# New Product

COMBO-JET ER & DX Series Narrow-Angle Spot Spraying Nozzles

> Bulletin Date: May 1, 2022 Bulletin Reference: 220501-01

# Better Engineered Sprayer Components for Over 45 Years

# **COMBO-JET** Narrow Angle Nozzles for Spot-Spraying and Narrow band spraying applications

The ER (finer) and DX (drift reduction) series of narrow angle nozzles are designed for PWM spot spraying technologies, including green-on-green and green-on-brown. The DX series are designed to provide a solid balance of drift reduction and coverage to ensure consistent coverage.



The DX series of nozzle are a drift-reduction narrow angle series, built on the experience of ideal balance of coverage and driftable fines from Wilger SR/MR/DR/UR series

Balance between fine & coarse spray



Designed for use with PWM & Standard spray systems



The ER series of nozzle are a set of narrow angle nozzles in as fine of a spray pattern as possible, when drift is less of a concern.

All-in-one nozzle design with optional snap-in strainer





Solid-mass droplet **DX** drift reduction series

# What is optical spot spraying?

Optical spraying systems, or spot spraying based on optical feedback is used for a variety of purposes and with different mode of actions.

### **Spray on Green**

*Optics identify 'green' targets in field, and sprays them.* Examples include:

- Spraying herbicides to clear out established weeds before planting.
- Spraying Fungicide in-crop to any plants in field, skipping bare ground.
- Use more expensive modes of actions to manage resistant weeds.
- Foliar fertilizer applications on plant only

#### **Green on Green**

Optics & computer differentiate plants in field and spray target plants only. Examples include:

- Spraying weeds ONLY with herbicide, avoiding planted crop.
- Spraying crop with fungicide, ignoring weeds or non-target plants.

While the potential benefits of **Green on Green** provide a great deal of flexibility & means to use cost-prohibitive herbicide regimens, the means to differentiate plants at application time and development of the computing power and learning mechanisms are continually under development.

# **New Product**

**COMBO-JET ER & DX Series** Narrow-Angle Spot Spraying Nozzles

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# **COMBO-JET®** Narrow-Angle Nozzles for Specialty/Spot Spraying

A full selection of narrow angle spray nozzles for use in specialty applications that require a narrow, but thick pattern. These nozzles are fully compatible with PWM spray systems, and other optical spray systems. Contact factory for availability.

CON	<b>IBO-</b>	JET	®	<b>R &amp;</b>	DX	Seri	es o	<b>of 20°,</b>	40° & 6	<b>50° Nar</b>	row-Ang	gle Spray Nozzles for Spot Spraying
A new	serie	s of	DX (	drift	redı	ictio	n. na	rrow ar	ale nozz	les.		What is the <b>DX series</b> of spray tip?
Nozzle	Flow	Boom	A	pplicat	ion Rat	e in US	Gallon	s / Acre				Effectively through development of the narrow angle nozzles, there seems to be a relative sweet spot for consistent coverage and maintaining a reasonable level of driftable fines.
Angle & Sizes	Rate USGPM	Pres- sure PSI		0 @ Spi	n 20" I rayer S	Vozzle : peed -	Spacing Miles /	Hour	20° Nozzles	40° Nozzles	60° Nozzles	Since optical/spot sprayers are commonly sharing a maximum speed and narrow spacing, it is easier to consolidate what Wilger finds as a good middle ground to
For sma Wilger e	For smaller sizes of nozzles in narrow-angle varieties, please contact Wilger. As spot-spraying systems continue to develop, Wilger expects to have a variety of nozzles developed in turn to support the new improvements to maximize effectiveness.											offer a single drift reduction nozzle. That being said, if you have a significant need for a coarser option than the DX
-04 Nozzles	Flow us gpm	Boom psi	8gpa	App 10gpa	licatio 12.5gpa	n Speed 15gpa	d (mph) 20gpa	@ 25gpa 30gpa	DRIFT REDUCTION	DRIFT REDUCTION	DRIFT REDUCTION	nozzle, by all means contact Wilger and we would likely have something that might be made available to you.
	0.35	30 40	14	10	8	6.9 7.9	5.1	4.1 3.4   4.8 4.0	DX20-04 Part#	DX40-04 Part#	DX60-04 Part#	Other uses for narrow-angle nozzles
	0.45 0.49 0.53	50 60 70	18 19 21	13 15 16	11 12 13	9 10 10	6.6 7.3 8	5.3 4.4   5.8 4.8   6.3 5.2	Fine Spray ER20-04 Part#	Fine Spray ER40-04 Part#	Fine Spray ER60-04 Part#	Narrow angle spray nozzles are also key in improving some non-standard broadcast field spraying.
-05 Nozzles	Flow us gpm	Boom psi 30	10gpa	Арр 12.5gpa 10	lication 15gpa	n Speed 18gpa 7	d (mph) 20gpa	@ 25gpa 30gpa 5.1 4.3	DRIFT REDUCTION	DRIFT REDUCTION	DRIFT REDUCTION	Narrower angle nozzles can be used in applications that specifically target certain parts of the plant where application to the rest of the plant is waste.
	0.50	40	15 17	10 12 13	10 11	8	7.4	5.9 5.0   6.6 5.5	Part# Fine Spray	PART# FINE SPRAY	PART# FINE SPRAY	There are also cropping applications that might be continually cropping into <b>high stubble</b> , where traditional wide angle nozzles will result in significant spray catch
	0.61 0.66 Flow	60 70 Boom	18 20	15 16 Ann	12 13 licatio	10 11 1 Speed	9 10 1 (mph)	7 6.1 8 6.5 @	ER20-05 Part#	ER40-05 Part#	ER60-05 Part#	and run-off in the stubble. It is important to recognize narrow angle nozzles are not to be used strictly as
-06 Nozzles	us gpm 0.52	psi 30	10gpa 15	12.5gpa 12	15gpa 10	18gpa 9	20gpa 8	30gpa 35gpa 5.1 4.4	REDUCTION DX20-06	REDUCTION DX40-06	REDUCTION DX60-06	replacements for nozzles that are intended for your sprayer (e.g. 80° or 110°). They are only an option to further isolate and target a spray target to achieve better spray officiency and minimize chomical waster.
	0.60	40 50 60	18 20 22	14 16 17	12 13 15	10 11 12	9 10 11	6 5.1 7 6 7 6	FINE SPRAY ER20-06	FINE SPRAY ER40-06	FINE SPRAY ER60-06	Are they still PWM-compatible?
	0.79 Flow	70 Boom	24	19 Apr	16 licatio	13 1 Speed	12 1 (mph)	8 7 @	PART#	PART#	PART#	Absolutely!
-08 Nozzles	us gpm 0.69	psi 30	15gpa 14	18gpa 11	20gpa 10	25gpa 8	30gpa 7	35gpa 40gpa 6 5	REDUCTION DX20-08	REDUCTION DX40-08	REDUCTION DX60-08	The narrow angles use the same drift reduction design that is completely compat- ible with optical spray systems that are typically driven by PWM solenoids. The consistent thickness of the narrow angles make the key choices for ontical snot
	0.80	40 50	16 18	13 15	12 13	10 11	8 9	7 6 8 7	FINE SPRAY	PART# FINE SPRAY	FINE SPRAY	sprayers for both compatibility and performance.
	1.06	70	21	17	16	12	10	8 9 8	Part#	PART#	PART#	Are DX nozzles used on Drone Sprayers?
-10 Nozzles	us gpm 0.87	psi 30	15gpa 17	Арр. 18gpa 14	20gpa 13	25 <sub>GPA</sub>	30gpa 9	40gpa 50gpa 6 5	DRIFT REDUCTION DX20-10	DRIFT REDUCTION DX40-10	DRIFT REDUCTION DX60-10	
	1.00	40 50	20 22	17 18	15 17	12 13	10 11	7 6 8 7	Part# Fine Spray	PART# FINE SPRAY	PART# FINE SPRAY	
	1.22 1.32	70	24	20	20	16 16	12 13	<u> </u>	PART#	PART#	Part#	
-125 Nozzles	us gpm	psi 30	20gpa	25gpa	30gpa	35gpa 9	40gpa	45gpa 50gpa 7 6	REDUCTION DX20-125	REDUCTION DX40-125	REDUCTION DX60-125	UAV sprayer applicators are able to use DX nozzles for targeted spray applications, but often due to boom constraints or UAV sprayer outfitting, wider angle nozzles like the MP110 <sup>o</sup> program spikelt he used the program like the more that require
	1.25 1.40	40 50	19 21	15 17	12 14	11 12	9 10	8 7 9 8	Part# Fine Spray	Part# Fine Spray	Part# Fine Spray	a narrow full pattern spray can take advantage of the DX series of narrow-angle nozzles.
Factor	1.53	60 70	23	18 20	15 16	13 14	11 12	10 9 11 10	ER20-125 Part#	ER40-125 Part#	ER60-125 Part#	DX nozzles can be used on UAV sprayers, but they would likely be specialty applications or on sprayers that require year parrow spacing
For larger sizes of nozzles in narrow-angle varieties, please contact Wilger. As spot-spraying systems continue to develop, Wilger expects to have a variety of nozzles developed in turn to support the new improvements to maximize effectiveness.												

For a larger selection of nozzle sizes and availability of narrow-angle nozzles in even-spray tips, contact Wilger Inc (USA) at +1 (877) 968-7695.

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