

### Swing Joints

Innovative elbow design reduces pressure losses by over 50%.

Looking to enhance the performance of your golf course irrigation system? Rain Bird® Swing Joints are the perfect solution. Featuring superior flow characteristics and excellent structural integrity, these swing joints are designed to deliver the performance you expect from Rain Bird while saving you money. They are available in a wide range of configurations. Rain Bird Swing Joints are the perfect complement to our EAGLE™ and Impact Series Rotors.

#### Features

- Superior flow characteristics through an innovative swept elbow design\* that reduces pressure loss by over 50% compared to other swing joints. With an available enlarging outlet or reducing outlet (no additional adapters required), you can save money using smaller diameter swing joints with many larger rotor heads.
- Excellent structural integrity from the swept elbow design reduces the costs associated with fatigue-related failures.
- Double O-ring protection provides a better seal ensuring joints are kept clean and can be repositioned more easily. When Rain Bird Swing Joints are assembled underwater, a unique pressure-relieving vent\* bypasses trapped water from the joint threads, preventing O-ring damage or extrusion.
- Modified ACME outlet improves safety by losing seal engagement before losing thread engagement during rotor removal. This provides a visual indication that the system is still under pressure.
- Color-coding and distinct size markings reduce costs by eliminating errors and improving installation efficiency with quick size identification at the job site.
- Enlarging outlet swing joints are easily identified with a separate color-coded outlet.
- Threaded inlets are oversized making hand tightening and blind installations (underwater) easier. This also reduces the risk of potential damage caused by over-tightening with a wrench.
- An available triple-top outlet configuration allows for easier adjustments when turf height changes or rotors settle. It also provides greater flexibility in setting the rotor to the grade.

#### Operating Range

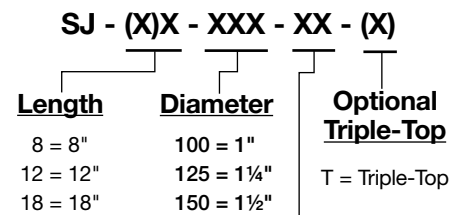
- Pressure Rating: 315 psi (21,7 Bars) @ 73F (22,8C)

#### Specifications

- Diameters: 1" (2,5 cm), 1¼" (3,2 cm) and 1½" (3,8 cm)
- Lengths: 8" (20,3 cm), 12" (30,5 cm) and 18" (45,7 cm)
- Inlet type: NPT, BSP, ACME, spigot, metric spigot and socket
- Outlet thread type: NPT, BSP or ACME
- Enlarging NPT, BSP or ACME outlets are also available on 1" (2,5 cm) and 1¼" (3,2 cm) swing joints for connections to many rotors with 1¼" (3,2 cm) and 1½" (3,8 cm) inlet sizes respectively (no additional adapters required)
- Reducing ACME inlet is available on 1¼" (3,2 cm) swing joints for use with a 1½" ACME Service Tee outlet
- Outlet configuration: Single-top or triple-top



#### How to Specify/Order:



#### Inlet/Outlet Styles

Inlet	Outlet
1 = NPT	1 = NPT
2 = BSP	2 = BSP
3 = ACME	3 = ACME
4 = Spigot	4 = Enlarging NPT †
5 = Metric Spigot	5 = Enlarging BSP †
6 = Socket	6 = Enlarging ACME †
R = Reducing ACME**	

Example: 13 = NPT inlet, ACME outlet

\* Patents Pending

† Enlarging outlet available only on 1" and 1¼" diameter models

\*\* Reducing inlet available only on 1¼" diameter models



### Go With The Flow

Using sophisticated Computational Fluid Dynamics analysis, Rain Bird engineers studied numerous designs to reduce pressure losses associated with swing joints. The result is an innovative swing joint with superior flow characteristics.

On a typical swing joint, flow around the corner of an elbow results in turbulence and pressure loss. The

different colors in Figure 1 below represent the many flow rates past an elbow in a typical swing joint.

Rain Bird incorporates two significant features into our swing joint elbow design that improve flow rate. First, the cross-sectional area of each elbow corner has been increased. Second, the sharp corner of the elbow has been softened. The result is a smoother flow through each elbow as shown in Figure 2.

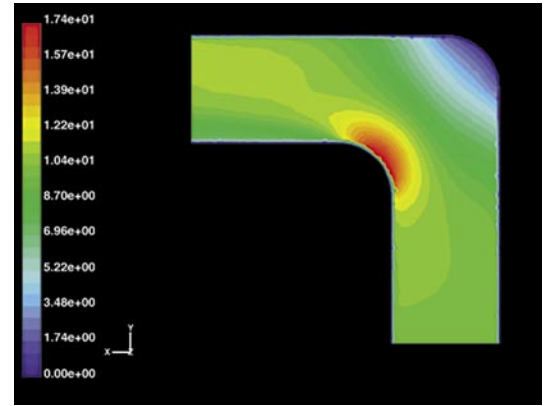


Figure 2

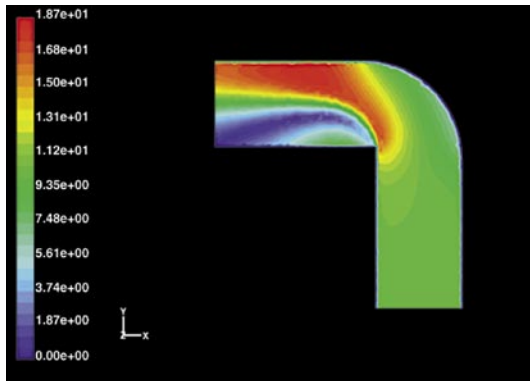


Figure 1

These features dramatically reduce pressure losses by over 50% compared to competing swing joints. Because of the improved flow rate, a smaller diameter swing joint on a larger rotor can be used without penalty for pressure loss. For example, an EAGLE™ 900 Rotor would require a typical swing joint with a 1½" (3,8 cm) diameter. Using a Rain Bird Swing Joint, only a

1¼" (3,2 cm) diameter model with an enlarging outlet would be needed. The chart in Figure 3 below illustrates this example. The pressure loss through a Rain Bird 1¼" diameter swing joint is less than the pressure loss through competing 1½" diameter swing joints.

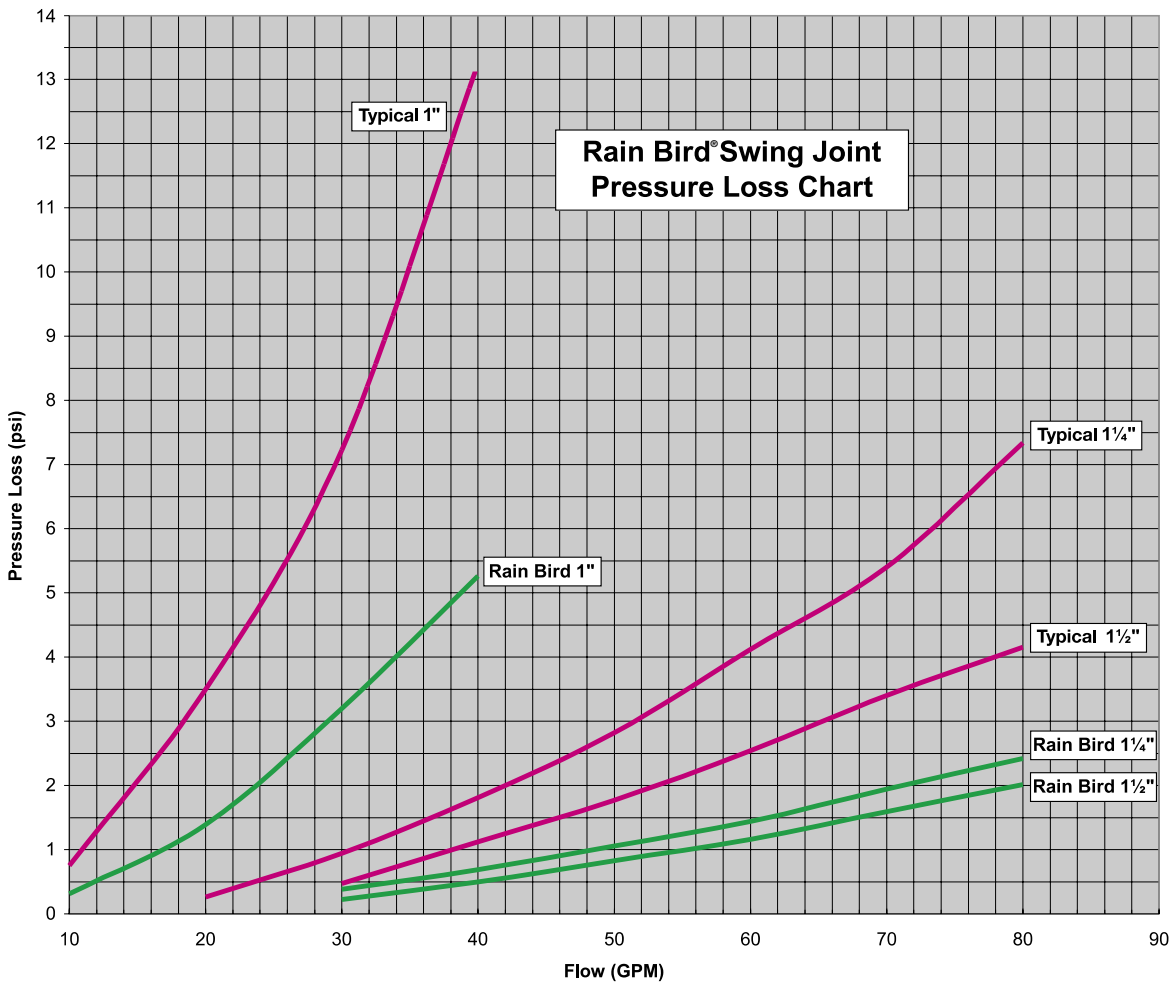
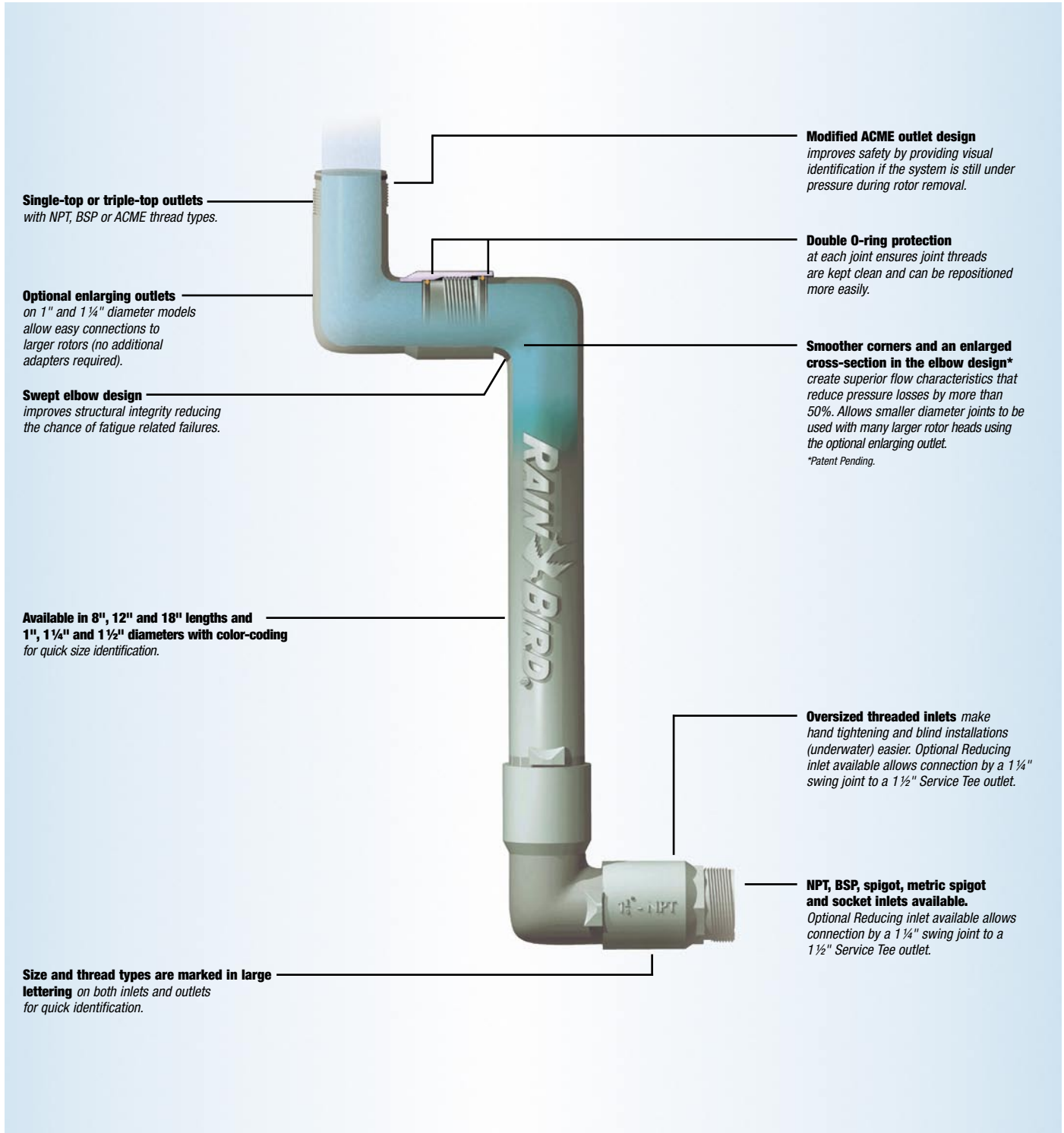


Figure 3

## Rain Bird® Swing Joints





## Product Specifications

The swing joint shall be molded from rigid PVC, Type 1, cell classification 12454-B, conforming to ASTM D1784, with a pressure rating of 315 psi (21,7 Bars), @ 73°F (22,8°C) when tested in accordance with ASTM D3139, including 60 minutes @ 790 psi and short term exposure of 1000 psi without leakage. All NPT threads, sockets and spigots shall be Schedule 80 per ASTM D2464 and D2467.

All components shall be factory pre-assembled, available in sizes 1", 1¼", 1½" inlet/outlet, and in lengths of 8", 12" and 18".

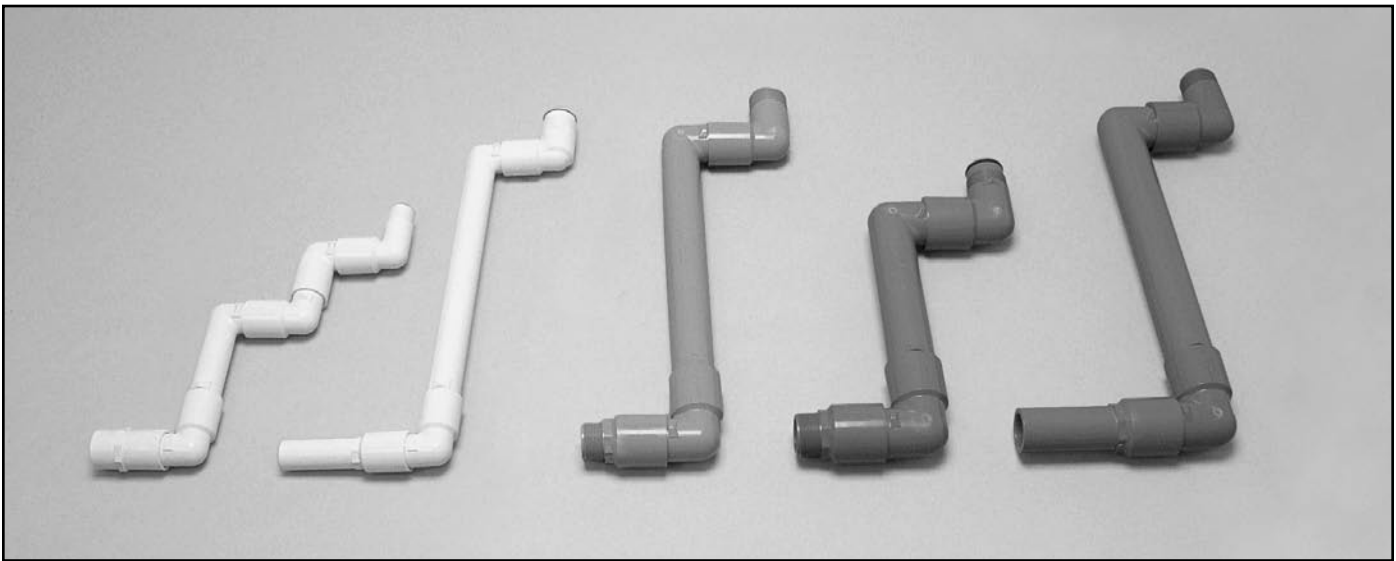
All rotating joints are modified stub ACME threads, with two elastomere O-rings for positive sealing and thread protection. An optional triple-top outlet fitting shall be available in all sizes to facilitate precise adjustment of sprinkler height. Each size unit (1", 1¼", 1½") shall be uniquely color-coded and boldly marked to enable easy identification.

All swing joint assemblies shall be available with any combination of NPT, BSP and ACME inlets/outlets. An enlarging outlet (no additional adapter required) for swing joints with 1" and 1¼" diameters shall be available to allow them to be used with many larger rotors.

An optional reducing inlet (no additional adapters required) for 1¼" swing joints (ACME) shall be available for use with a 1½" outlet Service Tee.

All swing joints shall be designed utilizing computational fluid dynamics software, resulting in superior flow characteristics, minimum flow loss and high efficiency.

The swing joints shall be manufactured by Rain Bird Sprinkler Manufacturing Corp., Glendora, CA.



*Rain Bird® Swing Joints are available in over 400 configurations.*



**Hong Kong | Singapore | Malaysia | Australia**  
**Email: [info@centaur-asiapacific.com](mailto:info@centaur-asiapacific.com)**  
**Website: [www.centaur-asiapacific.com](http://www.centaur-asiapacific.com)**



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