

FAN-JET®

Microsprinklers

Product Description

The Bowsmith Fan-Jet microsprinkler is the benchmark in low volume spray devices.

Developed by Bowsmith in 1977, the Fan-Jet's breakthrough design provided high spray trajectories, more consistent and larger wetting patterns, and lower cost in a water-saving, low-flow device. The 1986 introduction of the twin wedge post head design enabled a wider variety of wetting patterns, including full-circle. Today, the Fan-Jet remains the standard other microsprayers have to meet.

Fan-Jet's fixed splash plate design has no moving parts to wear out or jam. They're available in 18 different wetting patterns to suit virtually any low-volume or retrofit application. Color-coded nozzles in 7 different sizes offer even more customization possibilities.

There are other microsprinklers available; the Fan-Jet is made only by Bowsmith.

Fan-Jet Features

- 1** Exclusive Fan-Jet frame
 - Twin wedge post construction.
 - Durable, low profile, impact resistant.
 - Open design – no pockets to collect debris or harbor insects.
 - High grade copolymer material for limited creep and shrinkage. Splash plate maintains precise alignment over time.
- 2** Integral fixed splash plate
 - No moving parts to jam or wear out.
 - Stays aligned with nozzle for consistent patterns.
 - 18 spray patterns available.
- 3** Color coded nozzles
 - 7 sizes to choose from.
 - Quick-twist thread for fast, easy field installation.

Spray patterns

A	B	B1	C	D	E	F	G	H
J2	K	L	N	P	R	U	V	X

Nozzle sizes (color coded)





#30 (Black)	#35 (Orange)	#40 (Blue)	#45 (Violet)	#50 (Green)	#55 (Yellow)	#60 (Red)
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FAN-JET[®]

Microsprinklers

		Description
<p>"SK" Series</p> 		<ul style="list-style-type: none"> • Fan-Jet head (Specify nozzle size and pattern.) • Feeder tube (Specify length.) • Coupling (Specify standard barbed or restrictor coupling.) • SK Stake (Specify SK-J or SK-C stake.) <p>• Available with Flo-Rite™ "FJ" flow regulator.</p>
<p>"SP" Series</p> 		<ul style="list-style-type: none"> • Fan-Jet head (Specify nozzle size and pattern.) • Riser (Specify length.) • SP spike (Specify SP-T threaded riser connection –or– SP-B barb riser connection.) <p>• Available with Flo-Rite™ "FJ" flow regulator.</p>
<p>"TB" Series</p> 		<ul style="list-style-type: none"> • Fan-Jet head (Specify nozzle size and pattern.) • Riser (Specify length.) • Threaded base (Specify 3/8" or 1/2" MPT base.) <p>• Available with Flo-Rite™ "FJ" flow regulator.</p>
<p>"DC" Series</p> 		<ul style="list-style-type: none"> • Fan-Jet head (Specify nozzle size and pattern.) • Drop tube (12" standard length.) • PVC weighted sleeve. • Barbed coupling.

FAN-JET® Microsprinklers

"SK" Series



Features

- Sprinkler / Feeder Tube Assembly:
 - Fan-Jet Microsprinkler Head
 - Feeder Tube
 - Barbed Coupling
- SK Stakes —*your choice*—
 - SK-J Stake:
 - 9" shank provides good support in soft ground.
 - Made of durable, impact resistant polypropylene.
 - 90° large radius feeder tube channel provides a durable, reliable assembly.
 - Low profile stake reduces damage and keeps feeder tubing level with ground.
 - Recommended for use with 0.245" O.D. polyethylene feedertubing for adjustable riser height.
 - OR—
 - SK-C Stake:
 - 13" shank for stability in particularly soft or sandy soils.
 - Made of durable, impact resistant polypropylene.
 - Positive lock clip and loop hole on shank retains flexible feeder tubing.
 - Recommended for use with vinyl feeder tubing.

"SK" Series Fan-Jet Model Numbers

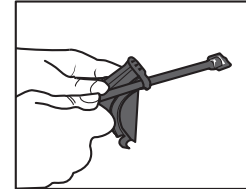
Stock No.	Feeder Tubing* Len./Material	Fan-Jet Head	Coupling	SK Stake
8519	24" / PE	Specify by Nozzle Size and Pattern	Specify Standard Barb or Restrictor	Specify "J" or "C" Type
8520	36" / PE			
8523	48" / PE			
8524	60" / PE			
8521	72" / PE			
8530	24" / vinyl**			
8507	36" / vinyl**			
8534	48" / vinyl**			
8539	60" / vinyl**			
8304	72" / vinyl**			

* Feeder tubing: PE is 0.160" I.D. x 0.245" O.D.

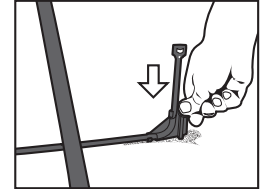
Vinyl is 0.140" I.D. x 0.250" O.D.

**Vinyl feeder tubing stocked in Avon Park, FL plant only

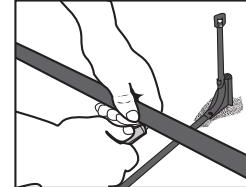
Installation (shown with Type "J" Stake)



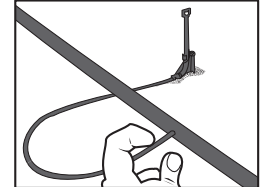
Lock riser & adjust height.



Press stake into ground.



Punch hole in supply tubing.



Push coupling into hole.

"SP" Series



Features

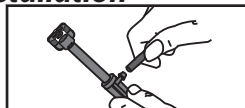
- All components factory-assembled for leak-free connections.
- Fan-Jet Microsprinkler Head
- Riser
- SP-1 Spike
 - Compact design for durability and easy, low-cost field installation and relocation.
 - Choice of barb or thread riser coupling integral with spike.

"SP" Series Fan-Jet Model Numbers

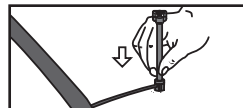
Stock No.	Riser* Len./Material	Fan-Jet Head	SP Spike
8655	3" / PE	Specify by Nozzle Size and Pattern	Assembled with Choice of #3018 Thread or #3028 Barb Spike
8656	6" / PE		

* Riser is 0.158" I.D. x 0.300" O.D.

Installation



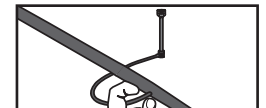
Attach feeder tube assembly.



Push spike into ground.



Punch hole in supply tubing.



Push coupling into hole.

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"TB" Series



Features

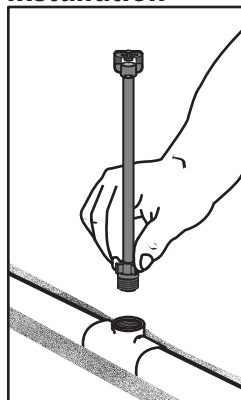
- All components factory-assembled for leak-free connections.
- Fan-Jet Microsprinkler Head
- Riser
 - Heavy wall construction prevents kinks and provides stability, even at extended lengths.
 - Riser length to your specifications (see standard lengths available in the "TB" Series Fan-Jet Model numbers table, below).
- Threaded base
 - Choice of 3/8" MIPT or 1/2" MIPT.
 - "Wing nut" design for easy hand installation. No other tools necessary.
 - Can be used in place of rotary sprinklers or other spray devices with threaded bases.

"TB" Series Fan-Jet Model Numbers

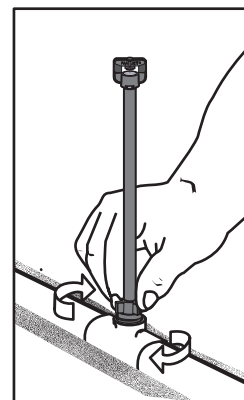
Stock No.	Riser* Length	Fan-Jet Head	Threaded Base
8645	3"	Specify by Nozzle Size and Pattern	Assembled with Choice of 3/8" or 1/2" MIPT base
8646	6"		

* Riser is 0.158" I.D. x 0.300" O.D.

Installation



Place threaded base into threaded pipe fitting.



Hand tighten base firmly.

"DC" Series



Features

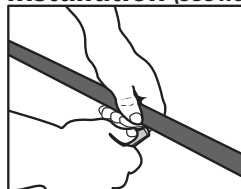
- All components factory-assembled for leak-free connections.
- Barb Coupling
 - Hard sharp edge for maximum retention to supply tubing.
 - Leak-free connection.
- Feeder Tube
 - Flexible thin wall tube for maintaining vertical head position with weighted sleeve.
- PVC Weighted Sleeve
 - Resists cracking.
 - Controlled diameter provides added sprinkler head retention.
- Fan-Jet Microsprinkler Head

"DC" Series Fan-Jet Model Numbers

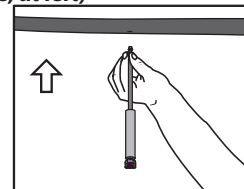
Stock No.	Drop Tube* Length	Fan-Jet Head	PVC Weighted Sleeve	Barb Coupling
8686	12"	Specify by Nozzle Size and Pattern	Assembled with other components	Assembled with other components

* Drop tube is 0.158" I.D. x 0.300" O.D.

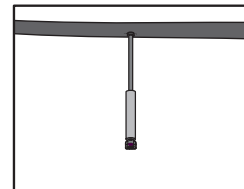
Installation (see notes, at left)



Punch hole in supply tubing.



Push coupling into tubing.



Align tubing connection downward.

Installation Notes

- When punching holes in supply tubing, be sure all holes are in a line. Use the printing on the tubing as a guide. Holes can be punched with the tubing either suspended or on the ground.
- When tubing is suspended, make sure all connectors and punched holes point directly downward. Again, the printing can be used as a guide.

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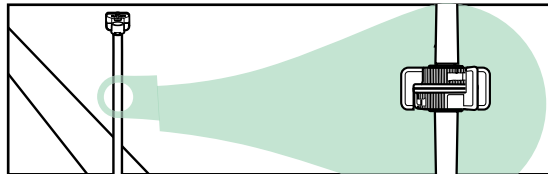
Microsprinklers

Flo-Rite™ "FJ" Series Microsprinkler Flow Regulators



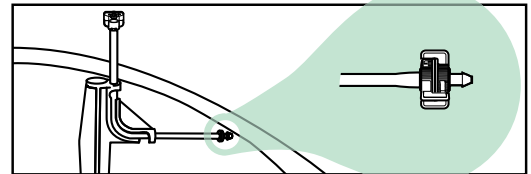
Features

- Ideal for microsprinkler systems installed on sloping or undulating terrain. Wetting patterns are more consistent, and flow rates at the sprinkler are more accurate.
- Flow regulating accuracy: ●10% of nominal flow curve from 3–60 PSI.
- Chemical resistant internal silicone diaphragm assures long-term, reliable operation.
- Two-piece shell allows the device to be disassembled for cleaning, if desired.
- Color-coded outlets denote flow rate. Inlet side is colored black.
- Connectors: Standard 0.175" barbs for reliable connection to feeder tubing and supply hose.



Flo-Rite "FJ" Series Model Numbers

Stock No.	Model No.	Outlet/ Inlet	Nominal Flow
3160	FJ-6	White Barb/ Black Barb	6.0 GPH
3161	FJ-8	Orange Barb/ Black Barb	8.0 GPH
3162	FJ-10	Lt. Blue Barb/ Black Barb	10.0 GPH

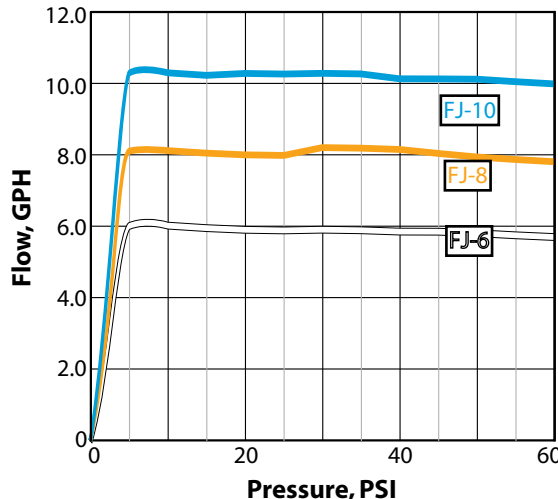


Flo-Rite "FJ" Series can be inserted in the feeder tube or riser, as shown at left; or can replace a standard barb coupling, at right.

System Design Notes

- Minimum filtration recommended: 150 mesh for 8 GPH or greater; 180 mesh for 6 GPH.
- Chemigation treatments (pH●5) should be done regularly to control the buildup of organic contaminants from canal, pond or other surface water sources.
- Achieving the desired flow from the application device requires a minimum pressure in the system, *calculated at right:* →

Nominal Performance



Minimum System Pressure Calculation	Example	Fill in data for your system
A) Choose device you want to regulate:	Fan-Jet 35 (orange)	
B) Select desired flow:	FJ-6: 6.0 GPH FJ-8: 8.0 GPH FJ-10: 10.0 GPH	FJ-6: 6.0 GPH FJ-8: 8.0 GPH FJ-10: 10.0 GPH
C) Determine required pressure for device in A) to produce desired flow:	10 PSI	
D) Minimum operating pressure differential (●P) for Flo-Rite "FJ" regulator	3 PSI	3 PSI
E) Minimum supply line pressure required: C) + D)	13 PSI	

All regulated Fan-Jets in this example system will flow at 6.0 GPH from 13 PSI to 60 PSI.

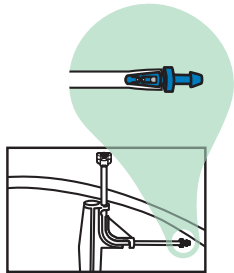
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Restrictor Couplings



Features

- Enables use of larger spray head orifice to reduce clogging.
- Restrictor/jet combinations maximize flow rate options.
- More compact wetting pattern with larger nozzle size.
- Flow rates and patterns can be tailored to the application.
- Allows for lower flow rates at higher operating pressures.
- Color coded for easy identification.
- 0.175" barb secures connection at water supply line.
- Available with all Bowsmith Fan-Jet assemblies as an optional replacement for conventional barb coupling. See illustration at left.

Restrictor Coupling Model Numbers

Stock No.*	Model No.	Min. Passage Flow Rate**	
1110	R1 (Black)	0.035" 6.0 GPH	
1111	R2 (Orange)	0.043" 8.4 GPH	
1112	R3 (Blue)	0.047" 10.7 GPH	
1113	R4 (Violet)	0.051" x 0.070" 14.1 GPH	
1114	R5 (Green)	0.060" x 0.070" 16.7 GPH	

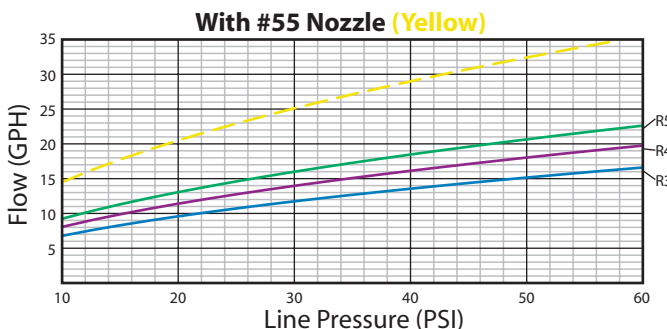
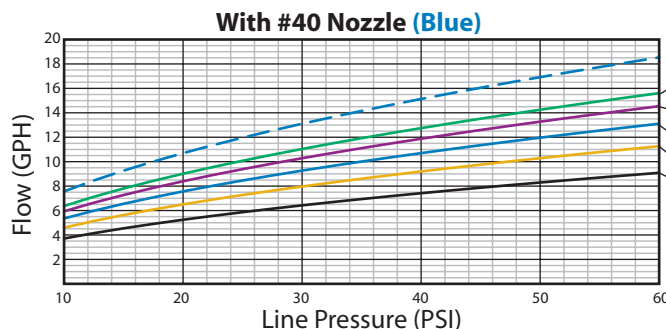
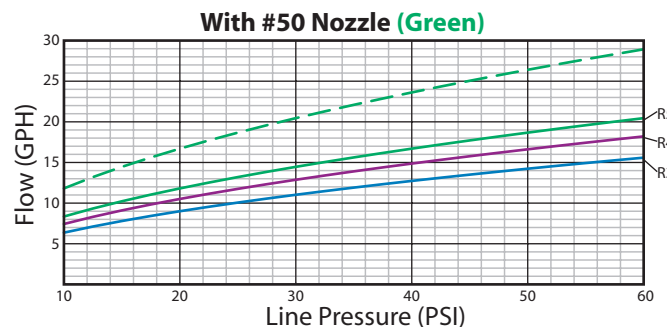
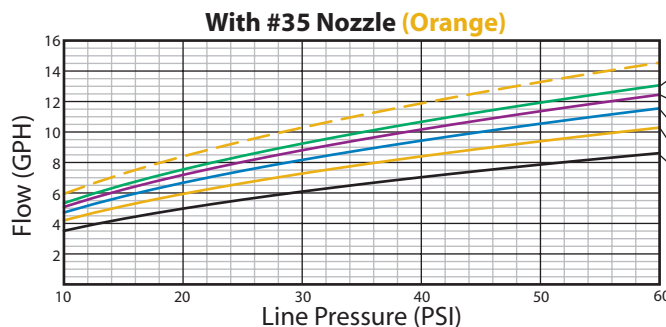
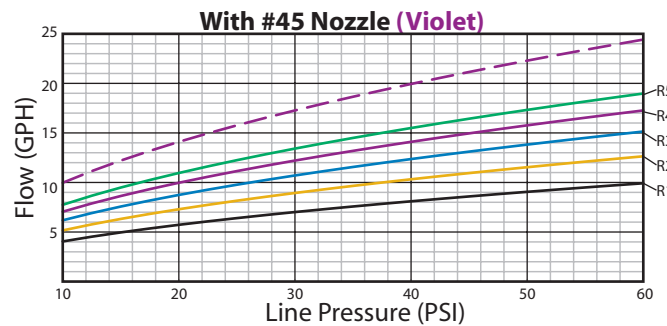
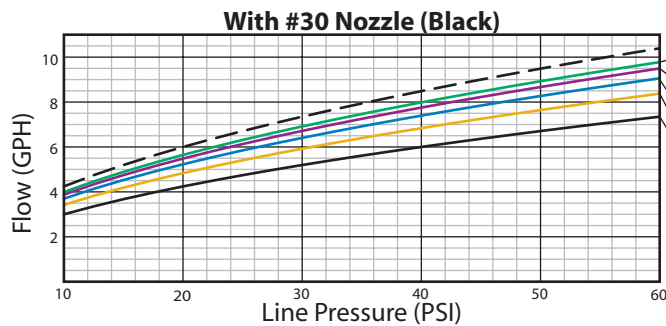
* Consult factory for Restrictor/Fan-Jet Assembly Stock No.s
** Nominal Flow Rate at 20 PSI

Performance curves

Fan-Jet nozzle / restrictor coupling combinations

--- Nozzle only

— Restrictor/nozzle combination






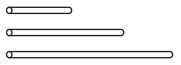


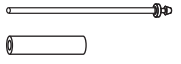


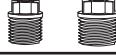


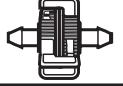
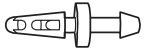
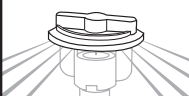
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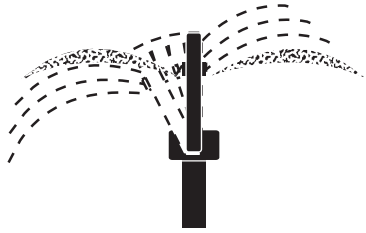
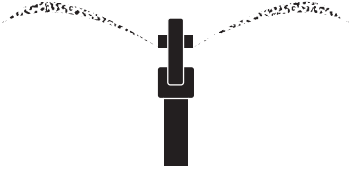
Fan-Jet Accessories

		Product	Description	Specifications
Components	 SP-1	Stakes	Support riser and fix sprinkler location. Used in SK and SP Series Fan-Jet assemblies.	SK-J (for heavy wall PE riser) SK-C (for flexible vinyl riser) SP-1 (threaded or barb outlet for SP Series)
	 SK-C			
	 SK-J			
		Risers	For TB & SP assemblies.	Heavy wall PE (0.300" O.D. x 0.160" I.D.) Standard lengths: 3, 6, 9 or 12 inches.
		Feeder Tube / Coupling	For connecting PE supply tubing to Fan-Jet.	Specify PE or vinyl. Standard lengths: 24, 36, 48, 60 or 72 inches.
	Threaded base / riser	MIPT connection to Fan-Jet.	Specify 3/8" or 1/2" MIPT base. Standard riser lengths: 3, 6 or 12 inches.	
	Drop Tube and Weighted Sleeve	For DC assemblies.	Available separately: Drop tube and coupling: 12 inch standard length. Blue PVC weighted sleeve.	
Couplings		Barbed Coupling	For connecting microtubing.	0.175" x 0.175" barb both ends.
		Line Plugs	For plugging holes punched in PE supply tubing.	Specify: 0.175" or 0.250" barb
		Threaded Bases	MIPT connections. Used in TB assemblies	Specify 3/8" MIPT or 1/2" MIPT base.
Tools		Nozzle Cleaner	For cleaning Type 2 Fan-Jet heads.	—
		Hole Punch	Punches holes for couplings in PE supply tubing.	Plastic one piece.
Flow Control Devices		Flo-Rite® "FJ" Series Flow Regulator	Replaces barb coupling on feeder tube to provide pressure compensation to Fan-Jet head.	Please see separate sheet for more information.
		Flow Restrictor Couplings	Replaces barb coupling on feeder tube to reduce flow through larger nozzle sizes.	Please see separate sheet for more information.
		Top Hat™ Throw Limiter.	Snaps on Fan-Jet head to limit wetted area. Can be easily removed when larger wetted area is needed.	Fits any Bowsmith Type 2 Fan-jet head.

Fan-Jet Advantage

Fan-Jets vs. Other Jets

Fan-Jet®
Microsprinklers

	Other Jets	Fan-Jet
Materials	 <p>Homopolymer material can overflex. Wetting pattern degrades over time. Softer material compromises feeder tube connections.</p>	 <p>High grade copolymer for limited creep and shrinkage. Maintains precise alignment over time. Prevents misalignment of splash plate that causes uneven wetting. High strength material maintains secure tubing connections.</p>
Design	<p>Larger heads provide less accurate wetting patterns and shorter throw distances. One-piece and other large open designs provide limited variety of patterns. 10-32 thread and other quick-disconnect methods take longer to install and/or pop off more easily.</p>	<p>Compact head maintains integrity with nozzle before water stream can "twist" and throw off wetting pattern accuracy. More resistant to accidental field damage.</p> <ul style="list-style-type: none"> • Splash plate design enables longer throw for larger root systems and higher yields. • Integral splash plate is precisely aligned with nozzle. • Enables a wide variety of spray patterns to precisely match the application. • Quick-turn thread reduces installation time. • NOTE: Only Fan-Jet microsprinklers offer all these features.
Manufacture	<p>Deficient materials used in manufacture can compromise field performance. Bowsmith service and product support has been unmatched in the industry since 1974.</p>	<p>Bowsmith experience: innovators in jet design and manufacture.</p> <ul style="list-style-type: none"> ◦ 1977: Type 1 Fan-Jet introduced. Breakthrough design provides high spray trajectories, more consistent and larger wetting patterns, and lower cost. ◦ 1986: Type 2 Fan-Jet with twin wedge post design introduced. Enables full circle wetting patterns and nozzle color-coding for easy field identification. Quick-turn thread introduced in 1992 speeds installation, provides stronger connection. <p>Bowsmith quality: painstaking quality control in every phase of manufacturing. Bowsmith service: outstanding reputation for service, product and warranty support.</p>

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