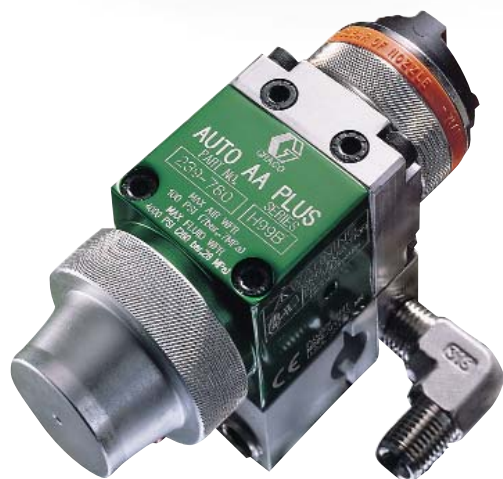


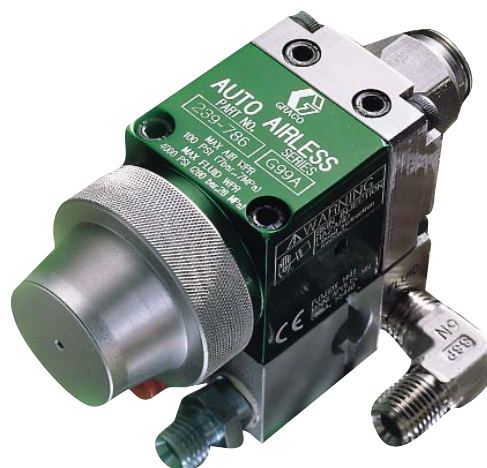


# AA PLUS™ AND AL PLUS™

Automatic Air-Assisted and Airless Spray



**AA Plus Gun 239780**  
Manifold 239891



**Auto Airless Gun 239786**  
Manifold 241161

**Quality finishes and higher production speeds for wood and general metal finishing applications.**

## AA PLUS AIR-ASSISTED

- Outstanding finish quality at higher fluid flow rates
- Easy maintenance with removable spray gun and easy-to-install needle cartridge
- Excellent transfer efficiencies at increased production speeds
- Compact style is easy to install and service
- High quality stainless steel construction

## AL PLUS AIRLESS

- Capable of high production speeds
- Compact style that is simple to install
- Easy maintenance
- Durable and reliable design

**INDUSTRIAL**

PROVEN QUALITY. LEADING TECHNOLOGY.

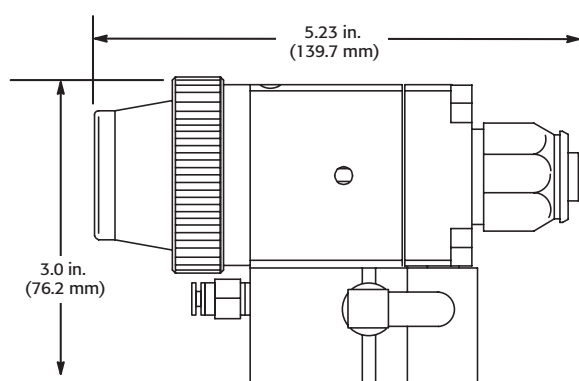
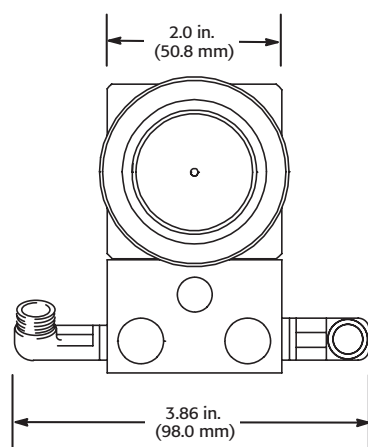
## Typical Applications

- Wood industry
- Leather finishing
- Drum coating
- Metal furniture and fixture manufacturing
- Fabricated metal materials
- General metal

## Typical Fluids Handled

- Washcoats, glazes, topcoat lacquers and catalyzed varnishes
- Primers, protective coatings, waterborne materials and two-part urethane
- Epoxies, urethanes, air dry enamels and clear coat enamels

## Dimensions



## Technical Specifications

Maximum fluid pressure	4000 psi (276 bar, 27.6 MPa)
Maximum working air pressure	100 psi (7 bar, 0.7 MPa)
Max. cylinder air pressure	100 psi (7 bar, 0.7 MPa)
Minimum actuating pressure	
239780, 239787, 239788, 241088,	50 psi (3.5 bar, 0.3 MPa)
239784 and 239786	70 psi (4.9 bar, 0.5 MPa)
Maximum working fluid temperature	120°F (49°C)
Wetted parts	Stainless steel, carbide, UHMWPE, Delrin®, CV75, PTFE, polyimide
Weight	2.1 lb. (9.6 g)
Instruction manual	
AA Plus	308780
AL Plus	308813

*Delrin® is a registered trademark of Du Pont. All other registered trademarks mentioned herein are the property of their respective owners.*

## Triggering Speed

### Models 239780, 239787, 239788 (1/8 inch ball)

Cylinder Air Pressure psi (MPa, bar)	Fluid Pressure psi (MPa, bar)	msec to fully open	msec to fully close
50 (0.34, 3.4)	600 (4.2, 42)	60	60
50 (0.34, 3.4)	1800 (12.4, 124)	60	60
50 (0.34, 3.4)	4000 (28, 280)	60	60

### Models 239784, 239786 (3/16 inch ball)

Cylinder Air Pressure psi (MPa, bar)	Fluid Pressure psi (MPa, bar)	msec to fully open	msec to fully close
70 (0.49, 4.9)	600 (4.2, 42)	51	72
70 (0.49, 4.9)	1800 (12.4, 124)	56	73
70 (0.49, 4.9)	4000 (28, 280)	69	73

# AL Plus Automatic Guns

## Airless

### Tip Selection Chart for Airless Automatic Spray Guns

Orifice in (mm)	Fan Width at 12 in. in (mm)	Flow Rate	Tip Part No.
0.035 (0.889)	4-4.5 (100-113)	1.31 (4.98)	<b>GG0235</b>
	6-6.5 (150-163)	0.78 (2.96)	<b>GG0335</b>
	8-8.5 (200-213)		<b>GG0435</b>
	10-10.5 (250-263)		<b>GG0535</b>
	12-13 (300-325)		<b>GG0635</b>
	14-15 (350-375)		<b>GG0735</b>
0.039 (0.991)	10-10.5 (250-263)	1.63 (6.18)	<b>GG0539</b>
	12-13 (300-325)		<b>GG0639</b>
0.041 (1.041)	10-10.5 (250-263)	1.80 (6.83)	<b>GG0541</b>
	16-17 (400-425)		<b>GG0841</b>
0.043 (1.092)	10-10.5 (250-263)	1.99 (7.51)	<b>GG0543</b>
	12-13 (300-325)		<b>GG0643</b>
0.045 (1.143)	10-10.5 (250-263)	2.17 (8.23)	<b>GG0545</b>
0.047 (1.194)	10-10.5 (250-263)	2.37 (8.98)	<b>GG0547</b>
	16-17 (400-425)		<b>GG0847</b>
0.049 (1.245)	8-8.5 (200-213)	2.58 (9.76)	<b>GG0449</b>
	14-15 (350-375)		<b>GG0749</b>
0.051 (1.29)	12-13 (300-325)	2.79 (10.6)	<b>GG0651</b>
0.053 (1.34)	10-10.5 (250-263)	3.02 (11.4)	<b>GG0553</b>
0.055 (1.40)	12-13 (300-325)	3.25 (12.3)	<b>GG0655</b>
0.059 (1.50)	6-6.5 (150-163)	3.74 (14.1)	<b>GG0359</b>
	8-8.5 (200-213)		<b>GG0459</b>
	14-15 (350-375)		<b>GG0759</b>
	28-29 (700-725)		<b>GG1459</b>

Orifice in (mm)	Fan Width at 12 in. in (mm)	Flow Rate	Tip Part No.
0.061 (1.55)	10-10.5 (250-263)	3.99 (15.1)	<b>GG0561</b>
0.063 (1.60)	8-8.5 (200-213)	4.26 (16.1)	<b>GG0463</b>
	14-15 (350-375)		<b>GG0763</b>
	16-17 (400-425)		<b>GG0863</b>
0.065 (1.65)	10-10.5 (250-263)	4.53 (17.2)	<b>GG0565</b>
	14-15 (350-375)		<b>GG0765</b>
	16-17 (400-425)		<b>GG0865</b>
0.067 (1.70)	12-13 (300-325)	4.82 (18.2)	<b>GG0667</b>
0.069 (1.75)	8-8.5 (200-213)	5.11 (19.3)	<b>GG0469</b>
	10-10.5 (250-263)		<b>GG0569</b>
	12-13 (300-325)		<b>GG0669</b>
0.071 (1.80)	8-8.5 (200-213)	5.41 (20.5)	<b>GG0471</b>
	28-29 (700-725)		<b>GG1471</b>
0.073 (1.85)	10-10.5 (250-263)	5.72 (21.7)	<b>GG0573</b>
0.075 (1.90)	8-8.5 (200-213)	6.04 (22.9)	<b>GG0475</b>
0.077 (1.95)	8-8.5 (200-213)	6.36 (24.1)	<b>GG0477</b>
0.079 (2.00)	8-8.5 (200-213)	6.70 (25.4)	<b>GG0479</b>

# AA Plus Automatic Guns

## Air-Assisted

### Tip Selection Chart for AA Plus Air-Assisted Automatic Spray Guns

#### STANDARD AA AUTOMATIC SPRAY TIPS

Note: For fine finishing applications

Orifice Size in (mm)	Fan Width at 12 in. (300 mm) in (mm)	Flow Rate		Part No.
		Light to Medium Viscosity* oz/min(lpm)	Heavy Viscosity oz/min(lpm)	
0.009 (0.229)	4-5 (100-125)	7.0 (0.2)	Not	<b>GG5209</b>
	6-7 (150-175)		Recommended	<b>GG5309</b>
	8-9 (200-225)			<b>GG5409</b>
	10-11 (250-275)			<b>GG5509</b>
0.011 (0.279)	4-5 (100-125)	10.0 (0.3)	Not	<b>GG5211</b>
	6-7 (150-175)		Recommended	<b>GG5311</b>
	8-9 (200-225)			<b>GG5411</b>
	10-11 (250-275)			<b>GG5511</b>
	12-13 (300-325)			<b>GG5611</b>
0.013 (0.330)	4-5(100-125)	13.0 (0.4)	Not	<b>GG5213</b>
	6-7 (150-175)		Recommended	<b>GG5313</b>
	8-9 (200-225)			<b>GG5413</b>
	10-11 (250-275)			<b>GG5513</b>
	12-13 (300-325)			<b>GG5613</b>
	14-15 (350-375)			<b>GG5713</b>
0.015 (0.381)	4-5 (100-125)	17.0 (0.5)	Not	<b>GG5215</b>
	6-7 (150-175)		Recommended	<b>GG5315</b>
	8-9 (200-225)			<b>GG5415</b>
	10-11 (250-275)			<b>GG5515</b>
	12-13 (300-325)			<b>GG5615</b>
	14-15 (350-375)			<b>GG5715</b>
	16-17 (400-425)			<b>GG5815</b>
0.017 (0.432)	6-7 (150-175)	22.0 (0.7)	17.0 (0.5)	<b>GG5317</b>
	8-9 (200-225)			<b>GG5417</b>
	10-11 (250-275)			<b>GG5517</b>
	12-13 (300-325)			<b>GG5617</b>
	14-15 (350-375)			<b>GG5717</b>
	16-17 (400-425)			<b>GG5817</b>
0.019 (0.483)	8-9 (200-225)	28.0 (0.8)	21.0 (0.6)	<b>GG5419</b>
	10-11 (250-275)			<b>GG5519</b>
	12-13 (300-325)			<b>GG5619</b>
	14-15 (350-375)			<b>GG5719</b>
0.021 (0.533)	8-9 (200-225)	35.0 (1.0)	27.0 (0.8)	<b>GG5421</b>
	10-11 (250-275)			<b>GG5521</b>
	12-13 (300-325)			<b>GG5621</b>

#### AA REVERSE-A-CLEAN (AA RAC™) SPRAY TIP PROTECTIVE COATINGS

Note: RAC tips are not recommended for fine finish applications

Orifice Size in (mm)	Fan Width at 12 in. (300 mm) in (mm)	Flow Rate		Part No.
		Light to Medium Viscosity* oz/min(lpm)	Heavy Viscosity oz/min(lpm)	
0.011 (0.279)	6-8 (150-200)	10.0 (0.3)	–	<b>242311</b>
	8-10 (200-250)			<b>242411</b>
	10-12 (250-300)			<b>242511</b>
0.013 (0.330)	4-6 (100-150)	13.0 (0.4)	–	<b>242213</b>
	6-8 (150-200)			<b>242313</b>
	8-10 (200-250)			<b>242413</b>
	10-12 (250-300)			<b>242513</b>
0.015 (0.381)	4-6 (100-150)	17.0 (0.5)	–	<b>242215</b>
	6-8 (150-200)			<b>242315</b>
	8-10 (200-250)			<b>242415</b>
	10-12 (250-300)			<b>242515</b>
0.017 (0.432)	4-6 (100-150)	22.0 (0.7)	17.0 (0.5)	<b>242217</b>
	6-8 (150-200)			<b>242317</b>
	8-10 (200-250)			<b>242417</b>
	10-12 (250-300)			<b>242517</b>
0.019 (0.483)	4-6 (100-150)	28.0 (0.8)	21.0 (0.6)	<b>242219</b>
	6-8 (150-200)			<b>242319</b>
	8-10 (200-250)			<b>242419</b>
	10-12 (250-300)			<b>242519</b>
0.021 (0.533)	4-6 (100-150)	35.0 (1.0)	27.0 (0.8)	<b>242221</b>
	6-8 (150-200)			<b>242321</b>
	8-10 (200-250)			<b>242421</b>
	10-12 (250-300)			<b>242521</b>
0.023 (0.584)	8-10 (200-250)	40.0 (1.2)	34.0 (0.97)	<b>242423</b>
	12-14 (300-350)			<b>242623</b>
0.025 (0.635)	10-12 (250-300)	50.0 (1.5)	42.0 (1.2)	<b>242525</b>
	12-14 (300-350)			<b>242625</b>
0.027 (0.686)	8-10 (200-250)	58.5 (1.7)	50.0 (1.4)	<b>242427</b>
0.029 (0.737)	10-12 (250-300)	68.0 (1.9)	59.0 (1.7)	<b>242529</b>
0.031 (0.787)	10-12 (250-300)	78.0 (2.2)	69.0 (2.0)	<b>242531</b>

\* Fluid output at 600 psi (41 bar, 4.1 MPa).

Note for AA RAC Spray Tips:

- AA RAC spray tips include a plastic fluid seat.
- For AA RAC use, you must also order part no. 238701 RAC air cap assembly and part no. 192096 RAC housing, and use part no. 239173 diffuser.
- The air separator must be removed when using the AA RAC.

# AL Plus Automatic Guns

## Airless

### Tip Selection Chart for Airless Automatic Spray Guns

Orifice in (mm)	Fan Width at 12 in. in (mm)	Flow Rate	Tip Part No.	Orifice in (mm)	Fan Width at 12 in. in (mm)	Flow Rate	Tip Part No.
0.007 (0.178)	2-2.5 (50-63) 6-6.5 (150-163)	0.053 (0.20)	<b>GG0107</b> <b>GG0307</b>	0.023 (0.584)	4-4.5 (100-113) 6-6.5 (150-163)	0.57 (2.15)	<b>GG0223</b> <b>GG0323</b>
0.009 (0.229)	2-2.5 (50-63) 4-4.5 (100-113) 6-6.5 (150-163)	0.087 (0.33)	<b>GG0109</b> <b>GG0209</b> <b>GG0309</b>		8-8.5 (200-213) 10-10.5 (250-263) 12-13 (300-325)		<b>GG0423</b> <b>GG0523</b> <b>GG0623</b>
0.011 (0.279)	2-2.5 (50-63) 4-4.5 (100-113) 6-6.5 (150-163) 8-8.5 (200-213) 10-10.5 (250-263) 12-13 (300-325)	0.13 (0.49)	<b>GG0111</b> <b>GG0211</b> <b>GG0311</b> <b>GG0411</b> <b>GG0511</b> <b>GG0611</b>		14-15 (350-375) 16-17 (400-425) 18-19 (450-475)		<b>GG0723</b> <b>GG0823</b> <b>GG0923</b>
0.013 (0.330)	4-4.5 (100-113) 6-6.5 (150-163) 8-8.5 (200-213) 10-10.5 (250-263) 12-13 (300-325) 14-15 (350-375)	0.18 (0.69)	<b>GG0213</b> <b>GG0313</b> <b>GG0413</b> <b>GG0513</b> <b>GG0613</b> <b>GG0713</b>	0.025 (0.635)	6-6.5 (150-163) 8-8.5 (200-213) 10-10.5 (250-263) 12-13 (300-325) 14-15 (350-375) 16-17 (400-425) 18-19 (450-475)	0.67 (2.54)	<b>GG0325</b> <b>GG0425</b> <b>GG0525</b> <b>GG0625</b> <b>GG0725</b> <b>GG0825</b> <b>GG0925</b>
0.015 (0.381)	2-2.5 (50-63) 4-4.5 (100-113) 6-6.5 (150-163) 8-8.5 (200-213) 10-10.5 (250-263) 12-13 (300-325) 14-15 (350-375) 16-17 (400-425)	0.24 (0.91)	<b>GG0115</b> <b>GG0215</b> <b>GG0315</b> <b>GG0415</b> <b>GG0515</b> <b>GG0615</b> <b>GG0715</b> <b>GG0815</b>	0.027 (0.686)	4-4.5 (100-113) 6-6.5 (150-163) 8-8.5 (200-213) 10-10.5 (250-263) 12-13 (300-325) 14-15 (350-375) 16-17 (400-425) 18-19 (450-475)	0.78 (2.96)	<b>GG0227</b> <b>GG0327</b> <b>GG0427</b> <b>GG0527</b> <b>GG0627</b> <b>GG0727</b> <b>GG0827</b> <b>GG0927</b>
0.017 (0.432)	2-2.5 (50-63) 4-4.5 (100-113) 6-6.5 (150-163) 8-8.5 (200-213) 10-10.5 (250-263) 12-13 (300-325) 16-17 (400-425) 18-19 (450-475)	0.31 (1.17)	<b>GG0117</b> <b>GG0217</b> <b>GG0317</b> <b>GG0417</b> <b>GG0517</b> <b>GG0617</b> <b>GG0817</b> <b>GG0917</b>	0.029 (0.737)	8-8.5 (200-213) 10-10.5 (250-263) 12-13 (300-325) 14-15 (350-375)		<b>GG0429</b> <b>GG0529</b> <b>GG0629</b> <b>GG0729</b>
0.019 (0.483)	4-4.5 (100-113) 6-6.5 (150-163) 8-8.5 (200-213) 10-10.5 (250-263) 12-13 (300-325) 14-15 (350-375) 16-17 (400-425)	0.39 (1.47)	<b>GG0219</b> <b>GG0319</b> <b>GG0419</b> <b>GG0519</b> <b>GG0619</b> <b>GG0719</b> <b>GG0819</b>	0.031 (0.787)	6-6.5 (150-163) 8-8.5 (200-213) 10-10.5 (250-263) 12-13 (300-325) 16-17 (400-425) 18-19 (450-475)	1.03 (3.90)	<b>GG0331</b> <b>GG0431</b> <b>GG0531</b> <b>GG0631</b> <b>GG0831</b> <b>GG0931</b>
0.021 (0.533)	4-4.5 (100-113) 6-6.5 (150-163) 8-8.5 (200-213) 10-10.5 (250-263) 12-13 (300-325) 14-15 (350-375) 16-17 (400-425) 18-19 (450-475)	0.47 (1.79)	<b>GG0221</b> <b>GG0321</b> <b>GG0421</b> <b>GG0521</b> <b>GG0621</b> <b>GG0721</b> <b>GG0821</b> <b>GG0921</b>	0.033 (0.838)	8-8.5 (200-213) 10-10.5 (250-263) 12-13 (300-325) 14-15 (350-375) 18-19 (450-475)	1.17 (4.42)	<b>GG0433</b> <b>GG0533</b> <b>GG0633</b> <b>GG0733</b> <b>GG0933</b>

## AA Plus Ordering Information

### ORDERING INFORMATION FOR AA PLUS

All models include an internal filter.

**239780 Standard Gun**

Includes standard needle with 0.12205 in (3.1 mm) carbide ball (239794) and standard diffuser seat (224855), standard air cap (239781) and GG5 precision spray tip of choice.

**239787 Acid Catalyst Gun**

Specially designed to handle low viscosity and/or acid-catalyzed materials. Includes a needle with 0.12205 in (3.1 mm) plastic ball (239808) and standard diffuser seat (224855), standard air cap (239781) and GG5 precision spray tip of choice.

**239788 HVLP Gun**

Includes standard needle (239794) and standard seat (224855), HVLP air cap (239898), and GG5 precision spray tip of choice.

**239784 Hi-Flow Spray Gun**

Includes needle with 0.18504 in (4.7 mm) carbide ball (239807), seat (239806). Air cap and tip not included.

**241088 AA Reverse-A-Clean® (RAC) Gun**

Includes standard needle (239794) with the AA RAC diffuser seat (239173), AA RAC air cap (238701), and 242xxx tip of choice.

**Manifolds (Required for gun installation.)**

- 239891** Standard 1/4-18 npsm inlets
- 240214** European #5 JIC inlets
- 243952** Manifold with manual fan control  
1/4-18 npsm inlets

### ACCESSORIES FOR AA PLUS

**241480 Air Seal Repair Kit**

**239895 Fluid Repair Kit**

**239808 Plastic Ball-Tipped Fluid Needle**

Replacement needle, for use with acid catalyst/low viscosity materials. Must be used on air-assisted guns only with the 224855 diffuser seat.

**238766 Ruby Ball-Tipped Fluid Needle**

For use with higher viscosity and/or higher abrasive acid catalyst materials. To be used only on air-assisted guns with the 224855 diffuser seat.

**239781 Standard Air Cap**

Typical air consumption: 3-6 scfm.

**239898 HVLP Air Cap**

Typical air consumption: 4-8 scfm. Meets environmental regulatory requirements when used at 10 psi (0.7 bar, 0.07 MPa) or less air cap atomizing air pressure.

**239897 Air Cap Verification Kit**

Used to determine air pressure behind the air cap. (239898 cap only). Not to be used for actual spraying. Note: To be compliant, the atomizing air pressure must not exceed 10 psi (0.7 bar, 0.07 MPa).

**Filter Kit**

**240948** Contains 10 internal filters (193413)

## AL Plus Ordering Information

### ORDERING INFORMATION FOR AL PLUS

All models include internal filter.

**239786 Airless Gun**

Includes GG0 precision spray tip of choice.

**Manifolds (Required for gun installation.)**

A manifold is required for each gun to be installed.

- 241161** Standard 1/4-18 npsm inlets
- 241162** European #5 JIC inlets

### ACCESSORIES FOR AL PLUS

**241480 Air Seal Repair Kit**

**239896 Fluid Seal Repair Kit**

**240948 Filter Kit**

10 internal filters (193413).

All written and visual data contained in this document are based on the latest product information available at the time of publication. Graco reserves the right to make changes at any time without notice.

Call today for product information or to request a demonstration.

**1.877.84GRACO** (1-877-844-7226) or visit us at [www.graco.com](http://www.graco.com).

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