Electrostatic Waterborne Solutions

Proven Reliability and Ease of Use for Spraying Waterborne Material

GRACO

Electrostatic Waterborne Solutions

You can depend on Graco solutions for using electrostatics to spray waterborne coatings.

Systems

Durable low and high pressure isolation cabinets contain five gallons (19 liters) of charged material.

WB100™ & WB3000™

Applicators

High performing guns are known for high transfer efficiency when spraying waterborne coating.

Pro Xp™ Manual and Automatic Electrostatic Waterborne Gun

Pro Xp™ WBx External Charge Waterborne Air Spray Gun

Pro Xpc™ Auto Electrostatic Air Spray Gun

ProBell® Waterborne Rotary Atomizer

Superior transfer efficiency

Reduced manufacturing costs

Positive environmental impact

WB100™ & WB3000™ Isolation Systems

The dependable way to isolate waterborne coatings. Ideal for electrostatic spray booths.

Standard Voltage Display

Easily monitor voltage for overall performance.

Isolation Cabinet

Safely contains five gallons (19 liters) of charged material for low and high pressure spraying.

WB100 with Triton™ 1:1 Pump

Use for low pressure spraying with waterborne electrostatic air spray gun.

Material Supply Container

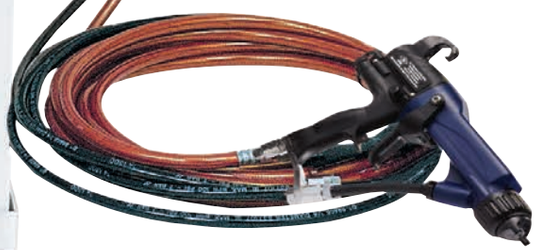
Easily remove and refill 5 gallon (19 liter) container.

Portable Cabinet

Move to variouslocations and applications.

WB3000 with a Merkur® ES 30:1 Air Assist Pump

Use for high pressure spraying with waterborne electrostatic air assist spray guns.



Pro Xp WB Electrostatic Gun

Standard and smart models provide excellent material savings, outstanding ergonomics and superior finish quality.

Ordering Information

Part Number	Description
WB100	
24N580	Waterborne isolation enclosure with standard electrostatic air spray gun L60T18, grounded air hose 235070 and waterborne fluid hose 24M732.
24P629	Waterborne isolation enclosure with smart electrostatic air spray gun L60M18, grounded air hose 235070 and waterborne fluid hose 24M732.
24P734	Waterborne isolation enclosure with mold release smart electrostatic gun L60M19, grounded air hose 235070 and waterborne fluid hose 24M732.
WB3000	
24N551	Waterborne isolation enclosure with standard electrostatic air-assist gun H60T18, grounded air hose 235070 and waterborne fluid hose 24M508.
24P632	Waterborne isolation enclosure with smart electrostatic air spray gun H60M18, grounded air hose 235070 and waterborne fluid hose 24M508.

Reliably isolate and spray waterborne coatings at 100 or 3000 psi

Technical Specifications

WB100

Maximum Fluid Working Pressure ..... 100 psi (0.7 MPa, 7.0 bar)

Maximum Air Working Pressure ..... 100 psi (0.7 MPa, 7.0 bar)

Minimum Air Pressure at Gun Inlet ..... 45 psi (0.32 MPa, 3.2 bar)

Maximum System Inlet Air Pressure ..... 100 psi (0.7 MPa, 7.0 bar)

WB System Air Consumption ..... 15–20 scfm (425–565 l/min)

Short Circuit Current Output ..... 125 microamperes

Voltage Output ..... 0.35 J with fluid hose 24M733 installed with Pro Xp WB gun 60 kV

Isolation Enclosure Air Inlet Fitting ..... 1/4 npt

Triton Pump ..... Manual 309303

WB100 Manual 3A2496

WB3000

Maximum Fluid Working Pressure ..... 3000 psi (21 MPa, 210 bar)

Maximum Air Working Pressure ..... 100 psi (0.7 MPa, 7.0 bar)

Minimum Air Pressure at Gun Inlet ..... 45 psi (0.32 MPa, 3.2 bar)

Maximum System Inlet Air Pressure ..... 100 psi (0.7 MPa, 7.0 bar)

WB System Air Consumption ..... 7.5–14 scfm (220–400 l/min)

Short Circuit Current Output ..... 125 microamperes

Voltage Output ..... 0.35 J with fluid hose 24M733 installed with Pro Xp WB gun 60 kV

Isolation Enclosure Air Inlet Fitting ..... 1/4 npt

Merkur Pump ..... Manual 3A0732

WB3000 Manual 3A2497

Pro Xp™ Waterborne (WB) Guns

Electrostatically spray waterborne materials with isolation systems

High transfer efficiency for low or high pressure applications

Internal Power Supply

Improves operator mobility with no heavy cords that slow down spraying.

Light Trigger Pull

Reduces muscle strain and operator fatigue.

Alternator Speed Indicator

Changes color with electrostatic performance.

Control Knobs

Access and adjust easily.

Atomizing Air Control

Adjust from full to minimal to fit spraying needs.

Ergonomic Handle

Fits nicely in your hand for comfortable spraying.

Smart Controls

Available for all waterborne models

- kV, current and hertz
- Easy, low kV setting
- Digital diagnostic mode for troubleshooting

Pro Xp WB models

for HydroShield and WB isolation systems

Air Spray Gun

For low pressure spraying
- Delivers high quality finish
- Sprays with various aircaps and nozzles

Air Assist Gun

For high pressure spraying
- Delivers a fine finish
- Sprays with AEF or AEM tip

Mold Release Gun

For low pressure spraying with an air assist spray tip
- Delivers fine atomized particles needed for mold release applications
- Sprays with an AEM or AEF spray tip

Ordering Information

Pro Xp WB Air Spray Ordering Information

Part Number	Item	Description
L60T18	Pro Xp60 WB	Standard electrostatic air spray gun for waterborne coatings.
L60M18	Pro Xp60 WB	Smart electrostatic air spray gun for waterborne coatings.
L60M19	Pro Xp60 MR	Smart electrostatic air spray gun for waterborne mold release coating applications. Requires an AEM or AEF spray tip for operation.

Air Cap Selection Chart

Part Number (color)	Pattern Shape	Length in (cm)	Recommended Fluid Viscosity cp at 70ºF (21ºC)	Recommended Production Rates
24N477 (black)	Round end	15-17 (381-432)	Light to medium (20–70 cp)	Up to 15 oz/min (450 cc/min)
24W279 (green)	Round end	15-17 (381-432)	Light to medium (20–70 cp)	Up to 15 oz/min (450 cc/min)
24N438 (black)	Round end	15-17 (381-432)	Light to medium (20–70 cp)	Up to 15 oz/min (450 cc/min)
24N376 (black), 24N276 (blue) 24N277 (red), 24N278 (green)	Tapered end	17-19 (432- 483)	Light to medium (20–70 cp)	Up to 15 oz/min (450 cc/min)
24N274 (black)	Tapered end	12-14 (305-356)	Light to medium (20–70 cp)	Up to 15 oz/min (450 cc/min)

- Distance to target: 10 in (254 mm)
- Inlet air pressure: 50 psi (3.4 bar, 34 kPa)
- Fan air: adjusted for maximum width
- Fluid flow rate: 10 oz/min (300 cc/min)

Nozzle Selection Chart

Color Coded Fluid Nozzle for Standard Materials

Part Number	Color	Orifice Size - mm (inch)
24N619	Black	0.55 (0.022)
24N613	Black	0.75 (0.029)
25N895	Green	1.0 (0.042)
25N896	Gray	1.2 (0.047)
24N616	Black	1.5 (0.055)
25N897	Brown	1.8 (0.070)
24N618	Black	2.0 (0.080)

Precision High Wear Nozzles (PHW) for Abrasive Materials

hardened SST seat and damage resistant SST tip; for standard coatings, abrasives, and metallics

Part Number	Color	Orifice Size - mm (inch)
25N831	Green	1.0 (0.042)
25N832	Gray	1.2 (0.047)
25N833	Black	1.5 (0.055)
25N834	Brown	1.8 (0.070)

For a complete list of parts and accessories, refer to the Pro Xp Waterborne Manual 3A2496.

Technical Specifications

	Pro Xp60	Pro Xp60 AA
Maximum Voltage Output	60 kV	60 kV
Maximum Working Fluid Pressure	100 psi (7 bar, 0.7 MPa)	3000 psi (210 bar, 21 MPa)
Maximum Working Air Pressure	100 psi (7 bar, 0.7 MPa)	100 psi (7 bar, 0.7 MPa)
Gun Weight (without hose)*	21 oz (600 g)	23 oz (660 g)
Gun Length	9.5 in (24 cm)	9.7 in (24.5 cm)
Recommended paint resistivity range	≤ 1 MΩ/cm	≤ 1 MΩ/cm
Fluid Inlet	3/8 npsm(m)	1/4-18 npsm(m)
Air Inlet	1/4 npsm(m) left handed thread	1/4 npsm(m) left handed thread
Instruction Manual	3A2496	3A2497

*Standard gun model. For other models reference the instruction manual.

Pro Xp WB Air Assist Ordering Information

Part Number	Item	Description
H60T18	Pro Xp60 AA WB	Standard electrostatic air assist gun for waterborne coatings.
H60M18	Pro Xp60 AA WB	Smart electrostatic air assist gun for waterborne coatings.

AEF Fine Finish Pre-Orifice Spray Tips

Recommended for high finish quality applications at low and medium pressures. AEF tips have a pre-orifice that assists in atomizing sheer thinning materials. Order desired tip, Part No. AEFxxx, where xxx = 3-digit number from the matrix below.

Orifice Size inch (mm)	Fluid Output fl oz/min (l/min)		Maximum Pattern Width at 12 inches (305 mm) inches (mm)					
	at 600 psi (41 bar, 4.1 MPa)	at 1000 psi (70 bar, 7.0 MPa)	6-8 (150-200)	8-10 (200-250)	10-12 (250-300)	12-14 (300-350)	14-16 (350-400)	16-18 (400-450)
			Spray Tip					
0.008 (0.203)	8.5 (0.25)	11.0 (0.32)				608		
0.010 (0.254)	9.5 (0.28)	12.5 (0.37)	310	410	510	610	710	810
0.012 (0.305)	12.0 (0.35)	16.0 (0.47)	312	412	512	612	712	812
0.014 (0.356)	16.0 (0.47)	21.0 (0.62)	314	414	514	614	714	814
0.016 (0.406)	20.0 (0.59)	26.5 (0.78)	–	416	516	616	716	–

* Tips are tested in water.
Fluid output (Q) at other pressures (P) can be calculated by this formula: $Q = (0.041)\ (QT)\ \sqrt{P}$ where QT = fluid output (fl oz/min) at 600 psi from the above table for the selected orifice size.

AEM Spray Tips

Recommended for high finish quality applications at low and medium pressures.
Order desired tip, Part No. AEMxxx, where xxx = 3-digit number from the matrix below.

Orifice Size inch (mm)	Fluid Output fl oz/min (l/min)		Maximum Pattern Width at 12 inches (305 mm) inches (mm)							
	at 600 psi (41 bar, 4.1 MPa)	at 1000 psi (70 bar, 7.0 MPa)	2-4 (50-100)	4-6 (100-150)	6-8 (150-200)	8-10 (200-250)	10-12 (250-300)	12-14 (300-350)	14-16 (350-400)	16-18 (400-450)
			Spray Tip							
0.007 (0.178)	4.0 (0.1)	5.2 (0.15)	107	207	307	–	–	–	–	–
0.009 (0.229)	7.0 (0.2)	9.1 (0.27)	–	209	309	409	509	609		–
0.011 (0.279)	10.0 (0.3)	13.0 (0.4)	–	211	311	411	511	611	711	–
0.013 (0.330)	13.0 (0.4)	16.9 (0.5)	–	213	313	413	513	613	713	813
0.015 (0.381)	17.0 (0.5)	22.0 (0.7)	–	215	315	415	515	615	715	815
0.017 (0.432)	22.0 (0.7)	28.5 (0.85)	–	217	317	417	517	617	717	–
0.019 (0.483)	28.0 (0.8)	36.3 (1.09)	–	–	319	419	519	619	719	–
0.021 (0.533)	35.0 (1.0)	45.4 (1.36)	–	–	–	421	521	621	721	821
0.023 (0.584)	40.0 (1.2)	51.9 (1.56)	–	–	–	423	523	623	723	823
0.025 (0.635)	50.0 (1.5)	64.8 (1.94)	–	–	–	425	525	625	725	825
0.029 (0.736)	68.0 (1.9)	88.2 (2.65)	–	–	–	–	–	–	–	829
0.031 (0.787)	78.0 (2.2)	101.1 (3.03)	–	–	–	431	–	631	–	831
0.033 (0.838)	88.0 (2.5)	114.1 (3.42)	–	–	–	–	–	–	–	833
0.037 (0.939)	108.0 (3.1)	140.0 (4.20)	–	–	–	–	–	–	737	
0.039 (0.990)	118.0 (3.4)	153.0 (4.59)	–	–	–	–	539	–	–	–

* Tips are tested in water.
Fluid output (Q) at other pressures (P) can be calculated by this formula: $Q = (0.041)\ (QT)\ \sqrt{P}$ where QT = fluid output (fl oz/min) at 600 psi from the above table for the selected orifice size.

Pro Xp™ WBx External Charge Waterborne Air Spray Gun

High performing guns externally charge material — no extra equipment required! Waterborne material stays grounded and is charged by a probe at the tip of the gun. It's an effective way to reduce material and environmental costs, while delivering a consistent, high quality finish.

Two Probe Options for Different Needs

- Long probe provides the best transfer efficiency and wrap
- Short probe provides electrostatic charging in tight spaces

Increased Operator Comfort

- Lightweight, compact design with ergonomic handle makes all-day spraying comfortable

Optimized for Waterborne Paints

- Superior finish quality
- Designed so air caps stay clean longer

Improved Operator Control

- Smart gun eliminates guesswork
- Control knobs make spraying adjustments easy

180°

No Tool Probe Removal

Turn 180° to remove

External Charging Probes

Designed for quick release and easy cleaning

Ordering Information

Pro Xp 40 kV WBx Gun Models

Part Number	Description
L40M28	Smart 40 kV air spray gun
L40T28	Standard 40 kV spray gun

Probe Kit Ordering Information

Part Number	Description
25E639	Long probe kit includes 2 probes
25E664	Short probe kit includes 2 probes

For a complete list of parts and accessories, refer to the Pro Xp WBx Waterborne Manual 3A4795

Technical Specifications

Maximum Voltage Output	40 kV
Maximum Working Fluid Pressure	100 psi (7 bar, 0.7 MPa)
Maximum Working Air Pressure	100 psi (7 bar, 0.7 MPa)
Gun Weight (without hose)*	19.8 oz (560 g)
Gun Length	8.7 in (22 cm)
Recommended paint resistivity range	≤ 1 MΩ/cm
Fluid Inlet	3/8 npsm(m)
Air Inlet	1/4 npsm(m) left handed thread
Instruction Manual	3A4795

*Standard gun model. For other models reference the instruction manual.

Pro Xp™ Auto Waterborne Guns

Get the spray performance and transfer efficiency of our manual Pro Xp guns in an automatic version. Every automatic Pro Xp gun is tested and delivered with a certificate indicating it meets all of Graco's requirements for spray pattern, mechanical performance and electrical performance so you know you're getting a quality product.

Dependability

- Durable components give you extra peace of mind knowing that you'll spend less time fixing and more time spraying

Maximize Your Profits

- Higher transfer efficiency equals less waste – saving you money on material
- New aircaps use less air and help lower your energy bill

Ordering Information

Pro Xp Auto Gun Models

Part Number	Description
LA1T28	60 kV, rear manifold mount, external charge, air spray
LA2T28	60 kV, bottom manifold mount, external charge, air spray
LA1M28	60 kV, rear manifold mount, external charge, air spray
LA2M28	60 kV, bottom manifold mount, external charge, air spray
LA1M18	60 kV, rear manifold mount, air spray
LA1T18	60 kV, rear manifold mount, air spray
HA1M18	60 kV, rear manifold mount, air assist
HA1T18	60 kV, rear manifold mount, air assist

Technical Specifications

Maximum Fluid Working Pressure ..... 100 psi (7 bar, 0.7 MPa)

Maximum Working Air Pressure ..... 100 psi (7 bar, 0.7 MPa)

Maximum Fluid Operating Temperature..... 120ºF (48ºC)

Paint Resistivity Range Solventborne Gun ..... 3 megohm/cm to infinity

Paint Resistivity Range Waterborne Gun..... ≤3 megohm/cm

Short Circuit Current Output..... 125 microamperes

Gun Weight (approx. depending on gun model)..... 2.6 lb (1.2 kg)

Gun Length..... 10.6 in (27 cm)

Waterborne Models..... 60 kV

Atomizing Air Inlet Fitting ..... 5/16 in (8 mm) OD nylon tube

Fan Air Inlet Fitting..... 5/16 in (8 mm) OD nylon tube

Cylinder Air Inlet Fitting..... 5/32 in (4 mm) OD nylon tube

Fluid Inlet Fitting ..... 1/4 -18 npsm(m)

For a complete list of parts and accessories, refer to the Pro Xp Auto Manual 333012 or brochure 345066

Pro Xpc™ Auto

The Pro Xpc Auto electrostatic spray gun offers excellent finish quality, leading class transfer efficiency. It's safe, durable, designed for efficient system integration and comes with a serialized certificate of performance — so you can rest easy that your Pro Xpc Auto won't let you down.

Compact & Lightweight

- Spray in tight spaces and corners with compact design
- Weight makes it ideal for robots and fixtures with lower payloads (2 lb/0.91 kg)

Finish Quality

- Superior finish quality and leading class transfer efficiency with Pro Xp atomization
- Air spray gun designed to spray a variety of materials including solventborne, high conductive and waterborne

Ordering Information

Pro Xpc Auto Gun Models

Part Number	Description
LC1028	Rear manifold gun for waterborne material
LC2028	Bottom manifold gun for waterborne material

Technical Specifications

Maximum Fluid Working Pressure	100 psi (7 bar, 0.7 MPa)
Maximum Working Air Pressure	100 psi (7 bar, 0.7 MPa)
Minimum Cylinder Actuating Pressure	50 psi (3.4 bar, 0.34 MPa)
Maximum Fluid Operating Temperature	120ºF (48ºC)
Paint Resistivity Range Solventborne Gun	3 megohm/cm to infinity
Paint Resistivity Range Waterborne Gun	≤3 megohm/cm
Short Circuit Current Output	150 microamperes
Gun Weight (approx. depending on gun model)	2.0 lb (0.9 kg)
Gun Length	5.7 in (14.5 cm)
Solventborne Models	0-100 kV
Waterborne Models	0-60 kV
Atomizing Air Inlet Fitting	5/16 in (8 mm) OD nylon tube
Fan Air Inlet Fitting	5/16 in (8 mm) OD nylon tube
Cylinder Air Inlet Fitting	1/4 in (6 mm) OD nylon tube
Fluid Inlet Fitting	1/4 in (6 mm) PFE tube

For a complete list of parts and accessories, refer to the Pro Xpc Auto Manual 332992 or brochure 345084

ProBell® Rotary Atomizer

Each ProBell rotary bell atomizer delivers superior quality, precision spraying with uniform atomization and an easily adjustable spray pattern for the most demanding finishing applications.

Durable

- Stainless steel air cap cover protects bell cup and air cap
- Air bearing has no parts to wear out
- Turbine assembly is a proven design

Safe

- Cable connection improves safety while reducing system complexity
- Arc detection shuts off electrostatics, ensuring a safe environment conductive and waterborne

Ordering Information

Pro Bell Rotary Atomizer Models

Hollow Wrist Robot Applicator Models		
PART NO.	**BELL CUP SIZE**	**NOZZLE SIZE**
R5A248	50 mm	1.0 mm
R5A258	50 mm	1.25 mm
R5A268	50 mm	1.5 mm
R3A238	30 mm	0.75 mm
R3A248	30 mm	1.0 mm
R3A258	30 mm	1.25 mm
R3A268	30 mm	1.5 mm
R1A238	15 mm	0.75 mm
R1A248	15 mm	1.0 mm
R1A258	15 mm	1.25 mm

Standard Bell Applicator Models		
PART NO.	**BELL CUP SIZE**	**NOZZLE SIZE**
R5A148	50 mm	1.0 mm
R5A158	50 mm	1.25 mm
R5A168	50 mm	1.5 mm
R3A138	30 mm	0.75 mm
R3A148	30 mm	1.0 mm
R3A158	30 mm	1.25 mm
R3A168	30 mm	1.5 mm
R1A138	15 mm	0.75 mm
R1A148	15 mm	1.0 mm
R1A158	15 mm	1.25 mm

For a complete list of parts and accessories, refer to the Pro Bell Rotary Atomizer Manuals 334452 and 334626 or brochure 345100

Technical Specifications

Maximum air working pressure	100 psi (0.7 MPa, 7.0 bar)
Maximum fluid working pressure	150 psi (1.0 MPa, 10.3 bar)
Bearing air — minimum required	80 psi (0.55 MPa, 5.5 bar)
Turbine speed — maximum operating	60,000 rpm
Viscosity range	30-150 centistrokes
Maximum flow rate, 50 mm cup	500 cc/min
Maximum flow rate, 30 mm cup	400 cc/min
Maximum flow rate, 15 mm cup	100 cc/min
Maximum voltage output	100 kV for solventborne systems 60 kV for waterborne systems
Maximum current draw	150 micro-amperes
Applicator weight	Hollow Wrist Model 13.5 lbs (6 kg) Standard Model 9 lbs (4 kg)
Paint resistivity range	1 megohm/cm to infinity

Call today for product information or to request a demonstration.

877.84GRACO (1-877-844-7226) or visit us at www.graco.com/Finishing.

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