PENTAIR

MAGICFALLS®

WATER EFFECTS

INSTALLATION AND USER'S GUIDE

IMPORTANT SAFETY INSTRUCTIONS
READ AND FOLLOW ALL INSTRUCTIONS
SAVE THESE INSTRUCTIONS

Overview

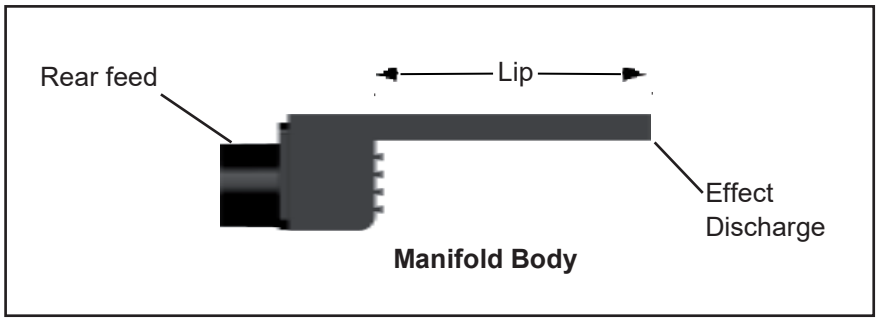
Perhaps no other feature contributes more to the beauty and tranquility of your poolscape than the sight and sound of falling water. Built to the highest standard of quality, and "wet tested" to ensure that your water effect will be soothing and beautiful, the MagicFalls® Water Effects will transform your pool into a romantic oasis, and a breathtaking focal point.

Please read and follow these instructions carefully.
⚠ WARNING! Failure to follow the recommended installation guidelines could void the warranty,and may result in injury.

MagicFalls® Curved Rain Water Effect

Design Guidelines for Waterfalls

The following lists the design considerations when selecting a waterfall project:



1. Water effect
2. Waterfall length
3. Lip length
4. The desired color
5. Water supply location: Rear (standard) or Bottom (optional)
6. Curved water effects cannot be field cut, they must be factory cut for a nominal charge. Convex or concave curves can be cut. There must be at least 1" of lip in front of the manifold body, or the water effect will not work.
7. Waterfalls that are ordered in a color other than white are painted with high quality paint. The paint is applied to the front lip.

Important Facts

- The Waterfall sheet effect is thin, sensitive to wind, and the width of the sheet narrows the farther it falls. At fall heights above 3 ft., the sheet effect begins to break apart and to produce an annoying buffeting noise. A maximum mounting height of 3 ft. for sheet effect is recommended.
- The rain effect is less affected by wind than are sheet effects. The effect does not narrow as the fall height increases. A maximum mounting height of 6 ft. for rain effect is recommended.
- Waterfalls are typically installed in the bond beam, just above the tile line, or in a raised wall above the bond beam. Three important considerations include: wall thickness, tile or stone thickness, and the weight of the covering concrete or stone.
- Use a 20 micron, or smaller, cartridge filter to supply clean, filtered water to the waterfall. **Do NOT use a DE or Sand filter.**
  Unfiltered water may introduce debris into the waterfall and disrupt flow. The waterfall cannot be cleaned.
- You should plan to supply approximately 15 GPM/ft. of waterfall length. For example a 3 ft. waterfall would need 45 GPM of water flow.
  The waterfall can operate a minimum flow rate of 10 GPM/ft, but may not achieve the desired effect. Each waterfall should be equipped with a flow control valve, located downstream from the filter, to adjust the flow to each waterfall. It is recommended to use a variable speed pump so that flow to the waterfall can be easily controlled.
- The maximum head loss for any waterfall is 6 ft. Calculate and add the loss of your plumbing to determine your pump requirement.
- Use 2 in. diameter plumbing for each waterfall.
  Note: **Ensure all debris is kept out of the plumbing during installation.**
- The rear or bottom connection to the waterfall accepts 2 in. pipe.
- Water connections are ABS. Use a pool-use approved ABS transition Glue (green) for the ABS to PVC connections to glue the water supply line.
- For installation subject to heavy debris, install the optional rock trap (P/N 580004). This requires 2 in. plumbing.

NOTE: The water supply line and the Water Baffle/Water Channel must be supported and should not hang off the waterfall lip. Failure to support the supply line and or Water Baffle/ Water Channel can cause joints to fail and leak. This will void the warranty.

The following chart indicates the combinations of effect, length, and other specifications used to define the choice of waterfall. Note: For more information, see "Waterfall Assembly Configuration and Dimensions" on page 8.

Sheet

Curtain

Rain

Arc Sheet

Arc Rain

MagicFalls®
Water Effects Configurations

		WATERFALL			ARC	
Water Effect		**Sheet**	**Curtain**	**Rain**	**Sheet**	**Rain**
Width	8"	●	●	●		
	1'	●	●	●	●	●
	18"	●	●	●	●	●
	2'	●	●	●	●	●
	3'	●	●	●		●
	4'	●	●	●		●
	5'	●	●	●		●
	6'	●	●	●		●
	7'	●	●	●		●
	8'	●	●	●		●
Lip Length	1" – 11 Series	●				
	6" – 12 Series	●	●	●	●	●
	13" – 14 Series	●	●	●	●	●
Curved Water Effect	Factory Cut Radius, 12 Series*	●		●		
	Factory Cut Radius, 14 Series*	●		●		
	Custom Curve Shape, 14 Series**	●				
Color	Brass	●	●	●	●	●
	Bronze	●	●	●	●	●
	Copper	●	●	●	●	●
	Gray	●	●	●	●	●
	Silver	●	●	●	●	●
	White	●	●	●	●	●
Water Feed	Rear (standard)	●	●	●	●	●
	Bottom Feed (optional)	8" through 4' lengths only				
Recommended Maximum Installed Height		3'	3'	6'	3'	6'
Flow Requirements	15 GPM per foot; maximum head 6'					
Pipe Sizing	From Pump	1½" for effect 1' length and under 2" for 18" to 4' – 3" for 5' length and over				
	Rear Connection	(1) 1½" for 4' length and under (2) 1½" for 5' length and over				
	Optional Bottom Connection (8" to 4')	1½" slip coupling glued directly to Sch40 pipe				

NOTES TO INSTALLERS:

***To order a factory radius curve shape, follow these steps:**

1. Specify the radius in feet and inches (example: 6'6").
2. Determine the MagicFalls series by using the Lip Series Selection Chart above.
3. Factory Radius Cut Charge 12 & 14 Series–Part Number 5890001.
4. Specify if the radius is Concave or Convex.

**To order a custom curve shape, a rigid template created by the installer must be sent to the factory from your distributor.

Contact your distributor for information. Custom Curve Cut Charge 14 Series–Part Number 5890002.

The following waterfall part number represent the different available waterfall effects.

581402FSBBF

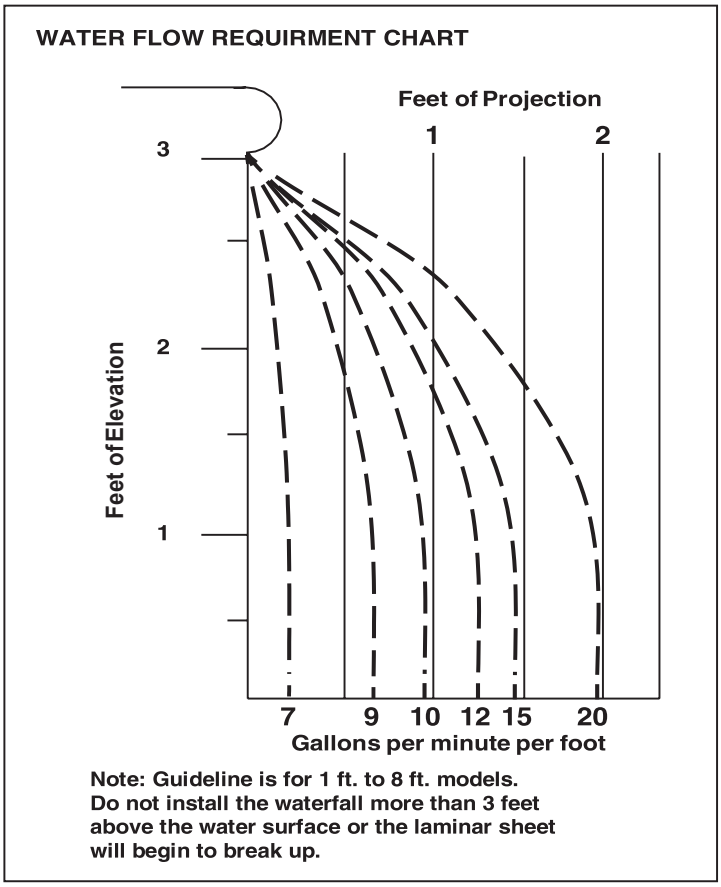
Series	Length	Water Effect	Color	Options
11– 1" LIP	**00**– 8" LONG	**FS** WATERFALL SHEET	**W** WHITE	**BF** BOTTOM FEED
12– 6" LIP	**01**– 1' LONG	**FR** WATERFALL RAIN	**B** BRASS	
14– 13" LIP	**18**– 18" LONG	**FC** WATERFALL CURTAIN	**Z** BRONZE	
	02– 2' LONG	**AR** WATERARC RAIN	**P** COPPER	
	03– 3' LONG	**AS** WATERARC SHEET	**G** GRAY	
	04– 4' LONG		**S** SILVER	
	05– 5' LONG			
	06– 6' LONG			
	07– 7' LONG			
	08– 8' LONG			

Use the Waterfall Radius Chart to select the MagicFalls® Water Effects series (6 in. or 13 in. lip) for a particular radius.

WATERFALL RADIUS CHART
MAGICFALLS SERIES

	LENGTH								
RADIUS	**1'**	**1.5'**	**2'**	**3'**	**4'**	**5'**	**6'**	**7'**	**8'**
1'	12								
1.5'	12	12							
2'	12	12	12	14					
2.5'	12	12	12	14					
3'	12	12	12	14	14				
3.5'	12	12	12	14	14				
4'	12	12	12	12	14				
4.5'	12	12	12	12	14	14			
5'	12	12	12	12	14	14			
5.5'	12	12	12	12	14	14			
6'	12	12	12	12	12	14	14		
6.5'	12	12	12	12	12	14	14		
7'	12	12	12	12	12	14	14		
7.5'	12	12	12	12	12	14	14		
8'	12	12	12	12	12	14	14		
8.5'	12	12	12	12	12	14	14	14	
9'	12	12	12	12	12	14	14	14	
9.5'	12	12	12	12	12	12	14	14	
10'	12	12	12	12	12	12	14	14	
10.5'	12	12	12	12	12	12	14	14	
11'	12	12	12	12	12	12	14	14	
11.5'	12	12	12	12	12	12	14	14	
12'	12	12	12	12	12	12	14	14	
12.5'	12	12	12	12	12	12	12	14	14
13'	12	12	12	12	12	12	12	14	14

Use the Water Flow Requirement Chart to the right to determine the waterfall effect projection for 1 ft. to 8 ft. models.



Installation

1. Preparing the Niche for the MagicFalls Water Effects

Notch the bond beam as shown (Figure 1). Attach a board to the side of the pool as shown. Make sure this board is level. The board will be used to set the level of the waterfall and create a dam for the mortar bed.

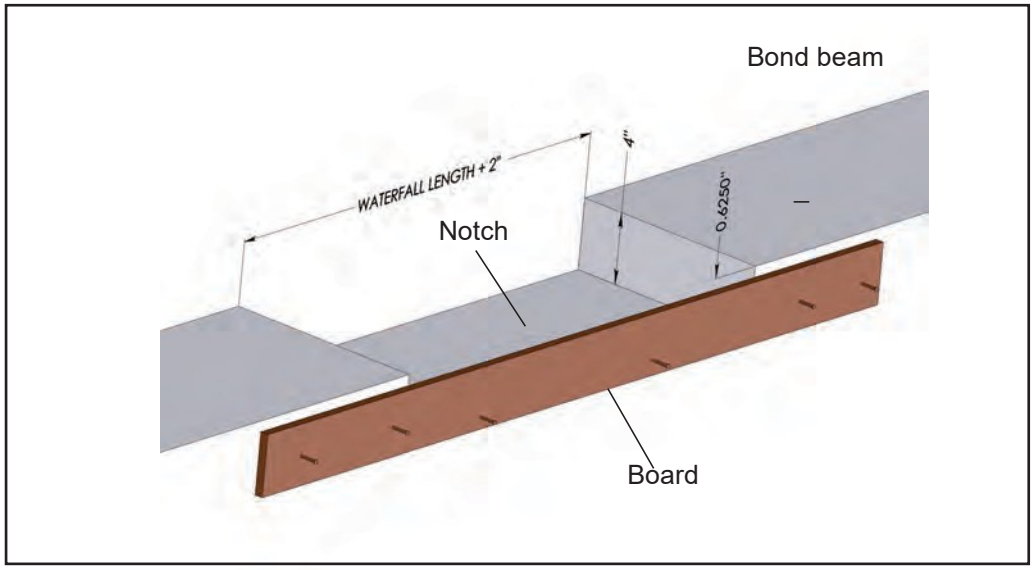


Figure 1 **Prepare the Niche**

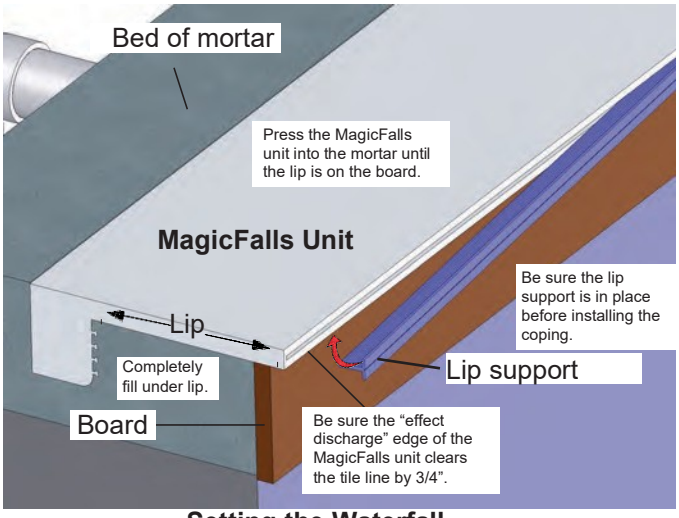
2. Setting the Waterfall

Create a bed of mortar in the notch in the bond beam and press the waterfall unit into the mortar until the bottom of the lip is flush with the board (Figure 2). Be sure the lip support is pressed into the slot to prevent debris from getting into the waterfall. When the supply pipe from the filter is clear of all debris, solvent weld the supply pipe to the waterfall.

NOTE: CLEAN THE SUPPLY PIPE: Waterfalls are sensitive to debris. Flush the supply pipe completely before attaching it to the waterfall.

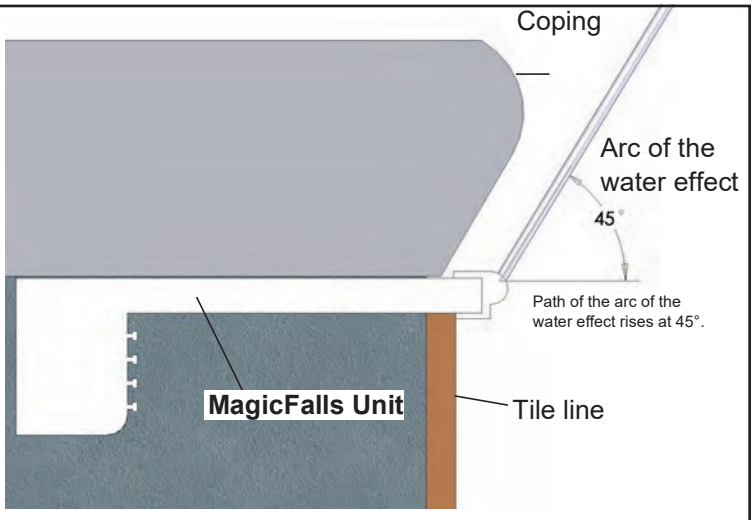
Critical considerations

1. The area under the lip must be completely supported by mortar. If not, the coping will warp the waterfall.
2. The leading edge of the waterfall edge (the edge from which the water spills) needs to clear the face of the tile line by at least ¾".
3. When installing an arc effect, like rain or sheet, be sure the water effect clears the overhanging coping (Figure 3). The arc of the water effect rises out of the waterfall at 45º.



Setting the Waterfall

Figure 2



Arc of the Water Effect Must Clear Coping

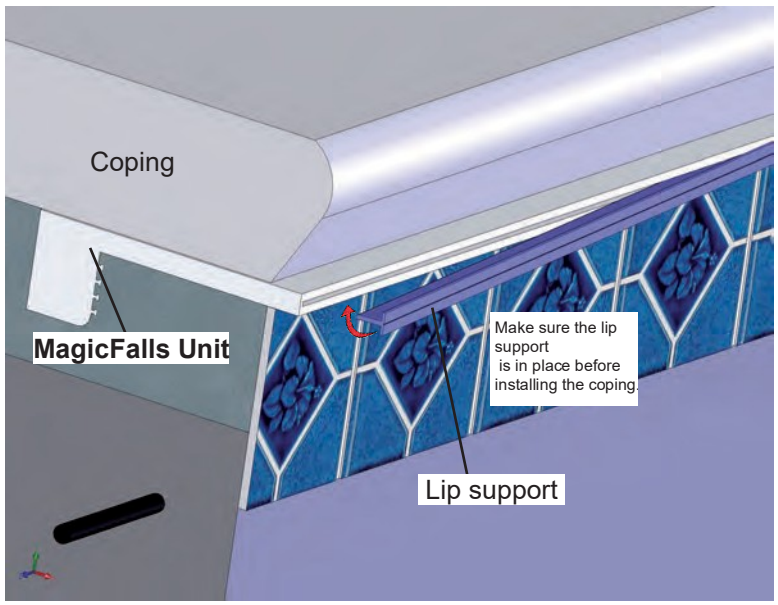
Figure 3

3. Finishing the Waterfall

After the mortar bed is cured, remove the board. Be sure the lip protector is in place before installing the coping (Figure 4).

4. Removing the Lip Protector Support

After the waterfall is completely installed, remove the lip support (Figure 4).

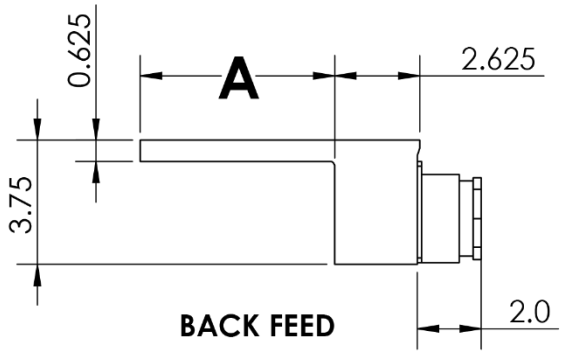


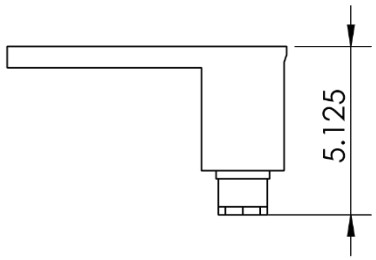
Finishing the Waterfall

Figure 4

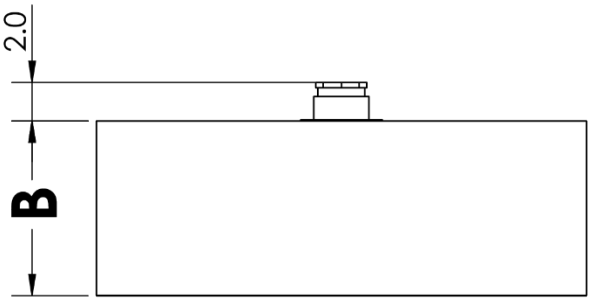
Waterfall Configuration and Dimensions

LIP	DIM A
1 IN	1.0 IN
6 IN	6.0 IN
13 IN	13.0 IN

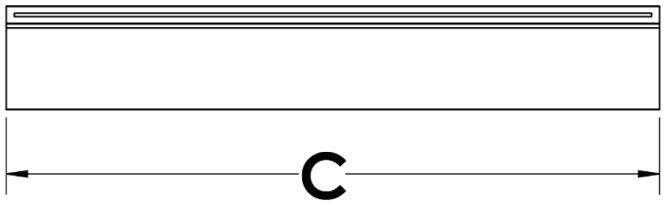




LIP	DIM B
1 IN	3.625 IN
6 IN	8.625 IN
13 IN	15.625 IN



LENGTH	DIM C
8 IN	8.0 IN
1 FT	12.0 IN
18 IN	18.0 IN
2 FT	24.0 IN
3 FT	36.0 IN
4 FT	48.0 IN
5 FT	60.0 IN
6 FT	72.0 IN
7 FT	84.0 IN
8 FT	96.0 IN



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CUSTOMER SERVICE / TECHNICAL SUPPORT

If you have questions about ordering Pentair replacement parts, and pool products, please contact:

Customer Service and Technical Support, USA
(8 A.M. to 7:30 P.M. — Eastern/Pacific Times)

Phone: (800) 831-7133

Fax: (800) 284-4151

Web site

Visit *www.pentair.com*

Sanford, North Carolina (8 A.M. to 7:30 P.M. ET)

Phone: (919) 566-8000

Fax: (919) 566-8920

Moorpark, California (8 A.M. to 4:30 P.M. PT)

Phone: (805) 553-5000 (Ext. 5591)

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