



# UNI-SPRAY SYSTEMS INC.

## GLOBAL LEADER IN INDUSTRIAL PRETREATMENT SYSTEMS AND PRODUCT INNOVATION

Founded in 1987 as a producer of quality plastic nozzles, Uni-Spray has set itself apart from its competitors by also building and supplying custom-designed plastic piping systems that incorporate Uni-Spray nozzles and cam-operated couplings.

Uni-Spray has since evolved to deliver parts and assemblies to a wide range of industries. Backed by a state-of-the-art production facility and a team of professionals dedicated to excellence and customer satisfaction, Uni-Spray Systems is committed to the manufacture of high-quality industrial products. As both moulder and designer, we are uniquely positioned to quickly and effectively develop and launch new products.



Proudly Serving the Following Industries



FOOD & BEVERAGE



LANDSCAPING



APPLIANCES



AGRICULTURE



HVAC



WATER PARKS



MARINE



LIQUID FUELS

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INDUSTRIAL



AUTOMOTIVE



MEDICAL



LABORATORIES



LIGHTING



INDUSTRIAL



CONSTRUCTION





## QUIK-RELEASE NOZZLE ASSEMBLIES

- ◀ Uni-Spray Nozzles are injection molded from custom-blended polypropylene, a cost-effective material that is corrosion and heat-resistant and impervious to most chemicals.
- ◀ The tip design resists clogging and buildup due to its smooth shape and low coefficient of friction.
- ◀ A wide variety of Uni-Spray Clamp-On Nozzles are available to suit your application and are colour-coded for easy identification (see table below).
- ◀ All nozzles are available with a Single-Spring or an optional Double-Spring configuration for pressures over 4.0 bar.
- ◀ All nozzles are available in three spigot sizes, to fit 14 mm, 17 mm and 19 mm diameter holes in the riser.

### Mark 1 Adjustable Nozzle Assembly

- ◀ Permits directional adjustment of the nozzle tip anywhere within a 45° included angle.
- ◀ Interchangeable Nozzle Tips are available in Full Cone, Hollow Cone or Flat Spray styles with various combinations of spray angle and flow rate.
- ◀ The Mark 1 is also available with a Threaded Ball Connection in 1/8", 1/4", 3/8" and 1/2" BSP, allowing the use of any threaded plastic, brass or steel nozzle.
- ◀ Refer to pages 4 and 5 for Assembly Details and Ordering Information, pages 14 and 15 for Tip Selection and page 13 for Replacement Parts.



### Mark 2 Fixed Nozzle Adapter

- ◀ Offers female threaded connections in 1/8", 1/4", 3/8" and 1/2" BSP threads, allowing the use of any threaded plastic, brass or steel nozzle.
- ◀ See pages 6 and 7 for Assembly Details and Ordering Information.



### Available Sizes

The Mark 1 and Mark 2 Nozzle Assemblies are colour-coded for convenient identification, and are available to fit the following pipe sizes:

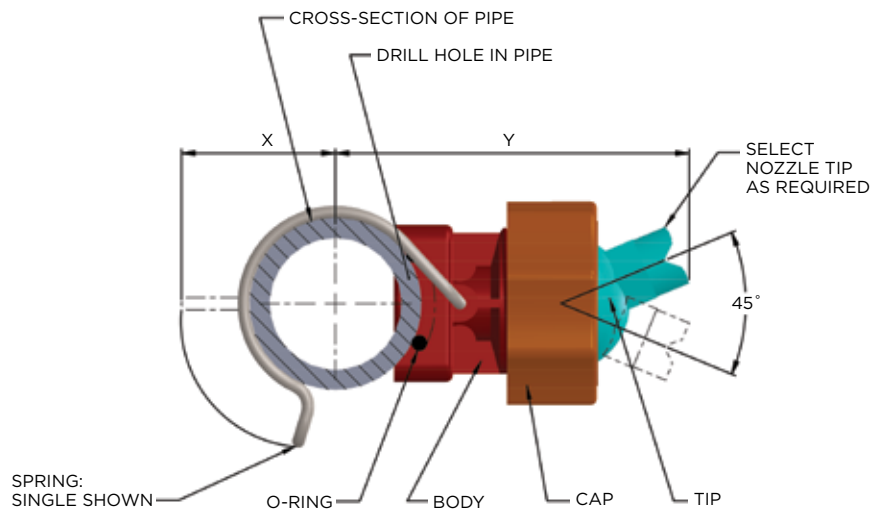
mm	Reg. Spigot 17 mm	Sm. Spigot 14 mm	Lg. Spigot 19 mm	Spigot Size 10 mm
19 mm	—	—	—	Black
25 mm	Blue	Lt Blue	Lt Blue	—
32 mm	Red	Pink	Pink	—
40 mm	Purple	Mauve	Mauve	—
50 mm	Green	Lime Green	Lime Green	—



## FEATURES

- Inexpensive
- Corrosion resistant
- Impervious to most chemicals
- Good heat resistance
- Injection-molded from custom-blended polypropylene
- Standard with Single Spring Clamp
- Optional Double Spring Clamps for pressures over 4.0 bar
- Resists clogging
- Directional adjustment of nozzle tip anywhere within 45°
- Tips available in Full Cone, Hollow Cone or Flat Spray configurations
- Tips available with Threaded Ball Connection in 1/8", 1/4", 3/8" and 1/2" BSPT threads
- Nozzle bodies available in three spigot sizes to fit either 14 mm, 17 mm or 19 mm diameter holes on the riser

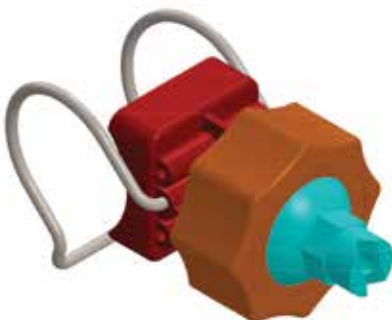
## Mark 1 Adjustable Nozzle Assembly



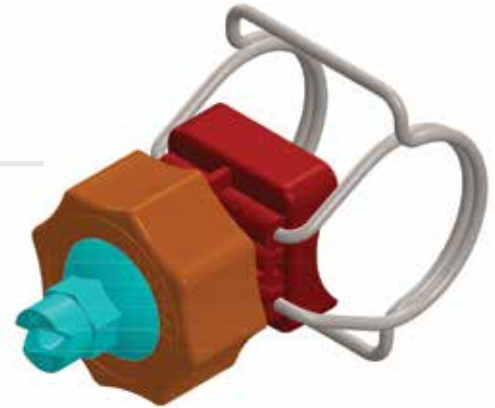
### MAJOR DIMENSIONS

Pipe (mm)	X	Y	Reg. Spigot 17 mm	Sm Spigot 14 mm	Lg Spigot 19 mm
25 mm	43	81	Blue	Lt. Blue	Lt. Blue
32 mm	48	87	Red	Pink	Pink
40 mm	51	90	Purple	Mauve	Mauve
50 mm	57	95	Green	Lime Green	Lime Green

Also available with Double Springs for pressures from 4 to 10 bar.



*Established in 1987, Uni-Spray Systems Inc. is a global leader in nozzle pretreatment systems and product innovation.*



## Mark 1 Adjustable Nozzle Assembly ORDERING INSTRUCTIONS

### How to order a Mark 1 Adjustable Nozzle Assembly:

The complete Part Number tells us exactly what assembly you want.

For example, let's say that you want to order a Mark 1 Adjustable Nozzle Assembly to fit onto a 32 mm (1 1/4") pipe, with a Single Spring, and with a 65° Flat Spray Nozzle Tip that will deliver 13 lpm at 2.0 bar:

#### STEP 1

The Part Number begins with UNI, followed by the pipe size:

UNI 100= 25 mm (1") pipe  
UNI 125= 32 mm (1 1/4") pipe  
UNI 150= 40 mm (1 1/2") pipe  
UNI 200= 50 mm (2") pipe

So in our example, we would have so far

UNI 125

#### STEP 2

Select a Nozzle Tip from page 11 and add the Tip Number to the Part Number. In our example we now have

UNI 125 6540

Note that the 'UNI' in front of the Tip Number on page 11 is dropped when the Tip Number is incorporated into the Assembly Part Number.

#### STEP 3

Add M1 to denote the Style, which is standard with Single Spring. If you wanted a Double Spring, the Style would be M1 D.

So in our example, we end up with:

UNI 125 6540 M1

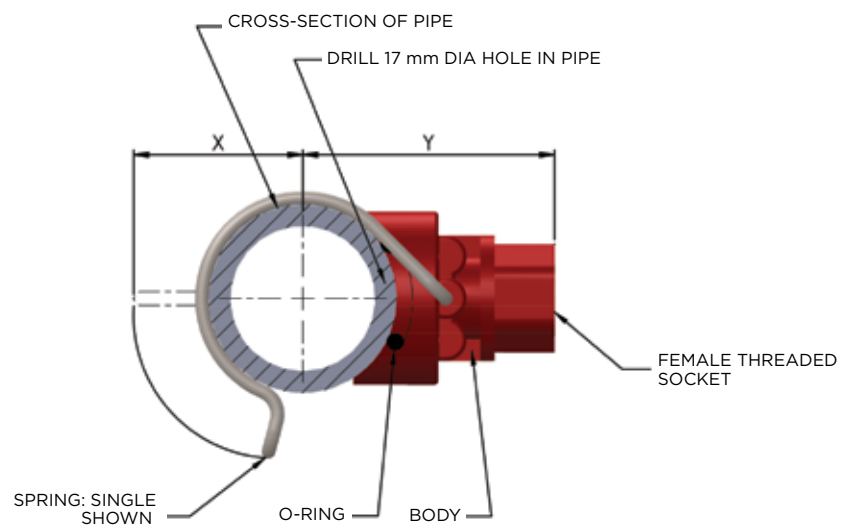
**Note:** Our standard Nozzle Assemblies are designed with spigots to fit risers with 17 mm diameter holes. We also manufacture assemblies with smaller spigots for 14 mm diameter holes and larger spigots for 19 mm holes. To specify the 14 mm spigots, simply change the 'UNI' in the part number to 'SS' for Small Spigot or LS for Large Spigot. For a Small Spigot, using the example above, the part number would become: SS 150 6540 M1.



## FEATURES

- Inexpensive
- Corrosion resistant
- Impervious to most chemicals
- Good heat resistance
- Injection-molded from custom-blended polypropylene
- Standard with Single Spring Clamp
- Optional Double Spring Clamps for pressures over 4.0 bar
- Available with threaded connection in 1/8", 1/4", 3/8" and 1/2" BSPT threads
- Nozzle bodies fit 17 mm diameter holes on the riser

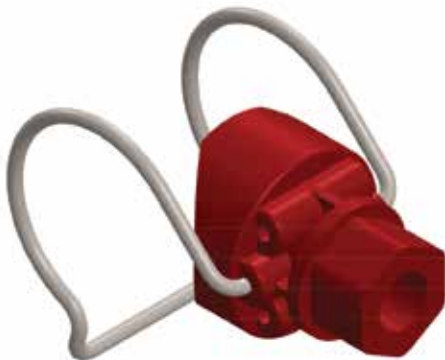
## Mark 2 Fixed Nozzle Adapter



## MAJOR DIMENSIONS

Pipe (mm)	X	Y	Reg. Spigot 17 mm
25 mm	43	51	Blue
32 mm	48	56	Red
40 mm	51	58	Purple
50 mm	57	64	Green

Also available with Double Springs for pressures from 4 to 10 bar.





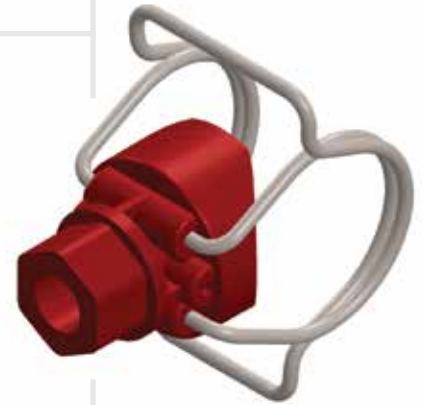
*Uni-Spray manufactures all its high-quality spray systems in Canada. These products are available globally and distributed in 65 countries.*

## Mark 2 Fixed Nozzle Adapter ORDERING INSTRUCTIONS

### How to order a Mark 2 Fixed Nozzle Adapter:

The complete Part Number tells us exactly what assembly you want.

For example, let's say that you want to order a Mark 2 Fixed Nozzle Adapter to fit onto a 32 mm (1 1/4") pipe, with Double Springs for high pressure, and a 1/4" NPT female threaded connection for use with your standard threaded nozzle tips:



#### STEP 1

The Part Number begins with UNI, followed by the pipe:

UNI 100= 25 mm (1") pipe  
 UNI 125= 32 mm (1 1/4") pipe  
 UNI 150= 40 mm (1 1/2") pipe  
 UNI 200= 50 mm (2") pipe

So in our example, we would have so far

UNI 125

#### STEP 2

The Thread Sizes are shown as follows:

NPT	BSPT
18 N= 1/8" NPT	18 B= 1/8" BSPT
14 N= 1/4" NPT	14 B= 1/4" BSPT
38 N= 3/8" NPT	38 B= 3/8" BSPT
12 N= 1/2" NPT	12 B= 1/2" BSPT

In our example we now have

UNI 125 14

#### STEP 3

Add M2 D to denote the Style, where D stands for Double Spring. If you wanted a Single Spring, the Style would be M2 S.

So in our example, we end up with

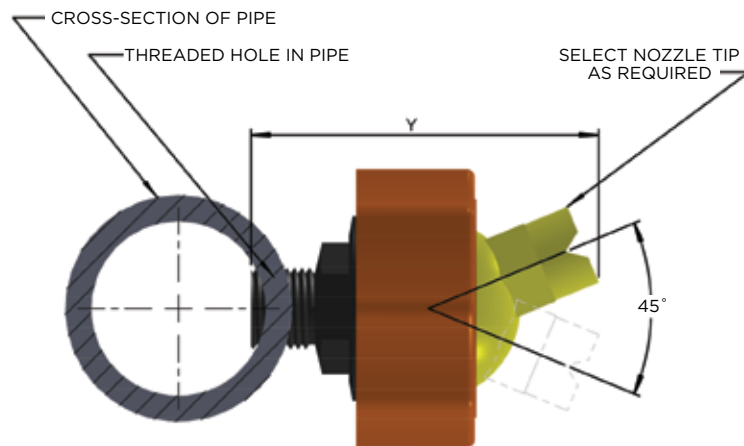
UNI 125 14 M2 D



## FEATURES

- Inexpensive
- Corrosion resistant
- Impervious to most chemicals
- Excellent heat resistance
- Injection-molded from custom-blended polypropylene
- Several thread sizes available
- Resists clogging
- Directional adjustment of nozzle anywhere within 45°
- Tips available in Full Cone, Hollow Cone, Flat Spray and Quik-Change configurations
- Tips available with Threaded Ball Connections in 1/8", 1/4", 3/8" and 1/2" BSPT threads
- Mark 3 nozzle bases allow the use of Adjustable Spray Nozzles in applications where threaded nozzles may currently be used
- Mark 3 bases also allow an Adjustable Nozzle where pipe diameters are larger than 50 mm (2") or smaller than 25 mm (1") by fitting with a threaded hole drilled in that pipe

## Mark 3 Adjustable Nozzle Assembly



### MAJOR DIMENSIONS

	Y	Colour
1/4" Thread / BSPT	64 mm	White
3/8" Thread / BSPT	64 mm	Blue
1/2" Thread / BSPT	64 mm	Yellow



*Uni-Spray provides cutting-edge engineering design services as well as an entire range of products geared to the packaging industry.*

## Mark 3 Adjustable Nozzle Assembly ORDERING INSTRUCTIONS

### How to order a Mark 3 Adjustable Nozzle Assembly:

The complete Part Number tells us exactly what assembly you want.

For example, let say that you want to order a Mark 3 Adjustable Nozzle Assembly to fit a 1/4" BSPT thread with a 65° Flat Spray Nozzle Tip that will deliver 13 lpm at 2 bar:

#### STEP 1

The Part Number begins with UNI, followed by the pipe size:

UNI 14 B= 6 mm (1/4") BSPT  
UNI 38 B= 10 mm (3/8") BSPT  
UNI 12 B= 13 mm (1/2") BSPT

So in our example, we would have so far

UNI 14 B

#### STEP 2

Select a Nozzle Tip from page 11 and add the Tip Number to the Part Number. In our example we now have

UNI 14 B 6540

Note that the UNI in front of the Tip Number on page 11 is dropped when the Tip Number is incorporated into the Assembly Part Number

#### STEP 3

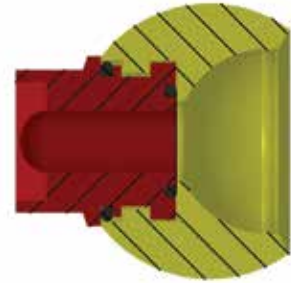
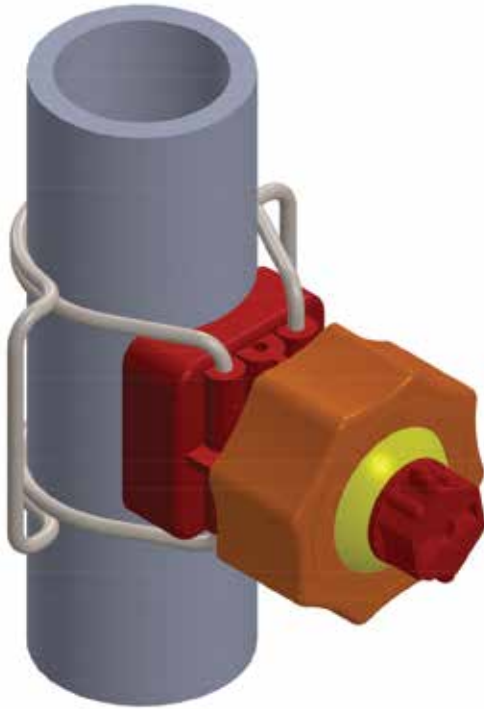
Add M3 to denote the Style of base, which is our standard thread in Adjustable Nozzle bases. So in our example, we end up with

UNI 14 B 6540 M3

**Note:** Our Mark 3 nozzle bases have been designed to allow the use of Adjustable Spray Nozzles in applications where standard threaded nozzles may currently be used. They can also be utilized in applications where pipe sizes are smaller than 25 mm (1") or larger than 50 mm (2") in diameter, where clip-on nozzles might commonly be used.



# UNI-SPRAY QUIK-CHANGE NOZZLE TIP



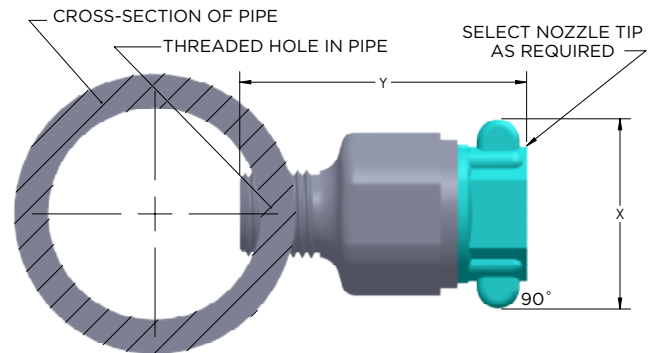
The “Quik-Change” Nozzle Tip is installed with a bayonet mount, and a simple 90° twist is all it takes to lock it into the ball. It is O-Ring sealed at the bottom and lip sealed at the top to prevent the mounting slots and tabs from becoming contaminated and difficult to disassemble.

The exterior dimensions and contours of the ball are identical to our standard Adjustable Nozzle Tips, so the full range of adjustment is still available. However, the tip length has been shortened from that of our standard tips, providing even greater clearance between the spray nozzle and your product.

## FEATURES

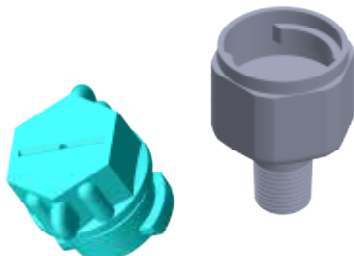
- Inexpensive
- Low profile design
- Corrosion resistant
- Impervious to most chemicals
- Heat resistance to 130° C
- Injection-molded from custom-blended polypropylene or Kynar
- Available with threaded connections in 1/8", 1/4", 3/8" and BSPT threads
- Convenient replacement process to reduce maintenance downtime

## Mark 4 Quik-Change Nozzle Base

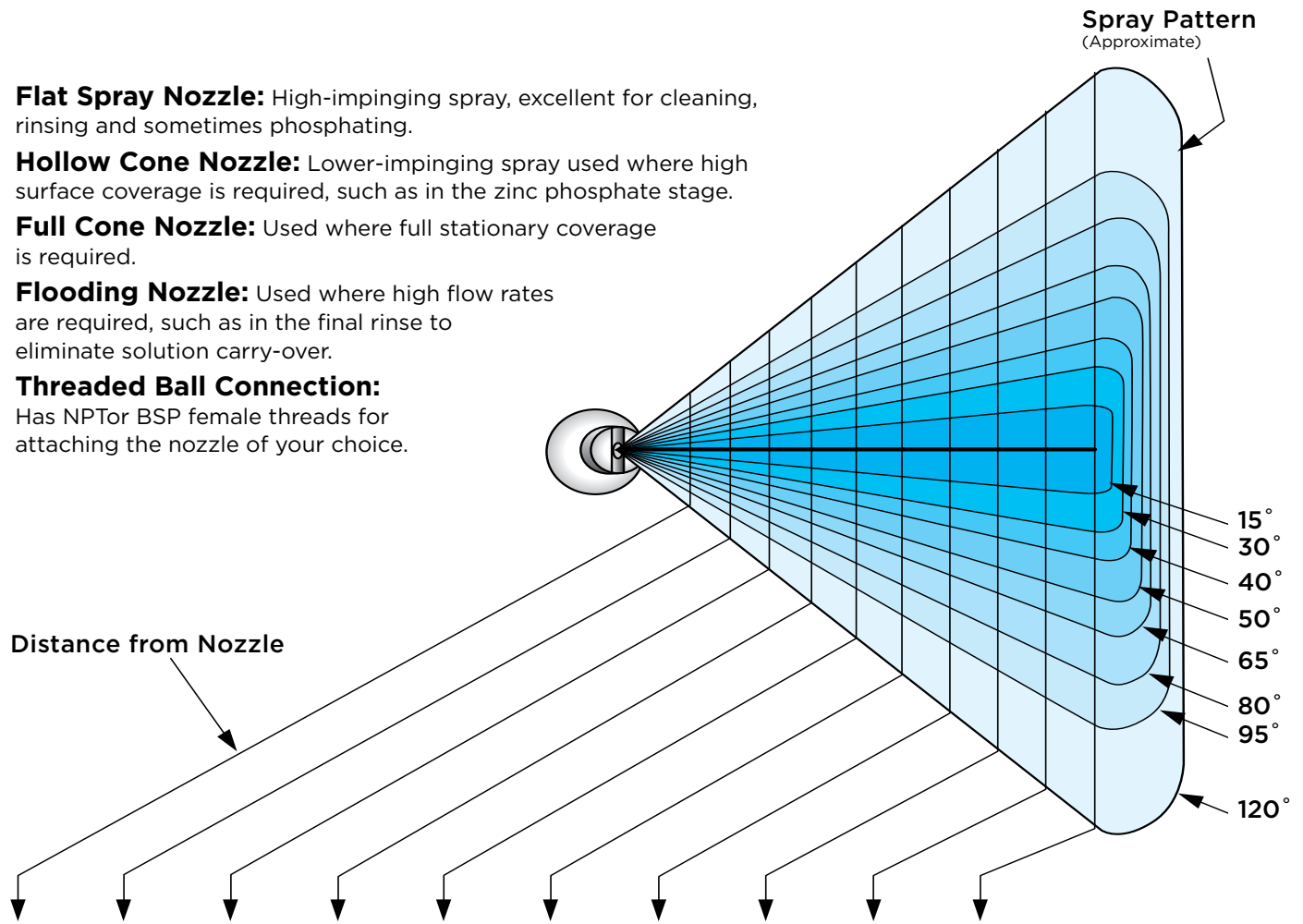


### MAJOR DIMENSIONS

Part Number	mm	Y	X	Colour
UNI18BM4	1/8" Thread / BSPT	40.89	28.45	Grey
UNI14BM4	1/4" Thread / BSPT	40.89	28.45	Grey
UNI38BM4	3/8" Thread / BSPT	40.89	28.45	Grey
UNI12BM4	1/2" Thread / BSPT	40.89	28.45	Grey



- ◀ **Flat Spray Nozzle:** High-impinging spray, excellent for cleaning, rinsing and sometimes phosphating.
- ◀ **Hollow Cone Nozzle:** Lower-impinging spray used where high surface coverage is required, such as in the zinc phosphate stage.
- ◀ **Full Cone Nozzle:** Used where full stationary coverage is required.
- ◀ **Flooding Nozzle:** Used where high flow rates are required, such as in the final rinse to eliminate solution carry-over.
- ◀ **Threaded Ball Connection:**  
Has NPT or BSP female threads for attaching the nozzle of your choice.



**HEIGHT OF INCLUDED ANGLE OF SPRAY COVERAGE (CM)**

10 cm	15 cm	20 cm	25 cm	30 cm	40 cm	50 cm	60 cm	75 cm	90 cm	@ Spray Angle
2.6	3.9	5.3	6.6	7.9	10.5	13.2	15.8	19.7	23.7	15
5.4	8.0	10.7	13.4	16.1	21.4	26.8	32.2	40.2	48.2	30
7.3	10.9	14.6	18.2	21.8	29.1	36.4	43.7	54.6	65.5	40
9.3	14.0	18.7	23.3	28.0	37.3	46.6	56.0	69.9	83.9	50
12.7	19.1	25.5	31.9	38.2	51.0	63.7	76.4	95.6	114.7	65
16.8	25.2	33.6	42.0	50.3	67.1	83.9	100.7	125.9	151.0	80
21.8	32.7	43.7	54.6	65.5	87.3	109.1	131.0	163.7	196.4	95
34.6	52.0	69.3	86.6	103.9	138.6	173.2	207.8	259.8	311.8	120



## INJECTION MOLDED THREADED NOZZLE TIPS



## THREADED BALL SELECTION DATA

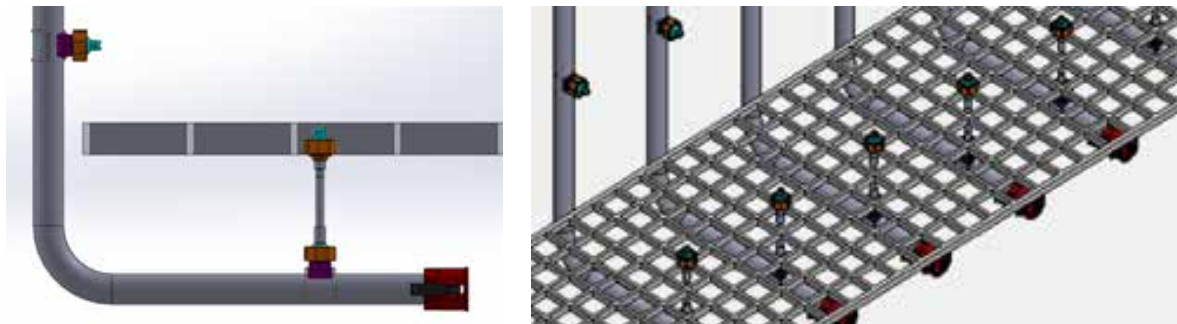
UNI 1/8 BSPT	Beige	1/8" BSPT FEMALE THREADED CONNECTION
UNI 1/4 BSPT	Beige	1/4" BSPT FEMALE THREADED CONNECTION
UNI 3/8 BSPT	Beige	3/8" BSPT FEMALE THREADED CONNECTION
UNI 1/2 BSPT	Beige	1/2" BSPT FEMALE THREADED CONNECTION



Uni-Spray also carries a large line of threaded nozzles for every application. Materials ranging from PVC to stainless steel are available in many thread sizes.

**PLEASE CALL TO DISCUSS A NOZZLE FOR YOUR SPECIFIC APPLICATION**

## NOZZLE EXTENTIONS



\*NOZZLES SHOULD ALWAYS BE MOUNTED BELOW GRATING, IMAGE IS FOR REPRESENTATION ONLY.

## SPRAY NOZZLE COMPONENTS



**MARK 1 CAP**  
UNI RC



**MARK 1 BODY ONLY**  
UNI 100 B  
UNI 125 B  
UNI 150 B  
UNI 200 B



**MARK 1 BODY, SPRING AND O-RING**  
UNI 100 BSO  
UNI 125 BSO  
UNI 150 BSO  
UNI 200 BSO



**MARK 1 BODY, SINGLE CLAMP AND O-RING**  
UNI 100 BSOC  
UNI 125 BSOC  
UNI 150 BSOC  
UNI 200 BSOC



**MARK 1 ASSEMBLY (NO TIP) DOUBLE CLAMP**  
UNI 100 BSOC  
UNI 125 BSOC  
UNI 150 BSOC  
UNI 200 BSOC



**MARK 1 OR MARK 2**  
**SINGLE CLAMP**      **DOUBLE CLAMP**  
UNI 100 SS      UNI 100 SS DW  
UNI 125 SS      UNI 125 SS DW  
UNI 150 SS      UNI 150 SS DW  
UNI 200 SS      UNI 200 SS DW



**MOLDED THREADED NOZZLE**  
1/8, 1/4, 3/8, 1/2"  
SEE PAGES 14 and 15



**MARK 4 QUIK-CHANGE BASE**  
1/8, 1/4, 3/8, 1/2"  
SEE PAGE 10



**NOZZLE TIP**  
SEE PAGES 14 and 15



**THREADED BALL**  
SEE PAGE 12



**MARK 2 ADAPTER BODY**  
UNI 100 M2 B  
UNI 125 M2 B  
UNI 150 M2 B  
UNI 200 M2 B



**MARK 3 ASSEMBLY BASE**  
SEE PAGES 8 and 9



**QUIK-CHANGE TIP**  
SEE PAGES 10, 14 AND 15



**QUIK-CHANGE BALL**  
SEE PAGE 10



**MARK 1 OR MARK 2 O-RING**  
UNI ODM EPDM  
UNI OVT VITON

# NOZZLE TIP SELECTION TABLE

## ORDER INSTRUCTIONS

Standard Ball Tip	UNI6540TIP
Quik-Change Tip	UNI6540QCTIP
Threaded Tip (1/4" NPT)	UNI654014TIP



**CONTACT US TODAY!**  
Toll Free: 877-236-0204  
uni-spray.com

## FLAT SPRAY



NOZZLE TIP PART #	TIP COLOR	SPRAY ANGLE	CAPACITY LPM AT BAR						AVAIL QC	AVAIL STD	NPT OR BSP THREAD SIZE				EQUIV ORIFICE DIA.
			0.5	0.7	1	2	3	5			1/8"	1/4"	3/8"	1/2"	
UNI1550	Pink	15	7.91	9.37	11.19	15.83	19.38	25.03	•		•	•	•	•	4.37
UNI3003	Black	30	0.48	0.57	0.68	0.97	1.18	1.53	•		•	•	•	•	1.09
UNI3010	Brown	30	1.58	1.87	2.24	3.16	3.87	5.00	•		•	•	•	•	1.73
UNI3015	Lt Blue	30	2.42	2.86	3.42	4.83	5.92	7.64	•		•	•	•	•	2.39
UNI3020	Dk Green	30	3.16	3.74	4.47	6.32	7.75	10.00	•		•	•	•	•	2.77
UNI3025	Grey	30	3.95	4.68	5.59	7.91	9.69	12.50	•		•	•	•	•	3.18
UNI3030	Purple	30	4.74	5.62	6.71	9.49	11.62	15.00	•		•	•	•	•	3.58
UNI3040	Black	30	6.59	7.80	9.32	13.18	16.14	20.84	•	•					3.96
UNI3080	Lt Green	30	12.92	15.30	18.28	25.84	31.65	40.86	•		•	•	•	•	5.56
UNI3090	Blue	30	14.50	17.20	20.50	29.00	35.50	45.90	•		•	•	•	•	5.94
UNI30100	Lt Green	30	16.09	19.04	22.75	32.17	39.40	50.87	•	•					6.35
UNI30120	Pink	30	19.30	22.90	27.30	38.70	47.40	61.10	•		•	•	•	•	6.76
UNI4020	Turquoise	40	3.16	3.74	4.47	6.32	7.75	10.00	•		•	•	•	•	2.77
UNI4050	Dk Green	40	8.17	9.67	11.56	16.34	20.02	25.84	•	•					4.37
UNI5003	Yellow	50	0.48	0.57	0.68	0.97	1.18	1.53	•		•	•	•	•	1.09
UNI5015	Dk Blue	50	2.42	2.86	3.42	4.83	5.92	7.64	•		•	•	•	•	0.79
UNI5020	Lt. Green	50	3.16	3.74	4.47	6.32	7.75	10.00	•	•					2.77
UNI5025	Black	50	3.95	4.68	5.59	7.91	9.69	12.50	•		•	•	•	•	3.18
UNI5030	Blue	50	4.74	5.62	6.71	9.49	11.62	15.00	•	•					3.58
UNI5040	Mauve	50	6.59	7.80	9.32	13.18	16.14	20.84	•	•					3.96
UNI5050	Pink	50	8.17	9.67	11.56	16.34	20.02	25.84	•	•					4.37
UNI5060	Orange	50	9.76	11.55	13.80	19.52	23.91	30.86	•	•					4.72
UNI5070	Blue	50	11.34	13.42	16.04	22.68	27.78	35.86	•	•					5.16
UNI5080	Dk Green	50	12.92	15.30	18.28	25.84	31.65	40.86	•		•	•	•	•	5.56
UNI5090	Dk Green	50	14.50	17.20	20.50	29.00	35.50	45.90	•		•	•	•	•	5.94
UNI50100	Grey	50	16.09	19.04	22.75	32.17	39.40	50.87	•	•					6.35
UNI50120	Red	50	19.30	22.90	27.30	38.70	47.40	61.10	•		•	•	•	•	6.76
UNI6520	Grey	65	3.16	3.74	4.47	6.32	7.75	10.00	•	•					2.77
UNI6530	Purple	65	4.74	5.62	6.71	9.49	11.62	15.00	•	•					3.58
UNI6540	Yellow	65	6.59	7.80	9.32	13.18	16.14	20.84	•	•					3.96
UNI6550	Red	65	8.17	9.67	11.56	16.34	20.02	25.84	•	•					4.37
UNI6560	Green	65	9.76	11.55	13.80	19.52	23.91	30.86	•	•					4.72
UNI6570	Red	65	11.34	13.42	16.04	22.68	27.78	35.86	•	•					5.16
UNI65100	Lt Green	65	16.09	19.04	22.75	32.17	39.40	50.87	•	•					6.35
UNI8006	Lt. Green	80	0.98	1.15	1.38	1.95	2.39	3.08	•	•					1.57
UNI8010	Black	80	1.58	1.87	2.24	3.16	3.87	5.00	•	•					2.03
UNI8020	Yellow	80	3.16	3.74	4.47	6.32	7.75	10.00	•		•	•	•	•	2.77
UNI8040	Beige	80	6.59	7.80	9.32	13.18	16.14	20.84	•	•					3.96
UNI8050	Dk. Green	80	8.17	9.67	11.56	16.34	20.02	25.84	•	•					4.37
UNI8060	Beige	80	9.76	11.55	13.80	19.52	23.91	30.86	•	•					4.72
UNI8070	Beige	80	11.34	13.42	16.04	22.68	27.78	35.86	•	•					5.16
UNI9503	Orange	95	0.48	0.57	0.68	0.97	1.18	1.53	•		•	•	•	•	1.09
UNI9520	Red	95	3.16	3.74	4.47	6.32	7.75	10.00	•		•	•	•	•	2.77
UNI9530	Grey	95	4.74	5.62	6.71	9.49	11.62	15.00	•		•	•	•	•	3.58
UNI9510ex	Black	95	1.58	1.87	2.24	3.16	3.87	5.00	•		•	•	•	•	2.03
UNI9520ex	Red	95	3.16	3.74	4.47	6.32	7.75	10.00	•		•	•	•	•	2.77
UNI9530ex	Orange	95	4.74	5.62	6.71	9.49	11.62	15.00	•		•	•	•	•	3.58
UNI9540	Black	95	6.59	7.80	9.32	13.18	16.14	20.84	•		•	•	•	•	3.96
UNI9550	Bronze	95	8.17	9.67	11.56	16.34	20.02	25.84	•	•					4.37
UNI9560	Dk Green	95	9.76	11.55	13.80	19.52	23.91	30.86	•	•					4.72
UNI11003	Teal	110	0.42	0.57	0.68	0.80	0.99	1.14	•		•	•	•	•	1.09
UNI11006	Orange	110	0.98	1.15	1.38	1.95	2.39	3.08	•		•	•	•	•	1.57
UNI11008	Yellow	110	1.28	1.52	1.82	2.57	3.15	4.06	•	•					1.83
UNI12006	Orange	120	0.98	1.15	1.38	1.95	2.39	3.08							1.57
UNI12010	Grey	120	1.58	1.87	2.24	3.16	3.87	5.00	•	•					2.03
UNI12070	Black	120	11.34	13.42	16.04	22.68	27.78	35.86	•	•					5.16
Custom Flow Rate and Spray Angle available upon request															
PLUGTIP	Grey	Blank							•	•					



## FULL JET

NOZZLE TIP PART #	TIP COLOR	SPRAY ANGLE	CAPACITY LPM AT BAR						AVAIL QC	AVAIL STD	NPT OR BSP THREAD SIZE				EQUIV ORIFICE DIA.
			0.5	0.7	1	2	3	5			1/8"	1/4"	3/8"	1/2"	
UNI0005	Grey	0	0.68	0.95	1.17	1.33	1.63	1.90	•	•	•	•	•	•	1.45
UNI0015	Orange	0	2.01	2.84	3.49	4.02	4.93	5.69	•	•	•	•	•	•	2.39
UNI0020	Dk Grey	0	2.69	3.79	4.62	5.34	6.56	7.58	•	•	•	•	•	•	2.77
UNI0030	Dk Green	0	4.02	5.69	6.97	8.03	9.85	11.37	•	•	•	•	•	•	3.58
UNI0040	Yellow	0	5.34	7.58	9.29	10.73	13.11	15.16	•	•	•	•	•	•	3.96
UNI0050	Blue	0	6.71	9.48	11.60	13.42	16.41	18.95	•	•	•	•	•	•	4.37
UNI0060	Grey	0	8.03	11.37	13.95	16.07	19.71	22.74	•	•	•	•	•	•	4.72
UNI0070	Grey	0	9.36	13.27	16.26	18.76	22.93	26.53	•	•	•	•	•	•	5.16
UNI0080	Dk Green	0	10.73	15.16	18.57	21.45	26.26	30.32	•	•	•	•	•	•	5.56
UNI0090	Lt Green	0	12.05	17.06	20.88	24.10	29.52	34.11	•	•	•	•	•	•	5.94
UNI00100	Orange	0	13.42	18.95	23.19	26.80	32.82	37.90	•	•	•	•	•	•	6.35
UNI00150	White	0	20.09	28.43	34.83	40.21	49.27	56.85	•	•	•	•	•	•	7.24
UNI00200	Dk Grey	0	26.80	37.90	46.43	53.59	65.64	75.80	•	•	•	•	•	•	8.74

Custom Flow Rate and Spray Angle available upon request

## FULL CONE

NOZZLE TIP PART #	TIP COLOR	SPRAY ANGLE	CAPACITY LPM AT BAR						AVAIL QC	AVAIL STD	NPT OR BSP THREAD SIZE				EQUIV ORIFICE DIA.
			0.5	0.7	1	2	3	5			1/8"	1/4"	3/8"	1/2"	
UNI03FC	Black	60	0.93	1.11	1.34	1.88	2.30	2.95	•	•	•	•	•	•	1.09
UNI05FC	Red	60	1.55	1.85	2.20	3.15	3.84	4.97	•	•	•	•	•	•	1.45
UNI09FC	Lt Green	60	2.84	3.34	3.97	5.64	6.90	8.89	•	•	•	•	•	•	2.03
UNI12FC	Pink	60	3.77	4.45	5.31	7.52	9.21	11.88	•	•	•	•	•	•	2.16
UNI15FC	Purple	60	4.70	5.56	6.65	9.40	11.51	14.83	•	•	•	•	•	•	2.39
UNI16FC	Blue	40	5.01	5.93	7.08	10.02	12.27	15.84	•	•	•	•	•	•	2.49
UNI17FC	Yellow	80	5.32	6.30	8.02	10.49	13.42	16.81	•	•	•	•	•	•	2.59
UNI25FC	Red	40	7.85	9.27	11.05	15.66	19.18	24.72	•	•	•	•	•	•	3.18
UNI27FC	Pink	45	8.47	10.01	11.96	16.92	20.71	26.70	•	•	•	•	•	•	3.30
UNI28FC	Red	60	8.78	10.38	12.39	17.54	21.48	27.71	•	•	•	•	•	•	3.35
UNI29FC	Dk Green	65	9.09	10.75	12.82	18.15	22.25	28.96	•	•	•	•	•	•	3.53
UNI30FC	Teal	55	9.40	11.12	13.29	18.80	23.01	29.81	•	•	•	•	•	•	3.58
UNI35FC	Blue	60	10.95	12.97	15.49	21.91	26.85	34.62	•	•	•	•	•	•	3.76
UNI40FC	Blue	60	12.42	14.83	17.70	24.95	30.68	39.59	•	•	•	•	•	•	3.96
UNI50FC	Black	50	15.70	18.53	22.10	31.31	38.35	49.49	•	•	•	•	•	•	4.37
UNI52FC	Pink	65	16.32	19.27	23.01	32.54	39.89	51.43	•	•	•	•	•	•	4.52
UNI53FC	Black	65	16.63	19.65	23.44	32.90	40.66	52.44	•	•	•	•	•	•	4.57

Custom Flow Rate and Spray Angle available upon request

## HOLLOW CONE

NOZZLE TIP PART #	TIP COLOR	SPRAY ANGLE	CAPACITY LPM AT BAR						AVAIL QC	AVAIL STD	NPT OR BSP THREAD SIZE				EQUIV ORIFICE DIA.
			0.5	0.7	1	2	3	5			1/8"	1/4"	3/8"	1/2"	
UNI08HC	Blue	90	2.53	2.97	3.54	5.03	6.14	7.92	•	•	•	•	•	•	1.83
UNI15HC	Teal	60	4.70	5.56	6.65	9.40	11.51	14.83	•	•	•	•	•	•	2.39
UNI20HC	Orange	65	6.25	7.41	8.85	12.51	15.34	19.79	•	•	•	•	•	•	2.77
UNI25HC	Red	65	7.85	9.27	11.05	15.66	19.18	24.72	•	•	•	•	•	•	3.18
UNI28HC	Blue	65	8.78	10.38	12.39	17.54	21.48	27.71	•	•	•	•	•	•	3.35
UNI29HC	Dk Green	50	9.09	10.75	12.82	18.15	22.25	28.86	•	•	•	•	•	•	3.53
UNI30HC	Blue	50	9.40	11.12	13.29	18.80	23.01	29.72	•	•	•	•	•	•	3.58
UNI35HC	Blue	65	10.95	12.97	15.49	21.91	26.85	34.62	•	•	•	•	•	•	3.76
UNI50HC	Black	65	15.70	18.53	22.10	31.31	38.35	49.69	•	•	•	•	•	•	4.37
UNI3007HC	Teal	30	2.17	2.59	3.11	4.37	5.37	6.91	•	•	•	•	•	•	1.73
UNI3011HC	Dk Green	30	3.46	4.08	4.88	6.87	8.44	10.87	•	•	•	•	•	•	2.11
UNI3016HC	Blue	30	5.01	5.93	7.08	10.02	12.27	15.84	•	•	•	•	•	•	2.49
UNI3020HC	Red	30	6.25	7.41	8.85	12.51	15.34	19.79	•	•	•	•	•	•	2.77
UNI3050HC	Grey	30	15.70	18.53	22.10	31.31	38.35	49.49	•	•	•	•	•	•	4.37
UNI5007HC	Beige	50	2.17	2.59	3.11	4.37	5.37	6.91	•	•	•	•	•	•	1.73
UNI5008HC	Orange	50	2.53	2.97	3.54	5.03	6.14	7.92	•	•	•	•	•	•	1.83
UNI5016HC	Mauve	50	5.01	5.93	7.08	10.02	12.27	15.84	•	•	•	•	•	•	2.49
UNI5020HC	Orange	50	6.25	7.41	8.85	12.51	15.34	19.79	•	•	•	•	•	•	2.77
UNI6018HC	Pink	60	5.63	6.67	7.95	11.28	13.81	17.82	•	•	•	•	•	•	2.57

Custom Flow Rate and Spray Angle available upon request

## Nozzle Type

In general, Full Cone Nozzles have the largest droplets, followed by Flat Spray Nozzles and Hollow Cone Nozzles. For a better description of the characteristics of various types of spray nozzles, refer to pages 2 and 10-12.

## Flow Rate

If you select a nozzle with a greater flow rate at the same pressure, droplet size increases. For example, a UNI 6550 Flat Spray Nozzle at 2.8 bar and a flow rate of 7.6 lpm will have a larger droplet size than a UNI 6540 Flat Spray Nozzle at 2.8 bar, which has a flow rate of only 15.1 lpm.

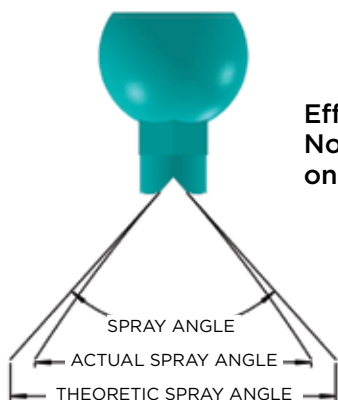
## Pressure

As the pressure on any given nozzle increases, droplet size will decrease. For example, the same UNI 6550 Flat Spray Nozzle has a larger droplet size at 2.8 bar pressure than it does at 3.5 bar.

Of the factors affecting flow rate, the most influential is pressure. Theoretically, flow rate varies in correlation with the square root of the pressure, neglecting all other factors. To compute pressures and flow rates other than those on pages 11, 13, and 14 the following formulas may be used:

$$Q_2 = Q_1 \sqrt{\frac{P_2}{P_1}} \quad P_2 = P_1 \left( \frac{Q_2}{Q_1} \right)^2$$

Q1 and P1 are the known flow rate and pressure.  
Q2 is the resulting flow rate from the new pressure P2.  
P2 is the resulting pressure from the new flow rate Q2.



**Effect of Nozzle Wear on Spray Angle**

## Temperature

Changing temperature can alter a liquid's viscosity, surface tension, and specific gravity, and this in turn changes nozzle performance.

Viscosity generally changes significantly with temperature. As the temperature drops, viscosity increases, which increases the energy required to form a spray, and also increases droplet size. The performance data supplied on pages 11, 14 and 15 is based on spraying water at room temperature. The lower the specific gravity of a fluid, the higher the flow rate through the nozzle at the same pressure, as shown in the following equation:

$$(Q \text{ water}) \times \frac{1}{\sqrt{SG \text{ fluid}}} = (Q \text{ fluid})$$

For example, the flow rate of a fluid with a specific gravity of 1.3 would be about 87% of the flow rate of water.

$$(15.1416 \times \frac{1}{\sqrt{1.3}} \text{ lpm water}) = (13.28 \text{ lpm fluid})$$

Increasing surface tension increases the effort required to atomize the spray, which increases the droplet size and reduces the spray angle.

## Spray Angle

Increasing the spray angle will reduce the droplet size. For example, a UNI 6550 nozzle with a 65° spray angle and 19 lpm at 2.8 bar will have a finer droplet size than a UNI 5050 nozzle with a 50° spray angle at the same pressure and flow.

At any given pressure and flow, the impact force or impingement of a spray will be increased by a narrower spray angle and, depending on your application, should be taken into account.

Nozzle wear can also affect the spray angle. As nozzle wear increases, the orifice gets bigger, and flow rate increases, which in turn can result in a loss of system pressure. This loss of spray pressure can often be recognized by a narrowing of the spray pattern or by a general loss of uniformity in the spray pattern.



## QUIK-DISCONNECT SELECTION GUIDE

- ◀ Cam-Operated Couplings provide easy access for the cleaning and installation of spray risers.
- ◀ They adapt to standard steel or non-corrosive risers and headers in sizes from 1" (25 mm) to 4" (100 mm) and are available in Poly-Glass or PVDF.

### To Make Up a Quik-Disconnect Junction

- ◀ You must have one female connector assembly (Part B, C, or D) which incorporates the cam-lock arms, and one male connector (Part A, E, or F) which is shaped to precisely fit into the socket on the mating part and be held securely against the sealing gasket by the unique cam-lock mechanism.
- ◀ The female connectors connect to your pipe system by an external NPT thread (Part B), an internal NPT thread (Part D) or a hose barb (Part C). The male connectors likewise connect to your pipes by an internal NPT thread (Part A), an external thread (Part F), or a hose barb (Part E). And, to cap off any section which terminates with a female connector, use the available plug (Part DP). The Quik-Disconnects can be combined with our Clamp-On Nozzles and Nozzle Adapters, Quik-Lock Formed Risers and Headers, Quik-Release Riser Supports, and Ball Valves to make up complete spray header systems that provide unparalleled ease of installation and use.
- ◀ To increase the value of your investment in Uni-Spray Quik-Disconnect couplings, we provide a complete line of replacement parts for the assemblies. It is no longer necessary to discard an entire assembly just because one part is broken. Refer to the following pages for complete information and specifications for the full Quik-Disconnect line.



### Available Sizes

All Quik-Disconnect plastic components are colour-coded for convenient identification, and are available to fit the following pipe sizes:

(mm)	Thread Type	Poly-Glass	PVDF
25 mm	BSPT	Black	White
32 mm	BSPT	Red	White
40 mm	BSPT	Purple	White
50 mm	BSPT	Black	White
75 mm	BSPT	Black	White
100 mm	BSPT	Black	White

## QUIK-DISCONNECT COUPLINGS AND ADAPTERS

**Note:** 32 mm (1 1/4") through 40 mm (1 1/2") Parts B, C, D and DC assemblies will be shipped with Ny-Glass Arms unless Stainless Steel Arms are requested. Assemblies are supplied complete with retaining clips.



**PART A**  
ADAPTER x FT



**PART B**  
COUPLER x MT



**PART C**  
COUPLER x HOSE BARB



**PART D**  
COUPLER x FT



**PART E**  
ADAPTER x HOSE BARB



**PART F**  
ADAPTER x MT



**PART DP**  
PLUG



**PART DC**  
CAP

Uni-Spray has been developing innovative products for industry since 1987. This continues to be a focus for the company's future. Please contact us with any new concepts.



## Quik-Disconnect ORDERING INSTRUCTIONS

### How To Order A Quik-Disconnect Coupler or Adapter:

The complete Part Number tells us exactly what assembly you want.

For example, let's say that you want to order a cam-operated Part D: Coupler x FT (Female Thread) molded in Poly-Glass, to fit on a 75 mm (3") pipe:



#### STEP 1

The Part Number begins with UNI, followed by the pipe size:

- UNI 100= 25 mm (1") pipe
- UNI 125= 32 mm (1 1/4") pipe
- UNI 150= 40 mm (1 1/2") pipe
- UNI 200= 50 mm (2") pipe
- UNI 300= 75 mm (3") pipe
- UNI 400= 100 mm (4") pipe

So in our example, we would have so far

UNI 300

#### STEP 2

Identify the Style of component as shown on page 20, using our Part Code, which in this example is Part D, and we have

UNI 300 D

#### STEP 3

Finish the Part Number with the Material Code, as follows:

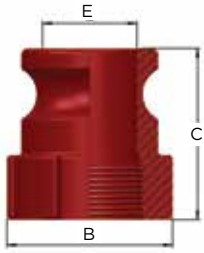
- PG = Poly-Glass (excellent heat and chemical resistance)
- K = PVDF (excellent heat and superior chemical resistance)

So in our example, we end up with

UNI 300 DPG

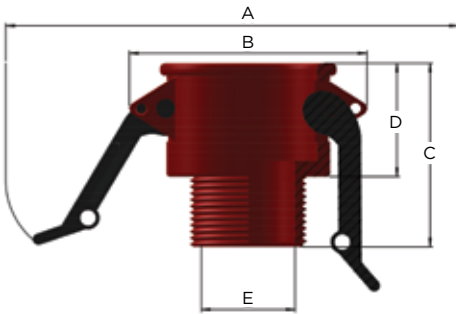


# QUIK-DISCONNECT DIMENSIONS



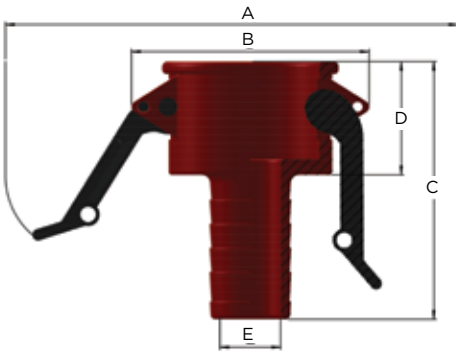
**PART A: ADAPTER x FT (mm)**

SIZE CODE	100	125	150	200	300	400
Size of Thread	1"	1 1/4"	1 1/2"	2"	3"	4"
A Overall Length	47.6	69.9	69.9	74.6	74.6	95.3
B Minimum I.D.	20.6	36.5	36.5	42.9	71.4	95.3
C Maximum O.D.	44.5	63.5	63.5	77.8	122.2	133.4



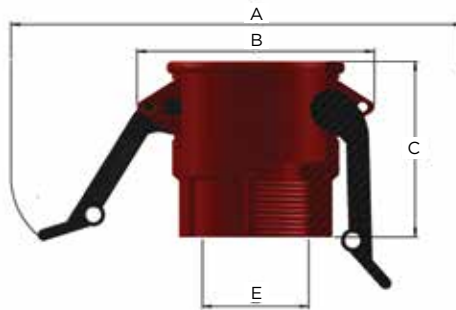
**PART B: COUPLER x MT (mm)**

SIZE CODE	100	125	150	200	300	400
Size of Thread	1"	1 1/4"	1 1/2"	2"	3"	4"
A O.D. with Arms Out	120.7	208.0	208.0	220.7	252.4	281.0
B Maximum O.D.	63.5	95.3	95.3	103.2	127.0	166.7
C Overall Length	63.5	69.9	69.9	82.6	84.1	100.0
D Exposed Length	39.7	47.6	47.6	54.0	66.7	65.1
E Minimum I.D.	22.2	49.2	38.1	47.6	73.0	98.4



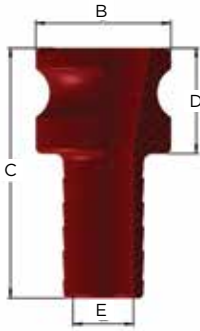
**PART C: COUPLER x HOSE BARB (mm)**

SIZE CODE	100	125	150	200	300	400
Size of Hose Barb	25	32	40	50	75	100
A O.D. with Arms Out	120.7	208.0	208.0	220.7	252.4	281.0
B Maximum O.D.	63.5	95.3	95.3	103.2	127.0	166.7
C Overall Length	96.8	108.0	108.0	125.4	160.3	158.8
D Exposed Length	39.7	47.6	47.6	54.0	60.3	65.1
E Minimum I.D.	20.6	23.8	30.2	41.3	65.1	88.9



**PART D: COUPLER x FT (mm)**

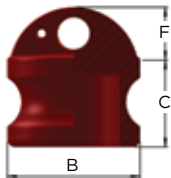
SIZE CODE	100	125	150	200	300	400
Size of Thread	1"	1 1/4"	1 1/2"	2"	3"	4"
A O.D. with Arms Out	120.7	208.0	208.0	220.7	252.4	281.0
B Maximum O.D.	63.5	95.3	95.3	103.2	127.0	166.7
C Overall Length	61.9	69.9	69.9	82.6	82.6	101.6
D Minimum I.D.	25.4	38.1	41.3	42.9	73.0	98.4


**PART E: ADAPTER x HOSE BARB (mm)**

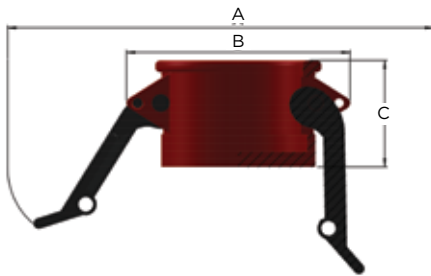
SIZE CODE	100	125	150	200	300	400
Size of Hose Barb	25	32	40	50	75	100
A Maximum O.D.	36.5	53	53	63	91	120
B Overall Length	90.5	123	123	130	174	185
C Exposed Length	33.3	53	53	48	53	76
D Minimum I.D.	20.6	30	30	41	61	130


**PART F: ADAPTER x MT (mm)**

SIZE CODE	100	125	150	200	300	400
Size of Thread	1"	1 1/4"	1 1/2"	2"	3"	4"
A Overall Length	68.3	79.4	79.4	89.0	100.0	115.9
B Maximum O.D.	44.5	63.5	63.5	77.8	122.2	133.4
C Minimum I.D.	22.2	33.3	36.5	47.6	69.9	98.4


**PART DP: PLUG (mm)**










SIZE CODE	100	125	150	200	300	400
Nominal Pipe Size	1"	1 1/4"	1 1/2"	2"	3"	4"
A Overall Length	34.9	36.5	36.5	49.2	52.4	55.6
B Maximum O.D.	36.5	54.0	54.0	63.5	92.1	119.1
C Lug Extension	9.5	11.1	11.1	9.5	12.7	12.7


**PART DC: CAP (mm)**

SIZE CODE	100	125	150	200	300	400
Nominal Pipe Size	1"	1 1/4"	1 1/2"	2"	3"	4"
A O.D. with Arms Out	120.7	208.0	208.0	220.7	252.4	281.0
B Maximum O.D.	63.5	95.3	95.3	103.2	127.0	166.7
C Overall Length	41.3	49.2	49.2	55.6	60.3	63.5

# QUIK-DISCONNECT REPLACEMENT PARTS

TO ORDER SPARE PARTS FOR YOUR ASSEMBLIES, USE THE PARTS GUIDE BELOW

COMPONENT	1" / 25 MM	1 1/4" / 32 MM	1 1/2" / 40 MM	2" / 50 MM	3" / 75 MM	4" / 100 MM
<b>PART D BODY: KYNAR OR POLY-GLASS</b>						
	UNI 100 DPG-B	UNI 125 DPG-B	UNI 150 DPG-B	UNI 200 DPG-B	UNI 300 DPG-B	UNI 400 DPG-B
	UNI 100 DK-B	UNI 125 DK-B	UNI 150 DK-B	UNI 200 DK-B	(N/A)	(N/A)
<b>PART C BODY: KYNAR OR POLY-GLASS</b>						
	UNI 100 CPG-B	UNI 125 CPG-B	UNI 150 CPG-B	UNI 200 CPG-B	UNI 300 CPG-B	UNI 400 CPG-B
	UNI 100 CK-B	UNI 125 CK-B	UNI 150 CK-B	UNI 200 CK-B	(N/A)	(N/A)
<b>PART B BODY: KYNAR OR POLY-GLASS</b>						
	UNI 100 BPG-B	UNI 125 BPG-B	UNI 150 BPG-B	UNI 200 BPG-B	UNI 300 BPG-B	UNI 400 BPG-B
	UNI 100 BK-B	UNI 125 BK-B	UNI 150 BK-B	UNI 200 BK-B	(N/A)	(N/A)
<b>PART DC BODY: KYNAR OR POLY-GLASS</b>						
	UNI 100 DCPG-B	UNI 125 DCPG-B	UNI 150 DCPG-B	UNI 200 DCPG-B	UNI 300 DCPG-B	UNI 400 DCPG-B
	UNI 100 DCK-B	UNI 125 DCK-B	UNI 150 DCK-B	UNI 200 DCK-B	(N/A)	(N/A)
<b>GASKET, EPDM OR VITON</b>						
	UNI G 1	UNI G 2	UNI G 3	UNI G 4	UNI G 5	
	UNI G 1V	UNI G 2V	UNI G 3V	UNI G 4V	UNI G 5V	
<b>CAM-LOCK ARM, NY-GLASS OR KYNAR</b>						
	UNI AP 1	UNI AP 1	UNI AP 2	(N/A)		
	UNI KY 3	UNI KY 3	UNI KY 3	(N/A)		
<b>CAM-LOCK ARM 302 SS</b>						
	UNI AS 1	UNI AS 2	UNI AS 3	UNI AS 4		
<b>SPRING CLIP, 302 SS, NY-GLASS OR KYNAR</b>						
	UNI C 1	UNI C 2	UNI C 3	UNI R 1 (RING, 302 SS)		
	UNI C 1K	UNI C 2K	UNI C 3K			
	UNI C 1SS	UNI C 2SS	UNI C 3SS			
<b>PIN, 302 SS, NY-GLASS OR KYNAR</b>						
	UNI P 1	UNI P 2	UNI P 3	UNI P 4		
	UNI P 1K	UNI P 2K	UNI P 3K			
	UNI P 1SS	UNI P 2SS	UNI P 3SS			

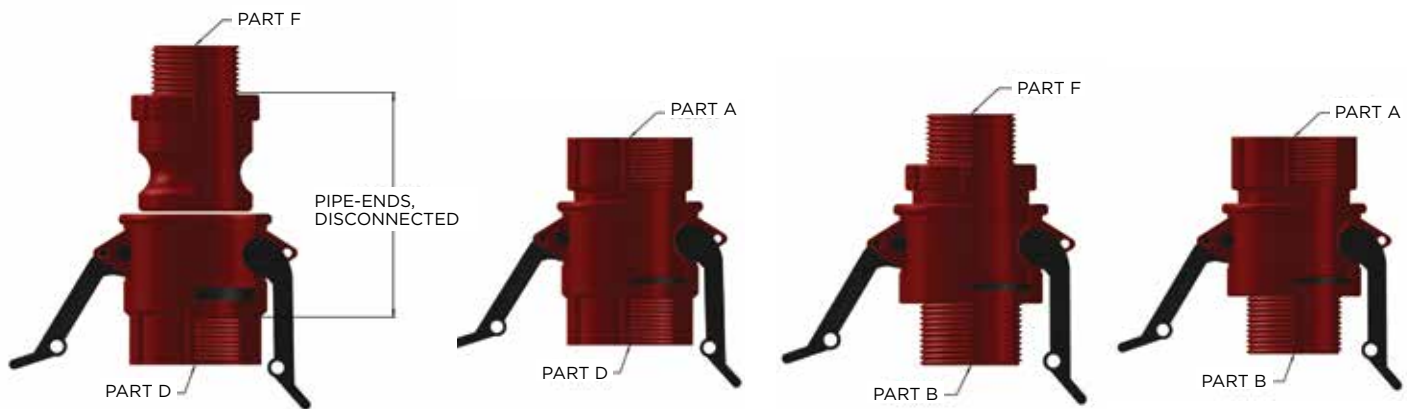
TO ORDER COMPLETE ASSEMBLIES, USE THE ORDERING INSTRUCTIONS ON PAGE 19



## QUIK-DISCONNECT PIPE-END SEPARATION DISTANCES

Pipe-End Separation is the distance between the pipe ends being connected by means of the QUIK-DISCONNECT couplings.

The separation distance is given both as the distance when the couplers are engaged, and as the minimum distance required for disconnecting, assuming complete pipe thread engagement.



PIPE SIZE (mm)		D to F	D to A	B to F	B to A
25 mm (1")	CONNECTED	58.93	37.08	127.00	107.95
	DISCONNECTED	88.90	67.06	158.75	139.70
32 mm (1 1/4")	CONNECTED	68.07	56.90	117.48	107.95
	DISCONNECTED	103.12	92.96	149.23	142.88
40 mm (1 1/2")	CONNECTED	61.98	50.04	117.48	107.95
	DISCONNECTED	98.04	86.11	149.23	142.88
50 mm (2")	CONNECTED	69.09	57.91	142.88	127.00
	DISCONNECTED	113.03	102.11	184.15	171.45
75 mm (3")	CONNECTED	136.53	149.23	127.00	146.05
	DISCONNECTED	177.80	184.15	165.10	184.15
100 mm (4")	CONNECTED	180.98	180.98	180.98	190.50
	DISCONNECTED	225.43	225.43	225.43	234.95

TO ORDER COMPLETE ASSEMBLIES, USE THE ORDERING INSTRUCTIONS ON PAGE 21.





## THE UNI-SPRAY PIPE SADDLE SELECTION GUIDE

- ◀ High-quality injection-moulded pipe fitting which can be installed on an existing pipe in minutes.
- ◀ Made of polypropylene and highly resistant to a wide range of caustic and acid-based chemicals.
- ◀ Will operate effectively at pressures up to 10.3 bar in temperatures from 0° to 130 °C
- ◀ The Uni-Spray Pipe Saddle is well suited for use on I.P.S. outer dimension PVC, CPVC, stainless steel and black iron pipe.
- ◀ The Saddle will fit Schedule 40, Schedule 80, and SDR 13.5 through 64 pipe. Moreover, it also fits a variety of polyethylene and polybutylene pipe applications. These Saddles are available in 25 mm (1") through 150 mm (6") mainline pipe sizes, with a wide assortment of take-off sizes.
- ◀ Pipe Saddles eliminate the high cost of back welding female couplers to the thermoplastic, steel, or iron pipes, and are completely compatible with our Uni-Spray Quik-Disconnect couplers.



### Available Sizes

Refer to the chart below. Available combinations are indicated with an X.

		DRILL SIZE	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"	8"
TAKE-OFF SIZE	1/2"	3/8"	X	X	X						
	3/4"	7/8"	X	X	X	X					
	1"	1"		X	X	X	X	X	X	X	
	1 1/4"	1 3/8"				X	X	X	X	X	X
	1 1/2"	1 5/8"				X	X	X	X	X	X
	2"	2"					X	X	X	X	X

## PIPE SADDLE INSTALLATION INSTRUCTIONS

### Product Advantages:

- ◀ The use of Pipe Saddles eliminates the higher cost of back welding female couplers to thermoplastic pipe and simplifies on-site installation and repairs.
- ◀ Raw material is polypropylene and resistant to a wide range of caustic and acid-based chemicals. Operating temperature range is approximately 0° to 130°C.
- ◀ Working pressure: will operate effectively at pressures up to 10.3 bar.
- ◀ Compression seal o-ring ensures sealing.

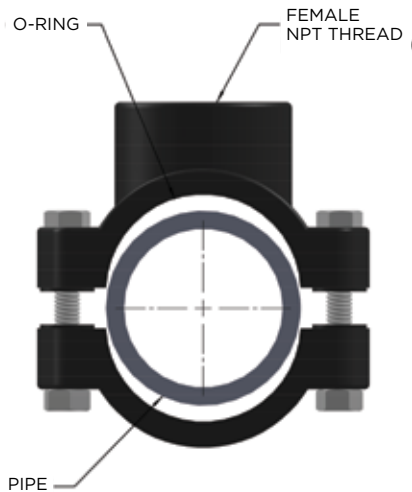
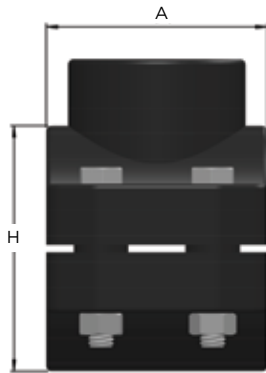
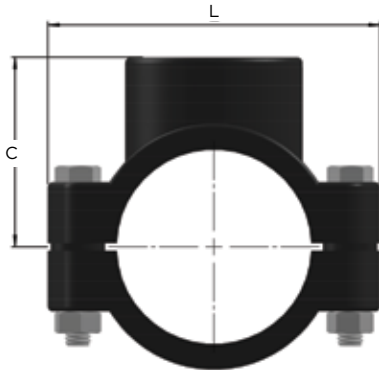


### To Assemble

1. Place the o-ring into saddle.
2. Position the saddle on the pipe.
3. Install the lower half and fasteners and partially tighten the bolts.
4. Check the saddle position and level, adjust if necessary, and then tighten the bolts evenly.
5. Drill a hole in the pipe through the saddle take-off.
6. Install the connecting pipe or Quik-Disconnect® fitting.



# PIPE SADDLE DIMENSIONS



PART NO.	PIPE SIZE	TAKE-OFF	L	H	C	A
100SAD050	25 mm (1")	1/2"	79.1	42.0	40.0	49.0
100SAD075	25 mm (1")	3/4"	79.1	42.0	40.0	49.0
125SAD050	32 mm (1 1/4")	1/2"	86.0	52.1	45.0	62.0
125SAD075	32 mm (1 1/4")	3/4"	86.0	52.1	45.0	62.0
125SAD100	32 mm (1 1/4")	1"	86.0	52.1	45.0	62.0
150SAD050	40 mm (1 1/2")	1/2"	86.0	62.0	50.0	62.0
150SAD075	40 mm (1 1/2")	3/4"	86.0	62.0	50.0	62.0
150SAD100	40 mm (1 1/2")	1"	86.0	62.0	50.0	62.0
200SAD100	50 mm (2")	1"	101.1	77.1	58.1	62.0
200SAD125	50 mm (2")	1 1/4"	101.1	75.0	58.1	62.0
200SAD150	50 mm (2")	1 1/2"	101.1	75.0	58.1	62.0
250SAD100	63 mm (2 1/2")	1"	116.0	89.0	66.1	77.1
250SAD125	63 mm (2 1/2")	1 1/4"	116.0	89.0	66.1	77.1
250SAD150	63 mm (2 1/2")	1 1/2"	116.0	89.0	66.1	77.1
300SAD100	75 mm (3")	1"	132.0	106.1	77.1	87.0
300SAD125	75 mm (3")	1 1/4"	132.0	106.1	77.1	87.0
300SAD150	75 mm (3")	1 1/2"	132.0	106.1	77.1	87.0
300SAD200	75 mm (3")	2"	132.0	106.1	77.1	87.0
400SAD100	100 mm (4")	1"	172.0	140.0	94.0	101.0
400SAD125	100 mm (4")	1 1/4"	172.0	140.0	94.0	101.0
400SAD150	100 mm (4")	1 1/2"	172.0	140.0	94.0	101.0
400SAD200	100 mm (4")	2"	172.0	140.0	94.0	101.0
600SAD100	150 mm (6")	1"	236.9	191.8	133.6	168.0
600SAD125	150 mm (6")	1 1/4"	236.9	191.8	133.6	168.0
600SAD150	150 mm (6")	1 1/2"	236.9	191.8	133.6	168.0
600SAD200	150 mm (6")	2"	236.9	191.8	133.6	168.0

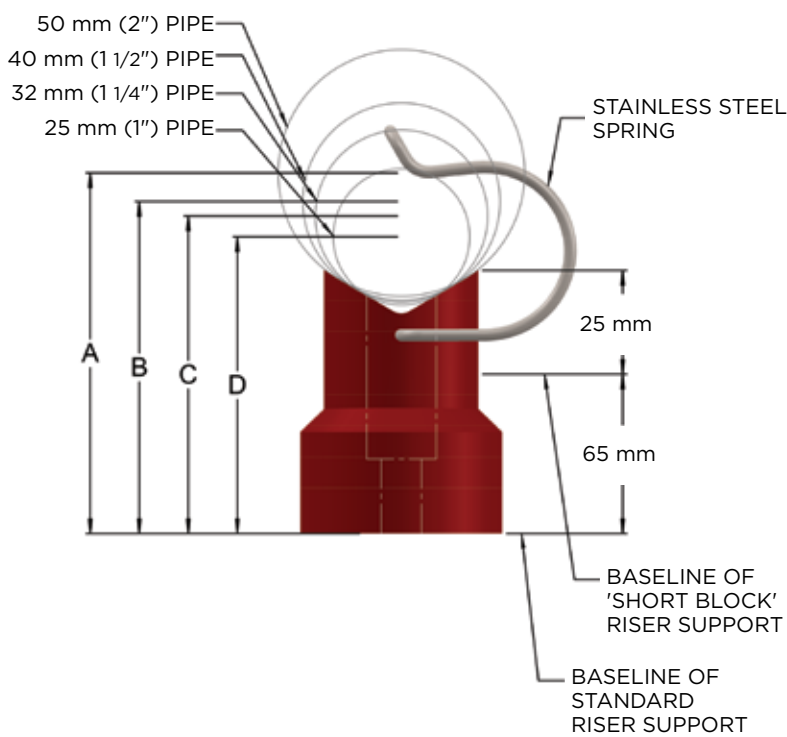


## Quik-Release Riser Support ORDERING INSTRUCTIONS

Quik-Release Riser Support dimensions are shown for 25 mm (1"), 32 mm (1 1/4"), 40 mm (1 1/2") and 50 mm (2") pipe risers.

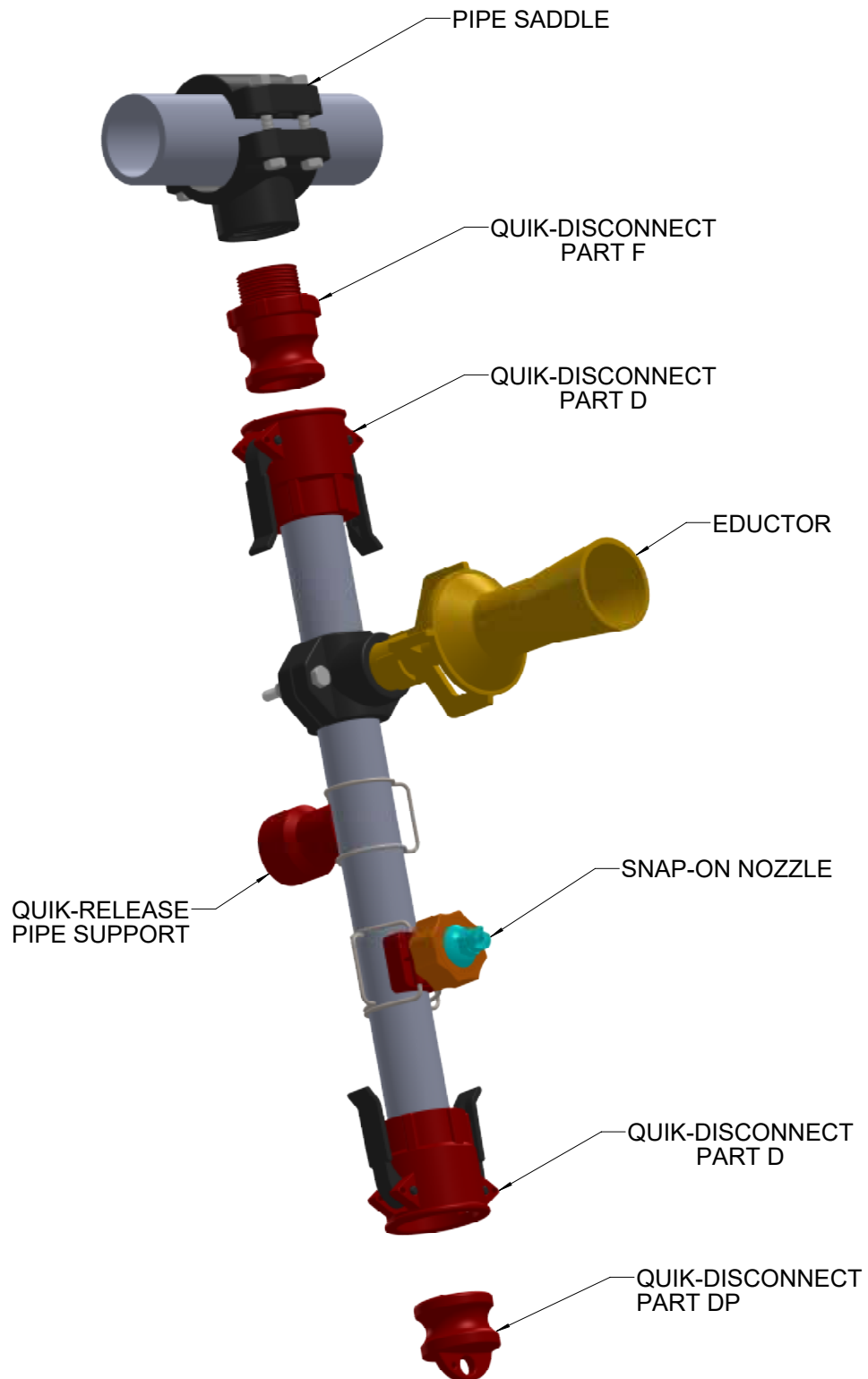
Note: For these sizes, the Riser Support Bodies are identical in size, but the Spring sizes vary. The Body colour denotes the Spring size.

25 mm (1") = BLUE  
32 mm (1 1/4") = RED  
40 mm (1 1/2") = PURPLE  
50 mm (2") = GREEN



PIPE C/L TO WALL	A (50 mm Pipe)	B (40 mm Pipe)	C (32 mm Pipe)	D (25 mm Pipe)
RISER SUPPORT: STANDARD	88.9	82.6	79.4	74.9
PART NUMBER	QR200	QR150	QR125	QR100
RISER SUPPORT: SHORT BLOCK	50.8	44.5	41.3	36.8
PART NUMBER	QR200MINI	QR150MINI	QR125MINI	QR100MINI

## UNI-SPRAY QUIK-RELEASE NOZZLES, COUPLERS AND PIPE SYSTEMS FOR THE PRETREATMENT INDUSTRY.

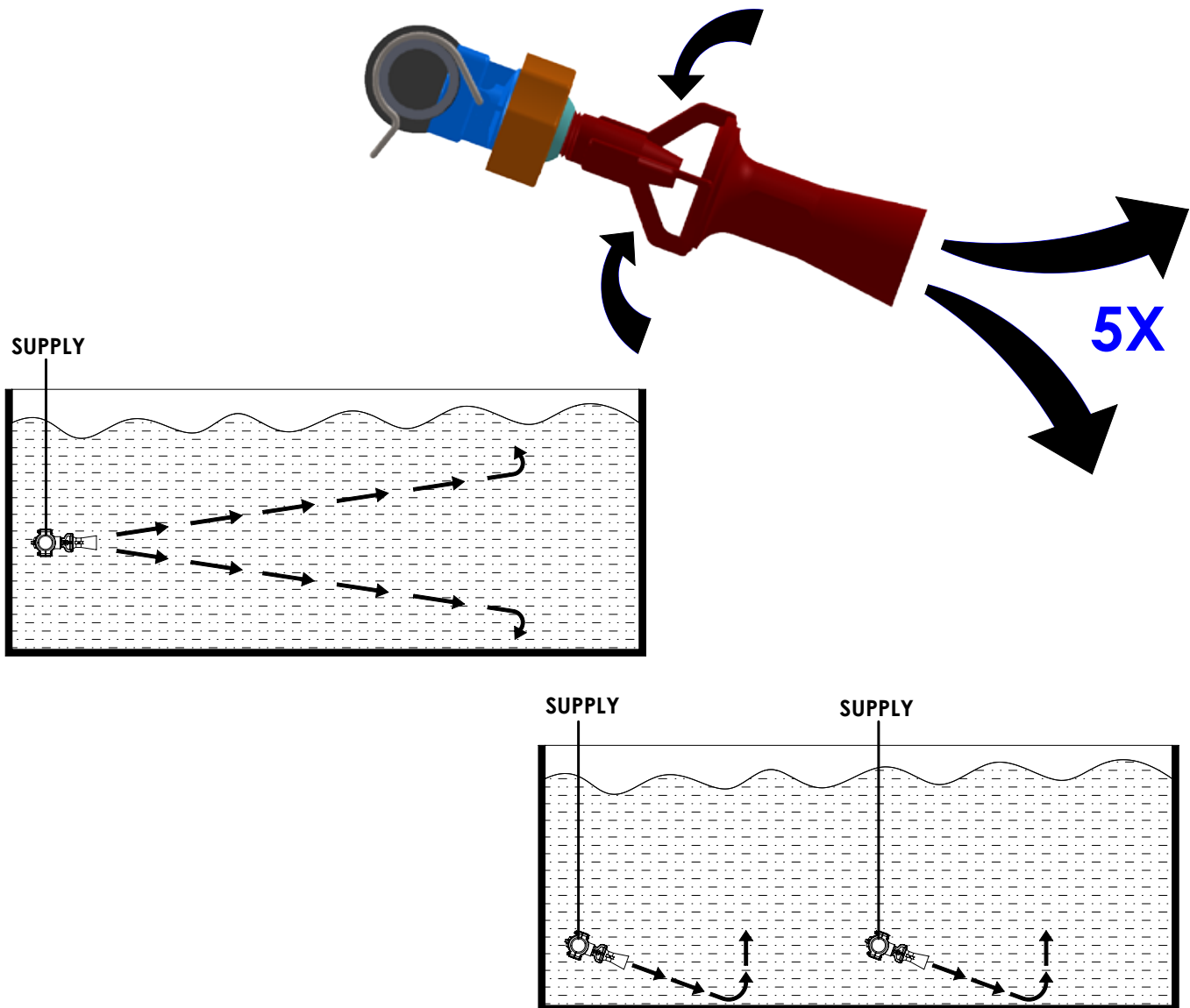


**DESIGNED FOR YOUR APPLICATION**





## UNI-SPRAY TANK MIXING EDUCTOR CAPACITIES



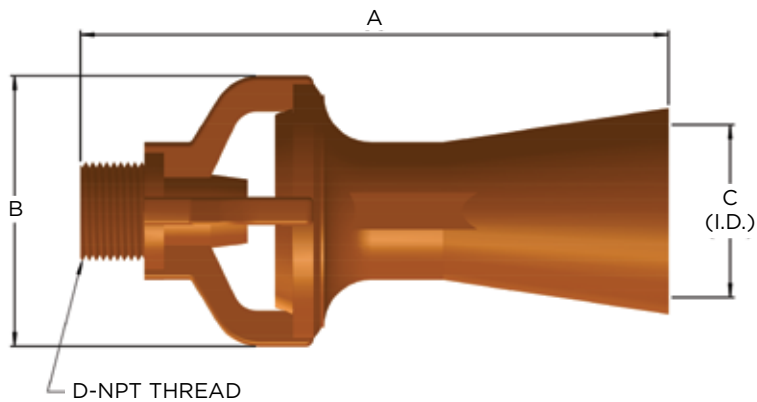
Size	OPERATING LIQUID FLOW (lpm)		Pressure Differential (bar)				
	0.5	0.7	1	2	3	5	
1/4" BSPT	10.28	12.17	14.54	20.56	25.19	32.52	
3/8" BSPT	24.52	29.03	34.68	49.04	60.07	77.54	
1/2" BSPT	34.55	40.89	48.86	69.08	84.62	109.24	
3/4" BSPT	45.62	54.01	64.52	91.23	111.75	144.27	
1" BSPT	78.85	93.33	111.51	157.67	193.13	249.33	
1 1/2" BSPT	113.39	134.23	160.36	226.76	277.75	358.58	

**Note:** The flow rate that is shown in the above chart is the motive or throughput of the eductor. The actual discharge from the eductor is 5 times the motive.

**Example:** 3/8" eductor @ .7 bar = 29.03 discharge; 5 x 29.03 = 145.15 lpm.

## TME: TANK MIXING EDUCTORS

- ◀ Tank Mixing Eductors (TME's) enable small pumps to circulate large tanks. The suction produced by the venturi action of the eductor greatly amplifies the mixing ability of the pump. Solids in the tank are kept from settling by the velocity of the discharge plume. The eductors are placed on the tank to maintain critical velocity of the solid particles. Keeping the eductor at a slight downward angle can help maintain critical velocity on the tank floor.
- ◀ TMEs can be used in conjunction with Uni-Spray Saddles or Clip-On Nozzles for easy installation.
- ◀ Eductors are moulded of Glass-Reinforced Polypropylene, with a temperature range up to 130°C. They are also available in brass, stainless steel or Kynar. All Kynar eductors are coloured red.



### DIMENSIONS (in mm)

PART NO.	SIZE	A	B	C	D
025 TMEEDU	1/4 BSPT	69.6	32.0	18.0	6.4
038 TMEEDU	3/8 BSPT	114.1	53.6	31.0	9.5
050 TMEEDU	1/2 BSPT	166.6	63.5	37.1	12.7
075 TMEEDU	3/4 BSPT	159.5	74.4	41.4	19.1
100 TMEEDU	1 BSPT	245.9	98.6	55.1	25.4
150 TMEEDU	1 1/2 BSPT	247.1	118.9	65.8	38.1

## TME CAPACITIES

- ◀ The flow rates shown below are based upon water (SG 1.00) as the motive liquid. To adjust the values for liquids with a different specific gravity, use the following formula:

$$[ \sqrt{1 \div \text{SG of actual motive liquid}} ] \times \text{Table Value} = \text{Flow Rate of actual motive liquid}$$

- ◀ The pressure differential ( $\Delta P$ ) shown in the table is the  $\Delta P$  across the TME, not the pump. The  $\Delta P$  equals the motive inlet pressure ( $P_m$ ) minus the discharge pressure ( $P_d$ ).
- ◀ The discharge pressure is the static liquid pressure in the vessel, assuming the vessel is vented to the atmosphere (see formula below). If the vessel is pressurized, the  $P_d$  is that value plus the static liquid pressure.

$$((\text{Liquid Height in feet}) \times \text{SG}) \times 0.43 = P_d$$

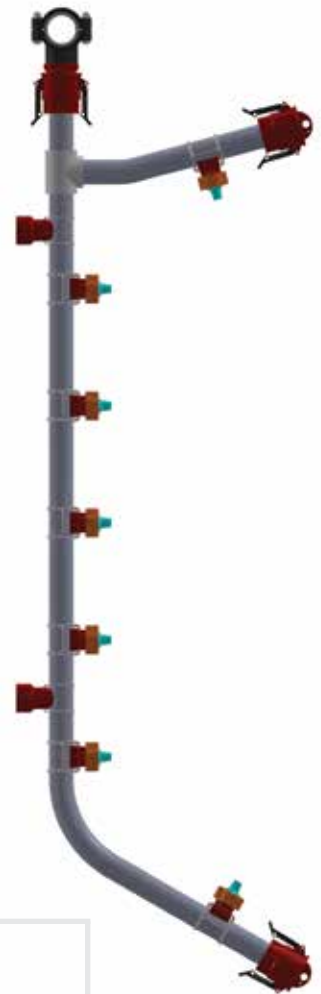
- ◀ For mixing applications, one psi of  $\Delta P$  produces 6" of effective discharge plume length.





## COMPLETE QUIK-DISCONNECT RISER ASSEMBLIES

- ◀ Direct to you from Uni-Spray, made exactly to your specifications and ready to install.
- ◀ We offer a full range of our own exclusive Quik-Disconnect components in a full range of sizes, including premium-quality PVC, CPVC, PolyPro, Kynar and stainless steel pipe.
- ◀ To give you total design flexibility, we can custom bend the pipework, providing smooth flow without extra fittings, to precisely meet your design configuration.
- ◀ To simplify your ordering process, we offer over 20 design configurations with separate worksheets for each. The worksheets allow you to enter all of the dimensions, design parameters, selection and positioning of components in a simple, fill-in-the-blank format.
- ◀ If you don't see exactly what you want, send us your own drawing for a quotation.
- ◀ When we receive your completed worksheet or drawing, our engineers will review it for accuracy, and we will provide with a detailed quote.



*Exclusive to Uni-Spray, our formed risers eliminate the need for expensive glued couplers. In addition, smooth bends increase fluid flow and prevent material buildup.*

## QUIK-DISCONNECT RISERS - CONTACT US FOR A WORKSHEET



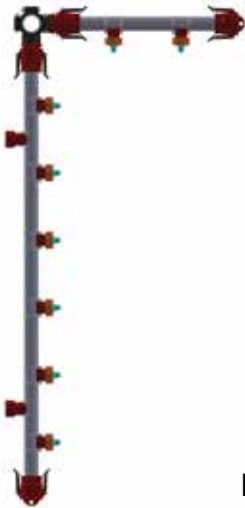
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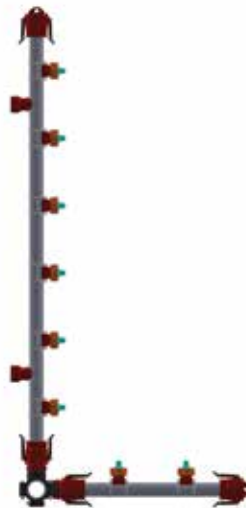
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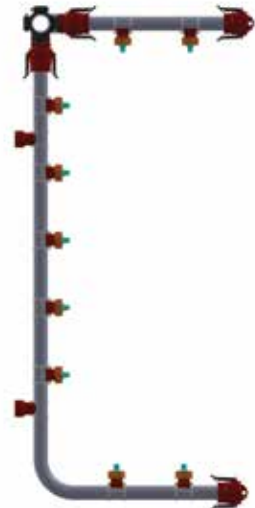
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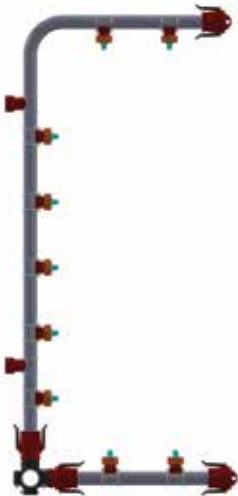
**R3T**



**R3B**



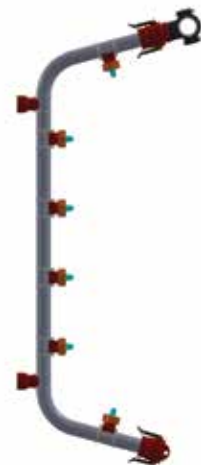
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**R4B**

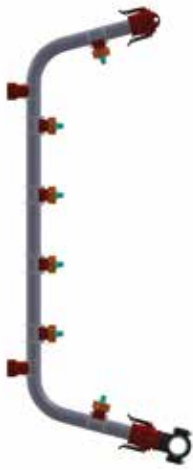


**R5C**

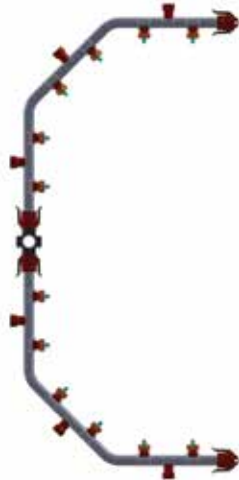


**R6T**

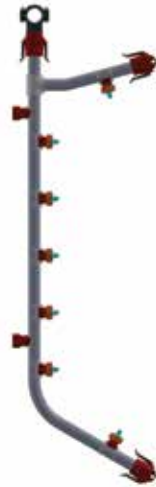
**QUIK-DISCONNECT RISERS - CONTACT US FOR A WORKSHEET**



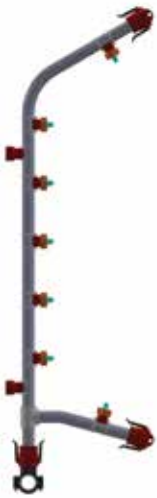
**R6B**



**R7C**



**R8T**



**R8B**



**R9C**



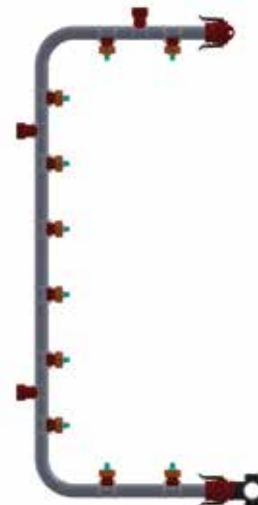
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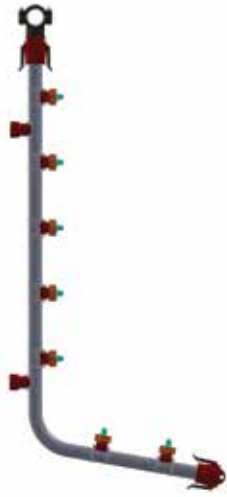
**R10B**



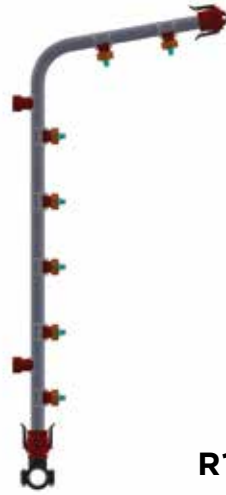
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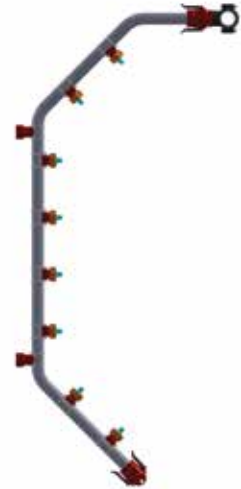
**R11B**



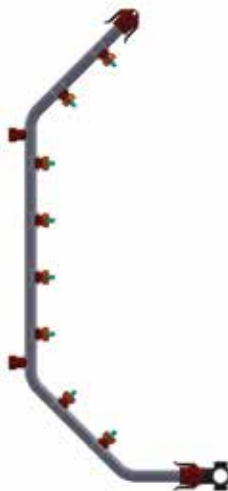
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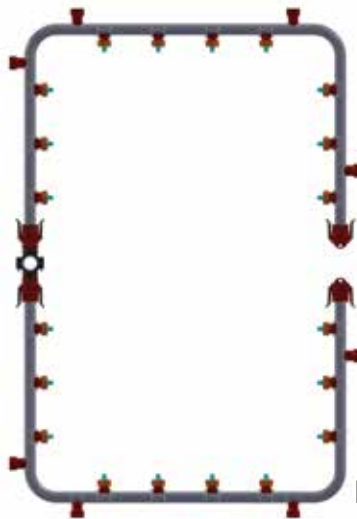
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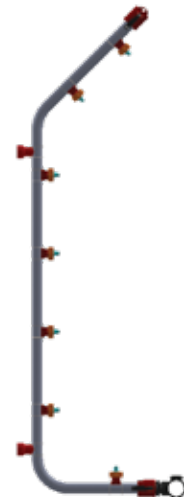
**R14T**



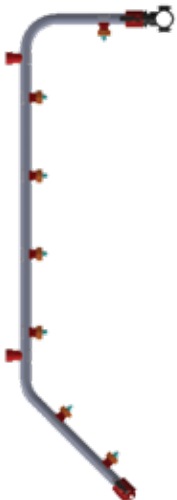
**R14B**



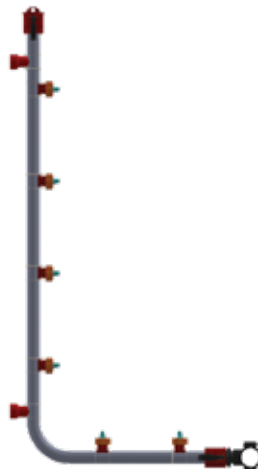
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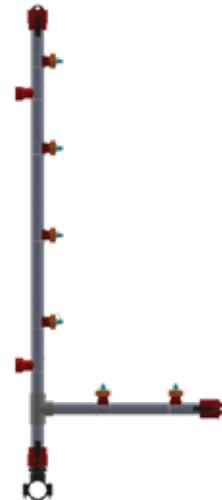
**R16B**



**R16T**



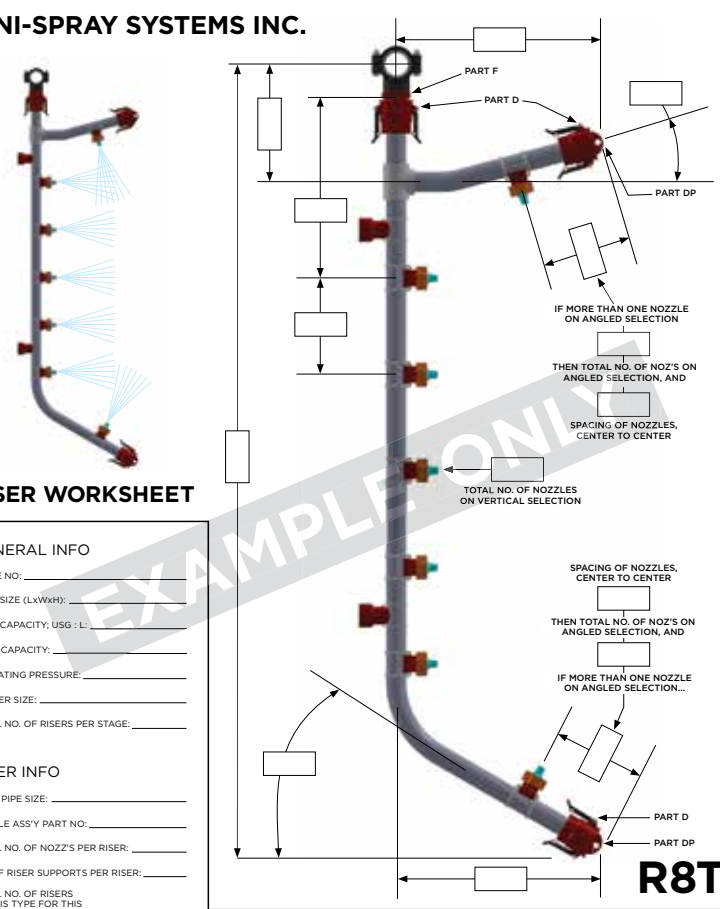
**R17B**



**R18B**

# REQUEST A QUOTE ON A UNI-SPRAY CUSTOM-DESIGNED RISER TO FIT YOUR APPLICATION!

**UNI-SPRAY SYSTEMS INC.**



**RISER WORKSHEET**

<p><b>GENERAL INFO</b></p> <p>STAGE NO: _____</p> <p>TANK SIZE (LxWxH): _____</p> <p>TANK CAPACITY, USG : L: _____</p> <p>PUMP CAPACITY: _____</p> <p>OPERATING PRESSURE: _____</p> <p>HEADER SIZE: _____</p> <p>TOTAL NO. OF RISERS PER STAGE: _____</p>	<p><b>RISER INFO</b></p> <p>RISER PIPE SIZE: _____</p> <p>NOZZLE ASS'Y PART NO: _____</p> <p>TOTAL NO. OF NOZZ'S PER RISER: _____</p> <p>NO. OF RISER SUPPORTS PER RISER: _____</p> <p>TOTAL NO. OF RISERS OF THIS TYPE FOR THIS ORDER INCLUDING SPARES: _____</p> <p>DATE (M,D,Y): _____</p> <p>NOTES: _____</p> <p>_____</p> <p>_____</p> <p>_____</p>
<p>CUSTOMER: _____</p> <p>ADDRESS: _____</p> <p>CONTACT: _____</p> <p>PHONE: _____</p> <p>FAX: _____</p>	<p style="text-align: right;"><b>R8T</b></p> <p><b>UNI-SPRAY SYSTEMS INC.</b>                  Waterloo, Ontario, Canada                  Tel: (519) 885-4270 Fax: (519) 885-4325                  uni-spray.com</p>

## To Assemble

1. Find the Riser closest to your requirements, on pages 35 to 37 of this catalogue.
2. Our riser work sheets are easily downloadable on our web site [www.uni-spray.com](http://www.uni-spray.com) or call and talk to a product specialist.
3. Fill in all the information boxes, and add any other relevant details. Print clearly with a black pen or pencil. See page 40 for important design considerations.
4. Return the Worksheet to us by fax or email. We will prepare a quotation for evaluation.
5. We will produce a drawing or shop-ready Worksheet Copy of your Riser, and return it to you for confirmation.
6. Check the returned drawing for any changes. Contact us if any changes are required.
7. When the drawing is done to your satisfaction, authorize it with your signature and the date, and return it to us by mail or fax along with your Purchase Order number.
8. Uni-Spray will confirm price and delivery.

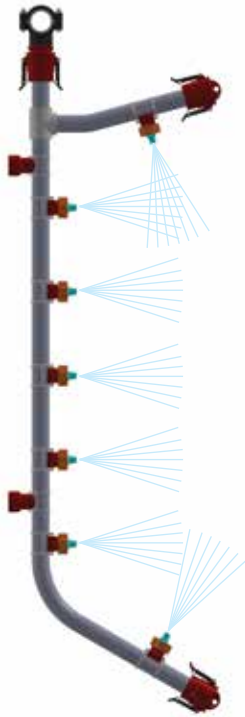
## ASK OUR EXPERTS

If you have any questions, don't hesitate to call us. Our experts are always ready to help with a special order, even if the Riser style you want is not shown in our current listings.

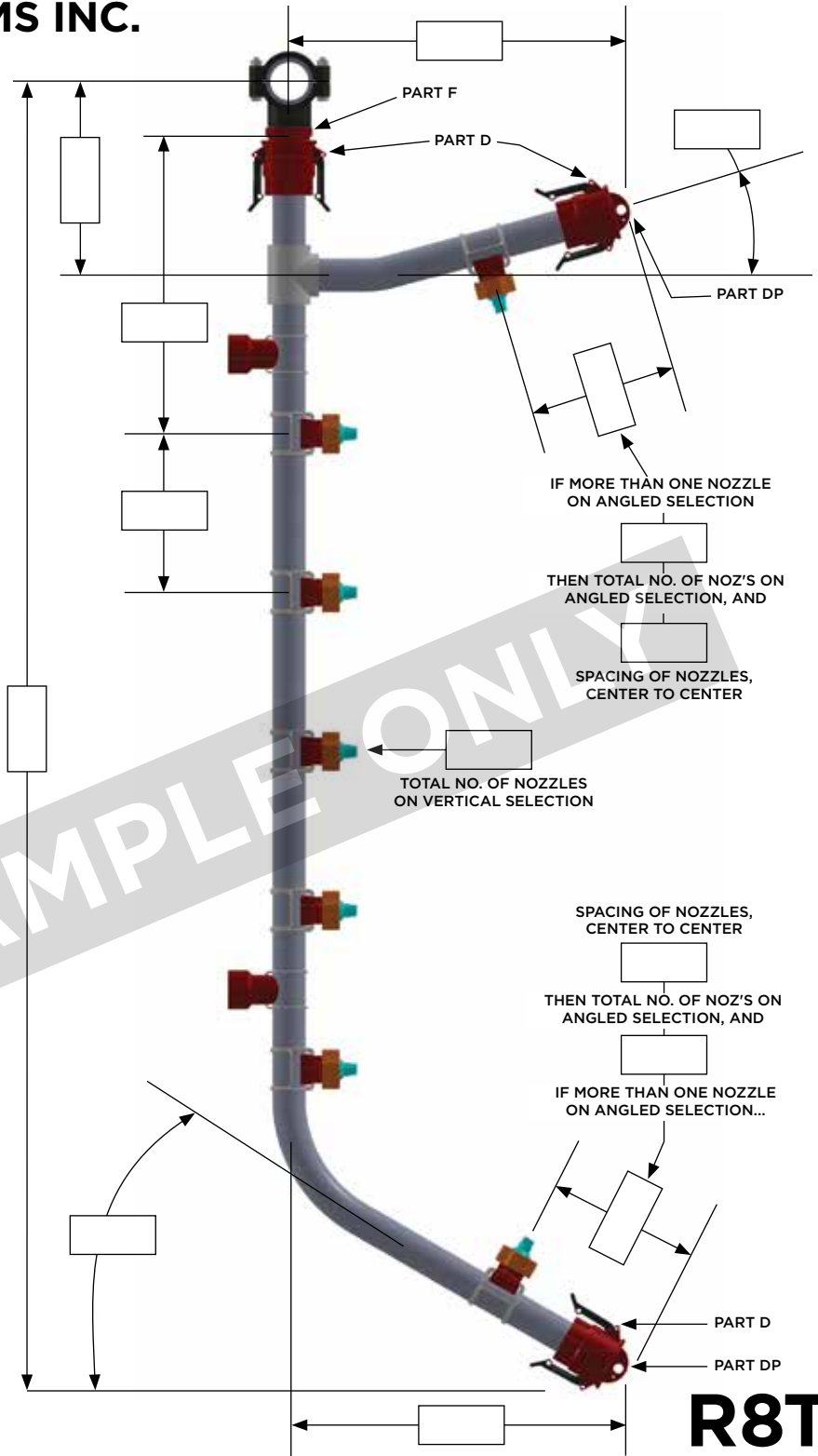
Phone: 519-885-4270 | Toll Free: 877-236-0204 | Fax: 519-885-4325  
 Email: [sales@uni-spray.com](mailto:sales@uni-spray.com)



# UNI-SPRAY SYSTEMS INC.



## RISER WORKSHEET



### GENERAL INFO

STAGE NO: \_\_\_\_\_

TANK SIZE (LxWxH): \_\_\_\_\_

TANK CAPACITY; USG : L: \_\_\_\_\_

PUMP CAPACITY: \_\_\_\_\_

OPERATING PRESSURE: \_\_\_\_\_

HEADER SIZE: \_\_\_\_\_

TOTAL NO. OF RISERS PER STAGE: \_\_\_\_\_

### RISER INFO

RISER PIPE SIZE: \_\_\_\_\_

NOZZLE ASS'Y PART NO: \_\_\_\_\_

TOTAL NO. OF NOZZ'S PER RISER: \_\_\_\_\_

NO. OF RISER SUPPORTS PER RISER: \_\_\_\_\_

TOTAL NO. OF RISERS OF THIS TYPE FOR THIS ORDER INCLUDING SPARES: \_\_\_\_\_

DATE (M,D,Y): \_\_\_\_\_

NOTES: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

CUSTOMER: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

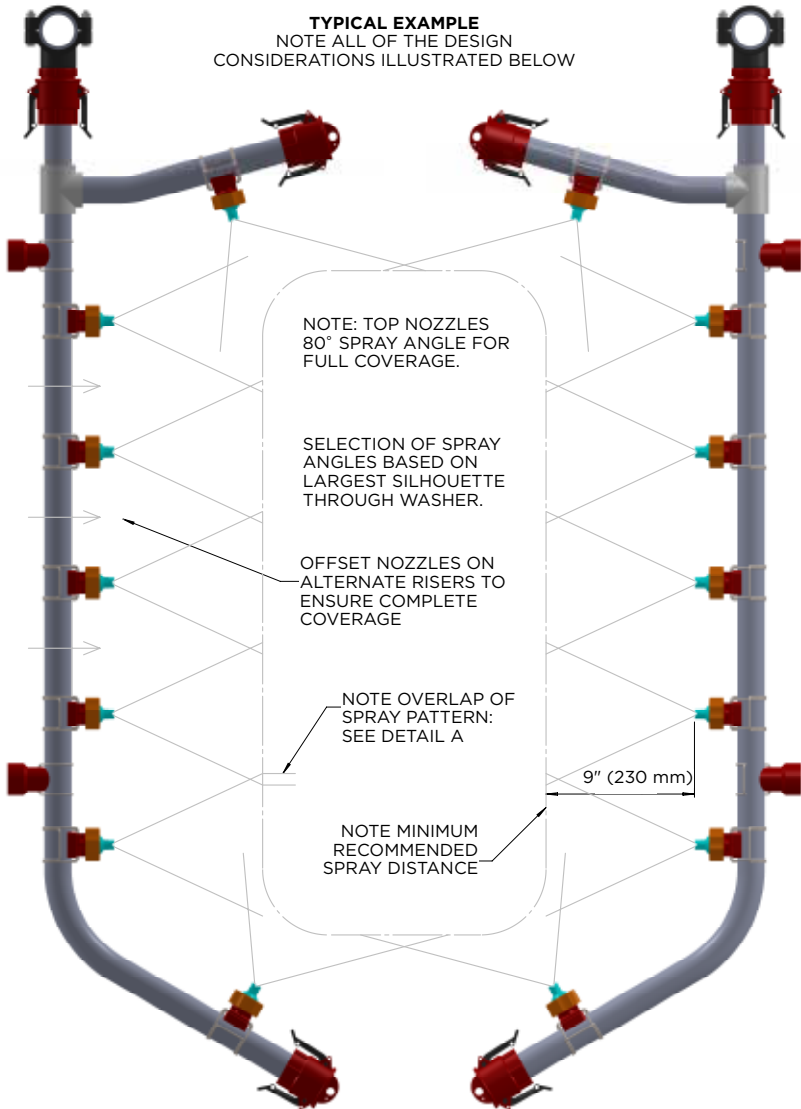
CONTACT: \_\_\_\_\_

PHONE: \_\_\_\_\_

FAX: \_\_\_\_\_

**UNI-SPRAY SYSTEMS INC.**  
 Waterloo, Ontario, Canada  
 Tel: (519) 885-4270 Fax: (519) 885-4325  
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# SPRAY ANGLE SELECTION AND SPACING



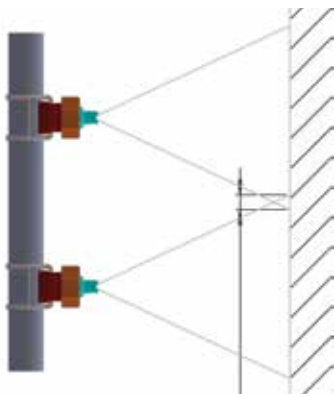
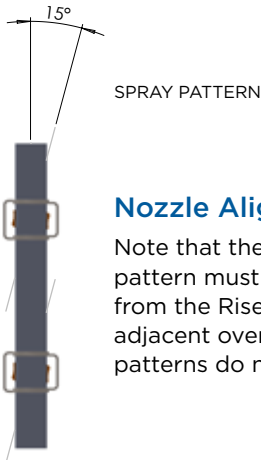
**PLEASE NOTE**

When selecting Nozzle Spray Angle, and the quantity and distance between nozzles, it is necessary to consider the size and shape of the largest ware that will pass through the washer.

Nozzles must be sized and spaced so that their sprays will cover the entire part, with at least 1" (25 mm) overlap between adjacent spray patterns.

Sprays should be at least 9" (230 mm) from the end of the tip to the part for even coating. The nozzles should be rotated 15° from the Riser axis to avoid interference from overlap spray patterns.

**Failure to observe the guidelines may result in poor coating weights and banding.**

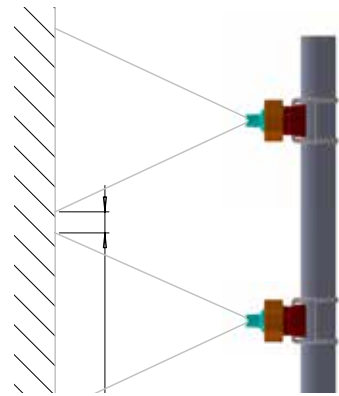


OVERLAP: CORRECT

## Detail A: Nozzle Spacing

Select Nozzle Spray Angles and Nozzle Spacing on the Riser so that there is at least a 1" (25 mm) overlap between adjacent sprays, as shown at left. This measurement must be obtained using the largest silhouette which must pass through the washer.

Incorrect Spray Angle selection and Nozzle Spacing as shown at right can result in banding.



GAP: INCORRECT



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