

# Xcel-Wobbler® Irrigating



## Advantages of a low pressure (20 psi or 1.38 bar) Xcel-Wobbler Irrigation System

- New balanced design for smooth, stable operation
- Outstanding uniformity
- Large diameter of coverage at low pressures
- Low wind-drift and evaporative loss
- High-angle model approximately 24° trajectory (18° trajectory Mid-Angle model also available)



*Xcel-Wobblers provide outstanding uniformity and a large diameter of coverage. The design is balanced for a smooth, stable operation.*

## Follow these 4 Steps to design a Xcel-Wobbler irrigation system...

### 1 Determine Application Rate & Maximum Length of Laterals

Based on the selection of the Xcel-Wobbler HA from Chart A on page 2, use Table 1 to help determine the application rate and the maximum length of laterals using PVC (maximum allowable velocity of 5 ft or 1.52 m per second as recommended by PVC manufacturers).

**TABLE 1. Xcel-Wobbler - HA (high Angle)**

Maximum Length of Lateral on 25 ft (7.6 m); Spacing at 20 psi (1.38 bar)

NOZZLE #	APPLICATION RATE		1.5" PVC (1.754 I.D.) Class 160		2" PVC (2.193 I.D.) Class 160	
	(in/h)	(mm/h)	(ft)	(m)	(ft)	(m)
9	0.39	9.91	375	91.4	525	160.0
10	0.48	12.2	325	99.1	450	137.2
11	0.59	15.0	250	76.2	375	114.3
12	0.70	17.8	200	61.0	325	99.1

Data based on <4 psi (0.276 bar) lateral friction loss.

### 2 Determine Zone Flow

Table 2 will determine the number of High Angle Xcel-Wobblers based on system flow rate of 20 psi (1.38 bar).

**TABLE 2.**

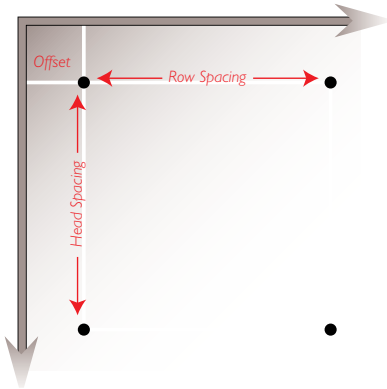
Quantity of units based on System Flow Rate

Flow Rate	Nozzle #6	Nozzle #7	Nozzle #8
30 gpm (113.5 L/m)	11	9	7
40 gpm (151.4 L/m)	15	12	10
50 gpm (189.2 L/m)	19	15	13
60 gpm (227.1 L/m)	23	19	15
80 gpm (305.7 L/m)	31	25	20

## 3 Determine Spacing

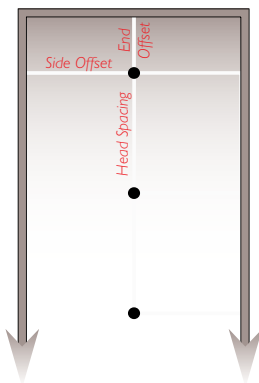
### Square Spacing-

Head Spacing: 25 ft (7.62 m)  
 Row Spacing: 25 ft (7.62 m)  
 Offset from sides: 5 ft (1.52 m)  
 Offset from ends: 5 ft (1.52 m)



### Single Row Spacing-

Head Spacing: 20 ft (6.10 m)  
 Offset from sides: 10 ft (3.05 m)  
 Offset from ends: 5 ft (1.52 m)



Recommended spacings based on maximum uniformities from Chart A, page 2.

**TABLE 3. Xcel-Wobbler - HA (high Angle)**

Additional Design Options at 20 psi (1.38 bar) (not shown on Chart A, page 2)

NOZZLE #	SQUARE SPACING		CU (%)	SC	RISER HEIGHT		APPLICATION RATE	
	(ft)	(m)			(in)	(cm)	(ft)	(m)
6	20 × 20	6.10 × 6.10	84.6	1.44	18	45	0.26	6.60
7	20 × 20	6.10 × 6.10	90.7	1.17	18	45	0.36	9.14
8	20 × 20	6.10 × 6.10	8.5	1.19	18	45	0.48	12.2
9	20 × 20	6.10 × 6.10	90.6	1.13	18	45	0.61	15.5
10	20 × 20	6.10 × 6.10	89.1	1.14	18	45	0.76	19.3

Additional Design Options at 25 psi (1.72 bar) (not shown on Chart A, page 2)

NOZZLE #	SQUARE SPACING		CU (%)	SC	RISER HEIGHT		APPLICATION RATE	
	(ft)	(m)			(in)	(cm)	(ft)	(m)
6	25 × 25	7.62 × 7.62	86.9	1.30	18	45	0.19	4.83
7	25 × 25	7.62 × 7.62	86.8	1.30	18	45	0.26	6.60
8	25 × 25	7.62 × 7.62	87.6	1.30	18	45	0.34	8.64
9	25 × 25	7.62 × 7.62	86.1	1.45	18	45	0.44	11.2
10	25 × 25	7.62 × 7.62	86.7	1.30	18	45	0.54	13.7

## 4 Installation Option

