Krystal PureTM: KS10, DS15HE, DS64HE, For Water Softener/ Whole House Conditioner Systems

For Scottsdale, AZ, Cave Creek, AZ,

Krystal Pure brine tank assembly

Take off cap from brine well.

Take out float assembly.

Place brine well into brine tank and align brine well holes with brine tank holes.

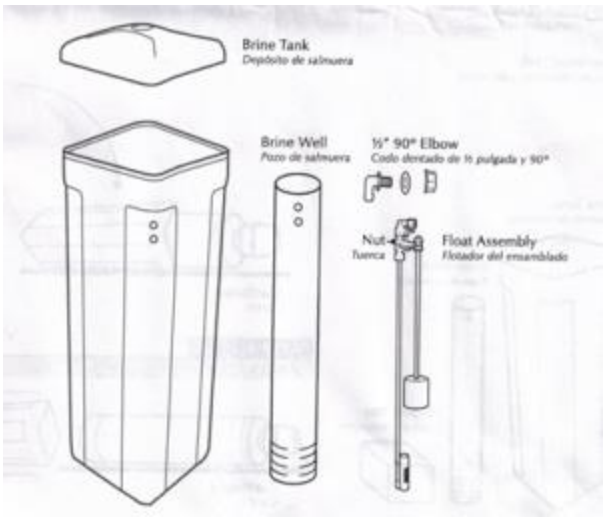
Take out 1/2 900 elbow hose barb and remove rubber washer and plastic nut.

Insert 1/2" 900 elbow over flow" fitting through bottom hole. Elbow should point towards floor (outside of brine tank)

Place rubber gasket over threads.

Push Brine well over threads and tighten plastic nut on threads inside brine well.

Remove nut from float assembly and position screw into hole on brine well. Then replace nut.



Words in picture:

Brine Tank

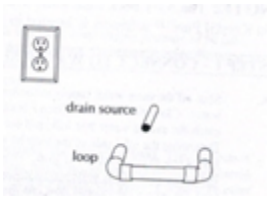
Brine Well

½” 90 degree Elbow

Float Assembly

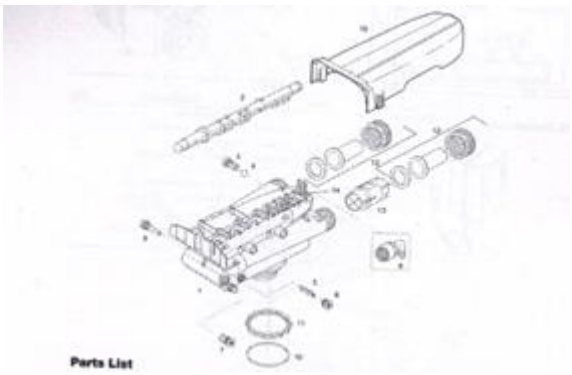
INSTALLATION INSPECTION

IS YOUR HOME PRE-PLUMBED?



Your home is pre-plumbed for a water softener/conditioner if you have a loop in the garage or laundry room. Typically, there will be a 110 volt outlet within 6 feet of the loop and a 1/2”; drain line stubbed out of the wall.

KS15HE AND KS64HE VALVE AND PARTS



PARTS LIST

CODE	PART NO.	DESCRIPTION	QTY
I	1035007	Valve Assembly w/o Flow Controls	1
2	1035615	960 Standard Cam Shaft	1
3		Drain Control Assembly	1
1000209		NO.7 (1.2gpm;4.5Lpm)	
1000210		NO .8 (1.6 gpm; 6.1Lpm)	
1000211		NO.9 (2.0 gpm; 7.6Lpm)	
1000212		No. 10 (2.5 9pm; 9.5Lpm)	
1000213		No.12 (3.5 gpm; 13.2Lpm)	
1000214		No.13 (4.1 gpm; 15.5 Lpm)	
1000215		No. 14 (4.8 gpm; 18.2 Lpm)	
4	1035502	Ball Flow Control	1
5		Injector assembly	1
1032970		“A” injector – White	
1032971		“B” injector – Blue	
1032972		“C” injector – Red	
1030272		“D” injector – Green	
6	1000269	injector cap assembly	1
7		Brine refill control	1
1000222		.33 gpm	

8	1002449	Drain fitting elbow(3/4” hose barbed)	1
9	1000226	Screen cap assembly	1
10	1010429	o – ring	1
11	1035622	tank ring	1
12		plumbing adapter kits	1

1001606 ¾ inch copper tube adapter kit

1001670 1 inch copper tube adapter kit

1041210 1 ¼ inch copper tube adapter kit

1001608 22-mm copper tube adapter kit

1001613 3/4 inch CPVC Tube adapter kit

1001614 1 inch CPVC Tube Adapter Kit

1001615 25-mm CPVC Tube Adapter kit

1001769 ¾-inch NPT Plastic Pipe Adapter kit

1001603 1 inch NPT Plastic Pipe Adapter kit

1001604 ¾-inch BSPT Plastic Pipe Adapter kit

1001605 1-inch BSPT Plastic Pipe Adapter kit

1001611 ¾-inch BSPT Brass Pipe Adapter kit

1001610 1 inch NPT Brass Pipe Adapter kit

1001612 1 inch BSPT Brass Pipe Adapter kit

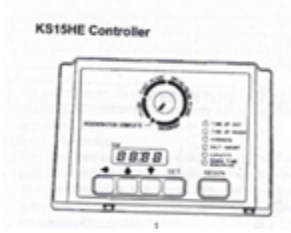
13	1033444	TURBINE ASSEMBLY	1
14	1001580	SPRING, FLAPPER VALVE	
15	1030372	COVER	1

VALVE DISC KIT

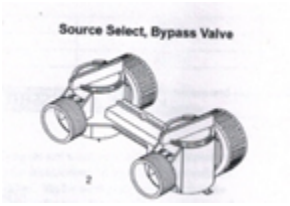
1041174 STANDARD

1041175 SEVERE SERVICE

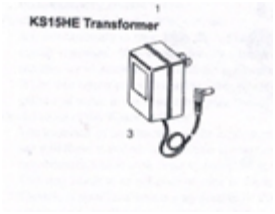
KSI5HE Controller



K8I5HE Source Select, Bypass Valve



K8I5HE Transformer



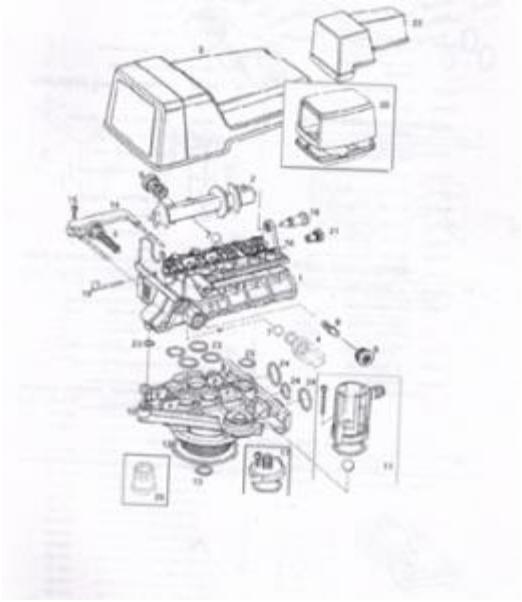
Code	No.	Description	Qty.
1	KSI5FIE	Controller	1
2	1040930	Source Select, bypass value	1
3	1000811	Transformer	1
+	1000907	Transformer Extension Cord 15 feet (4.6 m)	1
+	1034264	V-Splitter (run 2 units from 1 transformer)	1

Source Select, Bypass Valve

+	1040930	Bypass Body Assembly with install Kit	1

+ Not Shown

KS5, KS10 VALVE AND PARTS

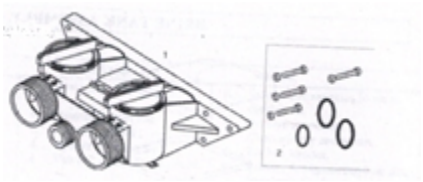


Code	No.	Description	Qty.
1	1000232	Valve Assembly, W/0 Flow Controls	1
2	1031950	Camshaft, Standard. One- Piece	1
3	1000062	Valve Cover, Black with transparent window	1
4		Brine refill Flow Control Assembly	1
1034261	1 to 10 lbs Salt		
1034263	3 to 19 lbs Salt		
5	1000226	Screen/Cap Assembly with O ring	1
6		Backwash Control Assembly with O-rings	1
1034162	No 6 for 6 in Diameter Tank		
1000209	No 7 for 7 in Diameter Tank		
1000210	No 8 for 8 in Diameter Tank		
100211	No 9 for 9 in Diameter Tank		
1000212	No 10 for 10 in Diameter Tank		
100213	No 12 for 12 in Diameter Tank		
100214	No 13 for 13 in Diameter Tank		
100215	No 14 for 14 in Diameter Tank		
7	1030502	Ball, Flow Control	1

8		Injector Assembly with O-rings	1
1032970	“A” Injector – White		
2032971	“B” Injector – Blue		
1032972	“C” Injector – Red		
9		Injector Cap with O-0ring	1
1000217	“A” Cap		
100218	“B Cap”		
100219	“C Cap”		
10	1033784	Tank Adapter Assembly	1
11	1032416	Air Check Assembly	1
12	1010429	O-Ring BN	1
13	1010428	O-Ring EP	1
14	1031402	Locking Bar: English Language	1
15	1006093	Screw, No 9 x 9/16 inch	1
16	1001580	Spring, Valve Disc Kits:	9
17	1033066	New to Old Aircheck Adapter Kit	1
18	100297	Extended Bearing, Camshaft	1
19	1031391	Pin, Locking, Timer, Black	1
20		Covers, high style	
1041087	Beige/ Tan		
1041088	Black/ White		
1041091	Beige/Black		
21	1030501	Bearing, Camshaft for use with Cover (Code 22)	
22	1032565	Cover, L-lid	
23	1001404	O-Ring Group: Tank Adapter	
24	1040459	O-Ring Group: Piping Boss	
25	1041010	13/16 inch Riser Insert (optional)	
+	1000250	Valve Disc Replacement	

+ Not shown

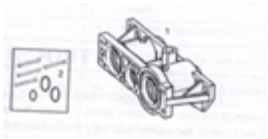
Source Select Bypass Valve



Code	Part No.	Description	Qty.
1	1040769	Source Select, Bypass Valve	1
2	1040524	Install Kit	1
+		Tube Adapter Kits	
1001606		3/4 –inch Copper Tube Adapter Kit	
1001670		1-inch Copper Tube Adapter Kit	
1001608		22-mm Copper Tube Adapter Kit	
1001609		28-mm Copper Tube Adapter Kit	
1001613		¾-inch CPVC Tube Adapter Kit	
1001614		1-inch CPVC Tube Adapter Kit	
1001615		22-mm CPVC Tube Adapter Kit	
1001769		3/4 –inch NPT Plastic Pipe Adapter Kit	
1001603		1-inch NPT Plastic Pipe Adapter Kit	
1001604		¾-inch BSPT Plastic Pipe Adapter Kit	
1001605		1-inch BSPT Plastic Pipe Adapter Kit	
1001611		¾-inch BSPT Brass Pipe Adapter Kit	
1001610		1-inch NPT Brass Pipe Adapter Kit	
1001612		1-inch BSPT Brass Pipe Adapter Kit	

+ Not Shown

KS5, KS10 Adapter



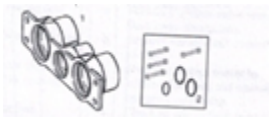
Code	Part No.	Description	Qty.
1	1032350	Kit, KS5, KS10 Adapter	1
2	1032351	KS5, KS10 Adapter Install Kit	1

KS5, KS10 Controller

Code	Part No.	Description	Qty.
1		KS5, KS10 Controller	1
2		Transformer	1
1000810		Japanese	
1000811		North American	
1000812		Australian	
1000813		British	
1000814		European	
1000907		Transformer Extension Cord	1

15 foot (4.6m)

KS5, DS10 Piping adapter



Code	Part No.	Description	Qty.

1		Kit KS5, KS10 Piping adapter	1

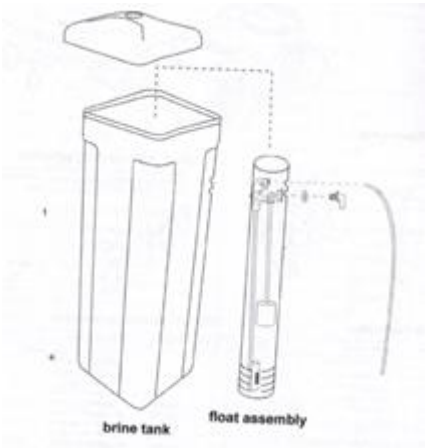
(includes hardware):

1040277	¾-inch NPT, Brass
1040278	1-inch NPT, Brass
1040281	3/4-inch BSPT, Brass
1040282	1-inch BSPT, Brass
1040279	3/4-inch NPT, Noryl
1040280	1-inch NPT, Noryl
1040283	¾-inch BSPT, Noryl
104284	1-inch BSPT, Noryl

2	1040339	KS5, KS10 Piping adapter	1

Install Kit

Brine Tank Assembly



Code	Part No.	Description	Qty.
1	208-11112	KS5 brine tank & assembly kit (black)	1
1	208-11111	KS10, KS15HE brine tank & assembly kit	1

(white)

1	208-14142	KS64HE brine tank & assembly kit	1

Valve Troubleshooting

– Problem	Possible Cause	Solution
1.Control will not draw brine.	a.Low water pressure.	A. Set pump to maintain 30 psi
conditioner.		
b.Restricted drain line.	b.Remove restriction.	
C.Injector plugged!	c.Clean injector and screen.	
d.Injector defective!	d.Replace injector.	
e.Valve (2 and/or4) not closed.	e.Remove foreign matter	
from disc and check disc for		
closing by pushing in on stem.		
Replace if needed.		
2.Brine tank overflow,	a Brine valve (I) being held open	a.Manually operate valve
stem to flush away		
obstruction	B Uncontrolled brine refill flow rate!	b. Remove variable salt
controller to clean.	C Valve (3 or 4) not closed during brine	c. Flush out foreign matter by
draw causing refill.		holding disc open and manually
operating valve stem		B Air leak in brine line.
d. Check all connections in brine		
line for leaks.		
Refer to instructions.		
3 System using more or less salt	A Inaccurate setting,	a. Correct setting.
than salt control is set for	b.Foreign matter in controller	b. Remove variable salt
causing incorrect flow rates	controller	
and flush out foreign		

matter.

Manually position control to brine draw to clean controller

(after so doing, position control

to “purge” to remove brine from tank).

c.Defective control. C. Replace controller.

4 Intermittent or irregular brine draw a.Low water pressure. a.Set pump to maintain 30 psi at softener/conditioner.

b.Defective injector! b.Replace both injector and injector cap.

5.No soft/conditioned water after regeneration. a. Unit did not regenerate. aCheck for power.

b. No salt in brine tank. b.Add salt.

Plugged injector! c.Clean injector. Flush with water.

6.Control backwashes at excessively low or high rate. a.Incorrect backwash controller used, a.Replace with correct size controller.

b.Foreign matter affecting controller operation! b.Remove controller and ball. Flush with water.

7.Flowing or dripping water at drain or brine line after regeneration. a.Drain valve (5 or 6) or brine valve (1) held open by foreign matter or particle. a.Manually operate valve stem to flush away obstruction.

Valve stem return spring on top plate weak. b.Replace spring.

8.Hard water leakage during service. a. Improper regeneration a Repeal regeneration

Making certain that the

correct salt dosage is set.

Leaking of bypass valve! b.Replace 0-
ring. c. 0-ring around riser tube c.Replace 0-ring.

damaged!

KS5 and KS10 -4601 Control Troubleshooting

Problem Possible Cause Solution

Clock does not display time of day. a.Transformer cord unplugged a.Connect power

b.No electric power at outlet. b. Repair outlet or use

working outlet.

Defective transformer. c.Replace

transformer.

d.Defective circuit board. d.Replace timer.

Clock does not display correct time a transformer cord unplugged a connect power

of day. B No electric power at outlet b repair outlet or use

working outlet

c defective transformer c. replace transformer

Defective circuit board. D. Replace timer.

a.Outlet operated by switch a Use outlet not controlled by

switch.

Incorrect voltage or frequency (Hz). b. Replace timer with one of correct

voltage and frequency (Hz).

Power outages. c.Reset clock.

3.Time display continues to advance. a.Defective time set switch. a. Replace timer.

4.Time display shows something other a.Electrical interference, a Disconnect power to unit.

than time of day. Restore power and reset time

of day.

defective circuit board. d.Replace timer.

5.No water flow display when water is a.Bypass valve in bypass. a. Shift bypass valve to not-in-flowing, bypass position.

Meter probe disconnected or b. fully insert probe into meter not fully connected to meter housing.

housing.

Restricted meter turbine c.Remove meter housing, free up rotation due to foreign matter turbine and flush with clean in meter. water. Do not disassemble turbine from meter housing.

Turbine should spin freely. If not, replace meter!

d.Defective meter probe. D Replace timer.

E Defective circuit board. E Replace timer.

6.Control regenerates at wrong time of a.Power outages. a.Reset clock to correct time of Day. day.

b.Clock set incorrectly. b.Reset clock to correct time of day.

7.Timer stalled in regeneration cycle. a.Motor dead, a.Replace timer,

b.Motor runs backward. b. Replace timer,

No electric power at outlet. c.Repair outlet or use working outlet,

d.Broken gear. d.Replace timer,

e.Defective switch. e.Replace timer.

f.Air leak in brine connections, f.Check all junction points and make appropriate corrections.

g.Binding of camshaft. g.Remove foreign object obstruction from valve discs or camshaft.

Water pressure greater than 125 h.Install pressure regulator.

psi during regeneration.

Defective circuit board, i. Replace timer,

Continuous regeneration, a. Broken switch activator on a. Replace timer.
Camshaft does not stop at the end of gear.
regeneration.

Defective switch. b. Replace timer.

Control will not regenerate a. Electric cord unplugged. a.Connect power.
automatically or when button is b. No electric power at outlet. b. Repair outlet or
pressed. use working outlet,

Defective motor. c. Replace timer.

Broken gear. d. Replace timer.

Binding in gear train. e. Replace timer.

f Defective switch. f. Replace timer.

10.Control will not regenerate a. If water flow display is net a.Same as item 5
Automatically, but will regenerate operative, refer to item 5.
when button is pressed. b. Defective circuit board. b. Replace timer.

incorrect hardness and capacity c. Set to correct
settings. values. See
Programming section.

Run out of soft water between a. Improper regeneration, a. Repeat
regeneration, making
regenerations. certain that correct salt
dosage is
used.

Fouled softener resin. b. Use resin cleaner. See Note
1.

Incorrect salt netting. c. Set salt control to proper

level.

See Salt Setting chart.

Incorrect harness or capacity d.Set to correct values. See

settings. Programming section.

Water hardness has increased. e. Set hardness

to new value. See

Programming section.

f.Restricted meter turbine f.Remove meter housing,

free up

rotation due to foreign material turbine and flush with

clean

in meter housing. water. DO NOT

DISASSEMBLE TURBINE

FROM METER HOUSING.

Turbine should spin freely, if not,

replace meter!

g.Excessive water usage below g.Repair leaky plumbing and/ or

1/5 gallon per minute. fixtures!

Note: Use of resin cleaners in an unvented enclosure is not recommended.

KS15HE and KS64HE Performa HE Control Troubleshooting

The KSI5HE/KS64HR continuously monitors itself and sounds an alarm if it detects something wrong. The alarm is beep that is on for one second and then off for nine seconds. When the alarm sounds, the display shows the letters “Err” with a number from Ito 4. The table below lists the Err numbers, a description of each error, the cause of the error, and the solutions. To silence the alarm, press any button on the control. If the error still exists, the control will go back to the alarm condition after 30 seconds.

Indication Description Cause Solution

Err1 I.Electronics Failure a.Control settings need a.Press any key to

reprogramming load default values Refer to

			“Programming the valve”
Err2	2.Improper start of regeneration (limit switch closed when it should be open).	a.Valve camshaft has been manually rotated daring a regeneration. b. Valve camshaft has been manually rotated Out of position. c. Faulty motor. d.Replace the control. Faulty motor drive. e. e.Faulty switch.	a.Press any key to silence the alarm. (Note: Alarm automatically clears at “TIME OF REGENERATION”.) b. The control will tars the motor on and drive the camshaft to the proper “regeneration complete” location. Replace the control. Replace the control. Replace the control.
Err3	3. Improper finish of regeneration (limit switch open when it should be closed),	a. Valve camshaft has been manually rotated out of position. b.Faulty motor. Faulty motor drive. d.Faulty switch.	a. The control will turn the motor on and drive the camshaft to the proper “regeneration complete” location. b. Replace the control. c.Replace the control. d.Replace the control.
Err4	4.Improper control settings (one or more settings are of the allowable range).	a.One or more settings out of the allowable range.	a.Hardness: Adjust range: 3 to 250. Capacity: Adjust range: 0.1 to 140.0. Refill control: Adjust range: 1 to 99. Brine draw value: Adjust range