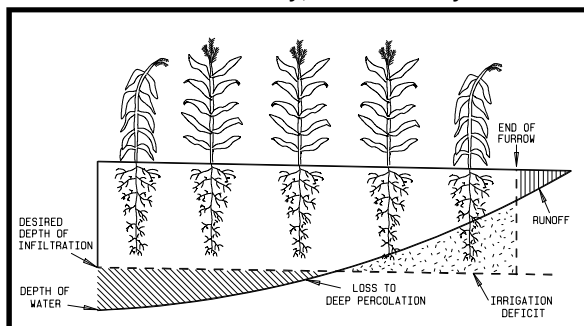
WHY ARE THE WATERMAN HP-200 AND HP-500 SURGE VALVES SO SUPERIOR?

1. They are ruggedly constructed.
2. The valves are available in 6", 8", 10" and 12" sizes.
3. The dimensions provide for full flow.
4. No external pinch points.
5. The valve disk(s) and drive unit are slow moving to prevent water hammer (8 seconds to seating). High torque mechanism.
6. Flange adaptors available to match user pipe sizes; step up or down.
7. Internal pipe stops.

SURGE IRRIGATION-Uniform water application; Uniform crops; Higher yields; More efficient water use.



CONVENTIONAL CONTINUOUS FLOW IRRIGATION-Excess water use; Loss to deep percolation and tail water; Poor distribution uniformity; Non-uniform yield.



Simple Surge

4 ADV LEV. 1 TOT 08:00
0:33L 0:33R 00:00

PROGRAM STANDARD FURROW MEASURED
SELECT PROGRAM LENGTH ADVANCE

ON OFF L R PAUSE REPEAT HOLD 3 SEC.

RUN + - ENTER
INCREASE DECREASE

Waterman
EXETER, CA - USA MODEL: LVC - 6

Callouts:

- Advance or Level Cutback Status
- Select from 3-8 Advance Surges
- Display Continuously Updates Program Status.
- Updates Time Remaining until Next Set Change
- Access to Programming
- In Programming, Start Watering on Either Side. In Operation, Shift Sides any Time.
- Change Times in Programming and in Operation... Anytime During Irrigation, Advance or Cutback
- Total Time of all Advances for Both Left & Right Sets
- Time from Start of Program
- Suspends the Program; Continues from Stop Point when Pushed Again
- Select from 3 Programming Modes
- Unique Feature: Press One Button to Start the Same Program Over Again from the Beginning
- Puts Selection into Computer Memory

INFINITE PROGRAMMING SELECTIONS

The Waterman "SIMPLE SURGE" LVC-6 controller is a state-of-the-art electronic microprocessor which offers a versatile combination of pre-programmed and user-entered watering schedules.

FEATURES OF THE LVC-6 "SIMPLE SURGE"

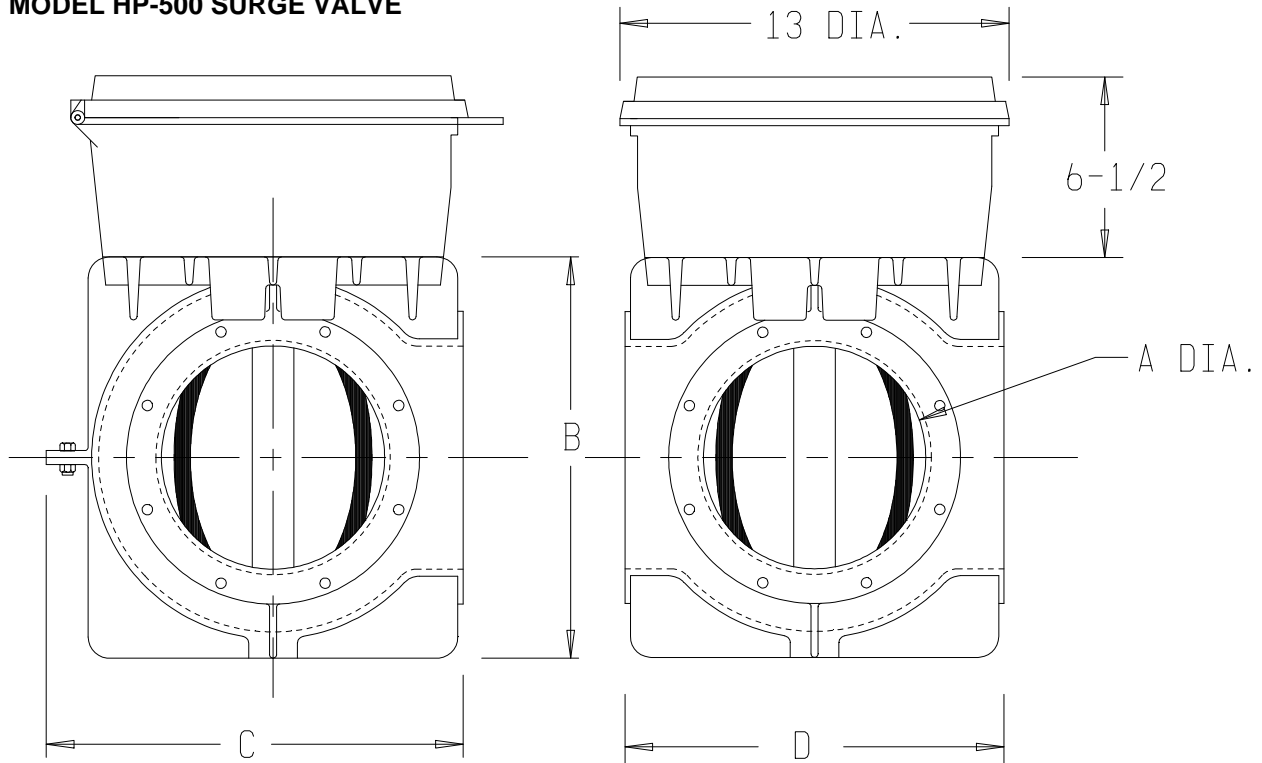
- All of the features you love on our LVC-5, made ultra simple to operate.
- As few as two buttons to push for fully automatic surge irrigation.
- Furrow length programs give added flexibility and ease.
- Use the easy four step measured advance method program for maximizing the benefits of surge irrigation.
- Optional power interruption capability-automatically pauses the program for loss of pump power. It simply picks up where it left off when the pump starts again.
- English or Spanish language readout selection.
- Start watering on the left or right, it's your choice!
- Repeat a program with the push of just one button!

THE FAMOUS WATERMAN "MEASURED ADVANCE METHOD, UTILIZES THE FIRST WATER ADVANCE TIME (ACTUAL OR ESTIMATED) TO AUTOMATICALLY CALCULATE AND EXECUTE THE IRRIGATION PROGRAM.

BECAUSE OF THE MEASURED FIRST ADVANCE DISTANCE AND THE WATER ADVANCE TIME TO THAT POINT, THE RESULTING CALCULATED TIMES RESPOND TO FURROW FLOW RATE, SOIL MOISTURE CONTENT, FURROW SLOPE, INFILTRATION RATE, FURROW CONDITION AND SOIL TYPE OF THAT PARTICULAR FIELD.

SURGE CYCLES DESIRED		
No. Advances Left	No. Advances Right	Distance of First Advance Point for Measured or Estimated Time. Locate Stake:
4	4	¼ of field length
5	5	⅕ of field length
6	6	⅙ of field length
7	7	⅙ of field length

MODEL HP-500 SURGE VALVE



SURGE VALVES

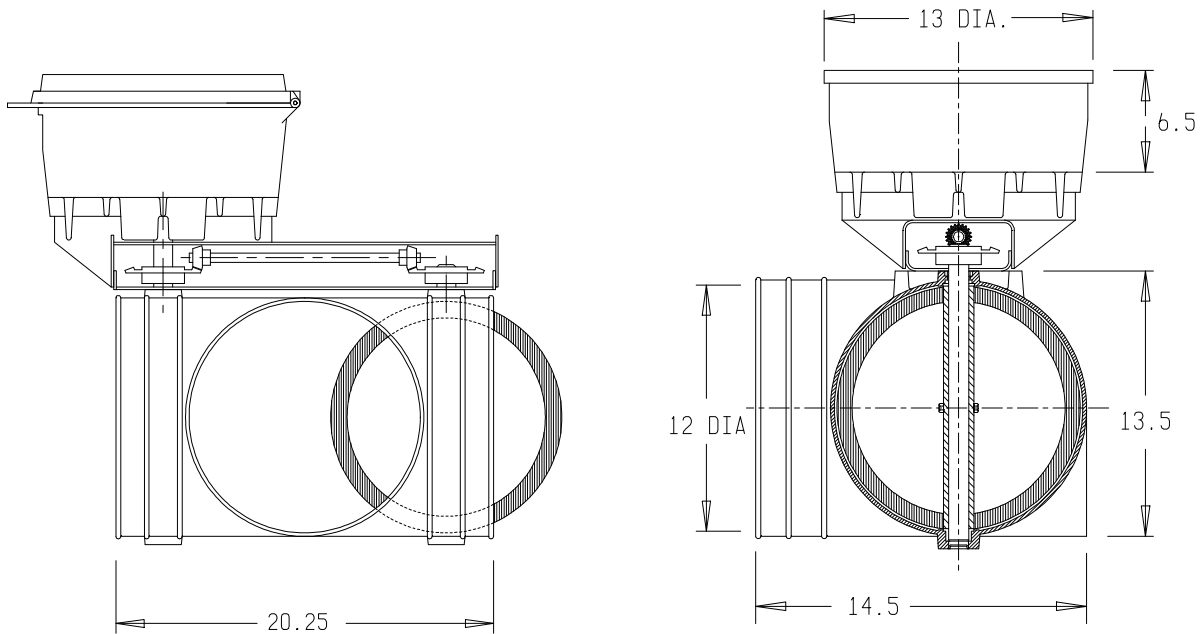
VALVE SIZE	A	B	C	D
6	12	10 ³ / ₄	11 ³ / ₄	
8	14 ¹ / ₂	14	15	
10	17 ¹ / ₂	16 ¹ / ₂	17 ¹ / ₂	

THE WATERMAN MODEL HP-500 SURGE VALVE SPECIFICATIONS SIZES 6", 8", 10"

- Valve Body** Cast Aluminum
- Valve Disc** Cast Aluminum, internal butterfly type. Single disc, vulcanized rubber seat.
- LVC-6 Controller *** Solid state; impact and weather resistant glass-filled nylon housing; removable for use on other surge valves or for safekeeping.
Program selections:
Pre-set, field length, measured advance.
User options to override and vary programs. Cutback and finishing surges. LCD display.
- Power Source** 12-volt rechargeable battery. Solar panel.
- Universal Adaptor Flanges (for couplers)** Bolt-on; "O" ring seal; internal pipe stops.
 - 6" 6", 7", or 8" adaptor flanges.
 - 8" 8" or 10" adaptor flanges.
 - 10" 10" or 12" adaptor flanges.
- Operating Mechanism** High torque gearmotor.
- Recommended Maximum Flow Rates**
 - 6" Model 625 G.P.M.
 - 8" Model 1100 G.P.M.
 - 10" Model 1700 G.P.M.
- Weights**
 - 6" 37# (Valve 20#, Controller 17#)
 - 8" 46# (Valve 29#, Controller 17#)

* LVC-5 controller also available

MODEL HP-200 SURGE VALVE



THE WATERMAN MODEL HP-200 SURGE VALVE SPECIFICATIONS SIZE 12"

Valve Body	Cast Aluminum; Welded Construction
Valve Disc (2)	Cast Aluminum, internal butterfly type. Dual disc, vulcanized rubber seat.
LVC-6 Controller *	Solid state; impact and weather resistant glass-filled nylon housing; removable for use on other surge valves or for safekeeping. Program selections: Pre-set, field length, measured advance. User options to override and vary programs. Cutback and finishing surges. LCD display.
Power Source	12-volt rechargeable battery. Solar panel.
Universal Adaptor Flanges (for couplers)	12" Welded construction. Internal pipe stops. 12" x 12" x 12"; 10" adaptors available.
Operating Mechanism	High torque gearmotor.
Recommended Maximum Flow Rates	12" Model 2500 G.P.M.
Weight	90# (Valve 76#, Controller 14#)

* LVC-5 controller also available