



# MagicFalls™

## Water Effects



# Installation and User's Guide

IMPORTANT SAFETY INSTRUCTIONS  
*READ AND FOLLOW ALL INSTRUCTIONS*  
SAVE THESE INSTRUCTIONS

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## 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, Pentair MagicFalls™ water effects will transform your pool into a romantic oasis, and a breathtaking focal point. This guide will take you through the steps of a successful MagicFalls installation. Please read and follow the installation instruction carefully. Failure to follow the recommended installation guidelines could void the warranty, and may result in injury.

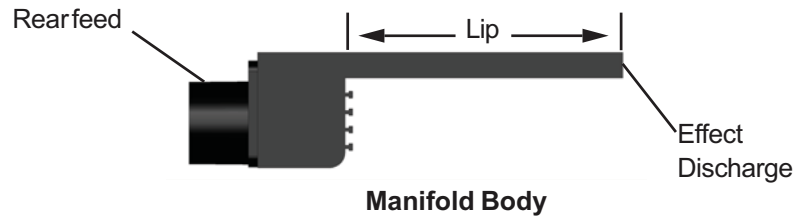


MagicFalls™ Curved Rain Water Effect

## Design Guidelines for Pentair Waterfalls

There are six primary considerations in selecting a waterfall for a project:

1. Water effect
2. Waterfall length
3. Lip length (this depends on how and where you mount the waterfall)
4. Color
5. Water supply location: Rear (standard) or Bottom (optional)
6. Curved water effects can be field cut or factory cut for a nominal charge. Convex or concave curves can be cut. You must leave 1" of lip in front of the manifold body, or the water effect will not work.



### Important facts

- Sheet effects are thin, sensitive to wind, and the width of the sheet narrows the farther it falls. At fall heights above 3', the sheet effect begins to break apart and to produce an annoying buffeting noise. Pentair recommends a maximum mounting height of 3' for sheet effects.
- Rain effects are less damaged by wind than are sheet effects. The effect does not narrow as the fall height increases. Pentair recommends a maximum mounting height of 6' for rain effects.
- 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 cartridge filter to supply clean, filtered water to the waterfall. Do not use a DE or Sand filter.
- You should plan to supply approximately 15GPM per foot. The waterfall can operate on lower flow rates (10GPM/ft minimum), 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. Pentair recommends you use an energy saving IntelliFlo®/IntelliPro™ Pump to allow you to easily vary the flow to the waterfall.
- The maximum head loss for any waterfall is 6 feet. Calculate and add the loss of your piping to determine your pump requirement.
- Use 1-1/2" supply piping for each waterfall 4' and under. Use 2" supply piping for all waterfalls 5' and over. Make sure you calculate the total head loss. **Make sure you keep all debris out of the piping during installation.**
- The rear connection to the waterfalls is a 1-1/2" pipe. This allows you to install a standard 1-1/2" Sch40 elbow directly on the connection. Waterfalls 5' and over have two 1-1/2" rear connections. All MagicFalls 5' and over include pre-cut parts for a 2" manifold.
- The optional bottom connection is a 1-1/2" slip coupling, designed to be glued directly to a Sch40 pipe.



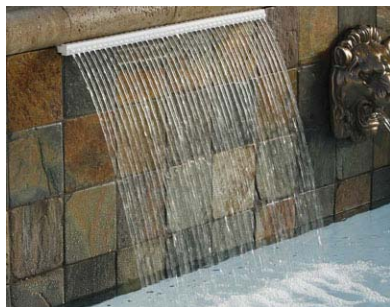
The chart on this page indicates the combinations of effect, length, and other specifications used to define your choice of waterfall.



Sheet



Curtain



Rain



Arc Sheet





Arc Rain

## MagicFalls Water Effects Configurations

Water Effect		WATERFALL			ARC	
		Sheet	Curtain	Rain	Sheet	Rain
Width	8"	•	•	•		
	1'	•	•	•	•	•
	18"	•	•	•	•	•
	2'	•	•	•	•	•
	3'	•	•	•		•
	4'	•	•	•		•
	5'	•	•	•		•
	6'	•	•	•		•
	7'	•	•	•		•
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 4' length and under 2" 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:

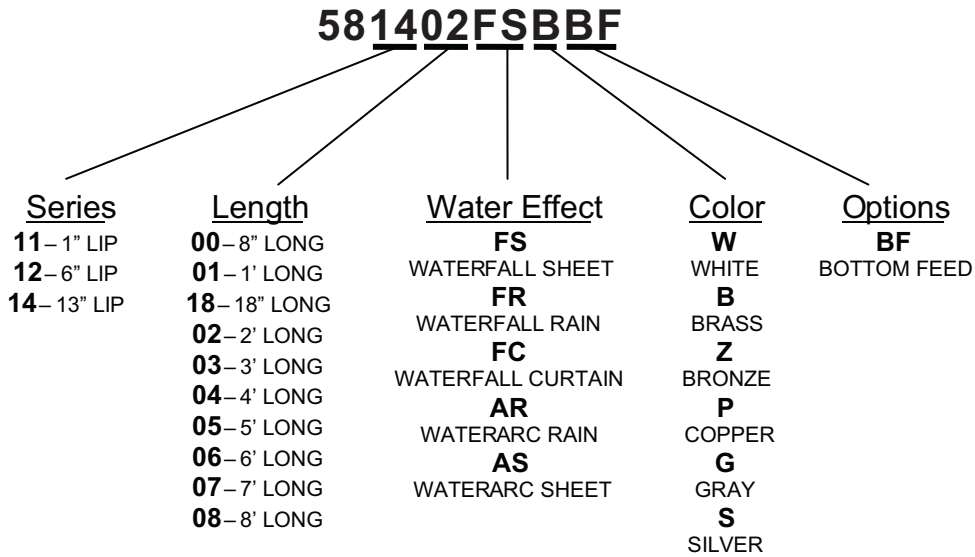
\*To order a factory radius curve shape, follow these steps:

1. Specify the radius in feet and inches (example: 6'6")
2. Determine the MagicFalls series by using the Lip Series Selection Chart to the right
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 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

This page gives you a configuration graphic that helps you build the waterfall part number. The chart on this page helps you select the MagicFalls series (6" or 13" lip) for a particular radius.



<b>WATERFALL RADIUS CHART</b>									
RADIUS	WALLFALL LENGTH								
	1'	18"	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

## Installation

### 1. Preparing the Niche for the MagicFalls

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.

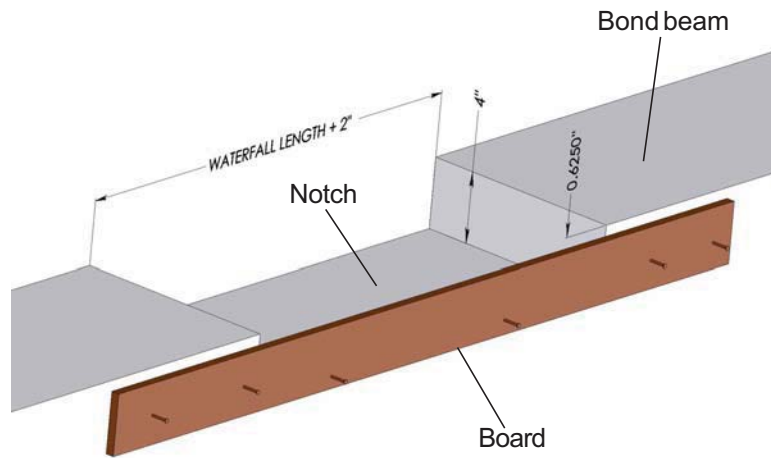



Figure 1

Prepare the Niche

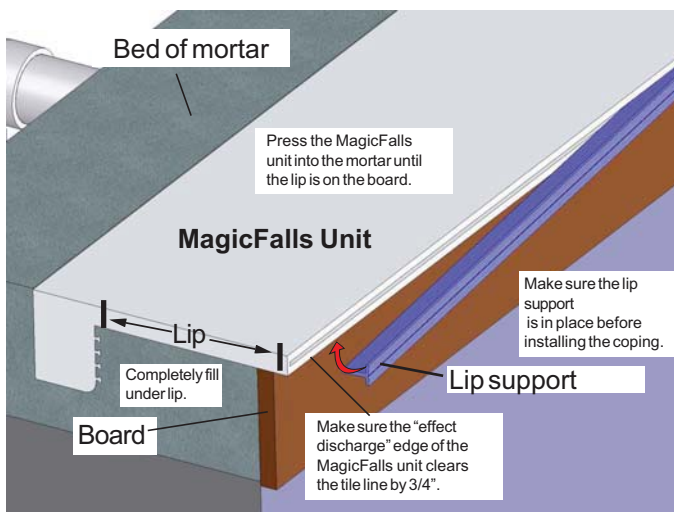
## 2. Setting the Waterfall

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). Make 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.**

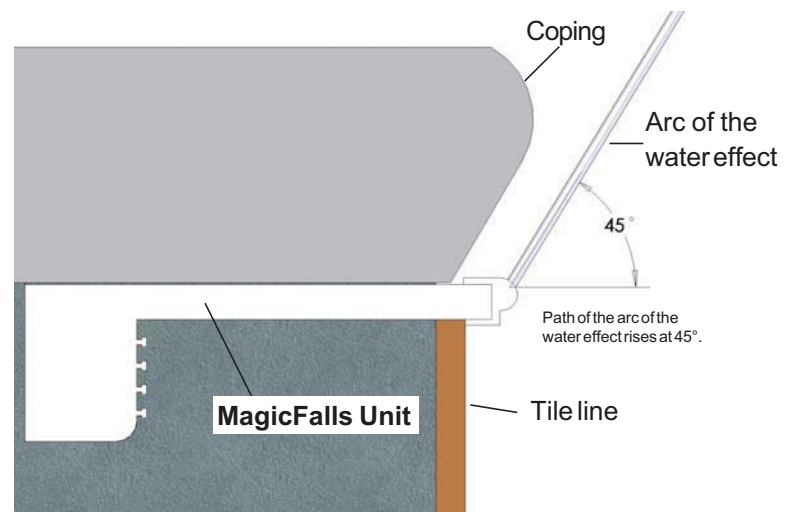
### Critical considerations

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  $\frac{3}{4}$ ".
3. When installing an arc effect, like rain or sheet, make sure the water effect will clear the overhanging coping (Figure 3). The arc of the water effect rises out of the waterfall at  $45^\circ$ .



Setting the Waterfall

Figure 2



Arc of the Water Effect Must Clear Coping

Figure 3



### 3. Finishing the Waterfall

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

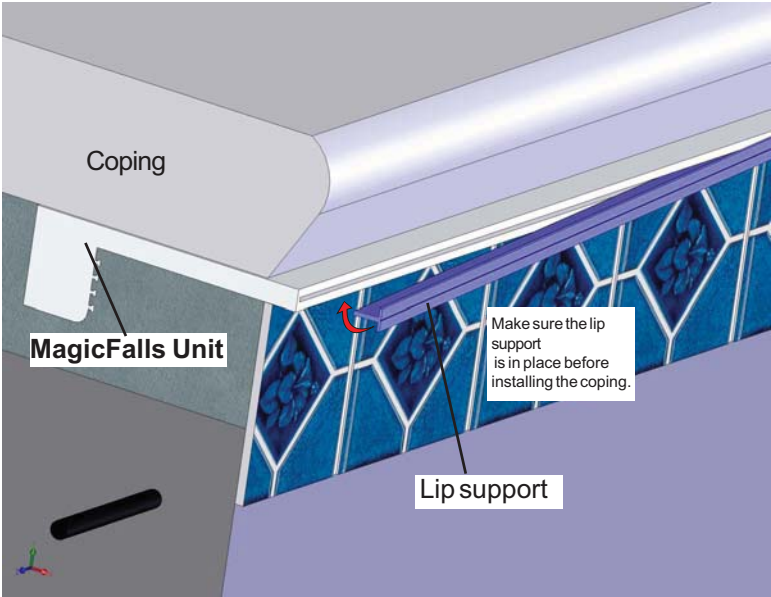


Figure 4 Finishing the Waterfall

## Notes

## Notes

