

**THE WORD
IS OUT**

Customer Testimonials
Inside

i-wob®

Designed and manufactured by
Senninger Irrigation Inc.

U.S. Patent #'s 5950927, 6176440

*Unmatched uniformity
at low pressures*



*i-Wob shown with PSR
(Pivot-Special Regulator™)
and i-Wob Weight.*



The i-Wob produces a gentle, rain-like application.

Nothing wets like the . . .



The patented i-Wob utilizes a remarkable off-center rotary action to perform like no other nozzle on the market.

"IN HEAVY SOIL, OUR BIG CONCERN IS THE LENGTH OF TIME FOR WATER TO SOAK INTO THE GROUND. I'VE TRIED DIFFERENT SPRINKLER PACKAGES AND THE I-WOBS WORK BEST FOR ME."

MIKE SABALA, OWNER OF 18 PIVOTS
EQUIPPED WITH I-WOBS
GOODING, ID

"OUR CUSTOMERS THAT HAD BOUGHT I-WOBS INITIALLY FOR SLOPED GROUND, NOW WON'T PUT ON ANYTHING BUT I-WOBS ON ALL OF THEIR GROUND, REGARDLESS OF SLOPE."

NOTHING ON THE MARKET, AT ANY COST, COMPARES TO THE I-WOB."

DAN SPRINGER, PLAINS IRRIGATION
GRAND ISLAND, NE

Lowest Instantaneous Application Rate

Early in the season, high instantaneous application rate (IAR) can cause soil structure breakdown, compaction and sealing. The result can be low irrigation efficiency, poor crop quality and reduced yields.



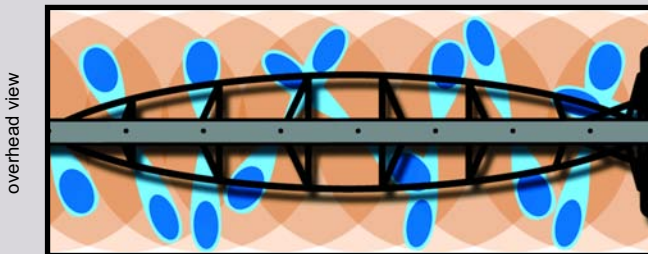
Runoff is one of many problems associated with High IAR.

The i-Wob helps solve this problem by providing the lowest instantaneous application rate of any pivot applicator on the market.

Not only does the i-Wob's gentle pattern minimize compaction, its low instantaneous application rate reduces sealing and provides for excellent infiltration.

Lowering Application Intensity

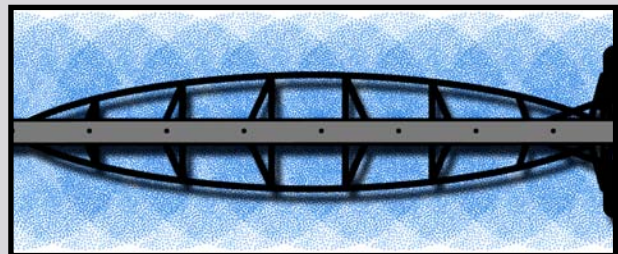
Simply increasing wetted DISTANCE isn't enough.



Stream-Driven Devices

Stream-driven devices can provide good throw **DISTANCE**, but their distinct streams instantaneously place the entire flow in a relatively **SMALL AREA** when compared to the i-Wob.

To truly lower intensity, you must increase the total instantaneously wetted surface AREA.



The i-Wob

The i-Wob uniformly covers its wetted circle. This means it is wetting a much **LARGER AREA** at a much lower instantaneous application rate — preserving soil structure and infiltration capability.

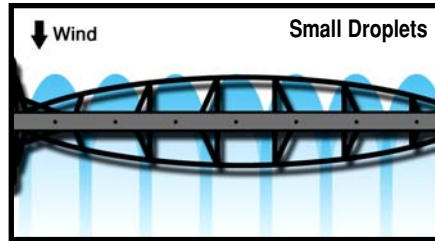
Wind-Resistant Droplet Size

"I LIKE THE I-WOB'S LOW MAINTENANCE COST, LOW WIND DRIFT AND THE AMOUNT OF WATER IT GETS TO THE GROUND."

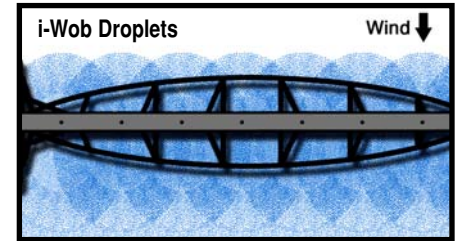
BUTCH MORRIS, OWNER OF 52 PIVOTS
GOODING, ID

"IT GETS WATER WHERE WE NEED IT."

GRANT MONIE, PIVOT IRRIGATOR
DALHART, TX



Small droplets are easily affected by wind and their spray pattern can be distorted.



The i-Wob's larger droplets are less susceptible to wind. By spreading out these droplets to reduce intensity, a gentle application is maintained.



The i-Wob's unique wobbling action works best at low pressure.

True Low-Pressure

The i-Wob is extremely energy efficient, little pressure is needed for outstanding performance. The i-Wob operates between 10 and 20 psi (0.69 to 1.38 bar) which can mean big energy savings over the course of a year (see *energy savings examples inside the back cover*).

"MY CUSTOMERS ARE PLEASED WITH THE REDUCED PUMPING COSTS AND THE EVEN WATER APPLICATION OF THE I-WOB SPRINKLER. THE I-WOB PACKAGES HAVE LITTLE OR NO RUN-OFF ON SOME VERY TOUGH TERRAIN."

TODD WARDYN, FULL CIRCLE IRRIGATION
LITCHFIELD, NE

"I USE THE I-WOB BECAUSE IT GETS BETTER COVERAGE WITH LOW PRESSURE AND IT DOES NOT PACK THE GROUND AS OTHER SPRAY NOZZLES DO."

EDDIE J. GARZA, PIVOT IRRIGATOR
WELLMAN, TX

"THE UNIFORMITY OF THE I-WOB HAS INCREASED MY YIELDS SIGNIFICANTLY WHEN COMPARED TO OTHER SPRINKLERS I'VE USED IN THE PAST. I HAVE BEEN USING THE I-WOB FOR 8 YEARS, SINCE THEY WERE FIRST INTRODUCED."

FRANK LAWRENCE, IDSTONE FARMING
DOUGLAS, SOUTH AFRICA

"SPEAKING FOR HUNDREDS OF SATISFIED CUSTOMERS, I CAN CONFIDENTLY SAY THE I-WOB DELIVERS BETTER YIELDS HERE IN SOUTHWEST NEBRASKA."

AL DUNWORTH, VALLEY PRO IRRIGATION, INC.
PALISADE, NE

Revolutionary i-Wob Weight

When compared to conventional drop weights, the i-Wob weight provides:

- a lower position on drop for better stability
- less stress on flexible drops
- less weight needed for counteracting wind (a 3/4 lb i-Wob weight is as effective as a 2 lb polyethylene weight)
- easier installation



The i-Wob weight is available in 1/2, 3/4 and 1 pound sizes.

i-Wob® Components

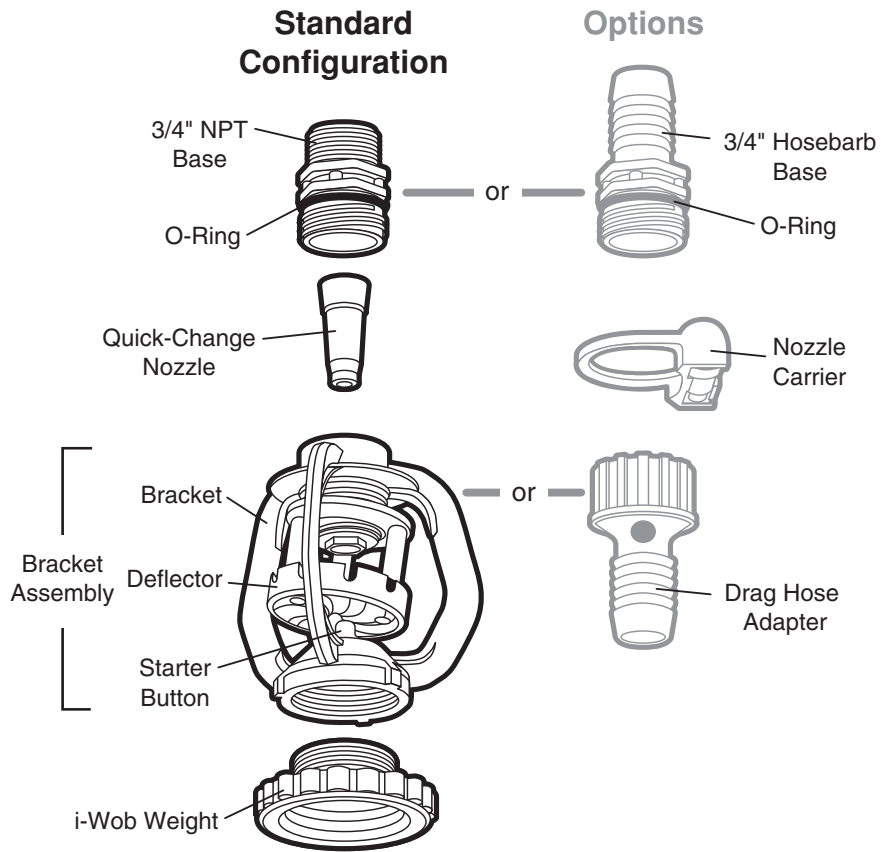


Proven Reliability

The i-Wob features a rugged design with only one moving part. The Senninger name means a high quality product you can count on season after season. For well over 40 years, growers have depended on Senninger.




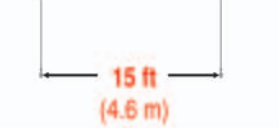

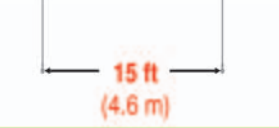
"MECHANICAL LONGEVITY IS ABSOLUTELY CRITICAL FOR US. THAT'S ONE OF THE REASONS WITH THE NEW SYSTEMS WE'VE PUT IN, WE'VE AGAIN DECIDED TO GO WITH SENNINGER I-WOBS."

KLAREN KOOMPIN, OWNER OF 19 PIVOTS EQUIPPED WITH I-WOBS AMERICAN FALLS, ID



i-Wob System Design Criteria

To maintain product warranty, refer to the chart below:

Model	Maximum Spacing	Max. Stream Height Above Nozzle	Recommended Nozzle Sizes	Soil Consideration	Minimum Ground Clearance	Nozzle Pressure
 STANDARD 9-Groove	 20 ft (6.1 m)	3 to 5 ft (0.9 to 1.5 m)	Minimum #6 (3/32" or 2.38 mm) Maximum #24 (3/8" or 9.53 mm)	Heavier soils ↑ ↓ Lighter soils	3 feet (0.9 m) <i>(at a maximum outlet spacing of 10 feet (3m))</i>	Minimum 10 psi (0.7 bar) Maximum 20 psi (1.4 bar)
 LOW ANGLE 9-Groove	 15 ft (4.6 m)	3 to 4.5 ft (0.9 to 1.4 m)	Minimum #6 (3/32" or 2.38 mm) Maximum #24 (3/8" or 9.53 mm)			
 LOW ANGLE 6-Groove	 15 ft (4.6 m)	3 to 4 ft (0.9 to 1.2 m)	Minimum #12 (3/16" or 4.76 mm) Maximum #24 (3/8" or 9.53 mm)			

For optimum performance, Senninger recommends using maximum spacing for no more than 1 to 2 spans depending on span length.

Keep i-Wobs above crop canopy when spacing exceeds 10' (3 m).

Larger nozzles should only be used on soils and slopes that can handle higher application rates.

Senninger Products are Backed by the Best Warranty in the Business

When you choose a Senninger product, you get something extra: the protection of the best warranty in the business. Senninger's **two-year** comprehensive warranty protects not only against defects in materials and workmanship, but also against failure to perform.



Senninger Pivot Packages

For the best performance from your pivot, ask your dealer for a Senninger Pivot Package. Senninger water application engineers will design the ideal i-Wob set for your specific machine, field and climate. Once your set arrives, installation is easy: each i-Wob will be sequence-packed and its location will be clearly numbered on both the product and a computer printout.

"IT'S AS CLOSE TO A GENTLE RAIN AS YOU CAN GET."

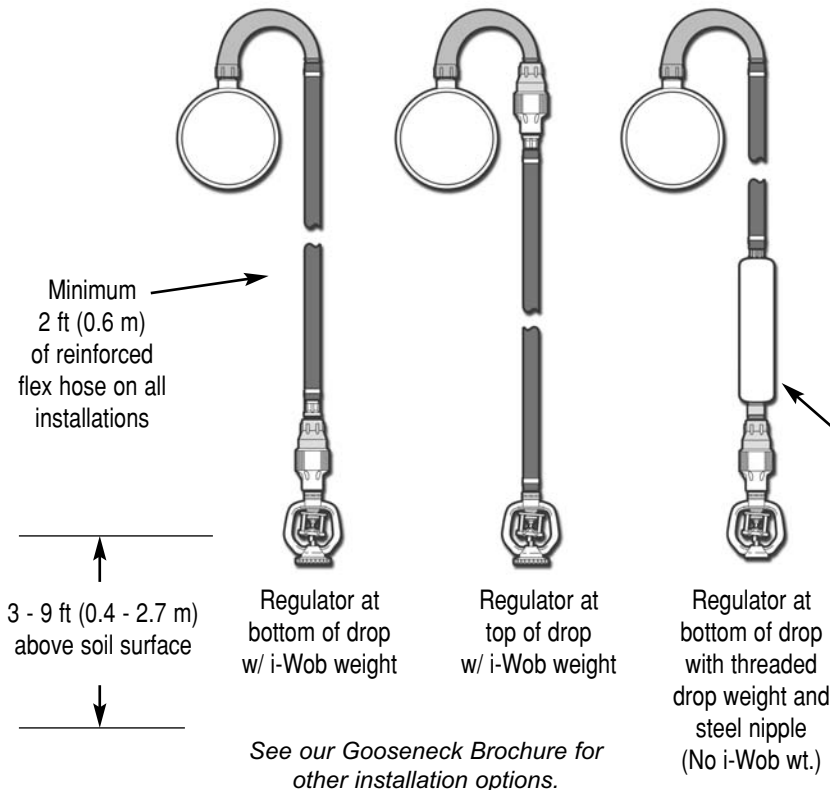
**CEZAR NEITZKE, IRRIGATION DEALER
OESTE DA BAHIA, BRAZIL**

i-Wob Drop Configurations

To maintain product warranty and maximize drop component life, refer to the diagrams below:

**"WITH THE I-WOB, IT SEEMS LIKE I HAVE A
MORE UNIFORM CROP. I ALSO LIKE THE FACT
THAT THEY DON'T SEAL OVER THE GROUND."**

**GARY MILLER, PIVOT IRRIGATOR
BROWNFIELD, TX**



IMPORTANT NOTES:

For an accurate pivot package printout, it is critical that you let us know whether regulators are being mounted at the top or bottom of the drop tubes.

Because of its off-center rotary action, it is necessary that the i-Wob be mounted with a **minimum of two feet (0.6m) reinforced flex hose**.

If you are using conventional weights (above nozzle), be sure to use threaded weights, **do not use slip over weights with the i-Wob**.

When using a steel nipple as a drop weight, Senninger does not recommend using a rigid nipple over 12" (30 cm) in length.

The use of i-Wob lower weights in combination with conventional above-nozzle weights is not recommended.

PUT MONEY IN YOUR POCKET, NOT IN YOUR PUMP!

ENERGY SAVINGS WITH THE I-WOB

"THE I-WOB SAVES ENERGY WITH AN APPLICATION EFFICIENCY UNMATCHED BY OTHER DEVICES."

MARCUS SCHMIDT, ENGINEER
UBERABA, BRAZIL

"WHEN MY CUSTOMERS USE THE I-WOB, THEY GET THE BEST FOR LESS. THE BEST WATER APPLICATION FOR THE LEAST PUMPING COST."

MIKE WOODHEAD, WOODY'S PIVOT SERVICE
HOLYOKE, CO

Electric Driven Pumps

Annual Cost for One PSI of System Driven Pressure

(Using \$0.065/kwh electricity rate and 75% pumping efficiency and 87% motor efficiency)

Flow gpm (L/s)	1,000 Hrs/Yr	1,500 Hrs/Yr	2,000 Hrs/Yr	2,500 Hrs/Yr
300 (18.9)	\$13	\$20	\$26	\$33
400 (25.2)	\$17	\$26	\$35	\$43
500 (31.6)	\$22	\$33	\$43	\$54
600 (37.9)	\$26	\$39	\$52	\$65
700 (44.2)	\$30	\$46	\$61	\$76
800 (50.5)	\$35	\$52	\$69	\$87
900 (56.8)	\$39	\$59	\$78	\$98
1,000 (63.1)	\$43	\$65	\$87	\$108
1,100 (69.4)	\$48	\$72	\$95	\$119
1,200 (75.7)	\$52	\$78	\$104	\$130
1,300 (82.0)	\$56	\$85	\$113	\$141
1,400 (88.3)	\$61	\$91	\$121	\$152

Diesel Driven Pumps

Annual Cost for One PSI of System Driven Pressure

(Using \$1.70/gallon diesel cost, 0.4lbs/BHP/hr consumption rate and 75% pumping efficiency)

Flow gpm (L/s)	1,000 Hrs/Yr	1,500 Hrs/Yr	2,000 Hrs/Yr	2,500 Hrs/Yr
300 (18.9)	\$23	\$34	\$45	\$57
400 (25.2)	\$30	\$45	\$60	\$76
500 (31.5)	\$38	\$57	\$76	\$94
600 (37.8)	\$45	\$68	\$91	\$113
700 (44.1)	\$53	\$79	\$106	\$132
800 (50.4)	\$60	\$91	\$121	\$151
900 (56.7)	\$68	\$102	\$136	\$170
1,000 (63.0)	\$76	\$113	\$151	\$189
1,100 (69.3)	\$83	\$125	\$166	\$208
1,200 (75.6)	\$91	\$136	\$181	\$227
1,300 (81.9)	\$98	\$147	\$196	\$246
1,400 (88.2)	\$106	\$159	\$212	\$264

Example 1: System flow rate is 600 gpm (37.8 L/s). Annual run time is 1,500 hours.

Electric Driven Pump						
<u>Sprinkler</u>	<u>Cost per psi</u>	x	<u>Pressure</u>	=	<u>Annual Cost</u>	<u>Five Year Cost</u>
i-Wob	\$39	x	15 psi	=	\$585	\$2,925
Alternative Sprinkler	\$39	x	30 psi	=	\$1,170	\$5,850
			Savings	=	\$585	\$2,925
Diesel Driven Pump						
<u>Sprinkler</u>	<u>Cost per psi</u>	x	<u>Pressure</u>	=	<u>Annual Cost</u>	<u>Five Year Cost</u>
i-Wob	\$68	x	15 psi	=	\$1,020	\$5,100
Alternative Sprinkler	\$68	x	30 psi	=	\$2,040	\$10,200
			Savings	=	\$1,020	\$5,100

Example 2: System flow rate is 900 gpm (56.7 L/s). Annual run time is 2,000 hours.

Electric Driven Pump						
<u>Sprinkler</u>	<u>Cost per psi</u>	x	<u>Pressure</u>	=	<u>Annual Cost</u>	<u>Five Year Cost</u>
i-Wob	\$78	x	15 psi	=	\$1,170	\$5,850
Alternative Sprinkler	\$78	x	30 psi	=	\$2,340	\$11,700
			Savings	=	\$1,170	\$5,850
Diesel Driven Pump						
<u>Sprinkler</u>	<u>Cost per psi</u>	x	<u>Pressure</u>	=	<u>Annual Cost</u>	<u>Five Year Cost</u>
i-Wob	\$136	x	15 psi	=	\$2,040	\$10,200
Alternative Sprinkler	\$136	x	30 psi	=	\$4,080	\$20,400
			Savings	=	\$2,040	\$10,200

PERFORMANCE DATA



"THE I-WOB IS SIMPLY THE BEST
SPRINKLER ON THE MARKET."

DEREK WAGNER, WAGNER'S IRRIGATION
HOLDREGE, NE

STANDARD ANGLE 9

LOW ANGLE 9

LOW ANGLE 6

Nozzle Sizes & Colors	Nozzle Pressure (psi)	STANDARD ANGLE 9			LOW ANGLE 9			LOW ANGLE 6		
		10	15	20	10	15	20	10	15	20
#6 - Gold (3/32")	Flow (gpm)	0.82	0.96	1.14	0.82	0.96	1.14			
	Diameter (ft) at 3 feet ht.	35.8	38.8	41.1	30.8	35.2	38.4			
	Diameter (ft) at 6 feet	37.2	41.0	42.4	35.2	39.2	40.5			
#7 - Lime (7/64")	Flow (gpm)	1.12	1.34	1.56	1.12	1.34	1.56			
	Diameter (ft) at 3 feet ht.	36.9	40.1	42.5	32.0	36.4	39.6			
	Diameter (ft) at 6 feet	39.6	43.2	44.4	36.4	40.4	41.7			
#8 - Lavender (1/8")	Flow (gpm)	1.45	1.73	2.01	1.45	1.73	2.01			
	Diameter (ft) at 3 feet	38.0	41.3	43.8	33.2	37.6	40.8			
	Diameter (ft) at 6 feet	40.6	44.2	45.8	37.6	41.6	42.9			
#9 - Grey (9/64")	Flow (gpm)	1.82	2.17	2.52	1.82	2.17	2.52			
	Diameter (ft) at 3 feet	39.0	42.2	45.1	34.4	38.8	42.0			
	Diameter (ft) at 6 feet	41.6	45.2	47.2	38.8	42.7	44.0			
#10 - Turquoise (5/32")	Flow (gpm)	2.25	2.69	3.12	2.25	2.69	3.12			
	Diameter (ft) at 3 feet	40.0	43.0	46.0	35.6	40.0	43.2			
	Diameter (ft) at 6 feet	42.6	46.2	48.4	40.0	43.8	45.1			
#11 - Yellow (11/64")	Flow (gpm)	2.65	3.21	3.76	2.65	3.21	3.76			
	Diameter (ft) at 3 feet	40.9	43.8	46.8	36.8	41.2	44.2			
	Diameter (ft) at 6 feet	43.6	47.2	49.6	41.2	44.9	46.2			
#12 - Red (3/16")	Flow (gpm)	3.16	3.81	4.45	3.16	3.81	4.45	3.16	3.81	4.45
	Diameter (ft) at 3 feet	41.8	44.6	47.6	38.0	42.4	45.2	40.0	44.5	46.2
	Diameter (ft) at 6 feet	44.6	48.0	50.8	42.4	46.0	47.3	43.6	46.7	50.4
#13 - White (13/64")	Flow (gpm)	3.77	4.50	5.23	3.77	4.50	5.23	3.77	4.50	5.23
	Diameter (ft) at 3 feet	42.6	45.4	48.4	39.2	43.6	46.0	40.9	45.1	46.7
	Diameter (ft) at 6 feet	45.6	48.8	51.8	43.6	47.0	48.3	44.8	47.7	51.4
#14 - Blue (7/32")	Flow (gpm)	4.39	5.24	6.09	4.39	5.24	6.09	4.39	5.24	6.09
	Diameter (ft) at 3 feet	43.4	46.1	49.2	39.8	44.8	46.6	41.5	45.6	47.2
	Diameter (ft) at 6 feet	46.6	49.4	52.8	44.6	47.8	49.1	45.6	48.3	51.8
#15 - Dark Brown (15/64")	Flow (gpm)	5.05	6.03	7.00	5.05	6.03	7.00	5.05	6.03	7.00
	Diameter (ft) at 3 feet	44.2	46.8	49.9	40.2	45.6	47.0	42.0	46.0	47.6
	Diameter (ft) at 6 feet	47.6	50.0	53.6	45.0	48.2	49.5	46.0	48.9	52.0
#16 - Orange (1/4")	Flow (gpm)	5.79	6.91	8.03	5.79	6.91	8.03	5.79	6.91	8.03
	Diameter (ft) at 3 feet	44.8	47.4	50.6	40.6	45.8	47.2	42.4	46.4	48.0
	Diameter (ft) at 6 feet	48.4	50.6	54.4	45.2	48.5	49.9	46.4	49.5	52.2
#17 - Dark Green (17/64")	Flow (gpm)	6.50	7.76	9.01	6.50	7.76	9.01	6.50	7.76	9.01
	Diameter (ft) at 3 feet	45.2	48.0	51.3	40.8	46.0	47.3	42.8	46.8	48.4
	Diameter (ft) at 6 feet	49.0	51.0	55.0	45.3	48.7	50.2	46.8	50.0	52.3
#18 - Purple (9/32")	Flow (gpm)	7.25	8.65	10.04	7.25	8.65	10.04	7.25	8.65	10.04
	Diameter (ft) at 3 feet	45.4	48.5	52.0	41.0	46.2	47.4	43.2	47.2	48.6
	Diameter (ft) at 6 feet	49.4	51.4	55.4	45.4	48.9	50.4	47.0	50.5	52.4
#19 - Black (19/64")	Flow (gpm)	7.99	9.54	11.08	7.99	9.54	11.08	7.99	9.54	11.08
	Diameter (ft) at 3 feet	45.5	48.9	52.6	41.2	46.4	47.5	43.6	47.6	48.7
	Diameter (ft) at 6 feet	49.8	51.8	55.8	45.5	49.1	50.6	47.1	50.9	52.5
#20 - Dark Turquoise (5/16")	Flow (gpm)	8.75	10.44	12.13	8.75	10.44	12.13	8.75	10.44	12.13
	Diameter (ft) at 3 feet	45.6	49.3	53.2	41.4	46.6	47.6	43.8	47.9	48.8
	Diameter (ft) at 6 feet	50.2	52.2	56.2	45.6	49.3	50.8	47.2	51.3	52.6
#21 - Mustard (21/64")	Flow (gpm)	9.52	11.36	13.20	9.52	11.36	13.20	9.52	11.36	13.20
	Diameter (ft) at 3 feet	45.7	49.6	53.7	41.5	46.8	47.7	43.9	48.2	48.9
	Diameter (ft) at 6 feet	50.6	52.6	56.6	45.7	49.5	51.0	47.3	51.6	52.7
#22 - Maroon (11/32")	Flow (gpm)	10.29	12.28	14.27	10.29	12.28	14.27	10.29	12.28	14.27
	Diameter (ft) at 3 feet	45.8	49.9	54.1	41.6	47.0	47.8	44.0	48.4	49.0
	Diameter (ft) at 6 feet	51.0	53.0	56.9	45.8	49.7	51.2	47.4	51.9	52.8
#23 - Cream (23/64")	Flow (gpm)	11.18	13.34	15.50	11.18	13.34	15.50	11.18	13.34	15.50
	Diameter (ft) at 3 feet	45.9	50.1	54.3	41.7	47.2	47.9	44.1	48.6	49.1
	Diameter (ft) at 6 feet	51.2	53.4	57.1	45.9	49.8	51.4	47.5	52.2	52.9
#24 - Dark Blue (3/8")	Flow (gpm)	12.06	14.40	16.73	12.06	14.40	16.73	12.06	14.40	16.73
	Diameter (ft) at 3 feet	46.0	50.2	54.4	41.8	47.4	48.0	44.2	48.8	49.2
	Diameter (ft) at 6 feet	51.4	53.6	57.2	46.0	49.9	51.6	47.6	52.5	53.0

Half-size nozzles also available.

Figures reflect actual test data obtained under ideal conditions. Consult factory for higher flow demands.



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