6000

SERIES
INDEXING
VALVE

K RAIN®

INTRODUCTION

The 6000 Series Indexing Valve is a water flow operated valve which acts as a manifold. The valve cycles from zone to zone in a clockwise fashion each time the water flow is stopped and started.

With its metal die cast body, the 6000 Series Indexing Valve is capable of handling high pressure applications. The 6000 Series Valves are recommended to be used on pump fed systems and can also be used on higher flow pressurized city water systems.

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VALVE OPTIONS

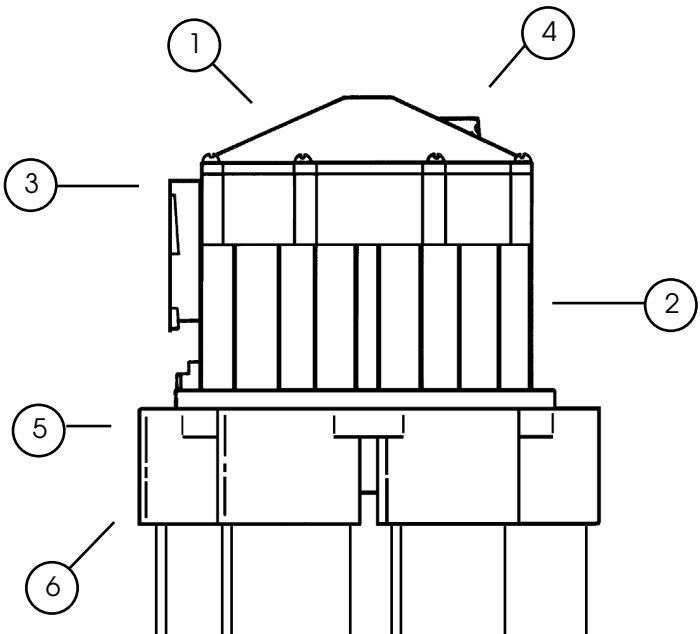
The 6000 Series Indexing Valve is available with the following outlet and cam combinations:

VALVE Model No.	Description	Check Your Model
6402	Two zone valve with four outlet bottom	( )
6403	Three zone valve with four outlet bottom	( )
6404	Four zone valve with four outlet bottom	( )
6605	Five zone valve with six outlet bottom	( )
6606	Six zone valve with six outlet bottom	( )

6400 Series four outlet valves have interchangeable cams for two, three or four zone operation.

6600 Series six outlet valves have interchangeable cams for five or six zone operation.

VALVE FUNCTIONS



VALVE FUNCTIONS

1. VALVE TOP:	A high strength metal die cast top which is secured to the valve body by eight stainless steel screws.
2. VALVE BODY:	A high strength metal die cast housing.
3. INLET:	Female 1 1/2" NPT inlet for connection to water source.
4. VACUUM BREAKER PORT:	Used to prevent back-siphon of water to source.
5. VALVE BOTTOM:	High strength ABS plastic bottom which is secured to valve body with 6 or 8 stainless steel screws.
6. OUTLETS:	Allows for slip and glue connection to 1 1/2" PVC pipe.

CAM REPLACEMENT INSTRUCTIONS

Replacement cams are available to increase or decrease the number of outlets to be used on the 6000 Series Indexing Valves.

6400 Series four outlet valves have interchangeable cams for two, three or four zone operation.

6600 Series six outlet valves have interchangeable cams for five or six zone operation.

To replace cam, first remove valve top by removing eight valve top retaining screws. Remove two cam retaining screws which hold cam on the underside of the valve top.

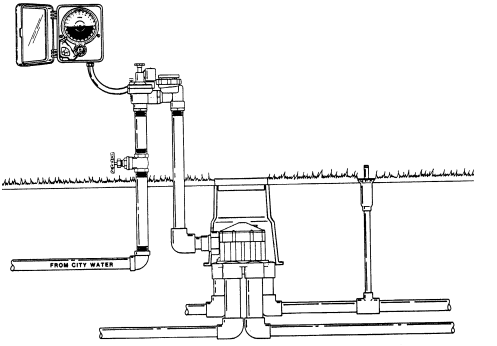
Insert replacement cam into valve top, ensuring that the wide notch on cam is aligned with notch on valve top, and secure with two cam retaining screws.

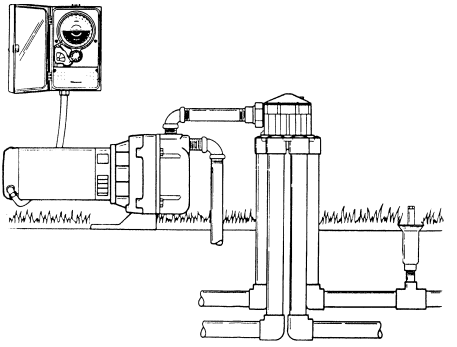
Replace top, ensuring body seal is in place.

VALVE APPLICATIONS

Pump Fed Application

For direct pump-fed installations, the 6000 Series Indexing Valve is directly connected to the discharge side of the pump and is cycled from one zone to the next by turning the pump off and on. Install the valve as close to the pump as possible and ensure suction line to the pump has a proper check valve installed and all joints are completely sealed.





In-Line Valve Application

For high flow city water supplied installations using an in-line valve, ensure the Indexing Valve is installed as close to the in-line valve as possible. The 6000 Series Valve may be mounted below ground in a valve box (do not direct bury). Ensure backflow prevention is in compliance with local codes.

VALVE INSTALLATION

Prior to installation of 6000 Series Indexing Valve, make sure that the system is designed using adequate pipe sizes and control valves to ensure maximum performance of the valve.

For installation with large terrain elevations, or applications with high lift requirements such as overhead systems in greenhouses, the valve should be installed at the highest point in the system, or check-valves should be installed near the valve in the elevated lines to prevent the back-flow of water from the higher locations to the lower zones.

When connecting the lines to the valve outlets, ensure that the correct cam is installed. See diagram for proper zone hookup of outlets.

Do NOT turn the valve upside down when gluing the lines into the valve outlets. Glue may run down into the valve and interfere with valve operation. Allow glue to dry for at least two hours before operating or testing the valve. For best results, use a multi-purpose glue which is compatible with ABS plastic.

VALVE INSTALLATION (continued)

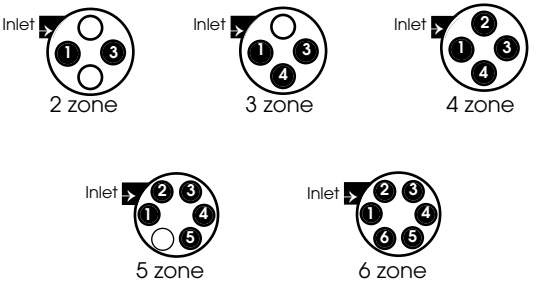
To seal off any unused outlets, install a piece of PVC pipe at least six inches in length to the outlet and cap the pipe. This will allow additional zones to be added easily at a later time. Make sure proper cam is installed for number of zones to be used.

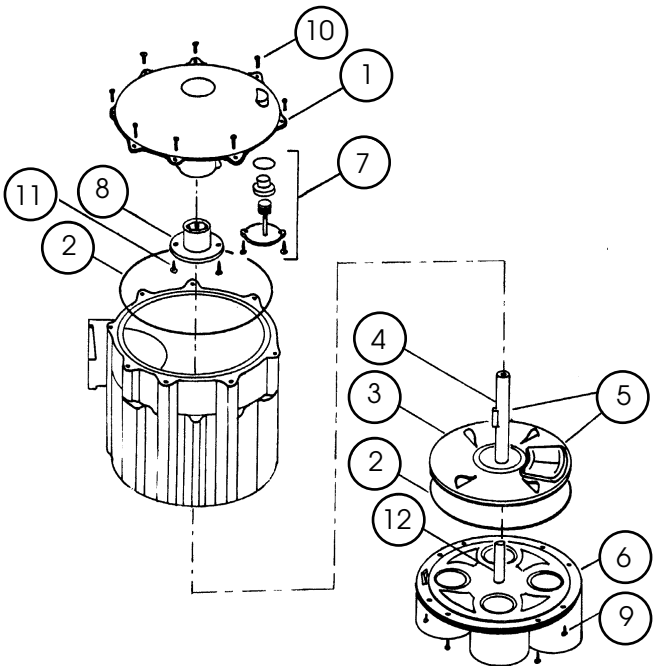
In regions of the country where winter temperatures may cause damage to exterior pipes, the 6000 Series Indexing Valve should be winterized. To protect the control valve and other irrigation components from damage, the entire system should be drained or cleared using compressed air. Contact your K-Rain dealer for information on the winterization requirements in your area.

Active Zone Diagram

Black dots indicate active outlets for cam being used

(View from above)

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6000 SERIES INDEXING VALVE PARTS

1	4 Outlet valve top	P8002804
	6 Outlet valve top	P8002806
2	Valve body seal	P8600000
3	Rubber flap disk	P8003000
4	Stem with .032 spring	P8004002
	Stem with .028 spring	P8004003
5	Stem/disk assy. with .032 spring	P8003050
	Stem/disk assy. with .028 spring	P8003051
6	4 Outlet valve bottom	P8002704
	6 Outlet valve bottom	P8002706
7	Vacuum breaker assy.	P8005001
8	Two zone, 4 outlet cam	P8002902
	Three zone, 4 outlet cam	P8002903
	Four zone, 4 outlet cam	P8002904
	Five zone, 6 outlet cam	P8002905
	Six zone, 6 outlet cam	P8002906
9	Valve bottom screws (6) (10-24 x 3/4 Phil Pan SS)	P8004410
10	Valve top screws (8) (10-24 x 5/8 Slt. phst. SS)	P8004412
11	Cam retaining screws (2) (6 x 1/2 Phil Pan SS)	P8004414
12	Valve bottom S.S. Pin (1/4" dia.)	P8600001

TROUBLESHOOTING

1. PROBLEM: Valve Does Not Change or Cycle to Next Zone or Outlet

   CAUSE: Debris or foreign objects preventing proper movement of stem and disk assembly.
   SOLUTION: Remove valve top and check for foreign objects. Clean build-up from walls of valve as necessary.
   SOLUTION: Check for freedom of movement of stem and disk assembly up and down over the center pin in bottom of valve. Scale deposits may build up on the pin and hold stem and disk assembly down. Clean pin and again check for freedom of movement.

   CAUSE: Disk may have expanded and is rubbing against inside walls of body.
   SOLUTION: Replace disk and clean build-up from walls of valve as necessary.

   CAUSE: Restriction of flow causing pressure in valve to build up, preventing valve from cycling.
   SOLUTION: Be sure that all operating outlets are not capped and that the flow to operating zones is not restricted in any manner.
   SOLUTION: The backflow of water from uphill lines may be preventing the valve from cycling properly. This can happen when the valve is placed too far below an elevated irrigation line. If the valve cannot be placed close to the high point of the system, a check valve should be installed near the valve in the outlet line that runs uphill from the valve.

2. PROBLEM: Water Comes Out of all the Valve Outlets

CAUSE: Stem and disk assembly not seating properly on valve outlet.
SOLUTION: Check for sufficient water flow. A minimum of 15 GPM is required to properly seat the disk.
SOLUTION: Remove the valve top and clean the inside walls as necessary to ensure that nothing is interfering with the up and down movement of the stem and disk assembly inside the valve.
SOLUTION: Make sure that the operating outlets are not capped and that the flow to the operating zones is not restricted in any manner.
SOLUTION: Replace disk if necessary.

CAUSE: Too many sprinkler heads on a zone will cause insufficient pressure for disk to seat firmly over valve outlet.
SOLUTION: Reduce the number of heads on the zone to obtain the proper sprinkler operating pressure.

3. PROBLEM: Valve Skips Outlets or Zones.

CAUSE: For a pump installation, the pump may be losing its prime, causing the water flow to surge. This will cause the valve to cycle quickly several times, skipping one or more zones. Verify that the flow to the valve is constant by turning ON after having been OFF for at least 15 minutes. The flow should be steady and uninterrupted.
SOLUTION: Seal any pump suction line leaks.
SOLUTION: Replace or install suction line check valve to prevent pump from losing its prime.

CAUSE: The stem and disk assembly is being advanced past the desired outlet.
SOLUTION: Ensure that the correct cam for the desired number of zones is installed and that the outlet lines are installed to the correct outlet ports of the valve.

TECHNICAL SPECIFICATIONS

Valve Top and Body Construction:	Die Cast Metal
Valve Bottom Construction:	ABS High Strength Plastic
Flow Range:	15-150 G.P.M
Inlet:	Threaded 1 1/2" NPT
Outlets:	Allows for 1 1/2" PVC pipe slip and glue connection

FLOW AND PRESSURE LOSS CHARACTERISTICS

6400 Series 4 Outlet Valve

FLOW (GPM)	15	20	30	40	50	60	70	80	90	100	110	120	130	140	150
PSI LOSS	2.0	2.5	3.0	3.5	4.0	5.0	6.0	7.5	9.0	10.0	10.5	11.0	12.0	12.5	13.0

6600 Series 6 Outlet Valve

FLOW (GPM)	15	20	30	40	50	60	70	80	90	100	110	120	130	140	150
PSI LOSS	2.0	3.0	3.5	4.0	5.0	6.0	7.5	9.0	10.0	11.0	11.5	12.0	12.5	13.0	14.0

TWO YEAR LIMITED WARRANTY

K-Rain products carry a "LIMITED WARRANTY". For two years from the date of purchase, K-Rain will repair or replace (at K-Rain's option) the product or any part if the product is found to be defective as to workmanship or material. This warranty does not extend to damage to a K-Rain product resulting from misuse, neglect or abuse, normal wear and tear, or accident, to exterior appearance or color or due to improper installation.

This warranty extends only to an original user of a K-Rain product.

IN NO EVENT SHALL K-RAIN BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. ALL IMPLIED WARRANTIES ARE LIMITED IN DURATION TO TWO YEAR FOLLOWING DATE OF PURCHASE. Some states do not permit the exclusion or limitation of incidental or consequential damages or of implied warranties. Therefore, the above exclusions or limitations may not apply to you.

If a defect arises in a K-Rain product within the two-year warranty period, you should promptly contact your K-Rain installer, distributor or

K-RAIN MANUFACTURING CORP., 1640 Australian Avenue, Riviera Beach, Florida 33404

Please allow up to 4 weeks for completion of repairs or replacement and return of the product. If a product is replaced, the replacement product is covered only for the remainer of the original warranty period dating from the purchase of the original product.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. If you have any questions concerning the warranty or its application, please write to K-Rain Manufacturing Corporation, 1640 Australian Avenue, Riviera Beach, FL 33404. Attn: Product Manager.

K-RAIN MANUFACTURING CORP.
1640 Australian Avenue
Riviera Beach, FL 33404 USA
PH: 1-561-844-1002 / 1-800-735-7246
FAX: 1-561-842-9493
WEB: http://www.krain.com

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