

HYPRO[®] Fence End Row Guide

How to Build Your End/Fence Row: Step-by-Step Guide for 1" Boom Piping

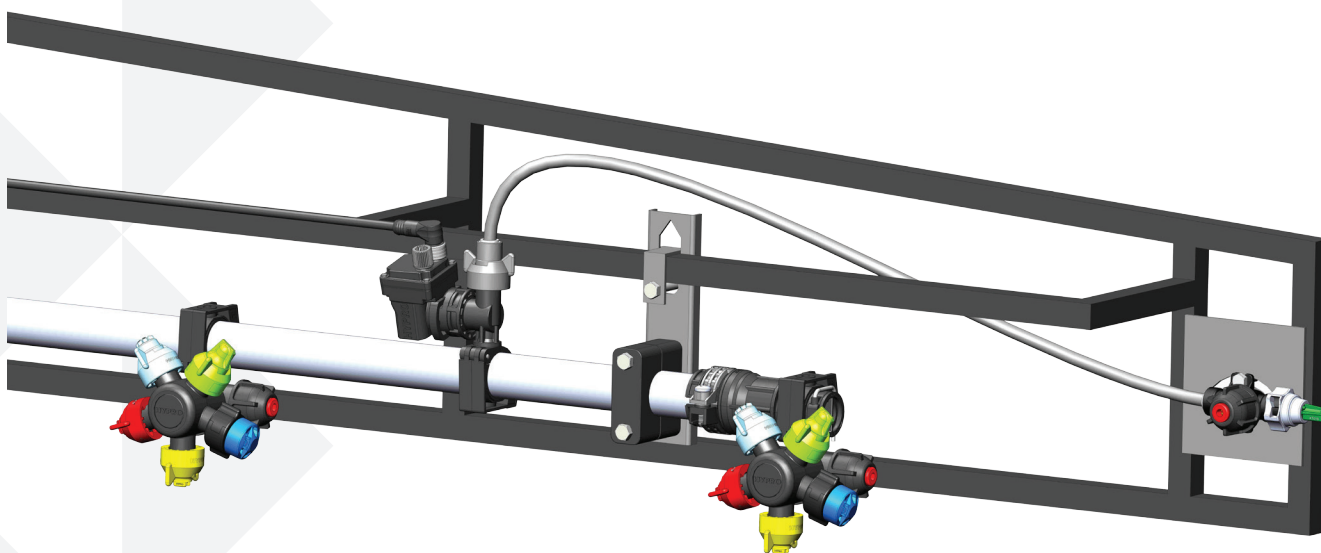


Introduction

The purpose of this guide is to give you step by step instruction on how to build your Fence End Row. The guide provides the accurate product recommendations for all standard 1" Boom Piping. For non-standard plumbing configurations and other options, please see the [Hypro Catalog](#) or your Hypro Representative. The image below shows all plumbing options for the Fence End Row.



Hypro's Recommended Fence End Row Kit



Typical Recommended Configuration				
Step	Part Number	QTY	Description	Note
Step 1 - Select Your Valve	3305-0011	2	ProStop-E Valve	Choosing 2 valve method
Step 2 - Wiring and Control Options	2520-0216	1	7M Battery Cable	Choosing 2 valve method
	2520-0218	1	7M Backbone cable	
	2520-0219	1	Y-Cable with two 20M segments	
Step 3 - Boom Pipe Tap Method	4221N-B124	2	1" Single Drop Nozzle Body with DCV	Remove DCV and replace with ProStop-E Valve
Step 4 - Select Plumbing to Connect to End Row	BG-4200-0061	2	3/8" PTC spray cap	Push-To-Connect Method
Step 5 - Select End Row Nozzle Body Accessories	BG-4247N-B121	2	3/8" PTC to Bayonet Nozzle body with 8psi DCV	Keep DCV to prevent dripping. Mount at end of sprayer. Connect XT nozzle to nozzle body.
Step 6 - Select the Nozzle	FC-XT020	2	2.0 GPM (40psi) fast cap boomless nozzle.	Matches 2.0 GPM rating of ProStop-E valve

Step One

Select ProStop-E Valve



Part Number	Description
3305-0011	ProStop-E valve assembly fits all Hypro ProFlow nozzle bodies in place of the check valve

Electrically actuated ball valve with a flow of 2.0 GPM at 5 PSI pressure drop. Use 3 wire 12v control for actuation (Power, Ground Signal). Can be actuated by using a spray controllers output or with a Hypro switch box as seen in this step-by-step guide.

Step Two

Select Wiring and Control Options

Option One - Cables

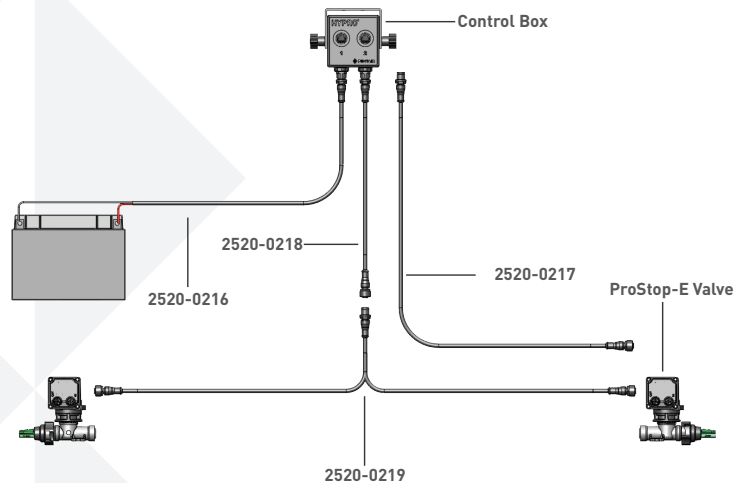
Wire to existing controller or switch box. Use 85' pigtail cord set for one side or both, or use Y cable for both end row control.

Cable Part Numbers:	Description	Connection	Amp Rating
2520-0218	7M backbone cable	Threaded, M12 A-code by M12 A-Code	4A
2520-0217	Single end row control 27M cable	Threaded, Male 4-pin M12 by female 4-pin M12	4Av
2520-0219	Y-cable with two 20M segments	Threaded, Male 4-pin by two Female 3-pin M12 A-Code	4A
2520-0216	7M battery cable	Threaded, Female 3-pin A-Code by flying leads	4A

Option Two -Box and Cables

Choose Hypro switch box and cable combo for single or both end row control.

Control Box	Description	Connection	Amp Rating
2850-0027	End Row Switch Box	Male 3-pin for Battery, Female 4-pin for Control	4A



Step Three

Select One Tap From Boom Pipe

Option One



Wet Boom Single Nozzle Bodies-No DCV

Single hose barb P/N	Hose ID
4201N-B104	1" clamp

Add Suffix "-00" for 1 part per retail bag.

Option Two



Single Drop Nozzle Body for Wet Boom

Seal Option/ Housing Reference	(to clamp on) Pipe Size
	1"
EPDM/Red	4221N-B124
Viton®/Green	4221N-B124V

Acid resistant polypropylene available with 1" clamp and EPDM Seal.
part number: 402265P

1/4" FNPT Outlet- Substitute B with F (i.e.: 4221N-F122)
For Individual Bags, Add Suffix -00 (i.e.: 4221N-B122-00)

Step Four

Select One Plumbing Option to Connect to End Row

Option One



Push-to-Connect Spray Cap

Push-to-Connect (PTC) Cap Part Numbers			Gasket Type	Gasket part Number
Size	25 Std. Pack	1 Per Bag		
3/8"	4200-0061	BG-4200-0061	Std	22W11MF64

Option Two



FNPT Quick Attach Cap

Part Number	Description
CAP10-20	1/4 FNPT Threaded by Quick Attach Cap



Elbows: Male Pipe Thread By Hose Barb

Std Pack	MPT X HB	Nylon	Poly
25	1/4 inch X 3/8 inch (10 mm)	EL1438	3EL1438

Step Five

Select One End Row Nozzle Body Accessory

Option One



Push-to-Connect Nozzle Body

Push-to-Connect (PTC) Nozzle Body Part Numbers					
Type	DCV	4 PSI (.28 BAR)		8PSI (.55 BAR)	
	Size	25 Std. Pack	1 Per Bag	25 Std. Pack	1 Per Bag
PTC Bayonet	3/8"	4247N-B111	BG-4247N-B111	4247N-B121	BG-4247N-B121

Option Two



Hose Barb Dry Boom Nozzle Body-with Top-Mounted DCV

Seal Options/ Housing Reference	Single hose barb P/N	Hose ID	
		US Units	Metric Units
EPDM/Red	4240N-B121S	3/8"	10 mm

Add Prefix "BG-" for 1 part per retail bag.

Option Three



Single Nozzle Body with DCV

Seal Options/ Housing Reference	3/8" (10 mm) HB x Bayonet
	8 PSI (.55 BAR)
EPDM/Red	QT14-1-NDC

Step 6

Select Your Nozzle: XT-Boom X Tender



The XT introduces boomless spray technology, enabling spray to be targeted into places that conventional booms and other nozzles cannot reach. XT delivers a uniform spray pattern over a distance of up to 16 feet (4.9 m). Ideal for weed control in forests and pastureland.

- Ideal for applications where a conventional boom cannot be used due to obstacles
- Common uses include orchard, vineyard, forestry, pasture, turf and golf course spraying, as well as maintaining rights-of-way and fence rows
- Excellent low-drift option while extending spray reach
- Large droplet size reduces spray drift and promotes spray penetration
- Maintains a consistent spray swath over a pressure range of 30-60 psi (2-5 bar)
- Standard models with precision-molded polyacetal nozzle and threaded stainless steel body provide excellent durability and low maintenance

US Units

Nozzle Size (MNPT)	Pressure (PSI)	Flow Rate (GPM)	Gallons per Acre at swath shown MPH								GAL/1000'				Swath (Ft) at 40 PSI 48 in high
			4	5	6	8	10	12	15	20	2	3	4	5	
10 (1/4")	30	0.9	8.9	7.1	5.9	4.5	3.6	3.0	2.4	1.8	0.41	0.27	0.20	0.16	13
	40	1.0	9.9	7.9	6.6	5.0	4.0	3.3	2.6	2.0	0.45	0.30	0.23	0.18	
	50	1.1	10.9	8.7	7.3	5.4	4.4	3.6	2.9	2.2	0.50	0.33	0.25	0.20	
	60	1.2	11.9	9.5	7.9	5.9	4.8	4.0	3.2	2.4	0.55	0.36	0.27	0.22	
20 (1/4")	30	1.7	13.6	10.9	9.0	6.8	5.4	4.5	3.6	2.7	0.62	0.42	0.31	0.25	15
	40	2.0	16.0	12.8	10.6	8.0	6.4	5.3	4.3	3.2	0.73	0.49	0.37	0.29	
	50	2.2	17.6	14.1	11.7	8.8	7.0	5.9	4.7	3.5	0.81	0.54	0.40	0.32	
	60	2.4	19.2	15.3	12.8	9.6	7.7	6.4	5.1	3.8	0.88	0.59	0.44	0.35	
24 (1/4")	30	2.1	16.2	13.0	10.8	8.1	6.5	5.4	4.3	3.2	0.75	0.50	0.37	0.30	16
	40	2.4	18.6	14.9	12.4	9.3	7.4	6.2	5.0	3.7	0.85	0.57	0.43	0.34	
	50	2.7	20.9	16.7	13.9	10.4	8.4	7.0	5.6	4.2	0.96	0.64	0.48	0.38	
	60	2.9	22.4	17.9	15.0	11.2	9.0	7.5	6.0	4.5	1.03	0.69	0.51	0.41	

Metric Units

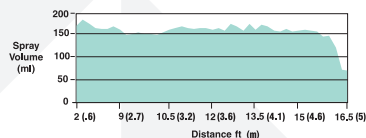
Nozzle Size (MNPT)	Pressure (BAR)	Flow Rate (LPM)	Application Rate L/Ha - at swath shown KM/H												Swath Width (M) @ 2.76 BAR 1.22 meters high
			4	5	6	7	8	10	12	14	16	18	20		
10 (1/4 inch)	2	3.2	124	99	83	71	62	50	41	35	31	28	25	3.9	
	3	3.9	152	121	101	87	76	61	51	43	38	34	30		
	4	4.6	175	140	117	100	88	70	58	50	44	39	35		
20 (1/4 inch)	2	6.4	201	161	134	115	101	81	67	58	50	45	40	4.8	
	3	7.9	247	197	165	141	123	99	82	71	62	55	49		
	4	9.1	285	228	190	163	142	114	95	81	71	63	57		
24 (1/4 inch)	2	7.7	237	189	158	135	118	95	79	68	59	53	47	4.9	
	3	9.5	290	232	193	166	145	116	97	83	73	64	58		
	4	10.9	335	268	223	191	167	134	112	96	84	74	67		

Swath widths and application rates in charts are based on height of 1.2 metres, a different height will give different swath widths

$$\text{litre/min} = \frac{\text{litre/ha} \times \text{km/hr} \times \text{swath width (m)}}{600}$$

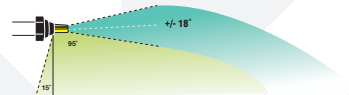
$$\text{litre/ha} = \frac{\text{litre/min} \times 600}{\text{km/hr} \times \text{swath width (m)}}$$

Typical Spray Pattern Produced by XT Series

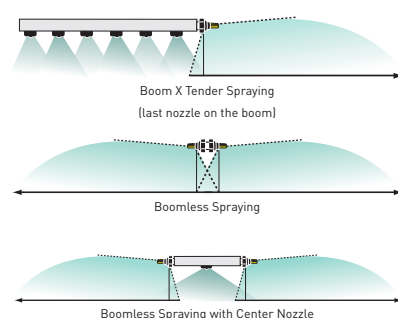


Adjustable Swath Width

Swath width can be increased or decreased by adjusting the angle of the nozzle +/- 18°.



Common Uses of the Boom X Tender Spray Nozzles



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Features		
Common Use	Weeds	
Pattern	Boomless Fan	
Technology	Pre-Orifice	
Material	Stainless or Polyacetal	
Spray Angle	105°	
Pressure Range	30-60 PSI (2-5 BAR)	
Configuration	MNPT & FastCap	
Part Numbers		
Fast	MNPT (Thread)	Parts Kits for MNPT version
XT010	-	XT010-GIOKIT
XT020	FC-XT020	XT020-GIOKIT
XT024	FC-XT024	XT024-GIOKIT
Replacement FastCap Seal		
22W11MF64		