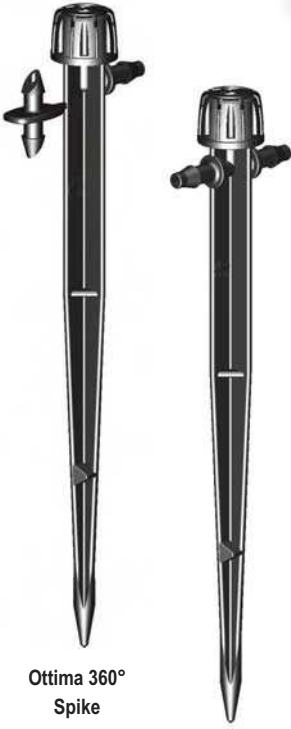


DRIPPERS

Ottima™ 360°

Adjustable 8 Stream Drippers



Ottima 360° Spike


Ottima 360° In-Line Spike



Ottima™ 360°
4.5 mm Barb



Ottima™ 360°
10-32 UNF Thread

METRIC PERFORMANCE DATA				
DRIPPERS		PRESSURE (kPa)	FLOW (lph)	DIAMETER OF THROW (m)
	Adjustable to Maximum (approx) 20 Clicks	100	0 - 40	0 - 0.5
		150	0 - 50	0 - 0.6
		200	0 - 60	0 - 0.8
Tested 200 mm above Ground Level				
Recommended operating pressure 100 kPa				

OPERATION

Rotation of the Ottima™ 360° cap allows simultaneous adjustment of flow rate and diameter of throw. This is made possible by the positive ratchet click action between the cap and the base. Easy to regulate. Increase or decrease the stream pattern or simply close off.

PRODUCT FEATURES

- Four base options available, 4.5 mm Barb, 10-32 UNF Male Thread, 1/2" NPT Female Thread and Spike.
- Cap rotation adjusts flow and radius.
- Large adjustment range gives a greater control of flow rate and diameter of throw compared to fixed flow emitters.
- Quick ON-OFF action.






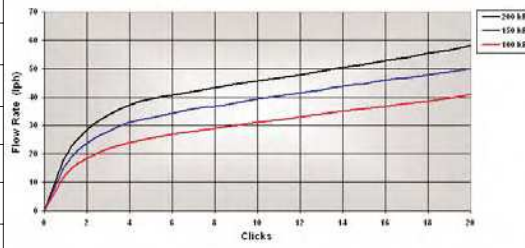
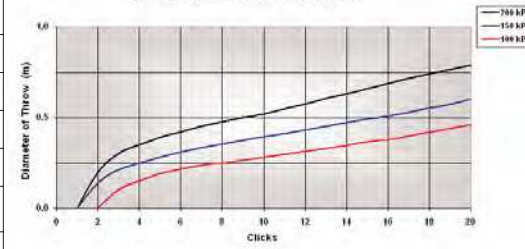
GENERAL APPLICATIONS

- Use for watering plants in small or large pots, planter boxes and also shrubs and trees in garden beds and landscaped areas.



Ottima™ 360°
1/2" NPT Female Thread



OTTIMA™ 360°							PERFORMANCE GRAPHS
PACKAGING							
		BARB	THREAD	SPIKE	IN-LINE SPIKE	1/2" THREAD	
ORDER CODES	PACKS	200016	200026	200034	204294	202054	
	BULK	020001	020002	020003	020429	020205	
QUANTITY PER BAG	PACKS	100	100	25	25	25	
	BULK	1000	1000	1000	1000	250	
BAGS PER CARTON	PACKS	65	65	40	40	70	
	BULK	7	7	1	1	7	
WEIGHT PER CARTON (kg)	PACKS	12.3	14.2	6.9	6.9	9.4	
	BULK	12.9	14.9	6.7	6.7	9.0	
BASE INLET CONNECTION		4.5 mm Barb	10-32 UNF Thread	4.5 mm Barb	4.5 mm Barb	1/2" NPT/F Thread	
DIMENSIONS OF OTTIMA™ 360° ASSEMBLED	HEIGHT	24 mm	24 mm	152 mm	152 mm	30 mm	
	WIDTH	20 mm	20 mm	42 mm	38 mm	27 mm	
	DEPTH	16 mm	16 mm	16 mm	16 mm	27 mm	
	WEIGHT	1.7 g	2.0 g	5.7 g	5.5 g	4.6 g	
MATERIAL UV STABILISED	CAP	Polypropylene	Polypropylene	Polypropylene	Polypropylene	Polypropylene	
	BASE	Polypropylene	Acetal	Polypropylene	Polypropylene	Polypropylene	

DRIPPERS

Ottima™ 180°

Adjustable 5 Stream Drippers




Ottima™ 180°
1/2" NPT Female Thread



Ottima™ 180°
Spike

Ottima™ 180°
In-Line Spike

METRIC PERFORMANCE DATA				
DRIPPERS		PRESSURE (kPa)	FLOW (lph)	RADIUS OF THROW (m)
	Adjustable to Maximum (approx) 20 Clicks	100	0 - 40	0 - 0.38
		150	0 - 50	0 - 0.52
		200	0 - 60	0 - 0.65
Tested 200 mm above Ground Level				
Recommended operating pressure 100 kPa				



Ottima™ 180°
4.5 mm Barb



Ottima™ 180°
10-32 UNF Thread

OPERATION

Rotation of the Ottima™ 180° cap allows simultaneous adjustment of flow rate and radius of throw.

Easy to regulate the 180° pattern to suit the area of application.

Increase or decrease the stream pattern or simply close off.






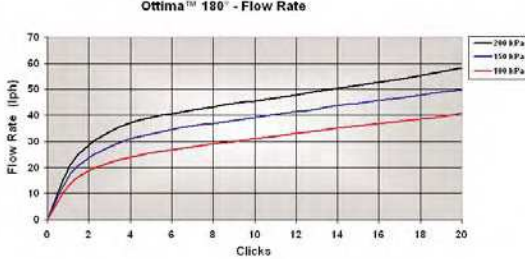
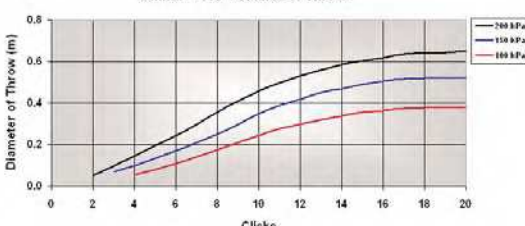
PRODUCT FEATURES

- Four base options available, 4.5 mm Barb, 10-32 UNF Male Thread, 1/2" NPT Female Thread and Spike.
- Cap rotation adjusts flow and radius.
- Large adjustment range gives a greater control of flow rate and radius of throw.
- Quick ON-OFF action.

GENERAL APPLICATIONS

- Use for watering plants in small or large pots and planter boxes. Ideal for border watering in garden beds and landscaped areas.



OTTIMA™ 180°							PERFORMANCE GRAPHS
PACKAGING							
		BARB	THREAD	SPIKE	IN-LINE SPIKE	1/2" THREAD	
ORDER CODES	PACKS	201146	201156	201164	204314	202064	
	BULK	020114	020115	020116	020431	020206	
QUANTITY PER BAG	PACKS	100	100	25	25	25	
	BULK	1000	1000	1000	1000	250	
BAGS PER CARTON	PACKS	65	65	40	40	70	
	BULK	7	7	1	1	7	
WEIGHT PER CARTON (kg)	PACKS	12.3	14.2	6.9	6.9	9.4	
	BULK	12.9	14.9	6.7	6.7	9.0	
BASE INLET CONNECTION		4.5 mm Barb	10-32 UNF Thread	4.5 mm Barb	4.5 mm Barb	1/2" NPT/F Thread	
DIMENSIONS OF OTTIMA™ 180° ASSEMBLED	HEIGHT	24 mm	24 mm	152 mm	152 mm	30 mm	
	WIDTH	20 mm	20 mm	42 mm	38 mm	27 mm	
	DEPTH	16 mm	16 mm	16 mm	16 mm	27 mm	
	WEIGHT	1.7 g	2.0 g	5.7 g	5.5 g	4.6 g	
MATERIAL UV STABILISED	CAP	Polypropylene	Polypropylene	Polypropylene	Polypropylene	Polypropylene	
	BASE	Polypropylene	Acetal	Polypropylene	Polypropylene	Polypropylene	

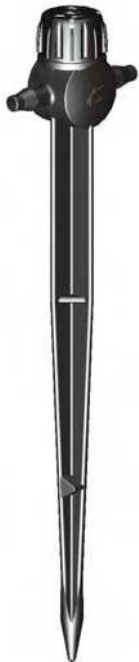
DRIPPERS

Ottima™ 360° PC Spike & Ottima™ 180° PC Spike

Pressure Compensating Stream Drippers



Ottima™ 360° PC
30 lph
End-Line Spike



Ottima™ 180° PC
20 lph
In-Line Spike

METRIC PERFORMANCE DATA			CAP PATTERNS		
DRIPPERS	COLOUR AND PRE-DEFINED FLOW RATE	PRESSURE (kPa)	FLOW (lph)	RADIUS OF THROW (m)	DIAMETER OF THROW (m)
	Black 20 lph	150	21.6	0.18	
		200	21.9	0.20	
		250	22.8	0.20	
		300	23.6	0.20	
	Orange 30 lph	150	31.1	0.38	0.25
		200	31.8	0.40	0.26
		250	30.9	0.40	0.26
	BLUE 40 lph	300	31.4	0.40	0.26
		150	36.9	0.48	0.35
200		38.4	0.50	0.36	
250		39.8	0.50	0.36	
	300	42.0	0.50	0.36	

Recommended Operating Pressure 150 kPa to 300 kPa - Tested 200 mm above Ground Level

OPERATION

Pressure Compensating Spike emitters with pre-defined discharge rates that maintain uniform output flow rate and diameter of throw when the inlet pressure of the supply system varies.

PRODUCT FEATURES

- Two PC Spikes are available: End-Line and In-Line.
- Two Caps available: Ottima™ 180° 5 Stream Ottima™ 360° 8 Stream
- The Ottima™ 180°, PC, 5 Stream, End-Line Spike is available in three discharge rates, Colour Coded for easy identification: 20 lph (Black), 30 lph (Orange) and 40 lph (Blue).
- The Ottima™ 180°, PC, 5 Stream, In-Line Spike is available with two discharge rates, Colour Coded: 20 lph (Black) and 30 lph (Orange)
- The Ottima™ 360°, PC, 8 Stream, End-Line Spike is available in two discharge rates, Colour Coded: 30 lph (Orange) and 40 lph (Blue).
- The Ottima™ 360°, PC, 8 Stream, In-Line Spike is available with one discharge rate, Colour Coded: 30 lph (Orange)
- Pre-defined discharge rates that maintain uniform output flow rate and diameter of throw.

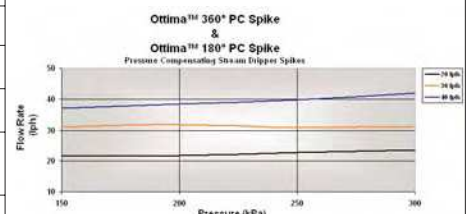
GENERAL APPLICATIONS

- Use for watering plants in small or large pots, garden beds and landscaped areas.

FILTRATION REQUIREMENTS

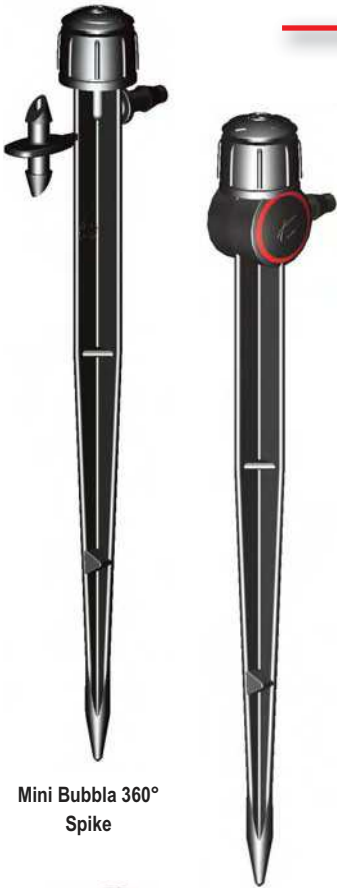
- Black, Orange and Blue Spikes: 130 microns (120 mesh)

OTTIMA™ 360° PC SPIKE & OTTIMA™ 180° PC SPIKE											
CAP PATTERN		360°x 8 Stream			180°x 5 Stream				PERFORMANCE GRAPHS		
CONNECTION TYPE		END-LINE		IN-LINE		END-LINE		IN-LINE			
PACKAGING											
COLOUR & FLOW RATE		30 lph	40 lph	30 lph	20 lph	30 lph	40 lph	20 lph		30 lph	
ORDER CODES	PACKS	203264	203274	204334	205114	204354	204364	205134		204374	
	BULK	020326	020327	020433	020511	020435	020436	020513		020437	
QUANTITY PER BAG	PACKS	25									
	BULK	1000									
BAGS PER CARTON	PACKS	40									
	BULK	1									
WEIGHT PER CARTON (kg)	PACKS	8.0									
	BULK	7.9									
BASE INLET CONNECTION		4.5 mm Barb									
DIMENSIONS OF OTTIMA™ PC ASSEMBLED	HEIGHT	152 mm									
	WIDTH	27 mm	38 mm	27 mm		38 mm					
	DEPTH	17 mm									
	WEIGHT	6.8 g									
MATERIAL UV STABILISED	CAP	Polypropylene									
	SPIKE	Polypropylene									



DRIPPERS

Mini Bubbla 360° Adjustable & PC Umbrella Pattern Emitters



Mini Bubbla 360°
Spike

Mini Bubbla 360°
PC Spike



Mini Bubbla 360°
1/2" NPT Female Thread



Mini Bubbla 360°
4.5 mm Barb



Mini Bubbla 360°
10-32 UNF Thread

METRIC PERFORMANCE DATA				
DRIPPERS	Adjustable to Maximum (approx) 18 Clicks	PRESSURE	FLOW	DIAMETER OF THROW
		(kPa)	(lph)	(m)
		100	0 - 85	0 - 0.5
	150	0 - 103	0 - 0.8	
	200	0 - 119	0 - 1.0	
	Recommended operating pressure 100 kPa			
Mini Bubbla 360° PC Spike 75 lph	150	68	0.30	
	200	75	0.30	
	250	78	0.40	
	300	79	0.40	
Recommended operating pressure 150 to 300 kPa				
Tested 200 mm above Ground Level				

OPERATION

Rotation of the Mini Bubbla cap allows simultaneous adjustment of flow rate and diameter of throw. This action produces a uniform umbrella pattern that gently applies water to the root zone of the plant.

PRODUCT FEATURES

- Four base options available for the Adjustable Mini Bubbla 360°, 4.5 mm Barb, 10-32 UNF Male Thread, 1/2" NPT Female Thread and 150 mm Spike.
- Cap rotation adjusts flow and radius.
- Effective watering at the root zone.
- Easy to regulate the water flow.
- Umbrella pattern remains uniform during cap rotation at all pressures.
- The Mini Bubbla 360° PC Spike is available in one discharge rate, 75 lph, colour coded (Red).

GENERAL APPLICATIONS

- Use for watering plants in small or large pots, garden beds, street trees and palms.



MINI BUBBLA 360°							PERFORMANCE GRAPHS
PACKAGING		ADJUSTABLE MINI BUBBLA 360°				75 lph PC	
		BARB	THREAD	SPIKE	1/2" THREAD	SPIKE	
ORDER CODES	PACKS	201176	201186	201194	202084	204394	
	BULK	020117	020118	020119	020208	020439	
QUANTITY PER BAG	PACKS	100	100	25	25	25	
	BULK	1000	1000	1000	250	1000	
BAGS PER CARTON	PACKS	65	65	40	70	40	
	BULK	7	7	1	7	1	
WEIGHT PER CARTON (kg)	PACKS	11.7	14.2	7.4	8.0	8.3	
	BULK	12.2	14.9	7.2	7.7	8.1	
BASE INLET CONNECTION		4.5 mm Barb	10-32 UNF Thread	4.5 mm Barb	1/2" NPT/F Thread	4.5 mm Barb	
DIMENSIONS OF MINI BUBBLA 360° ASSEMBLED	HEIGHT	25 mm	25 mm	153 mm	31 mm	155 mm	
	WIDTH	20 mm	20 mm	42 mm	27 mm	42 mm	
	DEPTH	16 mm	16 mm	16 mm	27 mm	16 mm	
	WEIGHT	1.6 g	2.0 g	6.2 g	3.8 g	8.3 g	
MATERIAL UV STABILISED	CAP	Polypropylene	Polypropylene	Polypropylene	Polypropylene	Polypropylene	
	BASE	Polypropylene	Acetal	Polypropylene	Polypropylene	Polypropylene	

DRIPPERS

Delta™ Drip

(Registered Design)

Adjustable Drip Emitter




Delta™ Drip Spike End-Line

Delta™ Drip Spike In-Line



Delta™ Drip 4.5 mm Barb End-Line

Delta™ Drip 4.5 mm Barb In-Line

METRIC PERFORMANCE DATA				
DRIPPERS		PRESSURE	FLOW	
		(kPa)	(lph)	
		Adjustable to 6 lph at 100 kPa	50	0 - 4.1
			75	0 - 5.1
			100	0 - 6.0
			125	0 - 6.8
150	0 - 7.5			
Recommended operating pressure 100 kPa				

OPERATION

Rotation of the key in the body adjusts the flow rate from 0 to 6 lph at 100 kPa. Flow rate may be increased or decreased until final shut off.

PRODUCT FEATURES

- Turbulent flow path.
- Two key types available.
 1. End-Line Adjustable 0-6 lph key. **(Black)**
 2. In-Line Adjustable 0-6 lph key. **(Brown)**
- Two body types to choose from depending on application.
 1. Standard body with 4.5 mm inlet barb.
 2. Spike with 4.5 mm inlet barb.
- Finger tip key control for flow adjustment.
- May be turned "OFF" when not in use.

FILTRATION REQUIREMENTS





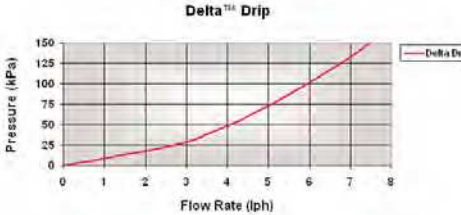
- Drip Emitters: 100 microns (150 mesh)



GENERAL APPLICATIONS

- May be used for vegetable patches, home gardens, nurseries, pots and shrubs.



DELTA™ DRIP EMITTERS						
PACKAGING						PERFORMANCE GRAPHS
		BARB End-Line	SPIKE End-Line	BARB In-Line	SPIKE In-Line	
ORDER CODES	PACKS	200916	200904	203936	203944	
	BULK	020091	020090	020393	020394	
QUANTITY PER BAG	PACKS	100	25	100	25	
	BULK	1000	1500	1000	1500	
BAGS PER CARTON	PACKS	70	50	70	50	
	BULK	7	1	7	1	
WEIGHT PER CARTON (kg)	PACKS	13.4	7.0	13.4	7.0	
	BULK	13.1	6.8	13.1	6.8	
BASE INLET CONNECTION		4.5 mm Barb	4.5 mm Barb	4.5 mm Barb	4.5 mm Barb	
DIMENSIONS OF DELTA™ DRIP EMITTERS ASSEMBLED	HEIGHT	17 mm	127 mm	17 mm	127 mm	
	WIDTH	51 mm	51 mm	61 mm	61 mm	
	DEPTH	9 mm	10 mm	9 mm	10 mm	
	WEIGHT	1.72 g	4.63 g	1.8 g	4.7 g	
MATERIAL UV STABILISED	BODY	Polypropylene		Polypropylene		
	SPIKE		Polypropylene		Polypropylene	

DRIPPERS

Delta™ Drip Spike PC

Pressure Compensating Drip Emitters

OPERATION

Turbulent flow path, pressure compensating drip emitters with pre-defined flow rates. Suit installations where slopes and changes of water pressure would otherwise require complex design systems and where uniform flow rates are required.

PRODUCT FEATURES

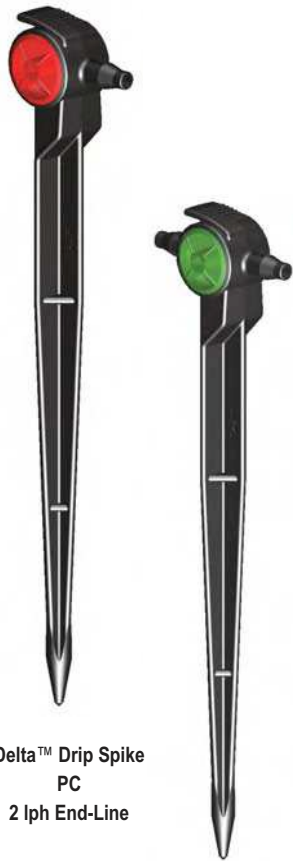
- Turbulent flow path.
- Two Spike versions available.
 1. End-Line
 2. In-Line
- Three flow rates available for each spike type, Colour Coded for easy identification:
 - 2 lph (Red), 4 lph (Black) and 8 lph (Green)
- End-Line Spikes with 4.5 mm Inlet Barb
- In-Line Spikes with 4.5 mm Inlet & Outlet Barb

GENERAL APPLICATIONS

- May be used for vegetable patches, home gardens, nurseries, balconies and patios.

FILTRATION REQUIREMENTS

- Drip Emitters: 100 microns (150 mesh)



Delta™ Drip Spike PC
2 lph End-Line

Delta™ Drip Spike PC
8 lph In-Line

METRIC PERFORMANCE DATA		DELTA™ DRIP SPIKE PC			
		END-LINE & IN-LINE			
DRIPPERS	 Pressure Compensating	PRESSURE	2 lph	4 lph	8 lph
		(kPa)	FLOW (lph)	FLOW (lph)	FLOW (lph)
		100	1.84	4.31	7.40
		150	1.94	3.97	7.30
		200	1.99	3.85	7.45
250	2.03	3.82	7.84		
300	1.98	3.72	8.02		
Minimum Cross-section		0.6 x 0.8	0.8 x 0.95	1.0 x 1.1	
Recommended Operating Pressure 100 kPa to 300 kPa					



DELTA™ DRIP SPIKE PC							
CONNECTION TYPE		END-LINE			IN-LINE		
PACKAGING							
COLOUR & FLOW RATE		2 lph	4 lph	8 lph	2 lph	4 lph	8 lph
ORDER CODES	PACKS	202744	202754	202764	202774	202784	202794
	BULK	020274	020275	020276	020277	020278	020279
QUANTITY PER BAG	PACKS	25					
	BULK	1500					
BAGS PER CARTON	PACKS	50					
	BULK	1					
WEIGHT PER CARTON (kg)	PACKS	6.9			7.0		
	BULK	6.8			6.9		
BASE INLET CONNECTION		4.5 mm Barb					
DIMENSIONS OF DELTA™ DRIP ASSEMBLED	HEIGHT	144 mm					
	WIDTH	28 mm			38 mm		
	DEPTH	17 mm					
	WEIGHT	5.8 g			5.9 g		
MATERIAL UV STABILISED	SPIKE	Polypropylene					
	CAP	Acetal					
	MEMBRANE	Silicone					

PERFORMANCE GRAPHS

Delta™ Drip PC
Pressure Compensating Drip Emitters

SPRAYS

Maxima™ 360°

Adjustable Vortex Sprays



Maxima™ 360° Spike




Maxima™ 360°
1/2" NPT Female Thread



Maxima™ 360°
4.5 mm Barb



Maxima™ 360°
10-32 UNF Thread

METRIC PERFORMANCE DATA				
SPRAYS		PRESSURE (kPa)	FLOW (lph)	DIAMETER OF THROW (m)
	Adjustable to Maximum (approx) 14 Clicks	100	0 - 52	0 - 1.7
		150	0 - 65	0 - 2.8
		200	0 - 74	0 - 3.4
Tested 200 mm above Ground Level				
Recommended operating pressure 100 kPa				

OPERATION

Rotation of the Maxima™ 360° cap allows simultaneous adjustment of flow rate and diameter of throw.

The ratchet clip action between the cap and the base allows the vortex pattern to be increased or decreased until final shut-off.





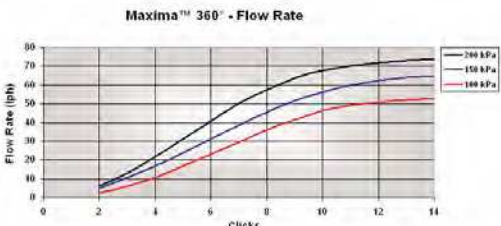

PRODUCT FEATURES

- Four base options available, 4.5 mm Barb, 10-32 UNF Male Thread, 1/2" NPT Female Thread and 150 mm Spike.
- Finger tip cap control for flow and throw adjustment.
- Vortex action distributes water evenly over the irrigated surface.

GENERAL APPLICATIONS

- Ideal for spot watering of plants in small and large pots or larger areas including garden beds and landscapes.



MAXIMA™ 360°						PERFORMANCE GRAPHS
PACKAGING						
		BARB	THREAD	SPIKE	1/2" THREAD	
ORDER CODES	PACKS	200045	200055	200064	202074	
	BULK	020004	020005	020006	020207	
QUANTITY PER BAG	PACKS	50	50	25	25	
	BULK	1000	1000	1000	250	
BAGS PER CARTON	PACKS	100	100	40	70	
	BULK	7	7	1	7	
WEIGHT PER CARTON (kg)	PACKS	12.3	13.9	7.6	8.2	
	BULK	16.1	18.4	7.4	7.9	
BASE INLET CONNECTION		4.5 mm Barb	10-32 UNF Thread	4.5 mm Barb	1/2" NPT/F Thread	
DIMENSIONS OF MAXIMA™ 360° ASSEMBLED	HEIGHT	24 mm	24 mm	152 mm	30 mm	
	WIDTH	20 mm	20 mm	42 mm	27 mm	
	DEPTH	16 mm	16 mm	16 mm	27 mm	
	WEIGHT	2.2 g	2.5 g	6.4 g	3.9 g	
MATERIAL UV STABILISED	CAP	Polypropylene	Polypropylene	Polypropylene	Polypropylene	
	BASE	Polypropylene	Acetal	Polypropylene	Polypropylene	
	DEFLECTOR	Acetal				