1/4" RA & 1/4" WRW NOZZLES

FOR BROADCAST SPRAYING

- 100% overlap recommended for RA and WRW nozzles
- Colorcoded polymer for easy identification
- Uniform 120 (degree) hollow-cone spray pattern
- Large openings and passageways minimize clogging
- Max. Recommended Operating Pressure: 100 psig (7 bars)
- Max. Recommended Operating Temperature: 120° (50° C)



RA RAINDROP® DRIFT REDUCTION NOZZLES

- Replaces conventional flooding nozzles in broadcast applications.
- Excellent choice for drift reduction
- VMD: 810 micron droplet @ 40 psig

1/4" RA Raindrop® Drift Reduction Nozzle	Noz. Tip No.	Part Numbers Thermoplastic ISO Bulk	Part Numbers Thermoplastic ISO Delapak
	RA2	35654-1N	N0073-113
	RA4	35654-2N	N0073-115
	RA5	35654-3N	N0073-116
	RA6	35654-4N	N0073-128
	RA8	35654-5N	N0073-129
	RA10	35654-6	0073-139
	RA15	35654-7	0073-415



WRW WHIRL-RAIN® NOZZLE

- Excellent choice for post-emerge broadcast application such as insecticides and fungicides.
- Finely atomized droplet completely saturates target surface
- VMD: 225 micron @ 40 PSI

1/4" WRW Whirl-Rain® Nozzle 120°	Noz. Tip No.	Part Numbers Thermoplastic ISO Bulk	Part Numbers Thermoplastic ISO Delapak
	WRW2	35309-11N	N0073-161
	WRW4	35309-22N	N0073-162
	WRW5	35309-72N	N0073-200
	WRW6	35309-32N	N0073-209
	WRW10	35309-53	0073-214
	WRW15	35309-45	0073-435
	WRW20	35309-64	0073-442

Nozzle Tip Number / ISO Color	Pressure (psig)	Capacity 1-Nozzle (GPM)	GALLONS PER ACRE (GPA) - BASED ON WATER														
			20" SPACING					30" SPACING					40" SPACING				
			4 MPH	5 MPH	6 MPH	7.5 MPH	10 MPH	4 MPH	5 MPH	6 MPH	7.5 MPH	10 MPH	4 MPH	5 MPH	6 MPH	7.5 MPH	10 MPH
WRW-2 RA-2 ISO	20	.14	10.5	8.4	7.0	5.6	4.2	7.0	5.6	4.7	3.7	2.8	5.3	4.2	3.5	2.8	2.1
	30	.17	12.9	10.3	8.6	6.9	5.1	8.6	6.9	5.7	4.6	3.4	6.4	5.1	4.3	3.4	2.6
	40	.20	14.9	11.9	9.9	7.9	5.9	9.9	7.9	6.6	5.3	4.0	7.4	5.9	5.0	4.0	3.0
	50	.22	16.6	13.3	11.1	8.9	6.6	11.1	8.9	7.4	5.9	4.4	8.3	6.6	5.5	4.4	3.3
	60	.24	18.2	14.5	12.1	9.7	7.3	12.1	9.7	8.1	6.5	4.8	9.1	7.3	6.1	4.8	3.6
WRW-4 RA-4 ISO	20	.28	21	16.8	14.0	11.2	8.4	14.0	11.2	9.3	7.5	5.6	10.5	8.5	7.0	5.6	4.2
	30	.35	26	20	17.1	13.7	10.3	17.1	13.7	11.4	9.2	6.9	12.9	10.3	8.6	6.9	5.1
	40	.40	30	24	19.8	15.8	11.9	19.8	15.8	13.2	10.6	7.9	14.9	11.9	9.9	7.9	5.9
	50	.45	33	27	22	17.7	13.3	22	17.7	14.8	11.8	8.8	16.6	13.3	11.1	8.9	6.6
	60	.49	36	29	24	19.4	14.5	24	19.4	16.2	12.9	9.7	18.2	14.5	12.1	9.7	7.3
WRW-5 RA-5 ISO	20	.36	26	21	17.5	14.0	10.5	17.5	14.0	11.7	9.3	7.0	13.1	10.5	8.8	7.0	5.3
	30	.44	32	26	21	17.1	12.9	21	17.2	14.3	11.4	8.6	16.1	12.9	10.7	8.6	6.4
	40	.50	37	30	25	19.8	14.9	25	19.8	16.5	13.2	9.9	18.6	14.9	12.4	9.9	7.4
	50	.56	42	33	28	22	16.6	28	22	18.4	14.8	11.1	21	16.6	13.8	11.1	8.4
	60	.61	45	35	30	24	18.2	30	24	20	16.2	12.1	23	18.2	15.2	12.1	9.1
WRW-6 RA-6 ISO	20	.43	32	25	21	16.8	12.6	21	16.8	14.0	11.2	8.4	15.8	12.6	10.5	8.4	6.3
	30	.52	39	31	26	21	15.4	26	21	17.1	13.7	10.3	19.3	15.4	12.9	10.3	7.7
	40	.60	45	36	30	24	17.8	30	24	19.8	15.8	11.9	22	17.8	14.8	11.9	8.9
	50	.67	50	40	33	27	20	33	27	22	17.7	13.3	25	19.9	16.6	13.3	10.0
	60	.73	55	44	36	29	22	36	29	24	19.4	14.5	27	22	18.2	14.5	10.9
RA-8 ISO	20	.57	42	34	28	22	16.8	28	22	18.7	14.9	11.2	21	16.8	14.0	11.2	8.4
	30	.70	51	41	34	27	21	34	27	23	18.3	13.7	26	20	17.1	13.7	10.3
	40	.80	59	48	40	32	24	40	32	26	21	15.8	30	24	19.8	15.8	11.9
	50	.90	66	53	44	35	27	44	35	30	24	17.7	33	27	22	17.7	13.3
	60	.98	72	58	48	38.8	29	48	39	32.4	25.8	19.4	36.4	29	24.2	19.4	14.6
WRW-10 RA-10	20	.71	53	42	35	28	21	35	28	23	18.7	14.0	26	21	17.5	14.0	10.5
	30	.87	64	51	43	34	26	43	34	29	23	17.2	32	26	21	17.1	12.9
	40	1.0	74	59	50	40	30	50	40	33	26	19.8	37	30	25	19.8	14.9
	50	1.1	83	66	55	44	33	55	44	37	30	22	42	33	28	22	16.6
	60	1.2	91	73	61	48	36	61	48	40	32	24	45	36	30	24	18.2
WRW-15 RA-15	20	1.1	79	63	53	42	32	52	42	35	28	21	39	31	26	21	15.8
	30	1.3	96	77	64	51	39	64	51	43	34	26	48	38	32	26	19.3
	40	1.5	111	89	74	59	45	74	59	50	40	30	56	45	37	30	22
	50	1.7	125	100	83	66	50	83	66	55	44	33	62	50	42	33	25
	60	1.8	135	109	91	73	55	91	73	61	48	36	68	55	45	36	27
WRW-20	20	1.4	105	84	70	56	42	70	56	47	37	28	53	42	35	28	21
	30	1.7	129	103	86	69	51	86	69	57	46	34	64	51	43	34	26
	40	2.0	149	119	99	79	59	99	79	66	53	40	74	59	50	40	30
	50	2.2	166	133	111	89	66	111	89	74	59	44	83	66	55	44	33
	60	2.4	182	145	121	97	73	121	97	81	65	48	91	73	61	48	36

SELECTING NOZZLE SIZE FOR APPLICATION

Select the right nozzle size for broadcast applications or banding applications

Broadcast Application:

1. Select nozzle type. *(See chemical label and Selection Guide on pages 2-3).*
   Example: *RF Drift Reduction Raindrop Flat Spray Tip for broadcast application of post-emerge contact herbicide*

2. Select GPA from chemical label.
   Example: *20 GPA (broadcast rate)*

3. Determine tractor/sprayer speed in MPH *(See page 109).*
   Example: *5 MPH*

4. Determine nozzle spacing in inches
   Example: *20 inches*

5. Substitute numbers into formula to determine gallons per minute.
   Formula: $GPM = \frac{GPA \times MPH}{5940} \times Nozzle\ Spacing$

   Example: $GPM = \frac{20 \times 5}{5940} \times 20$

   $GPM = .34$

6. Refer to the capacity chart for the desired tip in the Nozzles & Tips Section of this catalog.
   Example: *Refer to the capacity chart for the RF tips. Look at the column headed "Capacity one Nozzle (GPM)" and find .34 GPM at the pressure desired.*

   The RF 3, 4 or 5 would provide the correct flow at 50, 30 or 20 PSIG respectively.

Banding Application:

1. Select nozzle type.*(See chemical label and Selection Guide on pages 2-3.)*
   Example: *RE Even Flat Spray Tip for banding application of pre-emerge herbicide.*

2. Select desired GPA from the chemical label.
   Example: *20 GPA (Broadcast Rate)*

3. Determine tractor/sprayer speed in MPH *(see page 109.)*
   Example: *5 MPH*

4. Determine band width in inches.
   Example: *10" Bands on 20" Row Spacing*

5. Substitute numbers into formula to determine gallons per minute.
   Formula: $GPM = \frac{GPA \times MPH}{5940} \times Band\ Width\ (In.)$

   Example: $GPM = \frac{20 \times 5}{5940} \times 10$

   $GPM = .17$

6. Refer to the capacity chart for the desired tip in the Nozzles & Tips Section of this catalog.
   Example: *Refer to the capacity chart for the RE tips. Look at the column headed "Capacity One Nozzle (GPM)" and find .17 GPM at pressure desired.*

   RE 80-2RE would be correct when used at 30 PSIG and 5 MPH.

How much chemical is needed to spray a field?

Broadcast Application:

1. Select desired GPA from the chemical label.
   Example: *20 GPA (Broadcast Rate)*

2. How large is your field?
   Example: *200 Acres*

3. What is your treated area per field acre?
   Example: *100% or 1.00 acre*

4. How many gallons are sprayed over the entire field?
   Example: *20 x 200 x 1.00 = 4000 gallons.*

Broadcast Application Rate:

Although total sprayer capacity is determined by nozzle flow rate and the number of nozzles, the volume of liquid applied per acre is a function of flow rate, nozzle spacing, and sprayer speed, as defined in the following formula:

$$Gallons\ Per\ Acre\ (GPA) = \frac{(5940) \times (GPM/nozzle)}{(Nozzle\ Spacing) \times (MPH)}$$

Banding Application:

1. Select desired GPA from chemical label.
   Example: *20 GPA (Broadcast Rate)*

2. How large is your field?
   Example: *200 Acres*

3. What is your treated area per field acre? *(This can be easily calculated by dividing the width of the band by the width of the row, or use the "Treated Area Per Field Acre for Banding Chart" below.)*

   Example: $\frac{Band\ Width}{Row\ Width} = Amount\ of\ Treated\ Area\ per\ Field\ Acre$

   $\frac{10}{20} = .500\ acre$

4. How many gallons are sprayed over the entire field?
   Example: *20 x 200 x .500 = 2000 gallons*