



Electrostatic Waterborne Solutions

Proven reliability and ease of use for spraying waterborne material



PROVEN QUALITY. LEADING TECHNOLOGY.

Graco offers three solutions

Graco offers three solutions for spraying waterborne coatings with electrostatic applicators. Superior transfer efficiency, reduced manufacturing costs and a positive environmental impact.



HydroShield Waterborne systems

Operator friendly isolation systems allow flexibility and control of the spraying process.



WB100 and WB3000 isolation systems

Durable low and high pressure isolation cabinets contain 19 L (5 gallons) of charged material.



Pro Xp WBx electrostatic guns

High performing guns externally charge material — no additional equipment required.

HydroShield® Waterborne systems

Reliable components and system control make HydroShield an operator friendly solution. Improve transfer efficiency and safety, while easily spraying waterborne material with a Pro Xp WB manual electrostatic air spray and air-assist guns.

Refill without shutting the system down

Higher productivity is achieved by not needing to shut down the system to refill. The internal isolation pump automatically refills when the gun trigger is released

Market proven components

Comprised of Pro Xp WB guns, an isolation pump, a controller interface and other parts used in the marketplace for years, HydroShield brings together Graco durability into one system.

Unique operator control

The controller interface allows the operator to set system parameters and spray settings for precise process control.

Built-in safety

In addition to safety grounding components to protect the operator, the automatic refill feature reduces the need to open the isolation cabinet. Reduced operator interaction means a safer workplace.

System configuration flexibility

HydroShield is available in a variety of configurations.

- Low pressure systems spray with Pro Xp WB air spray guns.
- High pressure systems include a Merkur pump for air assisted airless spraying.
- Options for gun hoses and gun flush box ready systems are also available.



Ease of painting without operator interaction with the supply system

Low pressure feed system

Feed with a low pressure paint supply, including Triton, a pressure pot or a circulation system

Air spray systems

Low pressure configurations deliver a high finish quality with the Pro Xp WB gun



Air assist systems

A Merkur 15:1 or 30:1 pump inside the cabinet boosts the fluid pressure to the high pressure gun



Gun flush box ready

Configurations are available to connect and control gun flush box operation



Pro Xp Waterborne gun

When the trigger is released the system is activated to fill (see page 8 for more information on Waterborne guns)







NO	TITLE	DESCRIPTION
1	Controller interface	Operate easily with system functions in one location and simple screens
2	Isolation cabinet	Constructed with durable materials and components for an extended life
3	Isolation valve	Designed to allow the system to fill without having any concern about an electrostatic breakdown
4	Cleansing solution	Ensures the isolation valve is cleaned of residual waterborne material
5	Light tower	Indicates the fluid level in the internal pump Green: 50% full or more Yellow: below 50% full, but more than 10% full Red: below 10% full

Service components		Easy access and just a few parts make downtime minimal and maintenance simple
6	Isolation pump	Contains 1150cc (39 oz) of material which refills for continuous spraying
7	Ground rod	Protects the operator when opening the cabinet

Spray settings in one location on simple screens making it easy to operate

Operation modes show:

- standby 
- prime 
- purge 
- spray 

System status

Indicates the pump fill level, inlet air, ground status and kV output

Do not fill mode

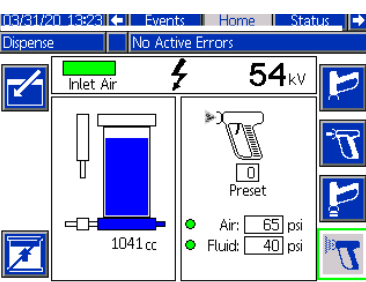
Reduces material waste

Preset status

Displays the preset setting and activity

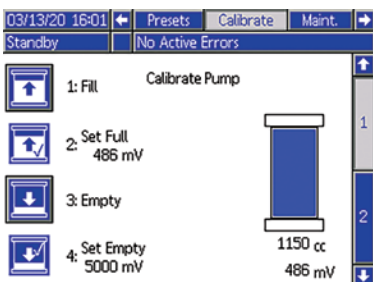


Home screen

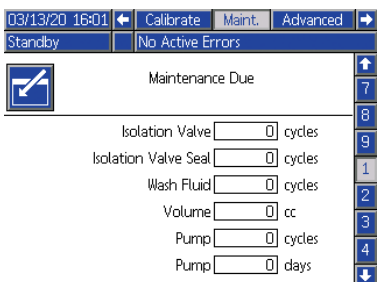


Information about the system status and operation of spray modes

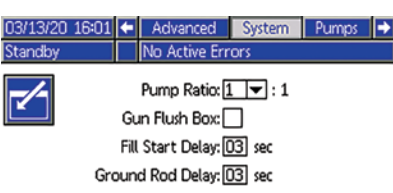
Maintenance screens



Keep your system running smoothly with calibration capability and maintenance schedules

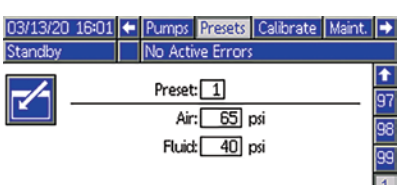


Delay the settings screen



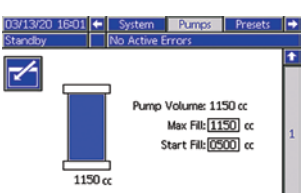
Customise the fill delay and ground rod delay for painter spray techniques

Preset screen



Configure as many as 99 presets for different gun air and fluid pressure needs

Pump fill screen



Customise the maximum volume and level of pump depletion before refill based on production needs

WB100™ & WB3000™ Isolation systems

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



WB3000 with a Merkur® ES 30:1 air-assist pump

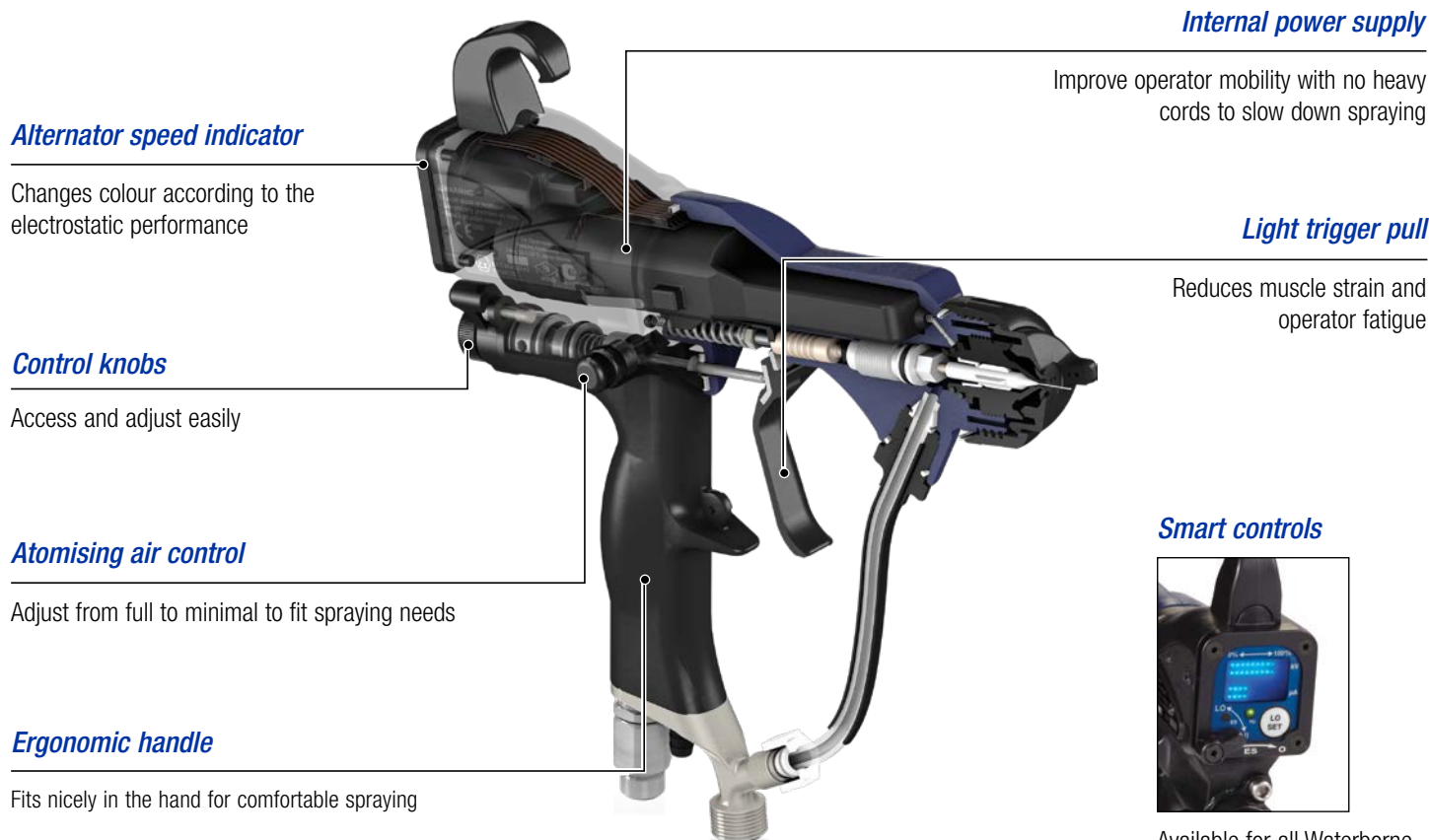
Use for high pressure spraying with a Waterborne electrostatic air-assist gun



NO	TITLE	DESCRIPTION
1	Standard voltage display	Easily monitor the voltage for overall performance
2	WB100 with Triton™ 1:1 pump	Use for low pressure spraying with a Waterborne electrostatic air spray gun
3	Material supply container	Easily remove and refill a 19 litre (5 gallon) container
4	Portable cabinet	Move to various applications
5	Pro Xp Waterborne gun	When the trigger is released the system is activated to fill (see page 9 for more information on Waterborne guns)

Pro Xp Waterborne (WB) guns

Electrostatically spray waterborne materials with isolation systems



A high transfer efficiency for low or high pressure applications

PRO XP WB MODELS FOR HYDROSHIELD AND WB ISOLATION SYSTEMS

Air spray guns



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 an AEF or AEM tip

Mould release gun



For low pressure spraying with an air assist spray tip

- Delivers fine atomised particles needed for mould release applications
- Sprays with an AEM or AEF spray tip

Pro Xp WBx external charge Waterborne air spray gun

Reduce material and environmental costs without using extra equipment. The waterborne material stays grounded and is charged at the tip of the gun with a probe, delivering a consistent, high quality finish.



NO TOOL PROBE REMOVAL

Turn through 180° to remove



External charging probes

Designed for quick release and easy cleaning

Two probe options for different needs

- The long probe provides the best transfer efficiency and wrap
- The short probe provides electrostatic charging in tight spaces

Increased operator comfort

- A lightweight, compact design with an ergonomic handle makes all-day spraying comfortable

Optimised for waterborne paints

- A superior finish quality
- Designed so that air caps stay clean longer

Improved operator control

- The smart gun eliminates guesswork
- Control knobs make spraying adjustments easy

Technical specifications

Hydroshield - air spray	
Maximum fluid working pressure	7.0 bar (100 psi, 0.7 MPa)
Maximum fluid inlet pressure	7.0 bar (100 psi, 0.7 MPa)
Maximum air working pressure	7.0 bar (100 psi, 0.7 MPa)
Minimum system inlet air pressure	4.8 bar (0.48 MPa, 70 psi)
Maximum system inlet air pressure	7.0 bar (100 psi, 0.7 MPa)
Isolation system air inlet fitting	1/2 npt(m)
Isolation system fluid inlet fitting	1/4 npsm(m)
Maximum fluid hose length	30.5 m (100ft.)
Maximum fluid operating temperature	48°C (120°F)
External power requirements	100-240VAC, 50-60Hz
Weight	113 kg (250 lb)
Approvals	FM US, FMC, CE
Manual	3A7312

Hydroshield - air assist	
Maximum fluid working pressure	
Merkur 15:1 system	100 bar (10.4 MPa, 1500 psi)
Merkur 30:1 system	200 bar (20.7 MPa, 3000 psi)
Maximum fluid inlet pressure	7.0 bar (100 psi, 0.7 MPa)
Maximum air working pressure	7.0 bar (100 psi, 0.7 MPa)
Minimum system inlet air pressure	4.8 bar (0.48 MPa, 70 psi)
Maximum system inlet air pressure	7.0 bar (100 psi, 0.7 MPa)
Isolation system air inlet fitting	1/2 npt(m)
Isolation system fluid inlet fitting	1/4 npsm(m)
Maximum fluid operating temperature	48°C (120°F)
External power requirements	100-240VAC, 50-60Hz
Weight	136kg (300 lb)
Approvals	FM US, FMC, CE
Manual	3A7370

Pro Xp 40 kV WBx gun models	
Maximum voltage output	40 kV
Maximum working fluid pressure	7.0 bar (100 psi, 0.7 MPa)
Maximum working air pressure	7.0 bar (100 psi, 0.7 MPa)
Gun weight (without hose)*	560 g (19.8 oz)
Gun length	22 cm (8.7 in)
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.µ

	Pro Xp60 WB	Pro Xp60 AA WB
Maximum voltage output	60 kV	60 kV
Maximum working fluid pressure	7.0 bar (100 psi, 0.7 MPa)	210 bar (21 MPa, 3000 psi)
Maximum working air pressure	7.0 bar (100 psi, 0.7 MPa)	7.0 bar (100 psi, 0.7 MPa)
Gun weight (without hose)*	600 g (21 oz)	660 g (23 oz)
Gun length	24 cm (9.5 in)	24 cm (9.7 in)
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 npt left handed thread
Instruction manual	3A2496	3A2497

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

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	7.0 bar (100 psi, 0.7 MPa)
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	210 bar (21 MPa, 3000 psi)
Maximum air working pressure	7.0 bar (100 psi, 0.7 MPa)
Minimum air pressure at gun inlet	3.2 bar (0.32 MPa, 45 psi)
Maximum system inlet air pressure	7.0 bar (100 psi, 0.7 MPa)
WB system air consumption	220–400 l/min (7.5–14 scfm)
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 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 WB	Smart electrostatic air spray gun for waterborne mould release coating applications. Requires an AEM or AEF spray tip for operation.

AIRCAP SELECTION CHART

Part number (colour)	Pattern shape	Length mm (in)	Recommended fluid viscosity cp at 21°C (70°F)	Recommended production rates
24N477 (black)	Round end	381-432 (15-17)	Light to medium (20–70 cp)	Up to 450 cc/min (15 oz/min)
24W279 (green)				
24N438 (black)				
24N376 (black) 24N276 (blue) 24N277 (red) 24N278 (green)	Tapered end	432- 483 (17-19)		
24N274 (black)		305-356 (12-14)		

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

NOZZLES SELECTION CHART

Colour coded fluid nozzle for standard materials		
Part number	Colour	Orifice size - mm (inch)
24N619	Black	0.55 (0.022)
24N613	Black	0.75 (0.029)
25N895	Green	1.0 (0.042)
25N896	Grey	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	Colour	Orifice size - mm (inch)
25N831	Green	1.0 (0.042)
25N832	Grey	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**.

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

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

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

*Tips are tested in water. The fluid output (Q) at other pressures (P) can be calculated by using this formula: $Q = (0.041) (QT) \sqrt{P}$ where QT = fluid output (l/min) at 41 bar 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. Order desired tip, part no. AEFxxx, where xxx = 3-digit number from the matrix below.

Orifice size mm (inch)	Fluid output fl l/min (oz/min)		Maximum pattern width at 305 mm (12 inches) mm (inches)							
	at 41 bar (4.1 MPa, 600 psi)	at 70 bar (7.0 MPa, 1000 psi)	50-100 (2-4)	100-150 (4-6)	150-200 (6-8)	200-250 (8-10)	250-300 (10-12)	300-350 (12-14)	350-400 (14-16)	400-450 (16-18)
			Spray tip							
0.178 (0.007)	4.0 (0.1)	5.2 (0.15)	107	207	307	-	-	-	-	-
0.229 (0.009)	7.0 (0.2)	9.1 (0.27)	-	209	309	409	509	609		-
0.279 (0.011)	10.0 (0.3)	13.0 (0.4)	-	211	311	411	511	611	711	-
0.330 (0.013)	13.0 (0.4)	16.9 (0.5)	-	213	313	413	513	613	173	813
0.381 (0.015)	17.0 (0.5)	22.0 (0.7)	-	215	315	415	515	615	715	815
0.432 (0.017)	22.0 (0.7)	28.5 (0.85)	-	217	317	417	517	617	717	-
0.483 (0.019)	28.0 (0.8)	36.3 (1.09)	-	-	319	419	519	619	719	-
0.533 (0.021)	35.0 (1.0)	45.4 (1.36)	-	-	-	421	521	621	721	821
0.584 (0.023)	40.0 (1.2)	51.9 (1.56)	-	-	-	423	523	623	723	823
0.635 (0.025)	50.0 (1.5)	64.8 (1.94)	-	-	-	425	525	625	725	825
0.736 (0.029)	68.0 (1.9)	88.2 (2.65)	-	-	-	-	-	-	-	829
0.787 (0.031)	78.0 (2.2)	101.1 (3.03)	-	-	-	431	-	631	-	831
0.838 (0.033)	88.0 (2.5)	114.1 (3.42)	-	-	-	-	-	-	-	833812
0.939 (0.037)	108.0 (3.1)	140.0 (4.20)	-	-	-	-	-	-	737	
0.990 (0.039)	118.0 (3.4)	153.0 (4.59)	-	-	-	-	539	-	-	-

*Tips are tested in water. The fluid output (Q) at other pressures (P) can be calculated by using this formula: $Q = (0.041) (QT) \sqrt{P}$ where QT = fluid output (l/min) at 41 bar from the above table for the selected orifice size.

HydroShield ordering information

Part number	Gun flush box Equipped*
WMBL00	
WMBL01	✓

*Gun flush box must be purchased separately



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 WB	Smart electrostatic air spray gun for waterborne mould release coating applications. Requires an AEM or AEF spray tip for operation.

Part number	Pump included	Gun flush box Equipped*
WMBH00	Merkur 30:1	
WMBH01	Merkur 30:1	✓
WMBH04	Merkur 15:1	
WMBH05	Merkur 15:1	✓

*Gun flush box must be purchased separately



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.

Part number	Grounded air hose with stainless steel Braid ground path (red)
235068	1.8 m (6 foot)
235069	4.6 m (15 foot)
235070	7.6 m (25 foot)
235071	11 m (36 foot)
235072	15 m (50 foot)
235073	23 m (75 foot)
235074	30.5 m (100 foot)

Part number	Air assist WB Fluid hose
25R012	7.6 m (25 foot)
25R013	11 m (36 foot)
25R014	15 m (50 foot)
25R015	23 m (75 foot)
25R016	30.5 m (100 foot)

Part number	HydroShield cleansing solution
25R200	3.75 L bottle (1 gallon)

Part number	Air spray WB fluid hose
25R002	7.6 m (25 foot)
25R003	11 m (36 foot)
25R004	15 m (50 foot)
25R005	23 m (75 foot)
25R006	30.5 m (100 foot)

Part number	Description
WB100	
24P630	Waterborne isolation enclosure with standard electrostatic air spray gun L60T18, grounded air hose 235070 and waterborne fluid hose 24M732.
24P631	Waterborne isolation enclosure with standard electrostatic air spray gun L60M18, grounded air hose 235070 and waterborne fluid hose 24M732.
24P734	Waterborne isolation enclosure with standard electrostatic air spray gun L60M19, grounded air hose 235070 and waterborne fluid hose 24M732.
WB3000	
24N551	Waterborne isolation enclosure with standard electrostatic air-assisted spray gun H60T18, grounded air hose 235070 and waterborne fluid hose 24M732.
24P632	Waterborne isolation enclosure with standard electrostatic air-assisted spray gun H60M18, grounded air hose 235070 and waterborne fluid hose 24M732.

Part number	Description
PRO XP 40 KV WBX GUN MODELS	
L40M28	Smart 40 kV air spray gun
L40T28	Standard 40 kV air spray gun
PROBE KIT	
25E639	The long probe kit includes 2 probes
25E664	The short probe kit includes 2 probes

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



ABOUT GRACO

Founded in 1926, Graco is a world leader in fluid handling systems and components. Graco products move, measure, control, dispense and apply a wide range of fluids and viscous materials used in vehicle lubrication, commercial and industrial settings.

The company's success is based on its unwavering commitment to technical excellence, world-class manufacturing and unparalleled customer service. Working closely with qualified distributors, Graco offers systems, products and technology that set the quality standard in a wide range of fluid handling solutions. Graco provides equipment for spray finishing, protective coating, paint circulation, lubrication, and dispensing sealants and adhesives, along with power application equipment for the contractor industry. Graco's ongoing investment in fluid management and control ensures the continued provision of innovative solutions to a diverse global market.

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Graco is certified according to ISO 9001.



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