WILGER

Combo-Jet® Spray Tips

Spray Smart.
Get Better Results.

Optimize your Spray Efforts by Balancing Coverage & Drift

110° Spray Tip Charts for Standard and PWM Sprayer Systems
- US Gallons/Acre on 20" Nozzle Spacing -

Revised Dec 2017

We make spray tips for applicators who care about how they spray.

The COMBO-JET® Advantage

- 40% Longer Strainers that snap into place
- Easier Handling with snap-in design
- SR MR DR UR 50% 75% 90% 90%+ Drift Reduction Series
- Fits all nozzle bodies [with available adapters]
- Not air induction, so spray tips work with PWM
- Easy to read cap label (MR110-06 = MR Series, 110° tip, 0.6 USGPM flow rate)
- Cap Color matches ISO flow rates
- Droplet Size Selective Tip Options
- Permanent Stainless Steel Tip
- The Best Tips for Pulse Width Modulation Systems* (e.g. Capstan Sharpshooter®/Pinpoint® II, Case AIMCommand®, Raven Hawkeye®, and more)

*Capstan Sharpshooter®/Pinpoint® II, Case AIMCommand®, Raven Hawkeye® are not affiliated or owned by Wilger. They remain property of their respective owner(s).

Easy-to-Handle Spray Tip Cleaning

SR, MR, DR & UR Series

To clean stainless tip
Pull strainer (with pre-orifice) up and out

To clean plastic pre-orifice
Push strainer sideways to release from pre-orifice

ER Series
Push strainer sideways to remove

To use/replace strainer
Push strainer down to snap in strainer

Simple as that.

Combo-Jet tips use a modern pre-orifice and closed chamber design that produces significantly less drift, while creating solid mass droplets, for **maximum spray velocity** and **more meaningful droplets.**

Without needing consistent air induction for controlling drift,
Combo-Jet spray tips have become the preferred tip for Pulse Width Modulation (PWM) spraying systems.

COMBO-JET® ER, SR, MR, DR, & UR Spray Tips – *What is the difference?*

The sliding scale of droplet size means at any flow rate, you have multiple options to match your desired spray.

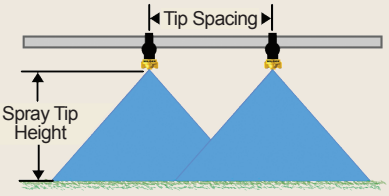
FINER SPRAY — 5 Series of Spray Tips for a Sliding Scale of Droplet Size — BEST DRIFT REDUCTION

Comparison Criteria	ER Series Extended Range	SR Series Small Reduction	MR Series Mid-Range Reduction	DR Series Drift Reduction	UR Series Drift Reduction
Spray Tip Design	Conventional Flat Fan	Pre-orifice Drift Reduction	Pre-orifice Drift Reduction	Pre-orifice Drift Reduction	Dual Chamber Drift Red.
Droplet Size[1] @40PSI	Smallest (246µ VMD[1])	Medium (371µ VMD[1])	Large (474µ VMD[1])	Very Large (529µ VMD[1])	Ultra Coarse
% <141µ[2] % <600µ[3]	20% of volume < 141µ 94% of volume <600µ	8% of volume < 141µ 89% of volume <600µ	4% of volume < 141µ 74% of volume <600µ	2% of volume < 141µ 64% of volume <600µ	UR spray tips are specialty spray tips, designed for certain chemical applications that require exceptional drift reduction. They are not be to be replaced with other spray tip series that are not approved to be on the chemical label. Always follow up-to-date label information. Refer to chemical application label for maximum pressures, speeds and application information. *More information available at www.wilger.net*
Drift Potential	Most likely to drift	Lower drift potential	Major reduction	Least likely to drift	
Coverage	Best	Excellent	Very good	Good	

[1]Based on an XX110-06 nozzle @ 40 psi (2.75 BAR)
[2]Droplets smaller than 141µ are more likely to drift. 141µ is used as a standard for estimating driftable fines.
[3]Droplets smaller than 600µ provide better coverage. Droplets > 600µ consume more spray volume, reducing overall coverage.

Minimum spray tip height for each series of Combo-Jet spray tips

Tip/Nozzle Body Spacing	Minimum Spray Tip Height		
	ER80, SR80, MR80 & DR80	ER110 Series	SR110, MR110, DR110 & UR110
10	10”	9”	13”
20	17”	15”	19”
30	26”	20”	24”



Not sure which tips to use? Download Tip Wizard @ www.WILGER.NET

Tip Wizard makes spray tip decisions easier, compared to charts.
Enter your application to receive great info that can help you make better spraying decisions.

Google play | Download on the App Store | Available at amazon

TIP WIZARD

110° COMBO-JET® Spray Tips Charts For Standard Sprayers

Nozzle Spacing: 20" Application Units: US Gallons/Acre

WILGER

LEGEND

Recomended Pressure
For applications which require a uniform pattern, the recommended pressure range is provided. Specified pressure in chart is boom pressure.

For PWM spray systems, boom pressure will vary from spray tip pressure.

ASABE Spray Classification
(ASABE S572.1 Standard)

Spray quality is categorized based on Dv0.1 and VMD droplet sizes. 3rd party testing from spray spectrum recording equipment has been used to classify spray quality for this chart.

Data (e.g. VMD, etc.) can vary between testing equipment and method, and is provided as an educational resource only to compare different series of Wilger spray tips.

More information @ Wilger.net.

ASABE S572.1 Categories
The majority of chemical labels will require spray application relating to a spray quality, to achieve ideal efficacy and spray drift reduction.

- Fine (F)
- Medium (M)
- Coarse (C)
- Very Coarse (VC)
- Extremely Coarse (XC)
- Ultra Coarse (UC)

VMD
(Volume Median Diameter)

Size of the median droplet (in µ) for a sprayed volume. Half of the volume is made up of droplets smaller than VMD, with half made of droplets larger.

% <141µ
(% Driftable Fines)

Percentage of volume which is likely to drift. As wind conditions and boom height increase, observed spray drift will increased substantially.

% <600µ
(% Useful Droplets)

Percentage of volume which is made up of 'small' droplets. As % of useful droplets lowers, coverage is reduced.

Recomended Strainers
Recommended strainer & mesh size is determined by the size of a tip. For larger tips (08+), strainers are not typically required.

Pre-Orifice & Cap Color
SR/UR pre-orifices may vary from cap color. MR/DR pre-orifices will match cap color. Ensure correct pre-orifices are **always** used during application.

Teejet/Hypro/Arag to Combo-Jet Cap Adapter (#40204-00)

Combo-Jet Cap Adapters
Square Lug Compatibility

Combo-Jet® spray tips attach to Combo-Jet nozzle bodies. Use the #40204-00 adapater to use Combo-Jet spray tips on square lug nozzle bodies. (e.g. Teejet)

WILGER **TIP WIZARD**

Use Tip Wizard
Spray Tip Selector App

Tip Wizard is an intuitive calculator that takes your application information (speed, rate, spacing, etc.) and gives you spray tip options that would suite your spray tip needs.

Disclaimer: These charts are published for comparative purposes to demonstrate the differences in the series of Combo-Jet® spray tips. Data used to populate this chart is extrapolated from third party testing data from a controlled conditions test with water as the testing solution. Actual spray applications with active chemical ingredients may change the spray dynamics and spray tip performance specifications. Wilger is not liable for any misuse or misrepresentation of this information, leading to (but not limited to) incorrect spray application, crop damage, or any other harm (Not limited to human, livestock or environmental).

Tip Cap No.	Flow Rate USGPM	PSI	US Gallons / Acre on 20" Spacing @ Sprayer Speed - Miles / Hour							Spray Class.; VMD (Droplet Size in µ); %<141µ (Drift %); %<600µ (Small Droplets)														Spray Tip & Part No.	
										ER110 Series				SR110 Series				MR110 Series				DR110 Series				Spray Tip	Part #
			5	7.5	10	12.5	15	17.5	20	Class	VMD	<141	<600	Class	VMD	<141	<600	Class	VMD	<141	<600	Class	VMD	<141	<600	Strainer Part #	
01	0.06	15	3.6	2.4	1.8	1.5	1.2	1.0	0.9	F	155	40%	100%	-	-	-	-	-	-	-	-	-	-	-	-	ER110-01	40281-01
	0.07	20	4.2	2.8	2.1	1.7	1.4	1.2	1.1	F	148	45%	100%	-	-	-	-	-	-	-	-	-	-	-	-		
	0.08	25	4.7	3.1	2.3	1.9	1.6	1.3	1.2	F	144	48%	100%	-	-	-	-	-	-	-	-	-	-	-	-		
	0.09	30	5.1	3.4	2.6	2.1	1.7	1.5	1.3	F	140	51%	100%	-	-	-	-	-	-	-	-	-	-	-	-		
	0.10	40	5.9	4.0	3.0	2.4	2.0	1.7	1.5	F	133	56%	100%	-	-	-	-	-	-	-	-	-	-	-	-		
	0.11	50	6.6	4.4	3.3	2.7	2.2	1.9	1.7	F	128	59%	100%	-	-	-	-	-	-	-	-	-	-	-	-		
	0.12	60	7.3	4.8	3.6	2.9	2.4	2.1	1.8	F	124	62%	100%	-	-	-	-	-	-	-	-	-	-	-	-		
	0.13	70	7.9	5.2	3.9	3.1	2.6	2.2	2.0	F	121	65%	100%	-	-	-	-	-	-	-	-	-	-	-	-	100 Mesh Strainers	
	0.14	80	8.4	5.6	4.2	3.4	2.8	2.4	2.1	F	118	67%	100%	-	-	-	-	-	-	-	-	-	-	-	-	[Green]	
	0.15	90	8.9	5.9	4.5	3.6	3.0	2.5	2.2	F	115	69%	100%	-	-	-	-	-	-	-	-	-	-	-	-	40251-00	
015	0.09	15	5.5	3.6	2.7	2.2	1.8	1.6	1.4	F	158	36%	100%	-	-	-	-	-	-	-	-	-	-	-	-	ER110-015	40281-015
	0.11	20	6.3	4.2	3.2	2.5	2.1	1.8	1.6	F	153	40%	100%	M	237	18%	98%	-	-	-	-	-	-	-	-	SR110-015	40287-015
	0.12	25	7.0	4.7	3.5	2.8	2.3	2.0	1.8	F	148	44%	100%	M	225	21%	98%	C	353	8%	91%	-	-	-	-	MR110-015	40291-015
	0.13	30	7.7	5.1	3.9	3.1	2.6	2.2	1.9	F	145	47%	100%	F	215	24%	98%	C	322	11%	94%	C	366	7%	92%	DR110-015	40286-015
	0.15	40	8.9	5.9	4.5	3.6	3.0	2.5	2.2	F	139	52%	100%	F	199	28%	98%	C	277	16%	97%	C	328	10%	94%		
	0.17	50	10.0	6.6	5.0	4.0	3.3	2.8	2.5	F	134	55%	100%	F	187	32%	98%	M	247	20%	99%	C	301	12%	95%		
	0.18	60	10.9	7.3	5.5	4.4	3.6	3.1	2.7	F	131	58%	100%	F	177	34%	98%	M	225	23%	99%	C	281	14%	96%		
	0.20	70	11.8	7.9	5.9	4.7	3.9	3.4	2.9	F	128	61%	100%	F	169	37%	98%	F	208	25%	99%	M	265	15%	97%	100 Mesh Strainer	
	0.21	80	12.6	8.4	6.3	5.0	4.2	3.6	3.2	F	125	63%	100%	F	161	39%	98%	F	194	28%	100%	M	251	17%	97%	[Green]	
	0.23	90	13.4	8.9	6.7	5.3	4.5	3.8	3.3	F	123	65%	100%	F	155	41%	98%	F	183	30%	100%	M	240	18%	97%	40251-00	
02	0.12	15	7.3	4.8	3.6	2.9	2.4	2.1	1.8	F	182	26%	99%	-	-	-	-	-	-	-	-	-	-	-	-	ER110-02	40281-02
	0.14	20	8.4	5.6	4.2	3.4	2.8	2.4	2.1	F	173	32%	100%	M	237	18%	99%	-	-	-	-	-	-	-	-	SR110-02	40287-02
	0.16	25	9.4	6.3	4.7	3.8	3.1	2.7	2.3	F	166	36%	100%	M	227	21%	99%	C	341	9%	94%	-	-	-	-	MR110-02	40291-02
	0.17	30	10.3	6.9	5.1	4.1	3.4	2.9	2.6	F	160	39%	100%	M	219	23%	99%	C	315	12%	95%	VC	431	5%	82%	DR110-02	40286-02
	0.20	40	11.9	7.9	5.9	4.8	4.0	3.4	3.0	F	151	45%	100%	F	206	26%	99%	C	279	15%	97%	VC	392	7%	87%		
	0.22	50	13.3	8.9	6.6	5.3	4.4	3.8	3.3	F	144	49%	100%	F	196	29%	99%	M	254	19%	97%	C	361	8%	90%		
	0.24	60	14.5	9.7	7.3	5.8	4.8	4.2	3.6	F	138	52%	100%	F	188	31%	99%	M	235	21%	98%	C	336	9%	92%		
	0.26	70	15.7	10.5	7.9	6.3	5.2	4.5	3.9	F	133	55%	100%	F	181	33%	99%	M	220	23%	98%	C	315	10%	93%	50 Mesh Strainer	
	0.28	80	16.8	11.2	8.4	6.7	5.6	4.8	4.2	F	128	58%	100%	F	175	34%	99%	F	208	25%	99%	C	297	11%	94%	[Blue]	
	0.30	90	17.8	11.9	8.9	7.1	5.9	5.1	4.5	F	125	60%	100%	F	170	36%	99%	F	198	27%	99%	C	281	12%	94%	40250-00	
025	0.15	15	9.1	6.1	4.5	3.6	3.0	2.6	2.3	F	199	28%	100%	-	-	-	-	-	-	-	-	-	-	-	-	ER110-025	40281-025
	0.18	20	10.5	7.0	5.3	4.2	3.5	3.0	2.6	F	194	28%	100%	M	255	15%	98%	-	-	-	-	-	-	-	-	SR110-025	40287-025
	0.20	25	11.7	7.8	5.9	4.7	3.9	3.4	2.9	F	190	29%	100%	M	244	18%	98%	C	369	7%	88%	-	-	-	-	MR110-025	40291-025
	0.22	30	12.9	8.6	6.4	5.1	4.3	3.7	3.2	F	186	29%	100%	M	236	20%	98%	C	350	9%	91%	VC	434	5%	80%	DR110-025	40286-025
	0.25	40	14.9	9.9	7.4	5.9	5.0	4.2	3.7	F	181	30%	100%	M	222	23%	98%	C	320	11%	93%	VC	398	7%	86%		
	0.28	50	16.6	11.1	8.3	6.6	5.5	4.7	4.2	F	176	30%	100%	F	211	25%	98%	C	296	13%	95%	C	370	8%	89%		
	0.31	60	18.2	12.1	9.1	7.3	6.1	5.2	4.5	F	173	31%	100%	F	203	27%	98%	C	277	15%	96%	C	347	9%	92%		
	0.33	70	19.6	13.1	9.8	7.9	6.5	5.6	4.9	F	170	31%	100%	F	195	29%	98%	M	261	17%	96%	C	328	10%	93%	50 Mesh Strainer	
	0.35	80	21	14.0	10.5	8.4	7.0	6.0	5.3	F	167	31%	100%	F	189	30%	98%	M	247	18%	97%	C	311	11%	94%	[Blue]	
	0.38	90	22	14.9	11.1	8.9	7.4	6.4	5.6	F	165	32%	100%	F	183	31%	98%	M	234	19%	97%	C	296	11%	95%	40250-00	
03	0.18	15	10.9	7.3	5.5	4.4	3.6	3.1	2.7	F	208	23%	99%	-	-	-	-	-	-	-	-	-	-	-	-	ER110-03	40281-03
	0.21	20	12.6	8.4	6.3	5.0	4.2	3.6	3.2	F	198	27%	99%	C	338	7%	92%	-	-	-	-	-	-	-	-	SR110-03	40287-03
	0.24	25	14.1	9.4	7.0	5.6	4.7	4.0	3.5	F	190	29%	99%	C	319	9%	94%	VC	416	5%	83%	-	-	-	-	MR110-03	40291-03
	0.26	30	15.4	10.3	7.7	6.2	5.1	4.4	3.9	F	183	31%	99%	C	303	11%	95%	VC	394	6%	86%	XC	479	4%	74%	DR110-03	40286-03
	0.30	40	17.8	11.9	8.9	7.1	5.9	5.1	4.5	F	173	35%	98%	C	279	15%	96%	C	360	9%	91%	VC	443	5%	80%		
	0.34	50	20	13.3	10.0	8.0	6.6	5.7	5.0	F	165	37%	98%	M	260	17%	97%	C	333	10%	93%	VC	414	6%	84%		
	0.37	60	22	14.5	10.9	8.7	7.3	6.2	5.5	F	159	39%	97%	M	244	19%	97%	C	311	12%	94%	C	391	6%	86%		
	0.40	70	24	15.7	11.8	9.4	7.9	6.7	5.9	F	153	41%	97%	M	231	21%	98%	C	292	13%	95%	C	371	7%	88%	50 Mesh Strainer	
	0.42	80	25	16.8	12.6	10.1	8.4	7.2	6.3	F	149	43%	96%	F	220	22%	98%	C	276	14%	96%	C	354	8%	90%	[Blue]	
	0.45	90	27	17.8	13.4	10.7	8.9	7.6	6.7	F	144	44%	96%	F	209	24%	98%	M	262	15%	97%	C	339	8%	91%	40250-00	

Droplet Categories as per **ASABE S572.1** Classification (2009-current)

Extremely Fine Very Fine Fine Medium Coarse Very Coarse Extremely Coarse Ultra Coarse

*Droplet categories: The above chart is based on the ASABE Standard 572.1. Refer to chemical label to verify which ASABE S572.1 categories should be followed.

If you are tired of picking parts out of the dirt, you will really like COMBO-JET® spray tips!

The strainer, O-Ring, tip & cap all snap together tightly, so the parts don't fall apart when you take them off for service.

Combo-Jet spray tips are safer and easier to handle as one piece, and don't have any air induction ports to plug up.

110° COMBO-JET® Spray Tips Charts For Standard Sprayers

Nozzle Spacing: 20" **Application Units: US Gallons/Acre**

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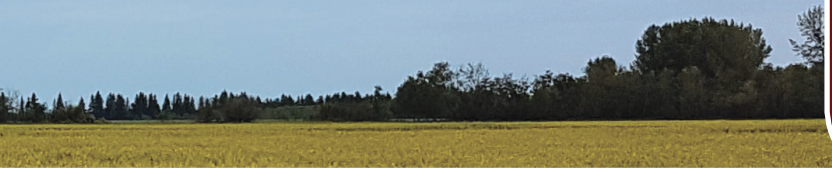
Tip Cap No.	Flow Rate USGPM	PSI	US Gallons / Acre @ 20" @ Sprayer Speed - Miles / Hour							Spray Classification; VMD (Droplet Size in µ); %<141µ (Drift %); %<600µ (Small Droplets)															Spray Tip & Part No.	
										ER110 Series				SR110 Series				MR110 Series				DR110 Series				UR110 Series		Spray Tip	Part #
			5	7.5	10	12.5	15	17.5	20	Class	VMD	<141	<600	Class	VMD	<141	<600	Class	VMD	<141	<600	Class	VMD	<141	<600	Class	UR Tip Usage	Strainer Part #	
04	0.24	15	14.5	9.7	7.3	5.8	4.8	4.2	3.6	M	251	16%	98%	-	-	-	-	-	-	-	-	-	-	-	-	-		ER110-04	40281-04
	0.28	20	16.8	11.2	8.4	6.7	5.6	4.8	4.2	M	240	18%	97%	C	349	7%	91%	-	-	-	-	-	-	-	-	-		SR110-04	40287-04
	0.32	25	18.8	12.5	9.4	7.5	6.3	5.4	4.7	M	232	20%	97%	C	330	9%	93%	VC	441	4%	80%	-	-	-	-	-		MR110-04	40291-04
	0.35	30	21	13.7	10.3	8.2	6.9	5.9	5.1	M	225	22%	97%	C	314	11%	94%	VC	416	5%	84%	XC	510	3%	69%	UC	UR tips are specialty spray tips to produce ultra coarse spray.	DR110-04	40286-04
	0.40	40	24	15.8	11.9	9.5	7.9	6.8	5.9	F	215	24%	96%	C	288	14%	95%	C	377	7%	89%	VC	469	4%	76%	UC		UR110-04	40292-04
	0.45	50	27	17.7	13.3	10.6	8.9	7.6	6.6	F	206	26%	96%	M	269	16%	96%	C	346	8%	92%	VC	438	5%	80%	UC	Refer to chemical application label for maximum pressures, speeds and application information.		
	0.49	60	29	19.4	14.5	11.6	9.7	8.3	7.3	F	199	28%	96%	M	253	17%	96%	C	321	9%	94%	VC	412	6%	83%	UC			
	0.53	70	31	21	15.7	12.6	10.5	9.0	7.9	F	194	29%	95%	M	239	19%	97%	C	300	10%	95%	C	391	6%	85%	UC		50 Mesh Strainer [Blue] 40250-00	
	0.57	80	34	22	16.8	13.4	11.2	9.6	8.4	F	189	30%	95%	M	228	20%	97%	C	282	11%	96%	C	372	7%	87%	UC			
	0.60	90	36	24	17.8	14.3	11.9	10.2	8.9	F	184	31%	95%	M	217	21%	97%	M	266	12%	96%	C	355	7%	88%	XC			
05	0.31	15	18	12.1	9.1	7.3	6.1	5.2	4.5	M	262	15%	95%	-	-	-	-	-	-	-	-	-	-	-	-	-		ER110-05	40281-05
	0.35	20	21	14.0	10.5	8.4	7.0	6.0	5.3	M	248	18%	95%	VC	402	5%	86%	-	-	-	-	-	-	-	-	-		SR110-05	40287-05
	0.40	25	23	15.7	11.7	9.4	7.8	6.7	5.9	M	237	20%	95%	C	377	7%	89%	XC	513	2%	67%	-	-	-	-	-		MR110-05	40291-05
	0.43	30	26	17.1	12.9	10.3	8.6	7.3	6.4	M	228	22%	95%	C	355	8%	91%	XC	486	3%	72%	XC	530	2%	63%	UC	UR tips are specialty spray tips to produce ultra coarse spray.	DR110-05	40286-05
	0.50	40	30	20	15	11.9	9.9	8.5	7.4	F	214	26%	95%	C	322	11%	93%	VC	445	5%	78%	XC	503	3%	68%	UC		UR110-05	40292-05
	0.56	50	33	22	17	13.3	11.1	9.5	8.3	F	203	28%	95%	C	296	13%	95%	VC	412	6%	82%	XC	482	3%	72%	UC	Refer to chemical application label for maximum pressures, speeds and application information.		
	0.61	60	36	24	18	14.5	12.1	10.4	9.1	F	194	30%	95%	C	275	15%	96%	C	386	7%	85%	XC	465	3%	74%	UC			
	0.66	70	39	26	20	15.7	13.1	11.2	9.8	F	187	32%	95%	M	257	16%	96%	C	364	7%	87%	VC	451	4%	76%	UC		50 Mesh Strainer [Blue] 40250-00	
	0.71	80	42	28	21	17	14.0	12.0	10.5	F	180	34%	95%	M	242	17%	97%	C	344	8%	88%	VC	438	4%	78%	UC			
	0.75	90	45	30	22	18	14.9	12.7	11.1	F	174	35%	95%	M	228	19%	97%	C	327	8%	89%	VC	427	4%	79%	UC			
06	0.37	15	22	14.5	10.9	8.7	7.3	6.2	5.5	C	297	11%	94%	-	-	-	-	-	-	-	-	-	-	-	-	-		ER110-06	40281-06
	0.42	20	25	16.8	12.6	10.1	8.4	7.2	6.3	C	282	14%	94%	XC	479	2%	73%	-	-	-	-	-	-	-	-	-		SR110-06	40287-06
	0.47	25	28	18.8	14.1	11.3	9.4	8.1	7.0	M	270	16%	94%	VC	444	4%	80%	XC	528	3%	63%	-	-	-	-	-		MR110-06	40291-06
	0.52	30	31	20.6	15.4	12.3	10.3	8.8	7.7	M	261	18%	94%	VC	416	6%	84%	XC	507	3%	68%	XC	565	2%	57%	UC	UR tips are specialty spray tips to produce ultra coarse spray.	DR110-06	40286-06
	0.60	40	36	23.8	17.8	14.3	11.9	10.2	8.9	M	246	20%	94%	C	371	8%	89%	XC	474	4%	74%	XC	529	2%	64%	UC		UR110-06	40292-06
	0.67	50	40	27	20	15.9	13.3	11.4	10.0	M	235	22%	95%	C	337	10%	92%	VC	448	4%	78%	XC	501	3%	68%	UC	Refer to chemical application label for maximum pressures, speeds and application information.		
	0.73	60	44	29	22	17.5	14.5	12.5	10.9	M	225	24%	95%	C	308	12%	93%	VC	427	5%	81%	XC	478	3%	71%	UC			
	0.79	70	47	31	24	19	15.7	13.5	11.8	F	217	25%	95%	C	284	13%	94%	VC	409	5%	83%	XC	459	3%	74%	UC		50 Mesh Strainer [Blue] 40250-00	
	0.85	80	50	34	25	20	16.8	14.4	12.6	F	211	27%	95%	M	264	14%	95%	C	394	6%	85%	VC	442	4%	75%	UC			
	0.90	90	53	36	27	21	17.8	15.3	13.4	F	204	28%	95%	M	245	15%	96%	C	380	6%	86%	VC	427	4%	77%	UC			
08	0.49	15	29	19	15	12	10	8	7	M	353	11%	88%	-	-	-	-	-	-	-	-	-	-	-	-	-		ER110-08	40281-08
	0.57	20	34	22	17	13	11	10	8	M	327	14%	91%	UC	515	3%	52%	-	-	-	-	-	-	-	-	-		SR110-08	40287-08
	0.63	25	38	25	19	15	13	11	9	F	307	16%	92%	UC	481	5%	61%	UC	561	4%	53%	-	-	-	-	-		MR110-08	40291-08
	0.69	30	41	27	21	16	14	12	10	F	290	17%	93%	XC	453	6%	67%	UC	531	4%	53%	UC	614	3%	40%	UC	UR tips are specialty spray tips to produce ultra coarse spray.	DR110-08	40286-08
	0.80	40	48	32	24	19	16	14	12	F	264	20%	95%	XC	408	7%	74%	UC	483	5%	61%	UC	569	4%	47%	UC		UR110-08	40292-08
	0.89	50	53	35	27	21	18	15	13	F	244	22%	95%	VC	374	9%	79%	XC	446	6%	67%	UC	534	4%	51%	UC	Refer to chemical application label for maximum pressures, speeds and application information.		
	0.98	60	58	39	29	23	19	17	15	F	228	23%	96%	C	346	10%	82%	XC	416	7%	70%	UC	506	4%	55%	UC			
	1.06	70	63	42	31	25	21	18	16	F	214	25%	97%	C	322	11%	84%	XC	391	7%	73%	UC	482	5%	57%	UC			
	1.13	80	67	45	34	27	22	19	17	VF	202	26%	97%	C	302	11%	86%	VC	369	8%	76%	XC	461	5%	60%	UC			
	1.20	90	71	48	36	29	24	20	18	VF	191	27%	97%	C	284	12%	87%	C	349	8%	77%	XC	442	5%	61%	UC			
10	0.61	15	36	24	18	15	12	10	9	C	389	7%	86%	-	-	-	-	-	-	-	-	-	-	-	-	-		ER110-10	40281-10
	0.71	20	42	28	21	17	14	12	11	C	362	10%	88%	UC	536	4%	47%	-	-	-	-	-	-	-	-	-		SR110-10	40287-10
	0.79	25	47	31	23	19	16	13	12	M	341	12%	89%	UC	500	5%	56%	UC	552	4%	48%	-	-	-	-	-		MR110-10	40291-10
	0.87	30	51	34	26	21	17	15	13	M	325	14%	90%	XC	470	6%	62%	UC	523	4%	53%	UC	609	5%	59%	UC	UR tips are specialty spray tips to produce ultra coarse spray.	DR110-10	40286-10
	1.00	40	59	40	30	24	20	17	15	F	298	17%	92%	XC	424	7%	70%	XC	478	5%	59%	UC	584	5%	55%	UC		UR110-10	40292-10
	1.12	50	66	44	33	27	22	19	17	F	277	19%	93%	XC	388	8%	75%	XC	442	6%	64%	UC	565	6%	51%	UC	Refer to chemical application label for maximum pressures, speeds and application information.		
	1.22	60	73	48	36	29	24	21	18	F	260	21%	94%	VC	358	9%	79%	XC	413	6%	67%	UC	550	6%	48%	UC			
	1.32	70	79	52	39	31	26	22	20	F	246	22%	94%	C	333	10%	81%	XC	388	7%	70%	UC	537	6%	46%	UC			
	1.41	80	84	56	42	34	28	24	21	F	234	23%	94%	C	311	11%	83%	VC	367	7%	72%	UC	525	6%	43%	UC			
	1.50	90	89	59	45	36	30	25	22	F	223	24%	95%	C	292	11%	85%	C	348	7%	74%	UC	515	6%	41%	UC			
12.5	0.77	15	45	30	23	18	15	13	11	C	448	7%	64%	-	-	-	-	-	-	-	-	-	-	-	-		UR series spray tips are currently commercially available in -04 to -10 sizes.	ER110-125	40281-125
	0.88	20	53	35	26	21	18	15	13	C	421	9%	70%	UC	538	4%	48%	-	-	-	-	-	-	-	-			SR110-125	40287-125
	0.99	25	59	39	29	23	20	17	15	C	400	10%	74%	UC	501	4%	56%	UC	647	4%	34%	-	-	-	-			MR110-125	40291-125
	1.08	30	64	43	32	26	21	18	16	C	383	10%	76%	XC	471	5%	62%	UC	618	4%	39%	UC	647	3%	35%			DR110-125	40286-125
	1.25	40	74	50	37	30	25	21	19	M	357	11%	80%	XC	423	6%	70%	UC	571	4%	47%	UC	616	4%	39%				
	1.40	50	83	55	42	33	28	24	21	M	336	12%	83%	XC	386	7%	74%	UC	535	5%	52%	UC	592	4%	42%				
	1.53	60	91	61	45	36	30	26	23	M	319	13%	85%	VC	355	7%	78%	UC	506	5%	55%	UC	572	5%	44%				
	1.65	70	98	65	49	39	33	28	25	M	305	14%	86%	C	329	8%	80%	UC	481	6%	58%	UC	555	5%	46%				
	1.77	80	105	70	53	42	35	30	26	M	293	14%	87%	C	307	8%	82%	XC	459	6%	61%	UC	540	5%	48%				
	1.88	90	111	74	56	45	37	32	28	F	282	15%	88%	C	287	9%	84%	XC	440	6%	63%	UC	527	6%	49%				

Droplet Categories as per **ASABE S572.1** Classification (2009-current)

Extremely Fine | Very Fine | Fine | Medium | Coarse | Very Coarse | Extremely Coarse | Ultra Coarse

*Droplet categories: The above chart is based on the ASABE Standard 572.1. Refer to chemical label to verify which ASABE S572.1 categories should be followed.

Revised December 2017. Information may change without notice.



110° COMBO-JET® Spray Tips Charts For Standard Sprayers

Nozzle Spacing: 20" Application Units: US Gallons/Acre

WILGER

LEGEND

Recomended Pressure
For applications which require a uniform pattern, the recommended pressure range is provided. Specified pressure in chart is boom pressure.

For PWM spray systems, boom pressure will vary from spray tip pressure.

ASABE Spray Classification
(ASABE S572.1 Standard)

Spray quality is categorized based on Dv0.1 and VMD droplet sizes. 3rd party testing from spray spectrum recording equipment has been used to classify spray quality for this chart.

Data (e.g. VMD, etc.) can vary between testing equipment and method, and is provided as an educational resource only to compare different series of Wilger spray tips.

More information @ Wilger.net.

ASABE S572.1 Categories
The majority of chemical labels will require spray application relating to a spray quality, to achieve ideal efficacy and spray drift reduction.

- Fine (F)
- Medium (M)
- Coarse (C)
- Very Coarse (VC)
- Extremely Coarse (XC)
- Ultra Coarse (UC)

VMD
(Volume Median Diameter)

Size of the median droplet (in µ) for a sprayed volume. Half of the volume is made up of droplets smaller than VMD, with half made of droplets larger.

% <141µ
(% Driftable Fines)

Percentage of volume which is likely to drift. As wind conditions and boom height increase, observed spray drift will increased substantially.

% <600µ
(% Useful Droplets)

Percentage of volume which is made up of 'small' droplets. As % of useful droplets lowers, coverage is reduced.

Recomended Strainers
Recommended strainer & mesh size is determined by the size of a tip. For larger tips (08+), strainers are not typically required.

Pre-Orifice & Cap Color
SR/UR pre-orifices may vary from cap color. MR/DR pre-orifices will match cap color. Ensure correct pre-orifices are **always** used during application.

Teejet/Hypro/Arag to Combo-Jet Cap Adapter (#40204-00)

Combo-Jet Cap Adapters
Square Lug Compatibility

Combo-Jet® spray tips attach to Combo-Jet nozzle bodies. Use the #40204-00 adapater to use Combo-Jet spray tips on square lug nozzle bodies. (e.g. Teejet)

WILGER

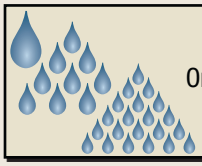
TIP WIZARD

Use Tip Wizard
Spray Tip Selector App

Tip Wizard is an intuitive calculator that takes your application information (speed, rate, spacing, etc.) and gives you spray tips options that would suite your spray tip needs.

Disclaimer: These charts are published for comparative purposes to demonstrate the differences in the series of Combo-Jet® spray tips. Data used to populate this chart is extrapolated from third party testing data from a controlled conditions test with water as the testing solution. Actual spray applications with active chemical ingredients may change the spray dynamics and spray tip performance specifications. Wilger is not liable for any misuse or misrepresentation of this information, leading to (but not limited to) incorrect spray application, crop damage, or any other harm (Not limited to human, livestock or environmental).

Tip Cap No.	Flow Rate USGPM	PSI	US Gallons / Acre on 20" spacing @ Sprayer Speed - Miles / Hour							Spray Class.; VMD (Droplet Size in µ); %<141µ (Drift %); %<600µ (Small Droplets)														Spray Tip & Part No.	
										ER110 Series				SR110 Series				MR110 Series				DR110 Series				Spray Tip	Part #
			5	7.5	10	12.5	15	17.5	20	Class	VMD	<141	<600	Class	VMD	<141	<600	Class	VMD	<141	<600	Class	VMD	<141	<600	Strainer Part #	
15	0.92	15	55	36	27	22	18	16	14	C	466	7%	58%	-	-	-	-	-	-	-	-	-	-	-	-	ER110-15	40281-15
	1.06	20	63	42	32	25	21	18	16	C	438	8%	64%	UC	598	4%	37%	-	-	-	-	-	-	-	-	SR110-15	40287-15
	1.19	25	70	47	35	28	23	20	18	C	416	10%	68%	UC	565	4%	45%	UC	629	4%	37%	-	-	-	-	MR110-15	40291-15
	1.30	30	77	51	39	31	26	22	19	C	398	10%	72%	UC	538	5%	51%	UC	608	4%	40%	UC	659	3%	40%	DR110-15	40286-15
	1.50	40	89	59	45	36	30	25	22	M	370	12%	76%	UC	496	6%	58%	UC	574	4%	45%	UC	624	4%	46%		
	1.68	50	100	66	50	40	33	28	25	M	348	13%	79%	XC	463	6%	64%	UC	548	5%	49%	UC	597	4%	50%		
	1.84	60	109	73	55	44	36	31	27	M	330	14%	81%	XC	436	7%	67%	UC	527	5%	52%	UC	575	4%	53%		
	1.98	70	118	79	59	47	39	34	29	F	315	15%	82%	XC	413	7%	70%	UC	508	5%	54%	UC	556	4%	55%		
	2.12	80	126	84	63	50	42	36	32	F	302	15%	84%	XC	393	8%	72%	UC	493	5%	56%	UC	540	5%	58%		
	2.25	90	134	89	67	53	45	38	33	F	290	16%	85%	VC	375	8%	74%	XC	479	5%	57%	UC	526	5%	59%		
20	1.22	15	73	48	36	29	24	21	18	C	528	6%	49%	-	-	-	-	-	-	-	-	-	-	-	-	ER110-20	40281-20
	1.41	20	84	56	42	34	28	24	21	C	497	7%	56%	UC	573	5%	41%	-	-	-	-	-	-	-	-	SR110-20	40287-20
	1.58	25	94	63	47	38	31	27	23	C	473	7%	60%	UC	543	5%	49%	UC	616	4%	39%	-	-	-	-	MR110-20	40291-20
	1.73	30	103	69	51	41	34	29	26	C	453	8%	64%	UC	518	6%	55%	UC	593	4%	42%	-	-	-	-		
	2.00	40	119	79	59	48	40	34	30	C	422	9%	68%	XC	479	6%	62%	UC	557	5%	48%	-	-	-	-		
	2.24	50	133	89	66	53	44	38	33	C	399	9%	72%	XC	449	7%	67%	UC	529	6%	52%	-	-	-	-		
	2.45	60	145	97	73	58	48	42	36	C	379	10%	74%	XC	424	8%	70%	UC	506	6%	55%	-	-	-	-		
	2.65	70	157	105	79	63	52	45	39	C	362	10%	76%	XC	403	8%	73%	UC	487	6%	57%	-	-	-	-		
	2.83	80	168	112	84	67	56	48	42	M	348	11%	78%	XC	385	8%	75%	XC	470	7%	59%	-	-	-	-		
	3.00	90	178	119	89	71	59	51	45	M	335	11%	79%	VC	369	9%	77%	XC	455	7%	60%	-	-	-	-		
25	1.53	15	91	61	45	36	30	26	23	C	526	6%	45%	-	-	-	-	-	-	-	-	-	-	-	-	ER110-25	40281-25
	1.77	20	105	70	53	42	35	30	26	C	495	6%	54%	UC	552	5%	46%	-	-	-	-	-	-	-	-	SR110-25	40287-25
	1.98	25	117	78	59	47	39	34	29	C	472	7%	60%	UC	525	5%	52%	-	-	-	-	-	-	-	-		
	2.17	30	129	86	64	51	43	37	32	C	453	7%	65%	UC	503	6%	56%	-	-	-	-	-	-	-	-		
	2.50	40	149	99	74	59	50	42	37	C	422	7%	71%	XC	468	6%	62%	-	-	-	-	-	-	-	-		
	2.80	50	166	111	83	66	55	47	42	C	399	8%	74%	XC	441	7%	66%	-	-	-	-	-	-	-	-		
	3.06	60	182	121	91	73	61	52	45	C	380	8%	77%	XC	419	8%	69%	-	-	-	-	-	-	-	-		
	3.31	70	196	131	98	79	65	56	49	C	364	8%	79%	XC	400	8%	71%	-	-	-	-	-	-	-	-		
	3.54	80	210	140	105	84	70	60	53	C	350	8%	81%	XC	384	8%	73%	-	-	-	-	-	-	-	-		
	3.75	90	223	149	111	89	74	64	56	C	337	9%	82%	VC	369	9%	75%	-	-	-	-	-	-	-	-		
30	1.84	15	109	73	55	44	36	31	27	VC	536	4%	50%	-	-	-	-	-	-	-	-	-	-	-	-	ER110-30	40281-30
	2.12	20	126	84	63	50	42	36	32	C	507	5%	55%	-	-	-	-	-	-	-	-	-	-	-	-		
	2.37	25	141	94	70	56	47	40	35	C	484	6%	58%	-	-	-	-	-	-	-	-	-	-	-	-		
	2.60	30	154	103	77	62	51	44	39	C	466	6%	61%	-	-	-	-	-	-	-	-	-	-	-	-		
	3.00	40	178	119	89	71	59	51	45	C	437	7%	65%	-	-	-	-	-	-	-	-	-	-	-	-		
	3.35	50	199	133	100	80	66	57	50	C	415	8%	68%	-	-	-	-	-	-	-	-	-	-	-	-		
	3.67	60	218	145	109	87	73	62	55	C	396	9%	70%	-	-	-	-	-	-	-	-	-	-	-	-		
	3.97	70	236	157	118	94	79	67	59	C	381	9%	72%	-	-	-	-	-	-	-	-	-	-	-	-		
	4.24	80	252	168	126	101	84	72	63	C	367	9%	73%	-	-	-	-	-	-	-	-	-	-	-	-		
	4.50	90	267	178	134	107	89	76	67	C	355	10%	74%	-	-	-	-	-	-	-	-	-	-	-	-		



Did you know that size matters?

One 500 micron(µ) droplet deposits the **same volume** as 8x 250µ diameter droplets, or 64x 125µ droplets. That is why with smaller droplets, with the same flow rate, you get finer coverage. This makes it increasingly important to spray with the right size of spray to get the job done right.

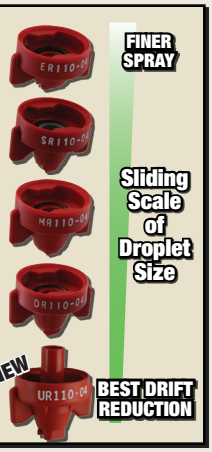
Protect your livelyhood by using the correct spray tip.

Minimizing crop damage and maximizing chemical efficacy means more than just impacting the crop. Proper spraying is an important aspect of every farm's bottom line, financially, environmentally, and legally.

Each field's spray conditions can differ greatly, so it is imperative that spray tips match those conditions.

To achieve the best application control, use the Combo-Jet ER/SR/MR/DR/UR spray tip that matches your chemical applications' ideal droplet size or spray quality, and then adjust for your spraying conditions.

Use Tip Wizard or charts to help.



110° COMBO-JET® Spray Tips Charts For PWM Sprayers

Nozzle Spacing: 20" **Application Units: US Gallons/Acre**

Read the spray tip chart disclaimer on page 7, prior to reviewing the chart below.

LEGEND

Recomended Pressure
For applications requiring uniform pattern, the recommended pressure range (boom pressure) is provided.
For PWM spray systems, boom pressure will vary from spray tip pressure.

Duty Cycle
Effective "on-time" of PWM
PWM systems adjust rates by the length of time the solenoid stays open (duty cycle), in order to keep pressure constant for controlled spray quality. **Duty cycle is calculated by dividing your travel speed into the max speed of the spray tip at your pressure.** Min/Max operating duty cycles are 40-100%. (confirm with PWM mfg.)

ASABE Spray Classification
(ASABE S572.1 Standard)
Spray quality is categorized based on Dv0.1 and VMD droplet sizes by 3rd party testing from spray spectrum recording equipment.
Data (e.g. VMD, etc.) can vary between testing equipment and method, and is provided only as an educational resource to compare different series of Wilger spray tips.

The majority of chemical labels will require spray application relating to a spray quality, to achieve ideal efficacy and spray drift reduction.

- Fine (F)
- Medium (M)
- Coarse (C)
- Very Coarse (VC)
- Extremely Coarse (XC)
- Ultra Coarse (UC)

VMD
(Volume Median Diameter)
Size of the median droplet (in µ) for a sprayed volume. Half of the volume is made up of droplets smaller than VMD, with half made of droplets larger.

% <141µ *(% Driftable Fines)*
Percentage of volume which is likely to drift. As wind conditions and boom height increase, observed spray drift will increased substantially.

% <600µ *(% Useful Droplets)*
Percentage of volume which is made up of 'small' droplets. As % of useful droplets lowers, coverage is reduced.

Teejet/Hypro/Arag to Combo-Jet Cap Adapter (#40204-00)

Combo-Jet Cap Adapters
Square Lug Compatibility
Combo-Jet® spray tips attach to Combo-Jet nozzle bodies. Use the #40204-00 adapter to use Combo-Jet spray tips on square lug nozzle bodies. (e.g. Teejet)

Tip Cap No.	Flow Rate USGPM	Boom PSI	Tip PSI	Sprayer Speed Range (Rounded) @ US Gallons/Acre on 20" Spacing					Spray Class.; VMD (Droplet Size in µ); %<141µ (Drift %); %<600µ (Small Droplets)														Tip-Cap & Part No.	
									ER110 Series				SR110 Series				MR110 Series				DR110 Series				Tip-Cap	Part #
				5 GPA	7.5 GPA	10 GPA	12.5 GPA	15 GPA	Class	VMD	<141	<600	Class	VMD	<141	<600	Class	VMD	<141	<600	Class	VMD	<141	<600	Strainer Part #	
01	0.06	15	15	1-4	1-2	0-2	0-1	0-1	F	155	40%	100%	-	-	-	-	-	-	-	-	-	-	-	-	ER110-01	40281-01
	0.07	20	20	1-4	1-3	1-2	0-2	0-1	F	149	45%	100%	-	-	-	-	-	-	-	-	-	-	-	-		
	0.08	25	25	1-5	1-3	1-2	0-2	0-2	F	144	48%	100%	-	-	-	-	-	-	-	-	-	-	-	-		
	0.09	30	30	1-5	1-3	1-3	1-2	0-2	F	140	51%	100%	-	-	-	-	-	-	-	-	-	-	-	-		
	0.10	40	40	1-6	1-4	1-3	1-2	0-2	F	133	56%	100%	-	-	-	-	-	-	-	-	-	-	-	-		
	0.11	50	50	2-7	1-4	1-3	1-3	1-2	F	128	59%	100%	-	-	-	-	-	-	-	-	-	-	-	-		
	0.12	60	60	2-7	1-5	1-4	1-3	1-2	F	124	62%	100%	-	-	-	-	-	-	-	-	-	-	-	-		
	0.13	70	70	2-8	1-5	1-4	1-3	1-3	F	121	65%	100%	-	-	-	-	-	-	-	-	-	-	-	-		
	0.14	80	80	2-8	1-6	1-4	1-3	1-3	F	118	67%	100%	-	-	-	-	-	-	-	-	-	-	-	-	100 Mesh Strainer [Green]	
	0.15	90	90	2-9	1-6	1-4	1-4	1-3	F	115	69%	100%	-	-	-	-	-	-	-	-	-	-	-	-	40251-00	
015	0.09	15	15	1-5	1-4	1-3	1-2	0-2	F	158	35%	100%	-	-	-	-	-	-	-	-	-	-	-	-	ER110-015	40281-015
	0.11	20	20	2-6	1-4	1-3	1-3	1-2	F	153	40%	100%	M	238	18%	98%	-	-	-	-	-	-	-	-	SR110-015	40287-015
	0.12	25	25	2-7	1-5	1-4	1-3	1-2	F	148	44%	100%	M	226	21%	98%	C	355	8%	91%	-	-	-	-	MR110-015	40291-015
	0.13	30	30	2-8	1-5	1-4	1-3	1-3	F	145	47%	100%	F	216	24%	98%	C	323	11%	94%	C	368	7%	92%	DR110-015	40286-015
	0.15	40	40	2-9	1-6	1-4	1-4	1-3	F	139	51%	100%	F	200	28%	98%	C	279	16%	97%	C	329	10%	94%		
	0.17	50	50	2-10	2-7	1-5	1-4	1-3	F	135	55%	100%	F	188	32%	98%	M	248	20%	98%	C	302	12%	95%		
	0.18	60	59	3-11	2-7	1-5	1-4	1-4	F	131	58%	100%	F	178	34%	98%	M	226	23%	99%	C	282	14%	96%		
	0.20	70	69	3-12	2-8	1-6	1-5	1-4	F	128	61%	100%	F	169	37%	98%	F	209	25%	99%	M	265	15%	97%	100 Mesh Strainer [Green]	
	0.21	80	79	3-13	2-8	2-6	1-5	1-4	F	125	63%	100%	F	162	39%	98%	F	195	27%	100%	M	252	17%	97%		
	0.22	90	89	3-13	2-9	2-7	1-5	1-4	F	123	65%	100%	F	156	41%	98%	F	183	29%	100%	M	241	18%	97%	40251-00	
02	0.12	15	15	2-7	1-5	1-4	1-3	1-2	F	183	26%	99%	-	-	-	-	-	-	-	-	-	-	-	-	ER110-02	40281-02
	0.14	20	20	2-8	1-6	1-4	1-3	1-3	F	173	32%	100%	M	238	18%	99%	-	-	-	-	-	-	-	-	SR110-02	40287-02
	0.16	25	25	2-9	2-6	1-5	1-4	1-3	F	166	36%	100%	M	228	20%	99%	C	343	9%	94%	-	-	-	-	MR110-02	40291-02
	0.17	30	29	3-10	2-7	1-5	1-4	1-3	F	160	39%	100%	M	220	22%	99%	C	317	11%	95%	VC	433	5%	82%	DR110-02	40286-02
	0.20	40	39	3-12	2-8	1-6	1-5	1-4	F	151	45%	100%	F	207	26%	99%	C	281	15%	97%	VC	394	6%	87%		
	0.22	50	49	3-13	2-9	2-7	1-5	1-4	F	144	49%	100%	F	197	28%	99%	M	256	18%	97%	C	364	8%	90%		
	0.24	60	59	4-14	2-10	2-7	1-6	1-5	F	138	52%	100%	F	189	31%	99%	M	237	21%	98%	C	339	9%	91%		
	0.26	70	69	4-16	3-10	2-8	2-6	1-5	F	133	55%	100%	F	182	32%	99%	M	222	23%	98%	C	318	10%	93%	50 Mesh Strainer [Blue]	
	0.28	80	79	4-17	3-11	2-8	2-7	1-6	F	129	58%	100%	F	176	34%	99%	F	210	25%	99%	C	299	11%	94%		
	0.30	90	88	4-18	3-12	2-9	2-7	1-6	F	125	60%	100%	F	170	35%	99%	F	199	26%	99%	C	283	12%	94%	40250-00	
025	0.15	15	15	2-9	1-6	1-4	1-4	1-3	F	200	28%	100%	-	-	-	-	-	-	-	-	-	-	-	-	ER110-025	40281-025
	0.17	20	19	3-10	2-7	1-5	1-4	1-3	F	194	28%	100%	M	256	15%	98%	-	-	-	-	-	-	-	-	SR110-025	40287-025
	0.20	25	24	3-12	2-8	1-6	1-5	1-4	F	190	29%	100%	M	246	17%	98%	C	372	7%	88%	-	-	-	-	MR110-025	40291-025
	0.21	30	29	3-13	2-8	2-6	1-5	1-4	F	187	29%	100%	M	237	19%	98%	C	353	8%	90%	VC	437	5%	79%	DR110-025	40286-025
	0.25	40	39	4-15	2-10	2-7	1-6	1-5	F	181	30%	100%	M	223	22%	98%	C	322	11%	93%	VC	401	6%	86%		
	0.28	50	49	4-16	3-11	2-8	2-7	1-5	F	177	30%	100%	F	213	25%	98%	C	299	13%	95%	C	373	8%	89%		
	0.30	60	58	4-18	3-12	2-9	2-7	1-6	F	173	31%	100%	F	204	27%	98%	C	280	15%	96%	C	350	9%	91%		
	0.33	70	68	5-19	3-13	2-10	2-8	2-6	F	170	31%	100%	F	196	28%	98%	M	263	16%	96%	C	331	10%	93%	50 Mesh Strainer [Blue]	
	0.35	80	78	5-21	3-14	3-10	2-8	2-7	F	168	31%	100%	F	190	30%	98%	M	249	18%	97%	C	314	10%	94%		
	0.37	90	88	5-22	4-15	3-11	2-9	2-7	F	166	31%	100%	F	184	31%	98%	M	237	19%	97%	C	300	11%	95%	40250-00	
03	0.18	15	14	3-11	2-7	1-5	1-4	1-4	F	209	23%	99%	-	-	-	-	-	-	-	-	-	-	-	-	ER110-03	40281-03
	0.21	20	19	3-12	2-8	2-6	1-5	1-4	F	199	26%	99%	C	341	7%	92%	-	-	-	-	-	-	-	-	SR110-03	40287-03
	0.23	25	24	3-14	2-9	2-7	1-6	1-5	F	191	29%	99%	C	322	9%	93%	VC	421	5%	82%	-	-	-	-	MR110-03	40291-03
	0.26	30	29	4-15	3-10	2-8	2-6	1-5	F	185	31%	99%	C	307	11%	95%	VC	399	6%	86%	XC	484	3%	73%	DR110-03	40286-03
	0.29	40	39	4-17	3-12	2-9	2-7	1-6	F	175	34%	98%	C	282	14%	96%	C	364	8%	90%	VC	447	5%	79%		
	0.33	50	48	5-20	3-13	2-10	2-8	2-7	F	167	37%	98%	M	263	17%	97%	C	337	10%	93%	VC	419	6%	83%		
	0.36	60	58	5-21	4-14	3-11	2-9	2-7	F	160	39%	97%	M	247	19%	97%	C	315	11%	94%	C	396	6%	86%		
	0.39	70	68	6-23	4-15	3-12	2-9	2-8	F	155	41%	97%	M	234	20%	97%	C	297	13%	95%	C	376	7%	88%	50 Mesh Strainer [Blue]	
	0.42	80	77	6-25	4-16	3-12	2-10	2-8	F	150	42%	97%	M	223	22%	98%	C	281	14%	96%	C	359	8%	89%		
	0.44	90	87	7-26	4-17	3-13	3-10	2-9	F	146	44%	96%	F	213	23%	98%	M	266	14%	96%	C	344	8%	91%	40250-00	

Multi-tip & Multi-angle Spraying - Which to use When?

Using multiple spray tips at the same time can provide substantial gains in effective coverage into crops or applications that otherwise would be very difficult to cover; **however,** multi-tip spraying should not be used without reason.

Spraying **high volume out of a single tip** can produce droplets that are 'too large" to be effective for coverage, which make for ineffective spray application.

For improved application on herbicide resistant or problem weeds (like Pigweed - Palmer Amaranth), consider using COMBO-RATE® stacking nozzle bodies [right] to maximize canopy penetration & coverage; and try our dual-tip adapter [left] for applications on a vertical target like fungicide on ahead of wheat.

For an example, if you are targeting a medium spray quality (e.g. VMD of 275µ), applying 20 US GPA at 20MPH, you might be forced to use a ER110-125, which would produce a ~366µ VMD. Instead, split up the volume into two SR110-06 spray tips, which will allow better drift control (options to use an MR110-06), and get better control of coverage (~300µ VMD) as well.

Studies show using a coarser & finer spray at the same time is also useful in canopy applications.

Revised December 2017. Information may change without notice.

110° COMBO-JET® Spray Tips Charts For PWM Sprayers

Nozzle Spacing: 20” Application Units: US Gallons/Acre

WILGER

Disclaimer: These charts are published for comparative purposes to demonstrate the differences in the series of Combo-Jet® spray tips. Data used to populate this chart is extrapolated from third party testing data from a controlled conditions test with water as the testing solution. Actual spray applications with active chemical ingredients may change the spray dynamics and spray tip performance specifications. Wilger is not liable for any misuse or misrepresentation of this information, leading to (but not limited to) incorrect spray application, crop damage, or any other harm (Not limited to human, livestock or environmental).

Tip Cap No.	Flow Rate USGPM	BOOM PSI	TIP PSI	Sprayer Speed Range (Rounded) @ US Gallons/Acre on 20” Spacing				Spray Classification; VMD (Droplet Size in µ); %<141µ (Drift %); %<600µ (Small Droplets)																Tip-Cap & Part No.	
								ER110 Series				SR110 Series				MR110 Series				DR110 Series				UR110 Series		Tip-Cap	Part #
				5 GPA	10 GPA	15 GPA	20 GPA	Class	VMD	<141	<600	Class	VMD	<141	<600	Class	VMD	<141	<600	Class	VMD	<141	<600	Class	UR Tip Usage	Strainer not req’d	
04	0.24	15	14	4-14	2-7	1-5	1-4	M	254	15%	98%	-	-	-	-	-	-	-	-	-	-	-	-	-	UR tips are specialty spray tips to produce ultra coarse spray. Refer to chemical application label for maximum pressures, speeds and application information.	ER110-04	40281-04
	0.27	20	19	4-16	2-8	1-5	1-4	M	243	18%	97%	C	355	7%	91%	-	-	-	-	-	-	-	-	-		SR110-04	40287-04
	0.31	25	23	5-18	2-9	2-6	1-5	M	235	20%	97%	C	335	9%	92%	-	-	-	-	-	-	-	-	-		MR110-04	40291-04
	0.34	30	28	5-20	2-10	2-7	1-5	M	228	21%	97%	C	319	10%	93%	VC	425	4%	83%	-	-	-	-	-		DR110-04	40286-04
	0.39	40	37	6-23	3-12	2-8	1-6	M	217	24%	97%	C	294	13%	95%	C	386	6%	88%	XC	478	4%	74%	UC		UR110-04	40292-04
	0.43	50	47	6-26	3-13	2-9	2-6	F	209	26%	96%	C	275	15%	96%	C	355	8%	91%	VC	447	5%	79%	UC			
	0.47	60	56	7-28	4-14	2-9	2-7	F	202	27%	96%	M	259	17%	96%	C	330	9%	93%	VC	421	6%	82%	UC			
	0.51	70	66	8-30	4-15	3-10	2-8	F	196	29%	96%	M	245	18%	97%	C	309	10%	95%	C	400	6%	84%	UC			
	0.55	80	75	8-33	4-16	3-11	2-8	F	191	30%	95%	M	233	19%	97%	C	291	11%	95%	C	381	7%	86%	UC		50 Mesh Strainer [Blue] 40250-00	
	0.58	90	84	9-35	4-17	3-12	2-9	F	187	31%	95%	M	223	21%	97%	C	275	12%	96%	C	365	7%	87%	UC			
05	0.34	20	18	5-20	2-10	2-7	1-5	M	253	17%	95%	-	-	-	-	-	-	-	-	-	-	-	-	-	UR tips are specialty spray tips to produce ultra coarse spray. Refer to chemical application label for maximum pressures, speeds and application information.	ER110-05	40281-05
	0.38	25	23	6-22	3-11	2-7	1-6	M	241	19%	95%	C	388	6%	88%	-	-	-	-	-	-	-	-	-		SR110-05	40287-05
	0.41	30	27	6-24	3-12	2-8	2-6	M	231	21%	95%	C	367	7%	90%	XC	501	3%	69%	-	-	-	-	-		MR110-05	40291-05
	0.48	40	36	7-28	4-14	2-9	2-7	M	217	25%	95%	C	334	10%	93%	VC	459	4%	76%	XC	513	3%	66%	UC		DR110-05	40286-05
	0.53	50	45	8-32	4-16	3-11	2-8	F	207	27%	95%	C	308	12%	94%	VC	427	5%	80%	XC	492	3%	70%	UC		UR110-05	40292-05
	0.58	60	54	9-35	4-17	3-12	2-9	F	198	29%	95%	C	287	14%	95%	C	400	6%	83%	XC	475	3%	73%	UC			
	0.63	70	63	9-37	5-19	3-12	2-9	F	192	31%	95%	M	269	15%	96%	C	378	7%	85%	XC	460	4%	75%	UC			
	0.67	80	72	10-40	5-20	3-13	2-10	F	186	32%	95%	M	253	17%	97%	C	359	7%	87%	VC	448	4%	77%	UC		50 Mesh Strainer [Blue] 40250-00	
	0.71	90	82	11-42	5-21	4-14	3-11	F	181	34%	95%	M	240	18%	97%	C	342	8%	88%	VC	437	4%	78%	UC			
06	0.40	20	17	6-24	3-12	2-8	1-6	C	289	13%	94%	-	-	-	-	-	-	-	-	-	-	-	-	-	UR tips are specialty spray tips to produce ultra coarse spray. Refer to chemical application label for maximum pressures, speeds and application information.	ER110-06	40281-06
	0.44	25	22	7-26	3-13	2-9	2-7	C	278	15%	94%	XC	466	3%	76%	-	-	-	-	-	-	-	-	-		SR110-06	40287-06
	0.48	30	26	7-29	4-14	2-10	2-7	C	268	16%	94%	VC	438	5%	81%	XC	524	3%	64%	-	-	-	-	-		MR110-06	40291-06
	0.56	40	35	8-33	4-17	3-11	2-8	C	253	19%	94%	C	393	7%	87%	XC	490	3%	71%	XC	547	2%	61%	UC		DR110-06	40286-06
	0.63	50	43	9-37	5-19	3-12	2-9	C	242	21%	95%	C	358	9%	90%	XC	465	4%	76%	XC	519	3%	65%	UC		UR110-06	40292-06
	0.69	60	52	10-41	5-20	3-14	3-10	M	233	23%	95%	C	330	11%	92%	VC	443	5%	79%	XC	496	3%	69%	UC			
	0.74	70	61	11-44	5-22	4-15	3-11	M	225	24%	95%	C	306	12%	93%	VC	426	5%	81%	XC	476	3%	71%	UC			
	0.79	80	70	12-47	6-24	4-16	3-12	M	218	25%	95%	C	285	13%	94%	VC	410	5%	83%	XC	460	3%	73%	UC		50 Mesh Strainer [Blue] 40250-00	
	0.84	90	78	12-50	6-25	4-17	3-12	M	212	26%	95%	M	267	14%	95%	C	397	6%	85%	VC	445	4%	75%	UC			
08	0.50	20	16	7-30	4-15	2-10	2-7	C	348	12%	89%	-	-	-	-	-	-	-	-	-	-	-	-	-	UR tips are specialty spray tips to produce ultra coarse spray. Refer to chemical application label for maximum pressures, speeds and application information.	ER110-08	40281-08
	0.56	25	20	8-33	4-17	3-11	2-8	C	328	14%	90%	UC	517	3%	52%	-	-	-	-	-	-	-	-	-		SR110-08	40287-08
	0.62	30	24	9-37	5-18	3-12	2-9	C	312	15%	92%	UC	489	4%	59%	UC	570	3%	45%	-	-	-	-	-		MR110-08	40291-08
	0.71	40	32	11-42	5-21	4-14	3-11	C	286	18%	93%	XC	445	6%	68%	UC	522	4%	54%	UC	606	3%	42%	UC		DR110-08	40286-08
	0.79	50	39	12-47	6-24	4-16	3-12	M	266	20%	95%	XC	410	7%	74%	UC	486	5%	61%	UC	571	4%	47%	UC		UR110-08	40292-08
	0.87	60	47	13-52	6-26	4-17	3-13	M	249	21%	95%	XC	382	8%	78%	XC	455	6%	65%	UC	543	4%	50%	UC			
	0.94	70	55	14-56	7-28	5-19	3-14	M	235	23%	96%	VC	359	9%	80%	XC	430	6%	69%	UC	519	4%	53%	UC			
	1.01	80	63	15-60	7-30	5-20	4-15	F	223	24%	96%	C	338	10%	83%	XC	408	7%	71%	UC	498	4%	56%	UC			
	1.07	90	71	16-63	8-32	5-21	4-16	F	212	25%	97%	C	320	11%	84%	XC	388	7%	74%	UC	479	5%	58%	UC			
10	0.66	25	18	10-39	5-20	3-13	2-10	VC	374	9%	87%	-	-	-	-	-	-	-	-	-	-	-	-	-	UR tips are specialty spray tips to produce ultra coarse spray. Refer to chemical application label for maximum pressures, speeds and application information.	ER110-10	40281-10
	0.73	30	21	11-43	5-22	4-14	3-11	VC	357	11%	88%	UC	527	4%	50%	-	-	-	-	-	-	-	-	-		SR110-10	40287-10
	0.84	40	28	12-50	6-25	4-17	3-12	C	330	13%	90%	UC	480	6%	60%	UC	533	4%	51%	-	-	-	-	-		MR110-10	40291-10
	0.94	50	35	14-56	7-28	5-19	3-14	C	310	16%	91%	XC	444	7%	67%	UC	497	5%	57%	UC	651	3%	35%	UC		DR110-10	40286-10
	1.03	60	42	15-61	8-31	5-20	4-15	C	293	17%	92%	XC	414	8%	72%	XC	468	5%	61%	UC	628	3%	38%	UC		UR110-10	40292-10
	1.11	70	49	17-66	8-33	6-22	4-17	C	278	19%	93%	XC	389	8%	75%	XC	444	6%	64%	UC	608	4%	40%	UC			
	1.19	80	56	18-71	9-35	6-24	4-18	M	266	20%	93%	VC	368	9%	78%	XC	423	6%	66%	UC	591	4%	42%	UC			
	1.26	90	64	19-75	9-37	6-25	5-19	M	255	21%	94%	C	349	10%	80%	XC	404	6%	68%	UC	576	4%	43%	UC			
125	0.77	25	15	11-46	6-23	4-15	3-11	XC	447	8%	64%	-	-	-	-	-	-	-	-	-	-	-	-	-	UR series spray tips are currently commercially available in -04 to -10 sizes.	ER110-125	40281-125
	0.84	30	18	13-50	6-25	4-17	3-13	XC	430	8%	68%	-	-	-	-	-	-	-	-	-	-	-	-	-		SR110-125	40287-125
	0.97	40	24	14-58	7-29	5-19	4-14	XC	403	9%	73%	UC	506	4%	55%	UC	652	3%	33%	-	-	-	-	-		MR110-125	40291-128
	1.09	50	30	16-65	8-32	5-22	4-16	XC	383	10%	77%	XC	469	5%	62%	UC	616	4%	40%	UC	646	3%	35%			DR110-125	40286-125
	1.19	60	36	18-71	9-35	6-24	4-18	VC	366	11%	79%	XC	439	6%	67%	UC	587	4%	44%	UC	626	4%	37%				
	1.29	70	42	19-76	10-38	6-25	5-19	C	351	12%	81%	XC	413	6%	71%	UC	562	5%	48%	UC	609	4%	40%				
	1.38	80	48	20-82	10-41	7-27	5-20	C	339	12%	83%	XC	391	7%	74%	UC	540	5%	51%	UC	595	4%	41%				
	1.46	90	55	22-87	11-43	7-29	5-22	C	328	13%	84%	VC	371	7%	76%	UC	521	5%	53%	UC	582	5%	43%				
15	0.93	30	15	14-55	7-28	5-18	3-14	XC	463	7%	58%	-	-	-	-	-	-	-	-	-	-	-	-	-	UR series spray tips are currently commercially available in -04 to -10 sizes.	ER110-15	40281-15
	1.08	40	21	16-64	8-32	5-21	4-16	XC	434	9%	65%	UC	594	4%	38%	-	-	-	-	-	-	-	-	-		SR110-15	40287-15
	1.20	50	26	18-72	9-36	6-24	4-18	XC	413	10%	69%	UC	561	4%	46%	UC	626	4%	38%	-	-	-	-	-		MR110-15	40291-15
	1.32	60	31	20-78	10-39	7-26	5-20	XC	395	11%	72%	UC	534	5%	52%	UC	604	4%	41%	UC	655	3%	40%			DR110-15	40286-15
	1.43	70	36	21-85	11-42	7-28	5-21	XC	380	11%	74%	UC	511	5%	56%	UC	586	4%	44%	UC	637	4%	43%				
	1.52	80	41	23-91	11-45	8-30	6-23	VC	367	12%	76%	UC	491	6%	59%	UC	570	5%	46%	UC	620	4%	46%				
	1.62	90	46	24-96	12-48	8-32	6-24	C	355	13%	78%	XC	473	6%	62%	UC	557	5%	48%	UC	606	4%	48%				

Droplet Categories as per **ASABE S572.1** Classification (2009-current)

Extremely Fine Very Fine Fine Medium Coarse Very Coarse Extremely Coarse Ultra Coarse

*Droplet categories: The above chart is based on the ASABE Standard 572.1. Refer to chemical label to verify which ASABE S572.1 categories should be followed.

Spray 'Tips'

Looking for an Easier Way to Choose Spray Tips?

Tip Wizard is a interactive spray tip selection tool, that takes your known application information, and provides you with real actionable information that will help make the best choice of spray tip for your field. It is available on the wilger.net website, as well as downloadable for any smartphone device or tablet.
Don't wait until it is too late. Try it today!

TIP WIZARD
Download Tip Wizard

Drift vs. Efficacy

Generally speaking, smaller droplets deposit on the target more effectively than larger droplets, but larger droplets will drift less. So, when balancing drift control and efficacy, ensure to follow chemical labels and guidelines to designate the required droplet size/category.

ASABE S-572.1 Classification Category	Color Code	Estimated VMD Range for Spray Quality	Contact Insecticide & Fungicide	Systemic Insecticide & Fungicide	Contact Foliar Herbicide	Systemic Foliar Herbicide	Soil-Applied Herbicide	Incorporated Soil-Applied Herbicide	Fertilizer
Extremely Fine (XF)	Purple	Under 60							
Very Fine (VF)	Red	60-105	■						
Fine (F)	Orange	106-235	■						
Medium (M)	Yellow	236-340	■	■	■	■			
Coarse (C)	Blue	341-403		■	■	■	■	■	
Very Coarse (VC)	Green	404-502				■	■	■	■
Extremely Coarse (XC)	White	503-665					■	■	■
Ultra Coarse (UC)	Black	Over 665						■	■

The above table provides general guidelines regarding droplet size and spray quality used in most spray applications.
It is always required that you carefully read and follow updated chemical manufacturers application label and instructions.

Critical Importance of Spray Tip Maintenance & Proper Performance

Often, it is easy to dismiss considering replacing worn spray tips, as the pattern "still looks good" visually; but, what you often can't see can be creating a nasty mess of weed resistance due to misses or underapplication, or crop damage due to overapplication. Spray tips need to be considered the most important piece of the sprayer, as all results rely on their ability to do their job consistently.

Test Tip Flow Consistency
Flow should be within 10% of manufacturer's listed flow.
(e.g. 110-04 is 0.4 US gpm @ 40PSI)
Make testing a habit.

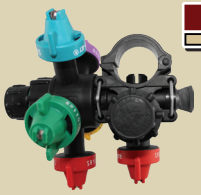
Check Spray Pattern
Pattern should be opened up fully.
Verify against a pattern check sheet.
Ensure clean orifice.
A little debris makes a difference.

Verify & Calibrate Boom Height
Using the correct spray tip angle for your typical boom height is paramount. With a boom too high or too low, the droplet deposition at your target is not consistent.
Even overlap and spray deposition is crucial.

COMBO-JET® **Fertilizer Streamer Tips**

COMBO-JET® **Nozzle Bodies**

COMBO-RATE® ***Stacking*** **Nozzle Bodies**



O-ring Seal **(ORS) Manifolds & Components**

Wilger Boom End Flush Valves

Visual **Ball Flow Indicators**

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