



*First choice when
quality counts.™*

Airless Accessories and Replacement Parts

PACKAGES



**Genuine Graco
Parts and
Accessories
Provide the
Highest Quality
and Performance**



Get Graco. Experience The Difference.™

Get Graco. Experience The Difference.

The Quality Difference

As the world leader in the development, engineering and manufacture of power coating application equipment, Graco's customer-driven products set the standard for the industry by providing efficient and cost effective products and services. Our engineering staff is progressively designing technologically advanced products on sophisticated Computer-Aided Design equipment then performs extensive field tests. Once field tests are complete, each component then undergoes rigorous life cycle testing to make sure each and every sprayer provides the quality difference and performs to meet your application requirements.

Our manufacturing staff makes sure all sprayers pass intensive quality tests. In fact, our expansive manufacturing facility is equipped with state-of-the-art computerized machinery to measure for exact tolerances and consistent quality so nothing leaves the factory until it meets quality standards. So even though you can't always see the Graco quality difference, it's in there!

The Warranty Difference

Graco's industry leading warranty offers Two-Year Bumper-to-Bumper coverage on sprayers! For complete details, please review our product line brochures.

The Performance Difference

To maximize your performance on the job site, select the Graco Sprayer and accessories that best meets your application requirements. All of our sprayers are the best in atomizing pressures. Not many sprayers offer consistent performance like Graco Sprayers. In fact, there's a bigger difference than you might think!

Our Performance, Quality and Warranty differences add up to superior products that will be around a long, long time.

Graco Distributor Network

440+ conveniently located, authorized and certified service centers and 5400+ distributor locations stand behind Graco products. Trust these experts to provide quick, reliable service and support with genuine Graco parts, accessories and sprayers.

Assistance is just a phone call away

1-800-690-2894 for Customer Service

Graco Trademarks

Easy Access™	Ultra® Plus 500
Comfort Grip™	Ultra® Plus 600
Smooth Glide™	Ultra® Plus 750
Flex™ Plus	Ultra® Plus 1000
Black Max™	Ultra® Plus 1500
Contractor FTx™	390st™
Silver Plus™	390sts™
Easy Turn™	450st™
GeoSpurse™	490st™
Reverse-A-Clean™	GM3000™
SwitchTips™	GM3500™
DripLess™	GM5000™
LineLazer™	GM7000™
Performance Series™	GM10000™

Other Trademarks

- Teflon® - is a registered trademark of Du Pont.
- Buna - is a registered trademark of Farben Fabriken Bayer Aktiengesellschaft.
- Celcon® - is a registered trademark of UMACS Inc. and Celanese Corp. of America.



Graco. The leader in airless spraying equipment.

Starting with the needs of the painting contractor, it's easy to see why Graco equipment is the first choice among painting professionals.

For over 70 years, Graco has developed and designed equipment to efficiently transfer fluids for a number of industries. In 1958, Graco developed and manufactured the first portable airless sprayer for the painting contractor, revolutionizing the painting industry. Portable airless sprayers offer the greatest transfer efficiency, less wasted material, faster job completion and simple designs to reduce downtime.

When it comes to purchasing an airless sprayer, 6 out of 10 contractors choose Graco.

Airless Spray Guns and Airless Spray Gun Hose Kits



For top quality spraying performance, choose Graco.

Graco offers a full line of airless guns for contractors – each one loaded with unique features for top spraying performance for your specific job.

Graco Airless Spray Guns and Application Equipment provide the highest standard of quality and performance in the industry. They're designed to withstand the toughest job site conditions. You won't find a better gun than Graco for maximum user comfort, ease of operation and longer packing life.

Every Graco Airless Gun is manufactured at our dedicated gun factory and individually tested prior to shipment. You'll get your money's worth when you buy Graco.

After trying Graco's Contractor FTx Gun, Ardizzone Painting, Beech Grove, Indiana, made the switch. They sprayed some 250 gallons (208.17 liters) of dry fog in two days and fell in love with the new gun.

"There is substantially less fatigue both in weight and trigger tension with the new Contractor FTx Gun. In addition, the new Performance Series Tip Guard is outstanding! I had no spray build-up on this guard whatsoever. The Contractor FTx Gun is the best all-around gun our personnel have used in a long time."

*Harry Ardizzone
President of Ardizzone Painting*

Get Graco. Experience The Difference.™



QUICK REFERENCE CHART	Description	Model No.	Max. Working Pressure psi (bar/MPa)	Handle Style	Trigger Style	Trigger Safety	Lock-On Cleaning Capability	Built-in Swivel	Built-in Filter	Tip Style
	Contractor FTx	238-350	3600 (248/24.8)	Round	Std. 4-finger	Yes	Yes	Yes	Yes	515 RAC IV
Contractor	220-955	3600 (248/24.8)	Comfort Grip	Std. 2-finger*	Yes	No	Yes	Yes	517 RAC IV	
Silver Plus	235-463	5000 (345/34.5)	Comfort Grip	Std. 2-finger*	Yes	No	No	No	517 RAC IV	
Model 510	236-995	7400 (510/51.0)	Comfort Grip	Std. 4-finger	Yes	No	No	No	527 HD RAC	
Flex Plus	235-459	5000 (345/34.5)	Comfort Grip	Std. 2-finger	Yes	No	No	No	517 RAC IV	
Black Max	220-730	3600 (248/24.8)	Comfort Grip	Std. 2-finger	Yes	No	No	Yes	413 RAC IV	

* Optional 4-Finger Trigger Available

Contractor FTx Gun

- Well-balanced, lightweight, full-trigger airless spray gun
- Features Easy Access, 2-piece filter and Smooth Glide swivel
- Trigger pull is 30% lighter than competition for easier operation and less fatigue
- Working Pressure - 3600 psi (248 bar, 24.8 MPa) max.
- Fluid Inlet - 1/4 in. npsm(m) swivel
- Fluid Orifice Diameter - 0.125 in. (3.2 mm)
- Fluid Outlet - 7/8 in. -14 UNF
- Weight - 16.3 oz (460 g)
- Repair Kit - 218-070
- Instruction Manual - 308-645

Contractor Gun

- Top spraying performance for all paints
- Ideal for the professional painting contractor
- Features Comfort Grip form-fitted handle, 2-finger trigger, Easy Access 2-piece filter and Smooth Glide swivel
- Gun fluid tube made from stainless steel
- Working Pressure - 3600 psi (248 bar, 24.8 MPa) max.
- Fluid Inlet - 1/4 in. npsm(m) swivel
- Fluid Orifice Diameter - 0.125 in. (3.2 mm)
- Fluid Outlet - 7/8 in. -14 UNF
- Weight - 19.3 oz (540 g)
- Repair Kit - 218-070
- Instruction Manual - 307-614

Black Max Gun

- Economical, full-featured gun
- Use with medium viscosity paints such as latex
- Ideal for maintenance and residential painters
- Great for smaller projects or as a backup gun
- Lightweight, 2-finger trigger and form-fitted handle for maximum comfort
- Lifetime guarantee on gun handle and body
- Working Pressure - 3600 psi (248 bar, 24.8 MPa) max.
- Fluid Inlet - 1/4 in. npt(m)
- Fluid Orifice Diameter - 0.063 in. (1.6 mm)
- Fluid Outlet - 7/8 in. -14 UNF
- Weight - 13.9 oz. (389 g)
- Repair Kit - 218-558
- Instruction Manual - 307-821

238-350

Contractor FTx Gun with 515 Reverse-A-Clean (RAC) IV SwitchTip and DripLess Tip Guard



238-350

239-045

Contractor FTx Gun with Flat Tip Guard

220-955

Contractor Gun with 517 RAC IV SwitchTip and DripLess Tip Guard



220-955

179-943

Optional 4-Finger Trigger available

220-730

Black Max Gun (2-finger trigger) with 413 RAC IV SwitchTip and DripLess Tip Guard



220-730

Airless Spray Guns

Model 510 Airless Spray Gun

- Ideal for high solids, mastics and protective coating materials
- Perfect for protective coatings contractors
- Includes Heavy-Duty RAC Tip Retainer (237-162) and Tip GHD-527
- Stainless steel
 - Working Pressure - 7400 psi (510 bar, 51.0 MPa) max.
 - Fluid Inlet - 1/4 in. npsm(m)
 - Fluid Orifice Diameter - 0.090 in. (2.3 mm)
 - Fluid Outlet - 7/8 in. -14 UNF
 - Weight - 25.7 oz. (730 g)
 - Repair Kit - 237-398
 - Optional non-diffused needle and seat - fluid orifice size: 0.125 in. - 237-260
 - Instruction Manual - 308-438

Silver Plus Gun

- Known for its durability, long life, spraying performance and comfortable design
- Preferred by commercial, industrial and protective coatings contractors
- Ideal for high pressure applications
- Lightweight design reduces fatigue
- Stainless steel fluid tube
- No needle adjustments required
- Gun needle guaranteed for life against needle breakage
 - Working Pressure - 5000 psi (345 bar, 34.5 MPa) max.
 - Fluid Inlet - 1/4 in. npsm (m)
 - Fluid Orifice Diameter* - 0.090 in. (2.3 mm)
 - Fluid Outlet - 7/8 in. -14 UNF
 - Weight (without tip or guard) - 19 oz. (540 g)
 - Repair Kit - 235-474
 - Instruction Manual - 308-236

*Includes all guns except 235-462 which has 0.037 in. fluid orifice

Flex Plus Gun

- Offers same features as the Silver Plus Gun
- Lightweight, perfect for all-day spraying
- Airless hose connects directly to the gun through a spring guard mount on the base of the handle
- Two-finger trigger
- Lifetime guarantee against needle breakage
 - Working Pressure - 5000 psi (345 bar, 34.5 MPa) max.
 - Fluid Inlet - 1/4 in. npsm(m)
 - Fluid Orifice Diameter - 0.090 in. (2.3 mm)
 - Fluid Outlet - 7/8 in. -14 UNF
 - Weight (without tip or guard) - 18.6 oz. (530 g)
 - Repair Kit - 235-474
 - Instruction Manual - 308-235

236-995

510 Airless Spray Gun with Heavy-Duty RAC Tip and DripLess Tip Guard



236-995

235-460

Silver Plus Gun (2-finger trigger) with Flat Tip Guard

235-461

Silver Plus Gun (4-finger trigger) with Flat Tip Guard

235-462

Fine Finish Silver Plus Gun (2-finger trigger) with Flat Tip Guard

235-463

Silver Plus Gun (2-finger trigger) with 517 RAC IV SwitchTip and DripLess Tip Guard



235-463

235-458

Flex Plus Gun (2-finger trigger) with Flat Tip

235-459

Flex Plus Gun (2-finger trigger) with 517 RAC IV SwitchTip and DripLess Tip Guard



235-459

Contractor FTx Gun

1 A. Trigger Guard

- Offers easy access to the filter
- Easy-to-remove filter

1 B. Two-Piece Filter

- Drop-in spring-loaded filter enables quick and easy installation or removal. No need to thread filter into gun housing and eliminates cross threading or snapping filter assemblies
- Replace the entire filter assembly or only the screen
- Allows easier clean-up compared to one-piece filter designs
- Standard with 50 mesh filter, or optional fine finish 100 mesh filter is also available

2 Smooth Glide Swivel

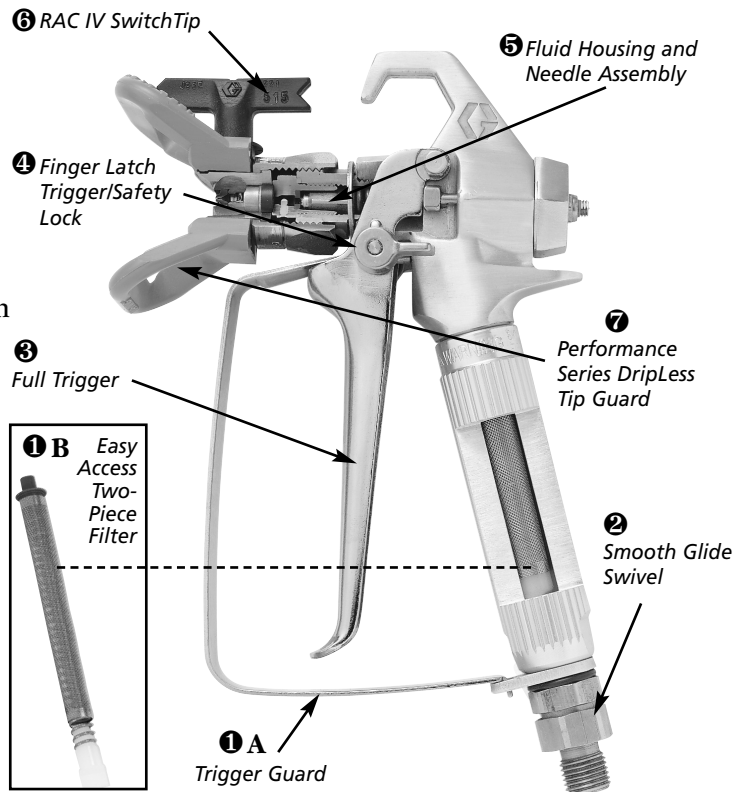
- Allows effortless gun control movement.
- Gun rotates more freely at hose connection, making spraying easier
- New swivel design offers excellent rotation under pressure and at no pressure - 20% less torque at spraying pressures than competition!

3 Full Trigger

- Full trigger with round handle design for maximum comfort
- Light trigger pull for less fatigue and easy operation. 30% lighter than the closest competitor

4 Finger Latch Trigger Safety and Trigger Lock

- Unique paddle-shaped finger latch provides quick and simple operation
- Allows Trigger Safety to be easily engaged to the "Closed" or "Safe" position whenever spraying is stopped to prevent accidental triggering.
- Allows option to lock trigger to "Clean" position for convenience during clean-up



5 Contractor Gun Fluid Housing and Needle Assembly

- Proven, reliable design
- Hardened Tungsten Carbide Ball and Seat for excellent wear resistance
- Only one repair kit needed for painters that prefer either 2-finger gun or full trigger 4-finger gun

6 RAC IV SwitchTip

- Allows quick cleaning of plugged tips and fast switching of tip sizes

7 Performance Series DripLess Tip Guard

- Patented, aerodynamic design virtually eliminates paint build-up, dripping and spitting

Gun Hose Kits

Quick Reference Chart	Description	Model No.	Max. Gun Working Pressure psi (bar/MPa)	Hose Length	Hose Max. Working Pressure psi (bar/MPa)	Includes 3 ft. (0.9 m) Whip Hose
	Contractor FTx	238-351	3600 (248/24.8)	1/4 in. (6.3 mm) x 50 ft. (15.2 m)	3000 (210/21.0)	No
Contractor	220-962	3600 (248/24.8)	1/4 in. (6.3 mm) x 50 ft. (15.2 m)	3000 (210/21.0)	Yes	
Contractor	238-000	3600 (248/24.8)	3/8 in. (9.5 mm) x 50 ft. (15.2 m)	3000 (210/21.0)	Yes	
Silver Plus	235-473	5000 (345/34.5)	1/4 in. (6.3 mm) x 50 ft. (15.2 m)	3000 (210/21.0)	Yes	
Flex Plus Gun	235-472	5000 (345/34.5)	1/4 in. (6.3 mm) x 50 ft. (15.2 m)	3000 (210/21.0)	Yes	

Contractor FTx Gun Hose Kit 238-351

- Contractor FTx Gun with 515 RAC IV SwitchTip and DripLess Tip Guard
- 1/4 in. (6.3 mm) x 50 ft. (15.2 m) Airless Hose

238-351



Contractor Gun Hose Kit 220-962

- Contractor Gun with 517 RAC IV SwitchTip and DripLess Tip Guard
- 3 ft. (0.9 m) Whip Hose
- 1/4 in. (6.3 mm) x 50 ft. (15.2 m) Airless Hose

220-962



238-000

- Contractor Gun with 517 RAC IV SwitchTip and DripLess Tip Guard
- 3 ft. (0.9 m) Whip Hose
- 3/8 in. (9.5 mm) x 50 ft. (15.2 m) Airless Hose

Silver Plus Gun Hose Kit 235-473

- Silver Plus Gun with 517 RAC IV SwitchTip and DripLess Tip Guard
- 3 ft. (0.9 m) Whip Hose
- 1/4 in. (6.3 mm) x 50 ft. (15.2 m) Airless Hose

235-473



Flex Plus Gun Hose Kit 235-472

- Flex Plus Gun with 517 RAC IV SwitchTip and DripLess Tip Guard
- 3 ft. (0.9 m) Whip Hose
- 1/4 in. (6.3 mm) x 50 ft. (15.2 m) Airless Hose

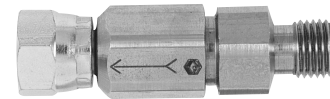
235-472



In-line Gun Filter

210-500

- Filters fluid before it enters the gun
- Helps reduce tip plugging; provides better finish quality
- Attaches to hose and connects to the gun inlet
- Contains one (205-264) filter (equivalent to 100 mesh screen)
- Working Pressure - 5000 psi (345 bar, 34.5 MPa) max.
- Fluid Inlet - 1/4 in. npsm(m)
- Fluid Outlet - 1/4 in. npsm(f)

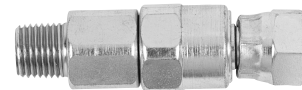


210-500

High Pressure Straight Swivel – 3000 psi (210 bar, 21.0 MPa)

224-457

- Provides a swiveling joint between gun and hose for free gun movement
- Installs at gun inlet
- Leather packings
- Working Pressure - 3000 psi (210 bar, 21.0 MPa) max.
- Fluid Inlet - 1/4 in. npt(m)
- Fluid Outlet - 1/4 in. npsm(f)



224-457

For complete selection of gun filters, see page 39.

High Pressure Straight Swivel – 5800 psi (400 bar, 40.0 MPa)

189-018

- Provides a swiveling joint between gun and hose for free gun movement
- Installs at gun inlet
- Working Pressure - 5800 psi (400 bar, 40.0 MPa) max.
- Fluid Inlet - 1/4 in. npsm(m)
- Fluid Outlet - 1/4 in. npsm(f)

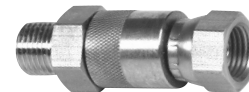


189-018

High Pressure Straight Swivel – 7400 psi (510 bar, 51.0 MPa)

236-987

- Provides a swiveling joint between gun and hose for free gun movement
- Installs at gun inlet
- Teflon packings
- Working Pressure - 7400 psi (510 bar, 51.0 MPa) max.
- Fluid Inlet - 1/4 in. npt(m)
- Fluid Outlet - 1/4 in. npsm(f)



236-987

Gun Adapter

181-085

- Use to install a RAC IV on a competitive airless spray gun. Tip gasket 166-969 is required.
- Converts 11/16 in. (17 mm) gun thread (Wagner, ASM or Airlessco) to accept 7/8 in. (22 mm) thread used on most Graco accessories (including tip guards and extensions)



181-085

Extended Reach Tools



Reach new heights with Graco.

Thanks to Graco's full line of Extended Reach Tools, hard-to-reach locations won't slow down your production any more. You'll extend your range and spray more efficiently. You'll eliminate the need for ladders or scaffolding. Best of all, you can expect less muscle fatigue!

Extended Reach Tools offer time-saving equipment including pole guns, tip extensions, heavy-duty extensions and telescoping extensions. These accessories are perfect for soffits, high walls, vaulted ceilings and more.

Select the extended reach tool that fits your job. You'll save time, speed up production and finish the job with "extended" profits in your pocket.

"You did it again. I can't tell you how much your pole guns benefit our production time. I used it on wood fence to apply Kresote. It worked great and is safer because the applicator isn't too close to the work. Thanks again for your help in making our application easier and more profitable."

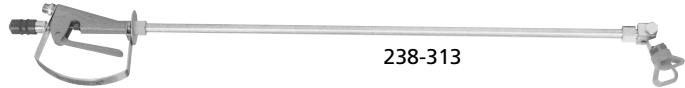
*Mark Mathis, Custom Color Owner
Indianapolis, Indiana*

Extended Reach Tools

Pole Guns

- Unmatched spraying performance in high or recessed areas
- Provides better spray control and less fatigue
- Unique full-length needle shuts fluid flow off at tip, for crisp spray patterns without spitting or waiting
- In-line valve allows for easy and comfortable operation
- Balanced design; no excessive weight at pole end like gun-attached devices
- Includes Easy Turn Directional Spray Head with 180° Swivel, Reverse-A-Clean (RAC) IV SwitchTip (515) and Guard
- Optional tip filter-kit (220-254) recommended for painters that prefer flat tips
 - Working Pressure - 3000 psi (210 bar, 21.0 MPa) max.
 - Fluid Inlet - 1/4 in. nspm(m)
 - Repair Kit - 214-822 (packing and seals), 214-823 (swivel and swivel seats only)
 - Instruction Manual - 308-626

- 238-311** 1 ft. (0.3 m)
- 238-312** 2 ft. (0.6 m)
- 238-313** 3 ft. (0.9 m)
- 238-314** 4 ft. (1.2 m)
- 238-316** 6 ft. (1.8 m)
- 238-318** 8 ft. (2.4 m)

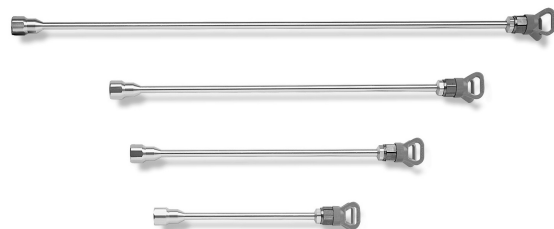


- Weight - 238-311 1.25 lb. (0.6 kg)
- 238-312 1.5 lb. (0.7 kg)
- 238-313 2 lb. (0.9 kg)
- 238-314 2.5 lb. (1.1 kg)
- 238-316 4 lb. (1.8 kg)
- 238-318 6 lb. (2.7 kg)

Tip Extensions

- Easily spray hard-to-reach or narrow areas such as soffits, high walls and ceilings
- Includes: Flat Tip Guard and 7/8 in. (22 mm) gun nut (fits Graco or Titan guns)
- For Wagner, ASM, Airlessco or other guns using 11/16 in. (17 mm) gun nut, order adapter (180-146)
 - Working Pressure - 4050 psi (279 bar, 28.0 MPa) max.
 - Thread Size - 7/8 in. - 1/4 UNF(f)
 - Instruction Manual - 308-011
- Unique fitting design and captive gasket allows quick attachment to airless gun or in-line valve

- 240-040** 10 in. (25 cm)
- 204-041** 15 in. (38 cm)
- 240-042** 20 in. (50 cm)
- 240-043** 30 in. (75 cm)



Heavy-Duty Extensions

- Tough aluminum construction
- Ideal for high or low pressure roller applications, or spraying
- Unique fitting design and captive gasket allows quick attachment to airless gun or in-line valve
- No loss of strength at the joints
- No extra couplings or fittings required
- Use alone or in combination to achieve desired length
- Gasket designed for quick attachment to airless gun or in-line valve
- Standard with 7/8 in. (22 mm) gun nut (fits Graco or Titan guns)
- For Wagner, ASM, Airlessco or other guns using 11/16 in. (17 mm) gun nut, order adapter (181-085)
 - Working Pressure - 3000 psi (210 bar, 21.0 MPa) max.
 - Thread Size - 7/8 in. -14 UNF
 - Instruction Manual - 308-119

- 232-121** 10 in. (25 cm)
- 232-122** 20 in. (50 cm)
- 232-123** 40 in. (100 cm)
- 232-124** 60 in. (150 cm)
- 232-125** 80 in. (200 cm)

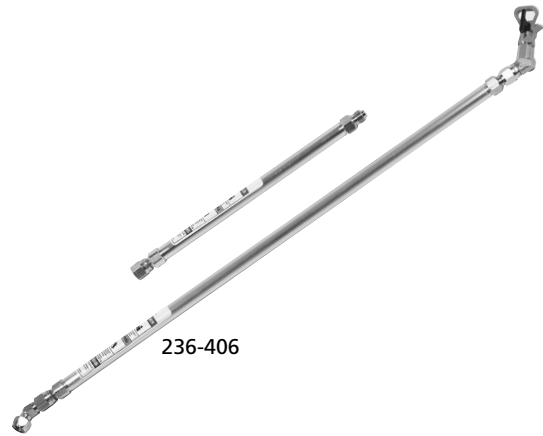


Extended Reach Tools

Heavy-Duty Extension Airless Spray Kit

240-054 • 240-055 • 240-056

- Includes 18 in. (46 cm) and 36 in. (91 cm) Heavy-Duty Extensions, Easy Turn Directional Spray Nozzle, RAC IV SwitchTip, DripLess Tip Guard and 45° Swivel Adapter to connect to airless gun
- Quickly converts to a Pressure Roller Kit by ordering the Pressure Roller Attachment and Adapter (See Pressure Rollers, page 203)
- Working Pressure - 3000 psi (210 bar, 21.0 MPa) max.
- Thread Size - 7/8 in. - 14 UNF
- Instruction Manual - 308-119, 308-244

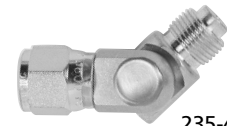


236-406

Easy Turn Directional Spray Nozzle

235-486

- Attaches to Heavy-Duty Extensions or Airless Spray Guns
- Allows spraying at a variety of angles
- Allows easy, one-step alignment
- Standard with 7/8 in. (22 mm) thread
- Working Pressure - 3600 psi (248 bar, 24.8 MPa) max.
- Thread Size - 7/8 in. - 14 UNF
- Instruction Manual - 308-244

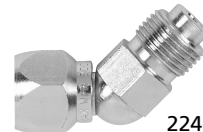


235-486

45° Swivel Adapter

224-399

- Provides a comfortable operating angle when using a Heavy-Duty Extension or Pressure Roller Attachment
- Connects to Airless Spray Gun and Heavy-Duty Extension
- Working Pressure - 3600 psi (248 bar, 24.8 MPa) max.
- Thread Size - 7/8 in. - 14 UNF



224-399

In-line Valve

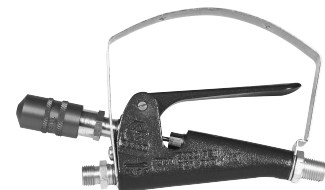
- Use with High Pressure Airless Sprayers to convert to a Pressure Roller System
- Provides more comfortable control for use with pressure roller attachment or extension pole
- Working Pressure - 3000 psi (210 bar, 21.0 MPa) max.
- Instruction Manual - 307-756 (220-229)
- Instruction Manual - 306-796 (206-408)

220-229

In-line Control Valve
1/4 in. -18 NPT

206-408

In-line Control Valve
7/8 in. -14 UNF



220-229

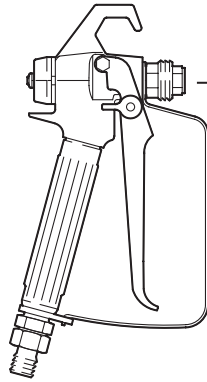
Extended Reach Tools



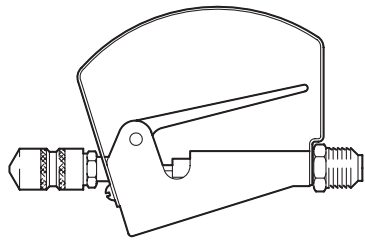
Hard-to-reach areas are easily handled with Graco's extended reach tools.

Extended Reach Tools

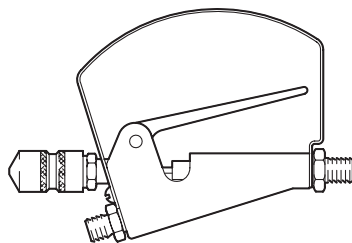
Use the diagram to select the right combination of products for your extended reach applications.



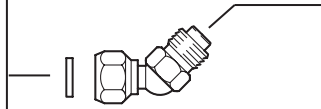
■ **Contractor FTx Spray Gun**
(or any Graco Airless Spray Gun)
Part No. 238-350
3600 psi (248 bar, 24.8 MPa) max. WPR
7/8 in. -14 UNF



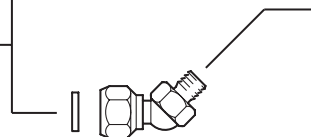
■ **In-line Valve**
Part No. 206-408
3000 psi (210 bar, 21.0 MPa) max. WPR
7/8 in. -14 UNF



■ **In-line Valve**
Part No. 220-229
3000 psi (210 bar, 21.0 MPa) max. WPR
1/4 in. -18 NPT



■ **45° Swivel**
Part No. 224-399
7/8 in. - 14 UNF x 7/8 in. - 14 UNF

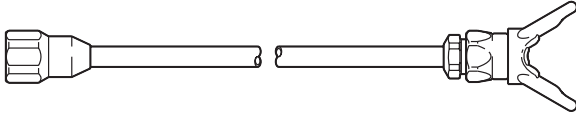


▲ **45° Swivel**
Part No. 218-932
7/8 in. - 14 UNF x 1/4 in. - 18 NPT



■ **Adapter**
Part No. 224-410
1/4 in. - 18 NPT x 7/8 in. - 14 UNF

- Graco Std. Thread size 7/8 in. UNF
For Wagner, ASM, Airlessco or others with 11/16 in. thread,
Order Adapter 181-085
- ▲ 218-625 Pressure Roller Accessory - Telescoping 18 in. - 36 in.
(0.45 m - 0.91 m). Includes Roller Cover

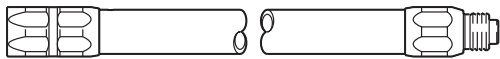


Tip Extensions

Part Numbers:

240-040	10 in. (25 cm)
240-041	15 in. (38 m)
240-042	20 in. (50 cm)
240-043	30 in. (75 cm)

4050 psi (279 bar, 28.0 MPa) max. WPR
7/8 in. - 14 UNF

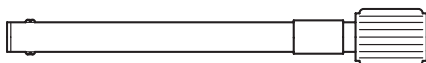


Heavy-Duty Extensions

Part Numbers:

232-121	10 in. (25 cm)
232-122	20 in. (50 cm)
232-123	40 in. (100 cm)
232-124	60 in. (150 cm)
232-125	80 in. (200 cm)

3600 psi (245 bar, 24.7 MPa) max. WPR
7/8 in. - 14 UNF x 7/8 in. - 14 UNF

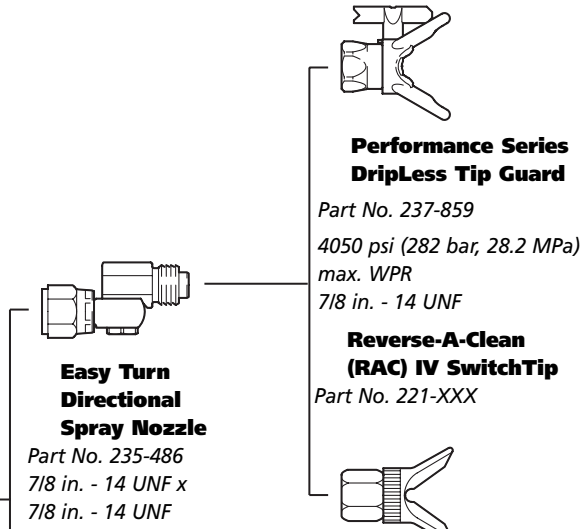


Telescoping Extensions

Part Numbers:

▲ 218-775	18 in. to 36 in. (0.45 m to 0.91 m)
218-776	36 in. to 72 in. (0.91 m to 1.83 m)
218-777	72 in. to 144 in. (1.8 m to 3.6 m)

3000 psi (210 bar, 21.0 MPa) max. WPR
1/4 in. - 18 NPT x 1/8 in. - 27 NPT



Easy Turn Directional Spray Nozzle

Part No. 235-486
7/8 in. - 14 UNF x
7/8 in. - 14 UNF

Performance Series DripLess Tip Guard

Part No. 237-859
4050 psi (282 bar, 28.2 MPa)
max. WPR
7/8 in. - 14 UNF

Reverse-A-Clean (RAC) IV SwitchTip

Part No. 221-XXX

Flat Tip Guard

Part No. 220-251
5000 psi (350 bar, 35.0 MPa)
max. WPR
7/8 in. - 14 UNF

Pressure Roller Attachment

Part Numbers:

240-054	3 in. (8 cm)
240-005	9 in. (23 cm)
240-055	12 in. (30 cm)

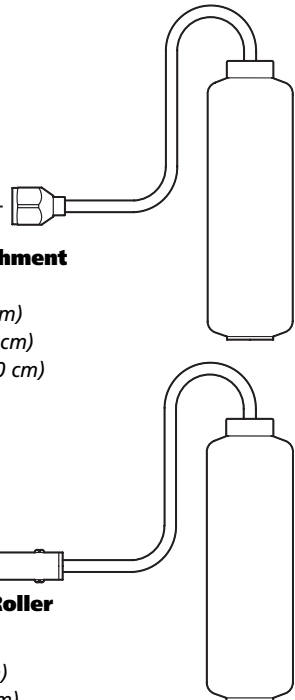
Telescoping Pressure Roller

(Order cover separately)

Part Numbers:

220-234	3 in. (8 cm)
▲ 218-935	9 in. (23 cm)
224-268	12 in. (32 cm)

300 psi (21.0 bar, 2.1 MPa) max. WPR
1/8 in. - 27 NPT



Pressure Roller Accessories



Get on a roll with Graco.

Painting with a roller has never been this easy! No more climbing, stopping or continual refilling of the roller from messy paint trays. For times when you can't spray, pressure rollers are ideal. And a pressure roller can reduce your time to complete a rolling application by up to 50 percent.

Graco's patented GeoSpurse roller head distributes paint evenly across the roller cover. You'll get beautiful, consistent coverage, without the heavy edges and uneven build often associated with competitors' pressure rollers.

Pressure Roller Attachments and Accessories are perfect for maintenance applications as well as remodeling and renovation projects. Pressure Roller Accessories include pressure roller attachments, telescoping accessories, pressure roller covers and in-line valves.

So get rolling. Get fast, efficient production with Graco Pressure Roller Accessories.

Get Graco. Experience The Difference.™



Pressure Roller Accessories

Pressure Roller Attachments

- Connects to airless sprayer for pressure roller applications
- GeoSpense roller head evenly distributes paint across roller cover
- Provides consistent quality finish and eliminates heavy edges and uneven build often associated with competitors' pressure rollers
- Order Roller Cover and Adapter 224-398 to connect to 7/8 in. (22 mm) thread separately
- Working Pressure - 3000 psi (210 bar, 21.0 MPa) max.
- Inlet Thread Size - 1/8 in. -27 npt(m)
- Instruction Manual - 307-755

Pressure Roller Accessory – Telescoping

218-625

- Connects to airless spray gun for pressure roller applications
- 18 in. to 36 in. (46 cm to 91 cm) telescoping extension provides great job site versatility, includes 9 in. x 1/2 in. (229 mm x 13 mm) roller cover
- Graco's GeoSpense Roller Head distributes paint evenly across roller cover
- Provides consistent finish, and eliminates heavy edges and uneven build associated with competitors' pressure rollers
- Standard with 7/8 in. (22 mm) gun nut (fits Graco or Titan guns)
- For Wagner, ASM or other guns using 11/16 in. (17 mm) gun nut, order with Part No. 181-085 Gun Adapter
- Working Pressure - 3000 psi (210 bar, 21.0 MPa) max.
- Inlet Thread - 7/8 in. - 14 UNF(f)
- Outlet Thread - 1/8 in. - 27 npt(f) (to roller attachment)
- Instruction Manual - 307-713

Telescoping Extensions

- Allow convenient and quick length adjustments for pressure roller applications
- Perfect for stairwells, vaulted ceilings and other hard-to-reach areas
- GeoSpense Roller Head distributes paint evenly across roller cover
- Install these extensions to a Pressure Roller Attachment, Airless Spray Gun or In-line Valve (See Airless Guns Section)
- Working Pressure - 3000 psi (210 bar, 21.0 MPa) max.
- Inlet Thread - 1/4 in. -18 npt(f)
- Outlet Thread - 1/8 in. - 27 npt(f)
- Instruction Manual - 307-713

240-054

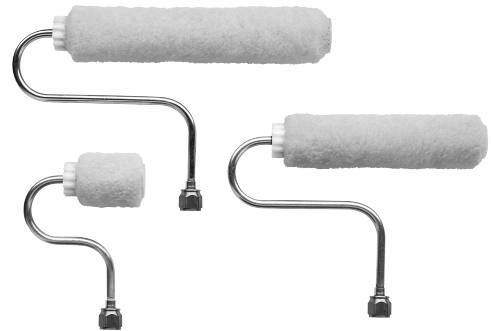
3 in. (8 cm)

240-005

9 in. (23 cm)

240-055

12 in. (30 cm)



218-625

18 in. to 36 in. (46 cm to 91 cm)



218-775

18 in. to 3 ft.
(46 cm to 91 cm)

218-776

3 ft. to 6 ft.
(0.9 m to 1.8 m)

218-777

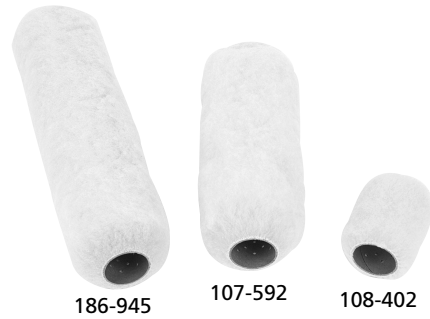
6 ft. to 12 ft.
(1.8 m to 3.6 m)



Pressure Roller Accessories

Pressure Roller Covers

- 108-402** 3 in. x 1/2 in. (76 mm x 13 mm) nap
- 107-589** 9 in. x 3/8 in. (229 mm x 9 mm) nap
- 107-590** 9 in. x 1/2 in. (229 mm x 13 mm) nap
- 107-591** 9 in. x 3/4 in. (229 mm x 19 mm) nap
- 107-592** 9 in. x 1-1/4 in. (229 mm x 32 mm) nap
- 186-944** 12 in. x 1/2 in. (305 mm x 13 mm) nap
- 186-945** 12 in. x 3/4 in. (305 mm x 19 mm) nap
- 186-946** 12 in. x 1-1/4 in. (305 mm x 32 mm) nap



Airless Tips and Guards



Airless Tips and Guards



The right combination for a quality finish.

Choosing the right equipment for your business is essential. Choosing a quality tip will determine the quality of your finish and help you save a significant amount of time and money.

Graco has the broadest selection of the highest quality spray tips made. From Reverse-A-Clean Tips to Fine Finish Tips, you're sure to find one that's best suited for the materials and equipment you're using.

Graco uses the highest quality tungsten carbide available to make tips. The specially designed tungsten carbide provides optimum hardness and wear resistance to abrasive architectural coatings. Graco employs a proprietary manufacturing process; every tip is liquid honed which provides a good quality spray pattern and the longest possible spray life.

Each Graco tip is 100% tested for flow rate to meet the tough standards of painting contractors. These careful processes ensure you of the quality you've come to expect from Graco.

Armatage Painting, West Jordan, Utah, recently celebrated their 75th anniversary as a paint contracting firm. According to Kay Armatage, owner of the company, they've been using Graco equipment since the first airless sprayer was introduced in the 1950s.





"We only settle for the best. This includes Graco RAC tips which are simple, convenient to use, and are easy to clean out. There isn't another tip that will last longer, either."




*Kay Armatage
West Jordan, Utah*

Get Graco. Experience The Difference.™



Reversible Tips Quick Reference

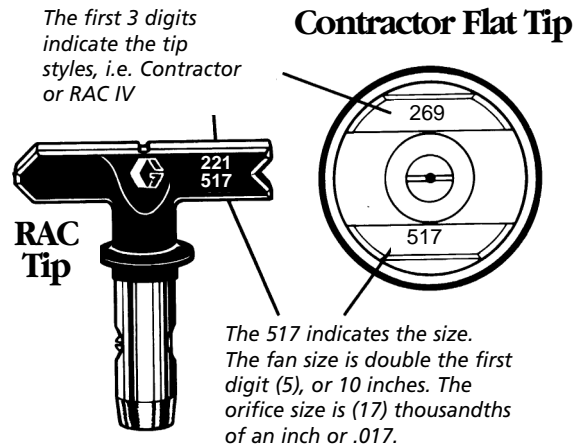
Quick Reference Chart				
Description, Part Number and Color	Maximum Working Pressure psi (bar/MPa)	Typical Applications	Best Suited For These Materials	Recommended Tip Guard (7/8 in. thread)
Reverse-A-Clean (RAC) IV Airless SwitchTip 221-XXX (black) 	4050 (279, 28.0)	Residential, commercial or industrial	Lacquers to mastics	Performance Series DripLess Tip Guard 237-859
Fine Finish RAC Tip FFR-XXX (green) 	3000 (210, 21.0)	Metal structures, furniture or wood surfaces	Lacquers, varnishes, stains, high-finish enamels, oil base paints or other fine finish coatings	Performance Series DripLess Tip Guard 237-859
LineLazer RAC Tip LLT-XXX (yellow) 	4050 (279, 28.0)	Parking lots, roads, warehouse floors, crosswalks and athletic fields	Heavy waterbase to thin alkyd traffic paints	Performance Series DripLess Tip Guard 237-859
Heavy-Duty RAC Tip GHD-XXX (grey) 	5000 (345, 34.5)	Bridges, tank farms, structural steel and roofing	Virtually all paints and coatings – solvent or waterbased	Heavy Duty RAC Tip Guard 222-647

STANDARD TIPS – Quick Reference Chart				
Contractor Flat Tips 269-XXX 	5000 (345, 34.5)	Residential, commercial or industrial	Abrasive architectural coatings	Flat Tip Guard 220-251
Silver Flat Tips 163-XXX (odd) 	5000 (345, 34.5)	Industrial spray applications with tighter tolerances	Lacquers, varnishes shellacs, enamels to acrylics, latex, oil bases, blockfillers, epoxies, zinc chromates, roof coatings, mastics and adhesives	Flat Tip Guard 220-251
Fine Finish Flat Tips 163-XXX (even) 	3000 (210, 21.0)	For extremely smooth surfaces	Varnishes, lacquers, urethanes and topcoats	Fine Finish Tip Guard 220-247

Graco tips are easy to identify.

For example: RAC Tip 221-517

1. The first three digits (221) are Graco's identification numbers which differentiate various tip styles. A 221 is a Graco RAC IV SwitchTip. The second three digits (517) represent the actual tip size (fan and orifice).
2. The number (5), when doubled, indicates approximate fan width when spraying 12 in. (305 mm) from the surface. The fan width on a 517 tip is approximately 10 to 12 in. (254 mm to 305 mm). All Graco tips are tested 12 in. (305 mm) from the surface with the same test material, at the same spraying pressure. Different materials and spraying pressures may slightly change the width of your actual fan pattern.
3. The last two digits (17) indicate the tip has a flow rate in water equal to a 0.017 in. (0.43 mm) diameter hole. The orifice size is directly related to the amount of paint that will flow through the tip. Your actual flow rate will depend on your spraying pressure and the paint you are using.



Choosing the right tip for your job

Choosing the right tip size assures maximum productivity. Selecting the wrong tip may cause increased overspray and less control. This means unproductive time, wasted paint and lower profits.

The orifice size of a tip is an important factor in how much paint will flow through a tip. Viscosity of the coating will also affect the spray tip's flow rate.

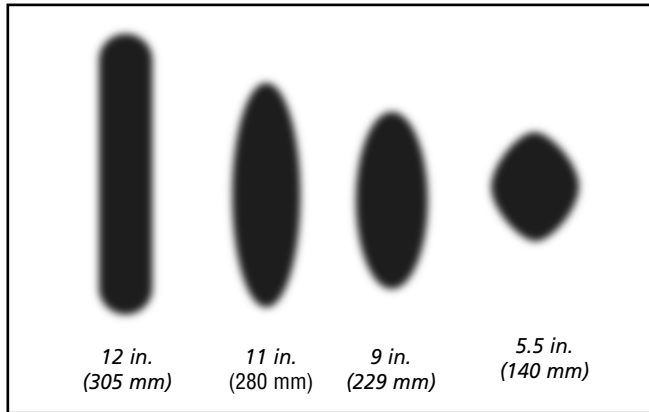
Replace tips often for maximum productivity

When the tip wears, the orifice size increases and the fan pattern decreases, ultimately affecting the spray pattern. Look for runs or sags in the spray pattern as signs of a worn tip. Do not increase pressure to resolve this problem. You will only waste paint and increase wear on the pump section of your sprayer. Because most architectural coatings are abrasive, tip wear can happen very quickly. The Tip Wear Chart to the right illustrates the wear factor on a new 0.015 tip. Notice as wear increases the orifice size, it decreases the fan width, significantly affecting coverage rates.

Worn-out tips also wear components in your sprayer much faster. By spraying materials properly with correctly sized Graco tips, and replacing them when necessary, you'll maximize productivity, save paint and earn more profits.

For more information on tips, see Graco's Great Tips brochure (300-248).

Tip Wear



SPRAY PATTERN WIDTH			
12 in. (305 mm)	11 in. (280 mm)	9 in. (229 mm)	5.5 in. (140 mm)
New 515 Tip	Worn to .017	Worn to .019	Worn to .021
FLOW RATE			
1/4 gpm (.87 lpm)	1/3 gpm (1.14 lpm)	3/8 gpm (1.4 lpm)	1/2 gpm (1.74 lpm)
FLOW RATE INCREASES			
	+30%	+61%	+100%
Pressure at tip: 2500 psi (173 bar, 17.3 MPa) / Spraying Distance: 12 in. (305 mm) Latex Specific Gravity: 1.35			

Some quick rules on selecting tip sizes:

- Use smaller orifice sizes when applying lower viscosity materials such as stains and lacquers.
- Use larger orifice sizes for heavier viscosity coatings such as latexes or oil bases.

Materials to be sprayed	Recommended Tip Sizes
Stains*	0.011 - 0.015
Lacquers*	0.011 - 0.017
Enamels or oil base paints*	0.013 - 0.017
Latex paints	0.013 - 0.021
Blockfillers	0.019 - 0.031
Smooth elastomerics	0.019 - 0.035
*Fine finish tip recommended.	

Reversible Tips and Guards

The Right Combination

The Performance Series DripLess Tip Guards give you unrivaled spraying performance when used in combination with RAC SwitchTips.

The Performance Series Guard is guaranteed to be the best performing airless tip guard available. The patented aerodynamic design virtually eliminates paint build-up, dripping or spitting commonly associated with other competitive guards. Simply select the RAC tip for your application and you have an unbeatable combination.

Color coding makes tip identification even easier

Graco uses a color coding system to easily identify one RAC tip from another.

- Standard RAC IV SwitchTips are black
- Fine Finish RAC (FFR) Tips are green
- LineLazer RAC (LLT) Tips are yellow
- Graco Heavy-Duty (GHD) Tips are grey

RAC IV SwitchTips 221-XXX

- The most widely-used reversible tip on the market
- Offers painters the largest selection of both tip sizes and styles
- Ideal for use on residential, commercial or industrial spray jobs
- Use with lacquers to mastics
- Compact design provides better control, and is easy to operate in tight areas
- Easily installed on any airless spray gun without using tools
- Easy to identify. Clearly stamped tip size (fan width and orifice)
- Working Pressure - 4050 psi (279 bar, 28.0 MPa) max.

Reversible Tips and Guards

RAC IV SwitchTips are designed for easy tip unplugging. To clear a tip plug, simply reverse the SwitchTip from spray to clear and you'll be painting again within seconds.

RAC SwitchTips make it easy to change spray tip sizes; it takes just seconds without the use of tools.



221-XXX

RAC IV Tips (221-XXX)
Tip Sizes and Flow Rates

		Orifice Size (Inches)																					
		.007	.009	.011	.013	.015	.017	.019	.021	.023	.025	.027	.029	.031	.033	.035	.039	.043	.045	.051	.055	.063	.065
Fan Width	(in.) (mm)																						
	2-4 (51-102)			111		115																	
	4-6 (102-152)	207	209	211	213	215	217	219	221	223	225						235						
	6-8 (152-203)	307	309	311	313	315	317	319	321	323	325	327			331								
	8-10 (203-254)		409	411	413	415	417	419	421	423	425	427	429			433	435	439	443		451	455	
	10-12 (254-305)		509	511	513	515	517	519	521	523	525	527	529	531	533	535		543			551	555	563
	12-14 (305-356)		609	611	613	615	617	619	621	623	625	627	629	631	633	635			645		655		665
	14-16 (356-406)									721	723	725				735							
	16-18 (406-457)					815	817	819	821			827			831	833	835						
18-20 (457-508)						917									935								
Flow rate (gpm)		0.05	0.09	.12	.18	.24	.31	.38	.47	.57	.67	.77	.90	1.03	1.17	1.31	1.63	1.98	2.17	2.79	3.25	4.26	4.53
Flow rate (lpm) <small>(water @ 2000 psi)</small>		.20	.33	.49	.69	.91	1.17	1.47	1.79	2.15	2.54	2.96	3.42	3.90	4.42	4.98	6.18	7.51	8.23	10.57	12.29	16.13	17.17

Tip Identification: RAC IV Tips must be ordered using six characters. The first three characters are always 221. The next three characters are numbers as shown in the selection chart of available sizes. For example, the correct order number for a tip with a .011 orifice and a 6 in. (152 mm) pattern is 221-311.

Fan width of spray pattern is measured at 12 in. (305 mm) from the surface.

If the size you need is not listed, custom tip sizes can be manufactured. Contact your Graco representative for details.

Fine Finish RAC Tips (FFR)

FFR-XXX

- Ideal for lacquers, varnishes, stains, high finish enamels or other fine finish coatings
- Produces a smooth, extremely fine finish with consistent material thickness
- Allows spraying at lower pressures for more control and dramatic overspray reduction
- Eliminates the need to reduce or thin most coatings
- Working Pressure - 3000 psi (210 bar, 21.0 MPa) max.



FFR-XXX

Fine Finish RAC Tips (FFR-XXX)
Tip Sizes and Flow Rates

		Orifice Size (Inches)		
		.010	.012	.014
Fan Width	(in.) (mm)			
	4-6 (102-152)	210	212	214
	6-8 (152-203)	310	312	314
	8-10 (203-254)	410	412	414
	10-12 (254-305)	510	512	514
12-14 (305-356)		612	614	
Flow rate (gpm)		.11	.15	.21
Flow rate (lpm) <small>(water @ 2000 psi)</small>		.41	.59	.80

Tip Identification: Fine Finish RAC Tips must be ordered using six characters. The first three characters are always FFR. The next three characters are numbers as shown in the selection chart of available sizes. For example, the correct order number for a tip with a .010 orifice and a 10 in. (254 mm) pattern is FFR-510.

Fan width of spray pattern is measured at 12 in. (305 mm) from the surface.

Reversible Tips and Guards

LineLazer RAC Tips (LLT)

- Designed specifically for parking lots, roads, warehouse floors, crosswalks and athletic fields
- Creates clean, laser-sharp lines with no fuzzy edges or thin spots
- Sprays heavy waterbase to thin alkyd traffic paints
- Provides consistent paint thickness, less overspray and longer-lasting lines
- Working Pressure - 4050 psi (279 bar, 28.0 MPa) max.

- 221-203*** 2 in. (51 mm) lines; small stencil work.
LLT-213* Light film build on curbs.
LLT-215 Medium film build on curbs.
LLT-217 Heavy film build on curbs.
 Medium film build on 4 in. (102 mm) lines.
LLT-219 Heaviest film build on curbs.
 Heavy film build on 4 in. (102 mm) lines.
LLT-315 Medium film build on taller curbs.
 Light film build on 4 in. (102 mm) lines.
LLT-317 Heavy film build on taller curbs.
 Medium film build on 4 in. (102 mm) lines.
LLT-319 4 in. (102 mm) lines with heavy film build.
LLT-321 4 in. (102 mm) lines with extra heavy film build.

- LLT-323** 4 in. (102 mm) lines with extra heavy film build.
LLT-417 4 - 8 in. (102 - 204 mm) with light film build.
LLT-419 4 - 8 in. (102 - 204 mm) with medium film build.
LLT-421 4 - 8 in. (102 - 204 mm) lines with heavy film build.
LLT-621 12 in. (305 mm) lines with light film build.
LLT-623 12 in. (305 mm) lines with medium film build.
LLT-625 12 in. (305 mm) lines with heavy film build.
LLT-627 12 in. (305 mm) lines with extra heavy film build.

* May require 100 mesh filters to minimize tip plugging.

Standard Airless Tip... Uneven Line



LineLazer Tip... Clean Sharp Line



LLT-319

LineLazer Tips (LLT-XXX) Tip Sizes and Flow Rates

		Orifice Size (Inches)								
Line Width (in.)(mm)		.013	.015	.017	.019	.021	.023	.025	.027	.055
Line Width	2 (51)	213	215	217	219					
	4 (102)		315	317	319	321	323		327	355
	6 (152)			417	419	421				
	12 (305)					621	623	625	627	
Flow rate (gpm)		.18	.24	.31	.38	.47	.57	.67	.79	3.25
Flow rate (lpm)		.69	.91	1.17	1.47	1.79	2.15	2.54	2.96	12.29

(water @ 2000 psi)

Tip Identification: LineLazer Tips must be ordered using six characters. The first three characters are always LLT. The next three characters are numbers as shown in the selection chart of available sizes. For example, the correct order number for a tip with a .015 orifice and a 8 in. (203 mm) pattern is LLT-315.

Line width of spray pattern is measured at 6 in. (152 mm) from the surface with traffic paint at 2000 psi (138 bar/13.8 MPa).

Performance Series DripLess Tip Guards for RAC Tips

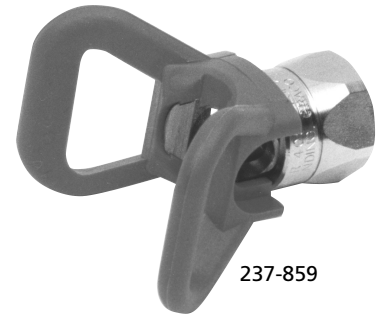
- Use with standard RAC IV, Fine Finish RAC or LineLazer RAC Tips
- Provides a tighter, more consistent spray pattern with minimal overspray
- Virtually eliminates paint build-up, dripping and spitting
- Patented aerodynamic design
- Backed by a 30-day satisfaction guarantee

237-859

For 7/8 in. (22 mm) thread size. Fits Graco and Titan guns

237-858

For 11/16 in. (17 mm) thread size. Fits Wagner, Airlessco and ASM guns



237-859

Reversible Tips and Guards

Heavy-Duty RAC Tips

GHD-XXX

- Recommended for filled materials that cause tip plugging such as high solids coatings and fibrous mastics
- Use with virtually all paints and coatings – solvent or waterbased
- Common applications include bridges, tank farms, structural steel and roofing
- Use with a wider range of sprayers
- Extra thick twist lever allows rotation even with dried, sticking coatings
- Features a single screw assembly which allows you to secure tip to housing (ideal for heavy-duty applications)
- Working Pressure - 5000 psi (345 bar, 34.5 MPa) max.



GHD-517

Heavy-Duty RAC Tips (GHD-XXX) Tip Sizes and Flow Rates (part 1)

		Orifice Size (Inches)																
		(in.)	(mm)	.007	.009	.011	.013	.015	.017	.019	.021	.023	.025	.027	.029	.031	.033	.035
Fan Width	2-4 (51-102)			107	109	111	113	115	117	119	121				129			
	4-6 (102-152)				209	211	213	215	217	219	221		225	227	229	231		235
	6-8 (152-203)			307	309	311	313	315	317	319	321	323	325	327	329	331	333	335
	8-10 (203-254)				409	411	413	415	417	419	421	423	425	427	429	431	433	435
	10-12 (254-305)				509	511	513	515	517	519	521	523	525	527	529	531	533	535
	12-14 (305-356)				609	611	613	615	617	619	621	623	625	627	629	631	633	635
	14-16 (356-406)					711	713	715	717	719	721	723	725	727	729	731	733	735
	16-18 (406-457)						813	815	817	819	821	823	825	827	829	831	833	835
	18-20 (457-508)												923	927		931	933	935
Flow rate (gpm)				.05	.09	.12	.18	.24	.31	.38	.47	.57	.67	.74	.90	1.03	1.17	1.31
Flow rate (lpm)				.20	.33	.49	.69	.91	1.17	1.47	1.79	2.15	2.54	2.96	3.42	3.90	4.42	4.98

water @ 2000 psi

Heavy-Duty RAC Tips (GHD-XXX) Tip Sizes and Flow Rates (part 2)

		Orifice Size (Inches)																						
		(in.)	(mm)	.037	.039	.041	.043	.045	.047	.049	.051	.053	.055	.057	.059	.061	.063	.065	.067	.069	.071	.075	.081	
Fan Width	2-4 (51-102)				139																			
	4-6 (102-152)				239																			
	6-8 (152-203)			337	339	341	343	345	347	349	351		355											
	8-10 (203-254)			437	439	441	443	445	447	449	451		455			461	463	465	467		471	475	481	
	10-12 (254-305)			537	539	541	543	545	547	549	551	553	555	557	559	561	563	565	567		571	575		
	12-14 (305-356)			637	639	641	643	645	647	649	651		655	657	659	661	663	665	667	669	671	675		
	14-16 (356-406)			737	739	741	743		747	749	751	753	755			761	763		767		771			
	16-18 (406-457)			837	839	841	843		847		851		855			861	863		867					
	18-20 (457-508)			937	939																			
Flow rate (gpm)				1.47	1.63	1.8	1.98	2.17	2.37	2.58	2.79	4.26	3.25	3.49	3.74	4.0	4.26	4.53	4.82	5.11	5.41	6.04	7.04	
Flow rate (lpm)				5.56	6.18	6.83	7.51	8.23	8.98	9.76	10.57	16.13	12.29	13.2	14.14	15.12	16.13	17.17	18.24	19.34	20.48	22.85	26.66	

water @ 2000 psi

Tip Identification: Heavy-Duty RAC Tips must be ordered using six characters. The first three characters are always GHD. The next three characters are numbers as shown in the selection chart of available sizes. For example, the correct order number for a tip with a .039 orifice and a 10 in. (254 mm) pattern is GHD-539.

Fan width of spray pattern is measured at 12 in. (305 mm) from the surface.

If the size you need is not listed, custom tip sizes can be manufactured. Contact your Graco representative for details.

Heavy-Duty RAC Guards

- Use with Heavy-Duty RAC tips
- Patented aerodynamic design
- Extra large tip guard for heavier coating materials

222-674 For 7/8 in. (22 mm) thread size



222-674

Standard Tips and Guards

Contractor Flat Tips

269-XXX

- Tungsten carbide orifice for optimum hardness and wear-resistance to abrasive architectural coatings
- Available in a variety of tip sizes
- Liquid honed for a better spray pattern and longer tip life
- A filter is recommended with smaller sizes to avoid tip plugging
- When plugging occurs, tip must be removed from gun and cleaned or replaced
- Working Pressure - 5000 psi (345 bar, 34.5 MPa) max.



269-XXX

Contractor Flat Tips (269-XXX) Tip Sizes and Flow Rates

		Orifice Size (Inches)												
		.011	.013	.015	.017	.019	.021	.023	.025	.027	.029	.031	.035	
Fan Width	(in.) (mm)	.211	.213	.215	.217	.219			.225	.227				
	4-6 (102-152)													
	6-8 (152-203)	311	313	315	317	319			323	325	327			
	8-10 (203-254)	411	413	415	417	419	421	423	425	427				435
	10-12 (254-305)	511	513	515	517	519	521	523	525	527			531	
	12-14 (305-356)		613	615	617	619	621	623		627			631	635
	14-16 (356-406)			715	717		721		725					
	16-18 (406-457)			815		819	821			827	829	831		
18-20 (457-508)								925						
	Flow rate (gpm)	.12	.18	.24	.31	.38	.47	.57	.67	.74	.90	1.03	1.31	
	Flow rate (lpm)	.49	.69	.91	1.17	1.47	1.79	2.15	2.54	2.96	3.42	3.90	4.98	

(water @ 2000 psi)

Tip Identification: Contractor Tips must be ordered using six characters. The first three characters are always 269. The next three characters are numbers as shown in the selection chart of available sizes. For example, the correct order number for a tip with a .011 orifice and a 10 in. (254 mm) pattern is 269-511.

Fan width of spray pattern is measured at 12 in. (305 mm) from the surface.

If the size you need is not listed, custom tip sizes can be manufactured. Contact your Graco representative for details.

Silver Flat Tips

163-XXX (Odd)

- Premium flat airless tips are manufactured primarily for industrial spray applications where tighter tolerances are required for both material flow rate and fan width
- Wide range of tip sizes are available
- Sprays low viscosity products such as lacquers, varnishes, shellacs and enamels to heavier viscosity coatings including acrylics, latex, oil bases, blockfillers, epoxies, zinc chromates, roof coatings, mastics and adhesives
- Available in a wide range of tip sizes:
 - Fan widths from 2 to 26 in. (51 to 660 mm)
 - Orifice sizes from .011 to .081
 - Flow rates from 0.05 to 1.31 U.S. gpm (0.19 to 4.96 lpm)
- Working Pressure - 5000 psi (345 bar, 34.5 MPa) max.



163-XXX

**Silver Flat Tips (163-XXX)
Tip Sizes and Flow Rates (part 1)**

Orifice Size (Inches)

		.007	.009	.011	.013	.015	.017	.019	.021	.023	.025	.027	.029	.031	.033	.035	.037	.039	.041
Fan Width	2-4 (51-102)	107	109	111	113	115	117	119	121										
	4-6 (102-152)	207	209	211	213	215	217	219	221	223	225	227	229	231		235		239	
	6-8 (152-203)	307	309	311	313	315	317	319	321	323	325	327	329	331		335		339	341
	8-10 (203-254)	407	409	411	413	415	417	419	421	423	425	427	429	431	433	435		439	441
	10-12 (254-305)		509	511	513	515	517	519	521	523	525	527	529	531	533	535		539	541
	12-14 (305-356)		609	611	613	615	617	619	621	623	625	627	629	631	633	635	637	639	641
	14-16 (356-406)			711	713	715	717	719	721	723	725	727	729	731	733	735	737		
	16-18 (406-457)				813	815	817	819	821	823	825	827	829	831	833	835		839	841
	18-20 (457-508)					915	917	919	921	923	925	927	929	931	933	935		939	
	Flow rate (gpm)		.05	.09	.12	.18	.24	.31	.38	.47	.57	.67	.79	.90	1.03	1.17	1.31	1.47	1.63
Flow rate (lpm)		.20	.33	.49	.69	.94	1.17	1.47	1.79	2.15	2.54	2.69	3.42	3.90	4.42	4.98	5.56	6.18	6.83

(water @ 2000 psi)

Tip Identification: Silver Flat Tips must be ordered using six characters. The first three characters are always 163. The next three characters are numbers as shown in the selection chart of available sizes. For example, the correct order number for a tip with a .043 orifice and a 12 in. (305 mm) pattern is 163-643.

Fan width of spray pattern is measured at 12 in. (305 mm) from the surface.

If the size you need is not listed, custom tip sizes can be manufactured. Contact your Graco representative for details.

**Silver Flat Tips (163-XXX)
Tip Sizes and Flow Rates (part 2)**

Orifice Size (Inches)

		.043	.045	.047	.049	.051	.053	.055	.057	.059	.061	.063	.065	.067	.069	.071	.073	.075	.077	.079	.081
Fan Width	6-8 (152-203)					351			357	359											
	8-10 (203-254)	443	445		449	451		455	457	459	461	463	465	467	469	471	473	475	477	479	481
	10-12 (254-305)	543	545	547		551	553	555	557	559	561	563	565	567	569	571	573				
	12-14 (305-356)	643	645	647		651		655	657	659	661	663	665	667	669	671					
	14-16 (356-406)				749				757	759		763		767							
	16-18 (406-457)		845	847	849						861	863	865	867							
18-20 (457-508)																					
Flow rate (gpm)		1.98	2.17	2.37	2.58	2.79	4.26	3.25	3.49	3.74	4.0	4.26	4.53	4.82	5.11	5.41	5.72	6.04	6.36	6.70	7.04
Flow rate (lpm)		7.51	8.23	8.98	9.76	10.57	16.13	12.29	13.2	14.14	15.12	16.13	17.17	18.24	19.34	20.48	21.65	22.85	24.0	25.36	26.66

(water @ 2000 psi)

Flat Tip Guards

220-251

For 7/8 in. (22 mm) thread size. Fits Graco and Titan guns.

220-255

For 11/16 in. (17 mm) thread size. Fits Graco Pole Guns (older style), Wagner, Airlessco and ASM guns.



Standard Tips and Guards

Fine Finish Flat Tips

163-XXX (Even)

- For spraying extremely smooth finishes
- Recommended for varnishes and lacquers in high quality wood finishing, modified urethanes and topcoats
- Features a pre-orifice which provides a fine finish like air spray, but with the production rate of airless
- To avoid tip plugging, use extra filtration with Fine Finish Flat Tips. Or choose a Reversible Fine Finish Tip (FFR) (see page 23).

- Working Pressure - 3000 psi (210 bar, 21.0 MPa) max.



163-410

Fine Finish Flat Tips (163-XXX) Tip Sizes and Flow Rates

		Orifice Size (Inches)												
		.008	.010	.012	.014	.016	.018	.020	.022	.024	.026	.028	.030	.032
Fan Width	2-4 (51-102)	108	110											
	4-6 (102-152)	208	210	212	214	216	218			224				232
	6-8 (152-203)		310	312	314	316	318	320	322	324				
	8-10 (203-254)	408	410	412	414	416	418	420		424	426	428	430	432
	10-12 (254-305)		510	512	514	516	518	520	522	524	526	528	530	
	12-14 (305-356)		610	612	614	616	618	620	622	624	626	628		
	14-16 (356-406)			712	714	716	718				726			
	16-18 (406-457)				814	816	818	820	822	824	826	828		832
	18-20 (457-508)			1012	914		918		922	924	926			
	Flow rate (gpm)		.069	.11	.15	.21	.27	.35	.43	.52	.62	.73	.84	.97
Flow rate (lpm) water @ 2000 psi		.26	.41	.59	.79	1.04	1.32	1.63	1.97	2.34	2.75	3.19	3.66	4.16

Tip Identification: Fine Finish Flat Tips must be ordered using six characters. The first three characters are always 163. The next three characters are numbers as shown in the selection chart of available sizes. Note: orifice size on a Fine Finish Tip is always an even number. For example, the correct order number for a tip with a .010 orifice and a 10 in. (254 mm) pattern is 163-510.

Fan width of spray pattern is measured at 12 in. (305 mm) from the surface.

Fine Finish Flat Tip Guards

220-247

DripLess Tip Guard Kit for Fine Finish Tips.
Use with Silver Plus, Contractor, Flex Plus and Black Max guns (7/8 in. - 22 mm nut).

220-249

DripLess Tip Guard Kit for Fine Finish Tips.
Use with pole guns, tip filter housings and swivel adapters (11/16 in. - 17 mm nut).



220-247

Tip Gaskets

166-969 Thin (25 per package: 223-373)

162-863 Thick (25 per package: 223-374)

- For use with flat tips or accessory attachments
- Provides a seal between the gun and spray tip or other attachments



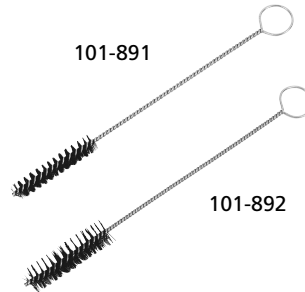
166-969

Tip Brushes

101-891 3/8 in. (9.5 mm) nylon

101-892 5/8 in. (16 mm) nylon

- Use to clean the spray tip



101-891

101-892

RAC IV Gaskets and Seats

Rubber Gasket Kit (Black)

221-176 Includes 5 black rubber gaskets and 5 seats

222-155 Black gaskets only (20 per card)

- Use only with standard solvents, mineral spirits, turpentine or water

Note: Do not use with hot solvents or if solvent is unknown



221-176

Solvent Gasket Kit (Yellow)

224-081 Includes 5 yellow gaskets and 5 seats

224-082 Yellow gasket only (20 per card)

- Install in RAC IV when using any hot solvent such as MEK, acetone, xylol, lacquer thinner, trichloroethylene or if the solvent is unknown



224-081

Hoses and Fittings



For maximum performance, it's got to be Graco.

To maximize your spraying performance, be sure to use genuine Graco Hose and Fittings.

Graco offers a wide selection of low and high pressure hoses in every diameter and length to meet your spraying needs. Airless hose to maximize spraying performance by minimizing pressure loss. Whip Hose for added flexibility. High Performance Fluid Hose for greater flexibility and easier movement on the job.

Graco also provides all the essential fittings to ensure easy assembly to your spray system.

So depend on Graco Hoses and Fittings for reliable, high quality performance every time, all the time.

Nylon Tube Hoses

Nylon tube hoses are recommended for most types of paints and solvents, but should not be used for concentrated acids or oxidizing fluids.

Air and Water Hoses

Neoprene and Buna-S bulk hoses are recommended for air and water service. Neoprene hoses should not be used for Ketone solvents or phosphate fluids. Buna-S hoses should not be used for petroleum products, strong chemicals or ozone.

Self-coiling nylon hose assemblies are generally recommended for air service.

Air, Water and Vehicle Service Hoses

Buna-N hoses are recommended for grease, oil, gasoline, air and water service, not for hydraulic fluid, Ketone solvents or concentrated acids.

Refer to your Graco instruction manual for further information on hose safety.

Thread Type Symbol Abbreviations	
When mixing or matching parts and couplings, always use compatible thread sizes. For example, npt goes with npt; npsm goes with npsm.	
Abbreviation	Explanation
(f) or f	Female
(fxm) or fxm	Female and Male
(m) or m	Male
(mbe) or mbe	Male Both Ends
(fbe) or fbe	Female Both Ends
H	Dryseal Hose Coupling
NH	National Garden Hose
npsm	National Pipe Straight Mechanical
npt	National Pipe Tapered
SST	Stainless Steel
CS	Carbon Steel
UNC	Unified Coarse Thread
UNF	Unified Fine Thread
UNEF	Unified Extra Fine Thread
UNS	Unified Special Thread

How Hose Size Affects Spraying Pressure:


The larger the hose diameter, the greater the pressure at the end of the hose. For example, using a 0.015 tip and a constant pressure from the pump, 100 ft. (30.5 m) of 1/4 in. (6.35 mm) hose will have a 250 psi (17 bar, 1.7 MPa) pressure drop, while 100 ft. (30.5 m) of 3/8 in. (9.53 mm) hose will have only a 100 psi (6.9 bar, 0.69 MPa) pressure drop. The larger the tip, the greater the pressure loss. The type of material being sprayed will also affect pressure loss within a hose section. Selecting the best diameter hose to meet your length requirements is critical to good spraying pressure.

Tip Size:	.015	.021	.031
Flow rate (gpm)	.25	.50	1.0
Flow rate (lpm)	.95	1.9	3.8
Pressure drop in psi (bar/MPa)			
100 ft. x 1/4 in.	250	370	610
(30.5 m x 6.35 mm)	(17, 1.7)	(25, 2.5)	(42, 4.2)
100 ft x 3/8 in.	100	160	280
(30.5 m x 9.53 mm)	(7, 0.7)	(11, 1.1)	(19, 1.9)
200 ft. x 1/4 in.	500	740	1220
(61 m x 6.35 mm)	(34, 3.4)	(51, 5.1)	(84, 8.4)
200 ft. x 3/8 in.	200	320	560
(61 m x 9.53 mm)	(13.8, 1.38)	(22, 2.2)	(38, 3.8)

Note: There is 2 to 2.5 times less spray pressure loss with a 3/8 in. (9.53 mm) hose vs. a 1/4 in. (6.35 mm) hose.

Actual pressure drop may vary depending upon material viscosity.

⚠ WARNING



SKIN INJECTION HAZARD

Liquid under high pressure can pierce the skin, causing serious injury and possible amputation.

IN CASE OF INJURY, GET IMMEDIATE SURGICAL TREATMENT.

To reduce risk of injury from hose leaks or rupture:

- Never stop a leak with your hand.
- Inspect hose before each use for cuts, cracks, worn spots, bulges, chemical attack, kinks or any other damage.
- Make sure couplings and spring guards are firmly attached to both ends of hose.
- Replace damaged hose immediately. Never repair hose or replace couplings.
- Never exceed 3000 psi (210 bar) Maximum Working Pressure.
- Never use at temperatures above 180° F (82° C) or below -40° F (-40° C).
- Only use chemicals which are compatible with nylon tube and polyurethane cover.

IGNORING THIS WARNING CAN RESULT IN SERIOUS INJURY.

Hose

High Performance Fluid Hose

- Best performing hose for cold applied airless applications
- Excellent flexibility for easy movement on the job
- Less pressure drop for more performance at the gun
- Upgraded conductive core to protect against static charge build-up
- Tough urethane jacket to resist abrasion and chemicals for longer wear life
- Exceeds industry safety standards
- Operating Temperature - 150°F (66°C) max.



Part No.	Length in feet (meters)	I.D. in. (mm)	Max. Working Pressure psi (bar/MPa)	Coupling in.	Core Material
238-358	3 (0.9)	3/16 (4.8)	3000 (210/21.0)	1/4 - 18 npt(m) x 1/4 - 18 npsm(f)	Nylon
238-359	6 (1.8)	3/16 (4.8)	3000 (210/21.0)	1/4 - 18 npt(m) x 1/4 - 18 npsm(f)	Nylon
238-360	25 (7.6)	1/4 (6)	3000 (210/21.0)	1/4 - 18 npsm(fbe)	Nylon
238-361	50 (15.2)	1/4 (6)	3000 (210/21.0)	1/4 - 18 npsm(fbe)	Nylon
238-362	25 (7.6)	3/8 (10)	3000 (210/21.0)	3/8 - 18 npt(mbe)	Nylon
238-363	50 (1.5)	3/8 (10)	3000 (210/21.0)	3/8 - 18 npt(mbe)	Nylon
Metric sizes:					
238-182	20 m	6.35 mm	210 bar (21.0 MPa)	1/4 - 18 npsm(fbe)	Nylon
238-183	30 m	6.35 mm	210 bar (21.0 MPa)	1/4 - 18 npsm(fbe)	Nylon
238-784	20 m	9.53 mm	210 bar (21.0 MPa)	3/8 - 18 npt(mbe)	Nylon
238-785	30 m	9.53 mm	210 bar (21.0 MPa)	3/8 - 18 npt(mbe)	Nylon

Standard Fluid Hoses

- Operating temperature - 180°F (82°C) max.

Part No.	Length in feet (meters)	I.D. in. (mm)	Max. Working Pressure psi (bar/MPa)	Coupling in.	Core Material
236-134	3 (0.9)	1/8 (3.2)	3000 (210/21.0)	1/4 - 18 npt(m) x 1/4 - 18 npsm(f)	Nylon
236-135	6 (1.8)	1/8 (3.2)	3000 (210/21.0)	1/4 - 18 npt(m) x 1/4 - 18 npsm(f)	Nylon
214-701	3 (0.9)	3/16 (4.8)	3000 (210/21.0)	1/4 - 18 npt(m) x 1/4 - 18 npsm(f)	Nylon
214-699	6 (1.8)	3/16 (4.8)	3000 (210/21.0)	1/4 - 18 npsm(fbe)	Nylon
214-981	15 (4.5)	3/16 (4.8)	3000 (210/21.0)	1/4 - 18 npsm(fbe)	Nylon
214-698	25 (7.6)	3/16 (4.8)	3000 (210/21.0)	1/4 - 18 npsm(fbe)	Nylon
214-697	50 (15.2)	3/16 (4.8)	3000 (210/21.0)	1/4 - 18 npsm(fbe)	Nylon
223-540	25 (7.6)	1/4 (6)	3000 (210/21.0)	1/4 - 18 npsm(fbe)	Nylon
223-541	50 (15.2)	1/4 (6)	3000 (210/21.0)	1/4 - 18 npsm(fbe)	Nylon
214-703	25 (7.6)	3/8 (10)	3000 (210/21.0)	3/8 - 18 npt(mbe)	Nylon
214-705	50 (15.2)	3/8 (10)	3000 (210/21.0)	3/8 - 18 npt(mbe)	Nylon

High Pressure Paint Hose					
Part No.	Length in feet (meters)	I.D. in. (mm)	Max. Working Pressure psi (bar/MPa)	Coupling in.	Core Material
214-912	3 (0.9)	1/4 (6)	5000 (345/34.5)	1/4 npsm(fbe)	Nylon
214-913	6 (1.8)	1/4 (6)	5000 (345/34.5)	1/4 npsm(fbe)	Nylon
214-914	25 (7.6)	1/4 (6)	5000 (345/34.5)	1/4 npsm(fbe)	Nylon
214-915	50 (15.2)	1/4 (6)	5000 (345/34.5)	1/4 npsm(fbe)	Nylon
215-244	25 (7.6)	3/8 (10)	5000 (345/34.5)	3/8 npt(mbe) rigid	Nylon
215-245	50 (15.2)	3/8 (10)	5000 (345/34.5)	3/8 npt(mbe) rigid	Nylon
235-024	25 (7.6)	1/2 (13)	5000 (345/34.5)	1/2 - 14 npt(mbe)	Synthetic braid
235-025	50 (15.2)	1/2 (13)	5000 (345/34.5)	1/2 - 14 npt(mbe)	Synthetic braid
238-717	50 (15.2)	1/2 (13)	5000 (345/34.5)	1/2 - 14 npsm(fbe)	Nylon
238-386	50 (15.2)	1/4 (6)	5000 (345/34.5)	1/2 - 14 npsm(fbe)	Nylon
238-395	25 (7.6)	3/8 (10)	5000 (345/34.5)	(m) x 3/8 18 npsm(f)	Nylon
238-396	50 (15.2)	3/8 (10)	5000 (345/34.5)	(m) x 3/8 18 npsm(f)	Nylon
223-385	25 (7.6)	1/4 (6)	5000 (345/34.5)	1/4 - 18 npsm(fbe)	Nylon
238-387	100 (30.5)	1/4 (6)	5000 (345/34.5)	1/4 - 18 npsm(fbe)	Nylon

Low and Medium Pressure Hose for Air and Fluid Service								
Bulk Hose No.	Coupling No.	Coupling Size in. (mm)	Hose I.D.	Max. Working Press. psi (bar/MPa)	Tube	Braid	Cover	Color
Low Pressure Air Hose in Bulk (500-ft. reels)								
061-204	104-415	1/4 npsm(f)	1/4 (6.3)	175 (12/1.2)	Buna-S	1-Rayon	Neoprene	Red
061-207	103-605	1/4 npsm(f)	5/16 (8)	180 (12.4/1.24)	Buna-N	1-Rayon	Buna-S	Red
061-209†	101-201	3/8 npsm(f)	1/2 (12.7)	175 (12/1.2)	Buna-S	1-Rayon	Buna-N	Red
Medium Pressure Fluid Hose in Bulk (500-ft. reels)								
061-205	104-084	3/8 npsm(f)	1/4 (6.3)	500 (35/3.5)	Nylon	1-Rayon	Neoprene	Black
061-195	104-414	3/8 npsm(fbe)	3/8 (9.5)	300 (21/2.1)	Nylon	1-Rayon	Syn. Rub.	Black
061-200	104-416	1/2 npt(m)	1/2 (12.7)	500 (35/3.5)	Nylon	2-Fabric	Neoprene	Black
061-185		3/4 npt(mbe)	3/4 (19)	500 (35/3.5)	Nylon	2-Rayon	Neoprene	Black

† With static dissipater

Hose Assemblies for Air Spray Gun Supply (Most Commonly Used)			
Coupling Thread Type	Coupling Assembly No.	Hose Length in feet (meters)	Complete Hose Part No.
	103-605	15 (4.6)	210-866
5/16 in. I.D.	_____	25 (7.6)	210-867
1/4 in. npsm(f) swivel	_____	50 (15.2)	210-868
061-195 Fluid Hose	104-414	15 (4.6)	205-160
3/8 in. I.D.	_____	25 (7.6)	205-142
3/8 in. npsm(f)	_____	50 (15.2)	205-143

High Pressure Fittings

Pipe Tees (Female), Rigid

- Use to connect three hoses or components with the same size male threads

Part No.	Max. Working Pressure psi (bar/MPa)	Item in.	Material
104-984	5000 (345, 34.5)	1/4 npt(f)	Steel*

*Zinc or Cadmium Plated



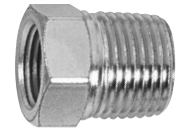
104-984

Pipe Reducer Bushings, Rigid

- Use to connect a hose or component with male threads to a hose or component with different size female threads

Part No.	Max. Working Pressure psi (bar/MPa)	Male Thread in.	Female Thread in.	Material	Internal Seat
100-030	Not Rated	1/4 npt	1/8 npt	Steel*	30°
100-176	Not Rated	3/8 npt	1/4 npt	Steel	30°
159-841	Not Rated	3/8 npt	1/4 npt	Steel*	30°
100-206	7500 (517, 51.7)	1/2 npt	1/4 npt	Steel*	None
158-212	Not Rated	1/2 npt	3/8 npt	Steel*	30°
100-615	Not Rated	3/4 npt	1/4 npt	Steel*	None
100-505	150 (10.4, 1.04)	3/4 npt	3/8 npt	Steel*	None
100-896	Not Rated	3/4 npt	1/2 npt	Steel*	None
100-380	Not Rated	1 npt	1/2 npt	Steel**	None
158-586	Not Rated	1 npt	3/4 npt	Steel*	30°
101-496	6000 (414, 41.4)	1-1/2 npt	3/4 npt	Steel*	None
102-000	150 (10.4, 1.04)	1-1/2 npt	1 npt	Iron	None
102-733	Not Rated	2 npt	3/4 npt	Electrodes Nickel Iron	None
102-283	1000 (70, 7.0)	2 npt	1 npt	Brass	None

*Zinc Plated **Nickel or Cadmium Plated



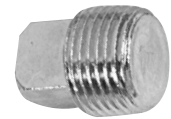
158-212

Square Head Pipe Plugs

- Use to close open ports or pipe ends

Part No.	Max. Working Pressure psi (bar/MPa)	Pipe Thread in.	Material
104-813	Not Rated	3/8 npt(m)	Steel*
104-839	Not Rated	1/2 npt(m)	Steel*
104-663	Not Rated	3/4 npt(m)	Steel*

*Zinc Plated



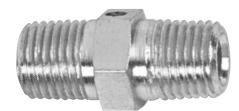
104-813

Hex Nipple (Pipe to Pipe), Rigid

- Use to connect two hoses or components of the same size, with female threads

Part No.	Max. Working Pressure psi (bar/MPa)	Thread P1 in.	Thread P2 in.	Length in. (mm)	Material	Sealing Angle
162-453	7500 (517, 51.7)	1/4 npt*	1/4 npsm*	1-3/16 (30.2)	Steel	30°
156-971	7500 (517, 51.7)	1/4 npt*	1/4 npt*	1-3/8 (34.9)	Steel	30°
156-849	6000 (420, 42.0)	3/8 npt*	3/8 npt*	1-1/2 (38.1)	Steel**	30°
158-491	6700 (462, 46.2)	1/2 npt*	1/2 npt*	1-5/8 (41.3)	Steel	30°
175-013	5000 (345, 34.5)	3/4 npt*	3/4 npt*	2-1/2 (63.5)	Steel**	30°

*With 30° Internal Seats **Zinc Plated



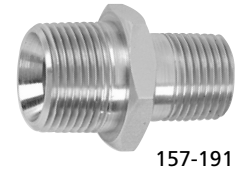
156-971

Hex Reducing Nipples (Pipe to Pipe), Rigid

- Use to connect two hoses or components of a different size with female threads

Part No.	Max. Working Pressure psi (bar/MPa)	Thread P1 in.	Thread P2 in.	Length in. (mm)	Material	Sealing
169-797	5000 (345, 34.5)	1/4 npsm	1/8 npt	31/32 (24.6)	Steel*	30°
151-519	5000 (345, 34.5)	1/4 npt	1/8 npt	1-5/16 (33.3)	Steel*	30°
156-296	5000 (345, 34.5)	3/8 npt	1/8 npt	2 (50.8)	Steel*	30°
157-350	5000 (345, 34.5)	3/8 npt	1/4 npt	1-5/16 (33.3)	Steel*	30°
164-672	5000 (345, 34.5)	3/8 npt	1/4 npsm	1-5/16 (33.3)	Steel*	30°
165-198	5000 (345, 34.5)	3/8 npt	1/4 npt	1-3/4 (44.4)	Steel*	30°
160-704	5000 (345, 34.5)	3/8 npt	1/4 npt	3 (76.2)	Steel*	30°
162-449	5000 (345, 34.5)	1/2 npt	1/4 npt	1-5/8 (41.3)	Steel*	30°
159-239	5000 (345, 34.5)	1/2 npt	3/8 npt	1-5/8 (41.3)	Steel*	30°
158-979	5000 (345, 34.5)	1/2 npt	3/8 npt	2-3/4 (69.8)	Steel*	30°
161-800	5000 (345, 34.5)	3/4 npt	3/8 npsm	1-3/4 (44.4)	Steel*	30°
166-606	5000 (345, 34.5)	3/4 npt	3/8 npsm	4-9/16 (39.7)	Steel*	30°
157-191	5000 (345, 34.5)	3/4 npt	1/2 npt	1-7/8 (47.6)	Steel*	30°
158-555	5000 (345, 34.5)	1 npt	3/4 npt	2-3/16 (30.2)	Steel*	30°

*Zinc Plated



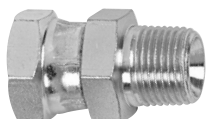
157-191

Male to Female Adapter Unions, Swiveling Connector

- Use to connect a hose or component with male threads and a hose or component with female threads
- Swivel is used only to tighten the connection. After the connection is tightened, it no longer swivels

Part No.	Max. Working pressure psi (bar/MPa)	Thread P1 in.	Swivel Nut P2 in.	Material
208-434	5000 (345, 34.5)	1/8 npt(m)	1/4 npsm(f)	Steel*
156-823	5000 (345, 34.5)	1/4 npt(m)	1/4 npsm(f)	Steel*
157-705	5000 (345, 34.5)	1/4 npt(m)	3/8 npsm(f)	Steel*
155-665	5000 (345, 34.5)	3/8 npt(m)	3/8 npsm(f)	Steel*
162-505	5000 (345, 34.5)	3/8 npt(m)	1/2 npsm(f)	Steel*
158-256	5000 (345, 34.5)	1/2 npt(m)	3/8 npsm(f)	Steel*
157-785	5000 (345, 34.5)	3/4 npt(m)	3/4 npsm(f)	Steel*
202-965	5000 (345, 34.5)	1 npt(m)	3/4 npsm(f)	Steel*
160-022	5000 (345, 34.5)	1 npt(m)	1 npsm(f)	Steel*

*Zinc plated



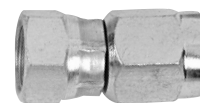
157-665

Female Adapter Unions, Straight Swivel

- Use to provide a swiveling connection between two hoses or components with male threads
- Swivel is used only to tighten the connection. After the connection is tightened, it no longer swivels

Part No.	Max. Working pressure psi (bar/MPa)	Thread P1 in.	Swivel Nut P2 in.	Material
155-570	5000 (345, 34.5)	1/4 npt	1/4 npsm	Steel*
159-153	5000 (345, 34.5)	3/8 npt	1/4 npsm	Steel*
156-173	5000 (345, 34.5)	3/8 npt	3/8 npsm	Steel*
155-653	5000 (345, 34.5)	1/2 npt	1/4 npsm	Steel*
161-077	5000 (345, 34.5)	1/2 npt	3/8 npsm	Steel*
155-865	5000 (345, 34.5)	1/2 npt	1/2 npsm	Steel*
156-172	5000 (345, 34.5)	3/4 npt	3/4 npsm	Steel*
158-383	5000 (345, 34.5)	1 npt	1 npsm	Steel*

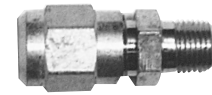
*Zinc Plated



155-570

Low Pressure Hose Couplings (Not for use with Airless Hose)

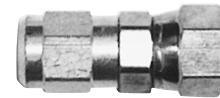
Male Pipe Thread Couplings, Rigid



205-437

Part No.	Max. Working Pressure psi (bar/MPa)	For bulk hose size I.D. in. (mm)	O.D. in. (mm)	Bulk Hose No.	Stud Thread Size in.	Stud Material	Compression Sleeve Material
205-436	500 (35, 3.5)	1/8 (3.2)	7/32 (5.6)	061-135	1/8 npt	Brass**	Sleeveless
205-437	500 (35, 3.5)	1/4 (6)	1/32 (.79)	061-132	1/8 npt	Brass**	Nylon
205-437	500 (35, 3.5)	1/4 (6)	11/32 (8.7)	061-132 with 30° seat	1/8 npt	Brass**	Nylon
103-029	500 (35, 3.5)	1/4 (6)	11/32 (8.7)	061-132	1/4 npt	Brass**	Celcon
104-790*	5000 (345, 34.5)	3/8 (10)	3/4 (19)	061-083	3/8 npt	Steel**	Sleeveless

*With Spring Guard **Zinc or Nickel Plated



205-447

Female Pipe Thread Couplings, Swivel

■ Swivel is used only to tighten the connection. After the connection is tightened, it no longer swivels.

Part No.	Max. Working Pressure psi (bar/MPa)	For bulk hose size I.D. in. (mm)	O.D. in. (mm)	Bulk Hose No.	Stud Thread Size in.	Stud Material	Compression Sleeve Material
206-020	500 (35, 3.5)	1/8 (3.2)	7/32 (5.6)	061-135	1/4 npsm	Brass**	Sleeveless
205-447	500 (35, 3.5)	1/4 (6)	11/32 (8.7)	061-132	1/4 npsm	Brass**	Nylon
111-913*	5000 (345, 34.5)	1/4 (6)	11/32 (8.7)	061-132	1/4 npsm Passivated	SST	Sleeveless
205-448	500 (35, 3.5)	1/4 (6)	11/32 (8.7)	061-132	3/8 npsm	Brass**	Nylon
111-914*	5000 (345, 34.5)	1/4 (6)	11/32 (8.7)	061-132	3/8 npsm Passivated	SST	Sleeveless
104-415	500 (35, 3.5)	1/4 (6)	1/2 (12)	061-204	1/4 npsm	Brass**	Brass
104-084	500 (35, 3.5)	1/4 (6)	1/2 (12)	061-204	3/8 npsm	Brass**	Brass
103-605	500 (35, 3.5)	5/16 (7.9)	39/64 (15.5)	061-207	1/4 npsm	Brass**	Brass
205-439	500 (35, 3.5)	3/8 (10)	1/2 (12)	061-134	3/8 npsm	Brass**	Nylon
104-414	500 (35, 3.5)	3/8 (10)	11/16 (17.4)	061-195	3/8 npsm	Brass**	Brass

* With spring guard **Zinc or Nickel Plated

Compression Sleeves, 3-Pc. Coupling

Part No.	Max. Working Pressure psi (bar/MPa)	Hose O.D. in. (mm)	Sleeve Material	For Coupling Number
104-412	500 (35, 3.5)	1/2 (12)	Brass	104-084 104-415
104-413	500 (35, 3.5)	11/16 (17.4)	Brass	104-414

Quick Disconnect Couplings, Pins (Air Lines Only)

Part No.	Max. Working Pressure psi (bar/MPa)	Item	Body Thread Size in.	Body Material
208-536	300 (21, 2.1)	Coupler	1/4 npt(f)	Brass*
169-967	300 (21, 2.1)	Pin	1/4 npt(f)	Steel*
169-969	300 (21, 2.1)	Pin	1/8 npt(m)	Steel*
169-970	300 (21, 2.1)	Pin	1/4 npt(m)	Steel*
169-971	300 (21, 2.1)	Pin	3/8 npt(m)	Steel*

* Zinc Plated



208-536



169-969

Throat Seal Liquid (TSL)

206-994

8 oz. (0.5 l)

239-049

8 oz. (0.5 l) Case of 12

206-995

1 qt. (1.0 l)

206-997

1 qt. (1.0 l) Case of 12

206-996

1 gal. (3.8 l)

206-998

1 gal. (3.8 l) Case of 4

- Prevents paints and coatings from drying on the fluid pump's displacement rod and packings
- Extends component life



206-994

Hydraulic Fluid

218-797

1 qt. (1.0 l)

207-428

1 gal. (3.8 l)

169-236

5 gal. (19.0 l)

High Pressure Fluid Gauge

102-814

- Liquid-filled gauge
- Working Pressure - 5000 psi (345 bar, 34.5 MPa) max.
- Fluid Inlet - 1/2 npt(m) swivel



102-814



Filters and Strainers

Why use a filter...

Proper filtration helps reduce tip plugging and improves finish quality.

What is the difference between a filter and a strainer?

A strainer prevents foreign objects from entering the pump. Straining provides little filtration for smaller particles which may plug a tip or deteriorate spray quality.

A filter helps reduce tip plugging and provide a better quality finish by eliminating larger unwanted particles from the spray pattern.

Tip Filters

- Provides additional filtering of material to help reduce tip plugging and provide a higher quality finish

- For stains and enamels. 0.005 in. (0.127 mm) spacing – 100 mesh equivalent (available 5 per card: 224-454)

238-561 3 pack

224-453 5 pack

238-562 25 pack

- For latex. 0.009 in. (0.229 mm) spacing – 60 mesh equivalent (available 5 per card: 224-453)

238-563 3 pack

224-454 5 pack

238-564 25 pack

Tip Filter Housing

164-120

- Install desired tip filter in housing and attach housing to spray gun's nozzle
- 7/8 in. -14 un(f) x 1 1/16 in. -16 un(m)

Tip Filter Kit

220-254

- Contains two tip filters (60 and 100 mesh), one tip filter housing and one DripLess Tip Guard with nut

Strainer



181-073

Filter



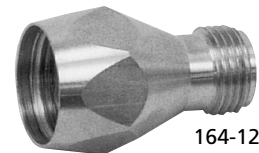
236-495



205-265



205-264



164-120

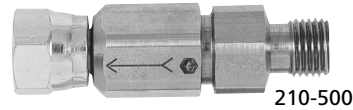


220-254

In-line Gun Filter

210-500

Filters fluid before it enters the gun. Attaches to hose and connects to the gun inlet. Contains one 205-264 filter (equivalent to 100 mesh screen).



210-500

Gun Filters

Contractor Gun - Filter Assemblies

218-131

For Contractor Gun and Contractor FTx Gun. Installs in gun handle to filter fluid entering gun. Includes 50 mesh element for latex.

218-133

Same as 218-131, except includes 100 mesh element for stains and enamels.

Black Max Gun Filter

220-609

For Black Max Gun. Installs in Black Max Gun handle, to filter fluid entering gun. Includes 50 mesh filter element, for latex.

220-610

Same as 220-609, except includes 100 mesh filter element, for stains and enamels.

Contractor Gun - Replacement Filter Screen Elements (2 per package)

224-455

Contractor Gun Filter Screen Elements, 50 mesh

224-456

Contractor Gun Filter Screen Elements, 100 mesh



218-131

Whip Hose Filters

210-729 Housing with Whip Hose

238-058 Housing without Whip Hose

- Includes 60 mesh filter element, housing and 3 ft. (91 cm) x 3/16 in. (4.76 mm) Whip Hose with spring guard and permanent fittings
- Carbon steel
 - Working Pressure - 3000 psi (210 bar, 21.0 MPa) max.
 - Fluid Inlet - 1/4 in. npt(f)
 - Fluid outlet - 1/4 in. - 18 in. npsm(f)



210-729

Replacement Screen Elements for Whip Hose Filters

210-731 60 mesh, 3 pack, SST

172-057 60 mesh, single unit, SST

210-732 100 mesh, 3 pack, SST

172-058 100 mesh, single unit, SST

210-733 200 mesh, 3 pack, SST

172-059 200 mesh, single unit, SST



210-732

Filters and Strainers

Manifold Filter

214-570

Long Manifold Filter Assembly - 18 sq. in. (120 sq. cm)

- Install near the pump's fluid outlet to filter material as it enters the hose
- Large 18 sq. in. (116 sq. cm) filtering element for long filtering life
- Manifold has three 1/4 in. npt(f) outlets and one 3/8 in. npt(f) outlet
- Working Pressure - 3000 psi (210 bar, 21.0 MPa) max.
- Fluid Inlet - 3/8 in. npt(f)
- Instruction Manual - 307-273
- Other large manifold filters available

223-160 5000 psi (345 bar, 34.5 MPa) max., SST

218-029 5000 psi (345 bar, 34.5 MPa) max., CS

239-447

Short Manifold Filter Assembly - 7 sq. in. (48 sq. cm)

- Working Pressure - 3000 psi (210 bar, 21.0 MPa) max.
- Fluid Inlet - 3/8 in. npt(f)
- Instruction Manual - 308-249



214-570

Replacement Screen Elements for Manifold Filters

For Long Manifold:

224-458 18 sq. in. (116 sq. cm), 30 mesh, SST (available 2 per pack: 167-024)

224-459 18 sq. in. (116 sq. cm), 60 mesh, SST (available 2 per pack: 167-025)

224-468 18 sq. in. (116 sq. cm), 100 mesh, SST (available 2 per pack: 167-026)

224-469 18 sq. in. (116 sq. cm), 200 mesh, SST (available 2 per pack: 167-027)

Replacement Filter Supports

186-075 18 sq. in. (116 sq. cm) polyethylene

188-420 7 sq. in. (45 sq. cm) polyethylene

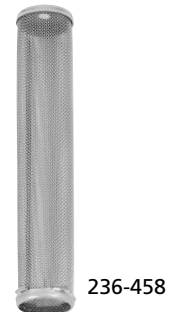
For Short Manifold

236-495 7 sq. in. (45 sq. cm), 30 mesh, SST (available 2 per pack: 167-052)

236-496 7 sq. in. (45 sq. cm), 60 mesh, SST (available 2 per pack: 167-053)

236-497 7 sq. in. (45 sq. cm), 100 mesh, SST (available 2 per pack: 167-054)

236-498 7 sq. in. (45 sq. cm), 200 mesh, SST (available 2 per pack: 167-055)



236-458



236-495

Pump Inlet Filter

210-726 Assembly; cage and nylon bag. Fits 3/4 in. (19.05 mm) siphon tube.

- Attaches to siphon tube
- Prevents larger foreign objects from entering and damaging pump
- 60 mesh screen, plated steel

Replacement Filter Bags for Pump Inlet Filter

238-769 Nylon Filter bags, 60 mesh, 25 count

102-536 Nylon Filter bag, 60 mesh, single unit



210-726

Inlet Strainers

- Use to filter material before it enters the pump

237-675

- Inlet strainer thread size: 1/2 in. - 14 npsm
- Use for 490st Hi-Boy, Ultra Plus 600 Lo-Boy, GM3000 Hi-Boy

235-004

- Inlet strainer thread size: 3/4 in. - 16 UNF
- Use for 395st, 455st, 495st, Ultra Max 695 Hi-Boy, GM3000 Lo-Boy



235-004

181-073

- Inlet strainer thread size: 1/2 in. - 14 npt
- Use for EM 350, EM 380, EM 390 Hi-Boy, EM 390 Lo-Boy, EM 400, EM 480, EM 490 Hi-Boy, EM 490 Lo-Boy, Ultra 400, Ultra 500 Lo-Boy



181-073

237-820

- Inlet strainer thread size: 3/4 in. - 16 UNF
- Use for 390sts

183-770

- Inlet strainer thread size: 3/4 in. - 14 npsm
- Use for Ultra 500 Hi-Boy, Ultra 750 Lo-Boy, GM3500 Lo-Boy, LineLazer 3000, LineLazer 3500

181-072

- Inlet strainer thread size: 1 in. - 11.5 npsm
- Use for EM 590, Ultra Max 695 Hi-Boy, Ultra Max 695 Lo-boy, Ultra Max 795 Hi-Boy, Ultra Max 1095 Hi-Boy, Ultra Max 1595 Hi-Boy, GM3500 Hi-Boy, GM5000 Hi-Boy, GM5000 Lo-Boy, GM5000 Convertible, GM7000 Lo-Boy, LineLazer 3500, LineLazer 5000

189-920

- Inlet strainer thread size: 1 in. - 11.5 npsm
- Use for GM7000 Hi-Boy



Quick Reference Chart - Gas-Powered

Quick Reference - Gas-Powered Airless Sprayers, Line Stripers & Roof Rigs Performance Specifications & Replacement Parts

GAS-POWERED AIRLESS SPRAYERS Current Models	<i>Bare</i>	<i>Complete</i>	<i>Max. Tip Size*</i>	<i>Max. Delivery GPM</i>	<i>Max. Delivery LPM</i>	<i>Max. Work Pressure PSI</i>	<i>Max. Work Pressure BAR</i>	<i>Fluid Outlet Size</i>	<i>Instruction Manual</i>	<i>Pump Repair Kit</i>	<i>Manifold Filter Type</i>
GM3000 HI-BOY	231-363	231-551	0.025	0.62	2.35	3000	210	1/4 npsm(m)	308-620	235-703	LONG
GM3000 LO-BOY	231-550	231-552	0.025	0.62	2.35	3000	210	1/4 npsm(m)	308-620	235-703	LONG
GM3500 HI-BOY	231-578	231-057	0.031	1.00	3.80	3000	210	1/4 npsm(m)	308-709	222-588	LONG
GM3500 LO-BOY	231-579	231-077	0.031	1.00	3.80	3000	210	1/4 npsm(m)	308-709	222-588	LONG
GM5000 HI-BOY	231-576	231-052	0.035	1.25	4.71	3000	210	1/4 npsm(m)	308-708	220-877	LONG
GM5000 LO-BOY	231-577	231-085	0.035	1.25	4.71	3000	210	1/4 npsm(m)	308-708	220-877	LONG
GM5000 CONVERT	231-316	231-331	0.035	1.25	4.71	3000	210	1/4 npsm(m)	308-327	220-877	LONG
GM7000 HI-BOY	231-326	231-327	0.043	1.75	6.71	3000	210	3/8 npsm(m)	308-398	236-982	LONG
GM7000 LO-BOY	231-800	231-382	0.043	1.75	6.71	3000	210	3/8 npsm(m)	308-398	236-982	LONG
GM10000	231-343	—	0.055	2.50	9.41	3000	210	3/8 npsm(m)	308-568	220-877	LONG
GH733	231-733	230-975	0.055	3.00	11.40	3900	269	1 npt(f)	307-616	220-395	NONE
Older Models											
GH433	231-005	215-433	0.031	1.00	3.78	2800	210	1/4 npt(f)	307-293	208-919	LONG
GH533	231-533	230-974	0.043	2.00	7.56	3000	210	1/4 npt(f)	307-615	220-399	LONG
LINE STRIPERS Current Models											
LINELAZER LD	1 GUN	231-205	0.017	0.28	1.10	3000	210	1/4 npsm(m)	308-203	NONE	LONG
LINELAZER 3000	1 GUN	231-560	0.025	0.62	2.35	3000	210	1/4 npsm(m)	308-685	238-692	LONG
LINELAZER 3500	1 GUN	231-132	0.031	1.00	3.20	3000	210	1/4 npsm(m)	308-082	222-588	LONG
LINELAZER 3500	2 GUNS	231-140	0.021	1.00	3.20	3000	210	1/4 npsm(m)	308-082	222-588	LONG
LINELAZER 5000	1 GUN	231-133	0.035	1.25	4.71	3000	210	1/4 npsm(m)	308-105	220-877	LONG
LINELAZER 5000	2 GUNS	231-141	0.025	1.25	4.71	3000	210	1/4 npsm(m)	308-105	220-877	LONG
ROOF RIGS Current Models											
GM1230	224-483	231-148	0.061	3.00	11.00	1200	83	3/4 npsm(f)	308-125	224-523	NONE
GH4030	965-167	—	—	3.30	2.75	4000	272	3/4 npsm(f)	965-167	220-395	NONE
GH3060	965-168	—	—	6.00	5.00	3000	210	3/4 npsm(f)	965-168	222-849	NONE
GH2070	965-171	—	—	7.00	5.30	2000	136	3/4 npsm(f)	965-171	222-879	NONE
GH1015	965-165	—	—	15.00	12.5	1000	68	3/4 npsm(f)	965-165	223-439	NONE
Older Models											
GH833-SERIES A-G	—	231-833	—	6.20	23.44	2150	148	—	307-514	207-729(LT) 207-858(PU)	NONE
GH833-SERIES F	—	231-833	—	6.20	23.44	2150	148	—	307-514	220-516(UHM)	NONE

Subject to change. Effective Date - 2/97

*With 1 gun

Quick Reference Chart - Gas-Powered

<i>Manifold Filter</i>	<i>Inlet Strainer</i>	<i>Inlet Strainer Thread</i>	<i>Rod</i>	<i>Cylinder</i>	<i>Sleeve</i>	<i>Intake Valve</i>	<i>Piston Valve</i>	<i>Control Box</i>	<i>Circuit Board</i>	<i>Motor Fan</i>	<i>Brush Kit</i>
239-425	237-675	1/2"	235-709	235-708	—	224-966	218-197	238-672	NONE	NONE	NONE
239-425	235-004	3/4"	235-709	235-708	—	224-966	218-197	238-672	NONE	NONE	NONE
239-286	181-072	1"	222-438	185-211	185-213	222-437	218-036	239-266	NONE	NONE	NONE
239-286	183-770	3/4"	222-438	185-211	185-213	222-437	218-036	239-266	NONE	NONE	NONE
239-286	181-072	1"	220-630	183-181	183-361	220-629	220-631	239-266	NONE	NONE	NONE
239-286	181-072	1"	220-630	183-181	183-361	220-629	220-631	239-266	NONE	NONE	NONE
239-286	181-072	1"	220-630	183-181	183-361	220-629	220-631	239-266	NONE	NONE	NONE
235-924	189-920	1"	236-567	189-592	236-566	236-558	236-565	239-266	NONE	NONE	NONE
235-724	181-072	1"	236-567	189-592	236-566	236-558	236-565	239-266	NONE	NONE	NONE
237-481	237-841	1 1/2"	220-630	183-181	183-361	220-629	220-631	237-838	NONE	NONE	NONE
NONE	NONE	—	178-888	207-470	178-894	207-473	207-472	NONE	NONE	NONE	NONE
214-570	164-717	—	223-589	207-420	164-481	205-981	206-345	NONE	NONE	174-066	NONE
214-570	NONE	—	178-899	217-470	178900	217-476	205-516	NONE	NONE	178-792	NONE

239-251	218-798	1"	NONE	NONE	—	218-726	NONE	NONE	NONE	NONE	NONE
239-270	183-770	3/4"	235-709	235-708	—	224-966	218-197	238-672	NONE	NONE	NONE
239-252	183-770	3/4"	222-438	185-211	185-213	222-437	218-036	222-369	NONE	NONE	NONE
239-252	181-072	1"	220-630	185-211	185-213	222-437	218-036	222-369	NONE	NONE	NONE
239-250	181-072	1"	220-630	183-181	183-361	220-629	220-631	222-369	NONE	NONE	NONE
239-250	181-072	1"	220-630	183-181	183-361	220-629	220-631	222-369	NONE	NONE	NONE

NONE	187-119	1 1/2"	187-067	187-066	—	224-407	224-408	224-711	NONE	NONE	NONE
NONE	187-119	1 1/2"	178-888	—	—	207-473	207-472	NONE	NONE	NONE	NONE
NONE	187-119	1 1/2"	184-276	184-461	178-894	222-795	—	NONE	NONE	NONE	NONE
NONE	187-119	1 1/2"	184-002	184-003	—	222-794	222-802	NONE	NONE	NONE	NONE
NONE	187-119	1 1/2"	217-478	181-269	—	223-437	223-438	NONE	NONE	NONE	NONE
NONE	NONE	—	168-678	183-334	—	222-566	222-621	NONE	NONE	NONE	NONE
NONE	NONE	—	168-678	183-334	—	222-566	222-621	NONE	NONE	NONE	NONE

Quick Reference Chart-Electric

ELECTRIC-POWERED AIRLESS SPRAYERS

Current Models

	<i>Bare</i>	<i>Complete</i>	<i>Max. Tip Size*</i>	<i>Max. Delivery GPM</i>	<i>Max. Delivery LPM</i>	<i>Max. Work Pressure PSI</i>	<i>Max. Work Pressure BAR</i>	<i>Fluid Outlet Size</i>	<i>Instruction Manual</i>	<i>Pump Repair Kit</i>	<i>Manifold Filter</i>
395st STAND MOUNT		231-575	0.019	0.33	1.25	3000	210	1/4 npsm(m)	308-714	235-703	SHORT
455st STAND MOUNT		231-581	0.021	0.44	1.66	3000	210	1/4 npsm(m)	308-720	235-703	SHORT
455st LO-BOY		231-583	0.021	0.44	1.66	3000	210	1/4 npsm(m)	308-720	235-703	SHORT
495st STAND MOUNT		231-584	0.023	0.50	1.91	3000	210	1/4 npsm(m)	308-716	235-703	SHORT
495st LO-BOY		231-585	0.023	0.50	1.91	3000	210	1/4 npsm(m)	308-716	235-703	SHORT
495st HI-BOY		231-586	0.023	0.50	1.91	3000	210	1/4 npsm(m)	308-716	235-703	LONG
EM590 HI-BOY	220-856	231-590	0.025	0.75	2.80	2750	195	1/4 npsm(m)	307-830	222-588	LONG
Older Models											
390sts STAND MOUNT		231-353	0.019	0.33	1.25	2750	195	1/4 npsm(m)	308-548	235-703	NONE
390st STAND MOUNT		231-201	0.019	0.33	1.25	2750	195	1/4 npsm(m)	308-180	235-703	NONE
450st STAND MOUNT		231-547	0.021	0.44	1.66	2750	195	1/4 npsm(m)	308-634	235-703	SHORT
490st STAND MOUNT		231-208	0.023	0.50	1.91	2750	195	1/4 npsm(m)	308-248	235-703	SHORT
490st HI-BOY		231-357	0.023	0.50	1.91	2750	195	1/4 npsm(m)	308-248	235-703	SHORT
490st LO-BOY		231-354	0.023	0.50	1.91	2750	195	1/4 npsm(m)	308-248	235-703	SHORT
EH333	231-003	226-333	0.027	0.75	2.84	3000	210	1/4 npsm(m)	306-941	218-135(L) 218-136(T)	LONG
EH433	231-004	231-433	0.031	1.00	3.78	3000	210	1/4 npsm(m)	307-111	208-919(L) 207-850(T)	LONG
EM390 HI-BOY	231-001	231-390	0.017	0.33	1.25	2500	172	1/4 npsm(m)	307-724	222-587	LONG
EM390 LO-BOY	220-726	231-051	0.017	0.33	1.25	2500	172	1/4 npsm(m)	307-724	222-587	LONG
EM490 HI-BOY	231-002	231-490	0.021	0.44	1.66	2750	190	1/4 npsm(m)	307-735	222-587	LONG
EM490 LO-BOY	220-679	231-050	0.021	0.44	1.66	2750	190	1/4 npsm(m)	307-735	222-587	LONG

ULTRA MAX/ULTRA+

Current Models

ULTRA MAX 695 LO-BOY	232-130	232-131	0.026	0.60	2.3	3000	210	1/4 npsm(m)	308-801A	239-939	LONG
ULTRA MAX 695 HI-BOY	232-132	232-133	0.026	0.60	2.3	3000	210	1/4 npsm(m)	308-801A	239-939	LONG
ULTRA MAX 795 HI-BOY	232-140	232-141	0.028	0.80	3.0	3000	210	1/4 npsm(m)	308-800B	239-928	LONG
ULTRA MAX 1095 HI-BOY	232-150	232-151	0.032	1.10	3.8	3000	210	1/4 npsm(m)	308-799B	239-928	LONG
ULTRA MAX 1595 HI-BOY (CSA Certified)	232-160 232-162	232-161 232-163	0.035 0.035	1.25 1.25	4.75 4.75	3000 3000	210 210	1/4 npsm(m) 1/4 npsm(m)	308-802A 308-802A	240-248 240-248	LONG LONG
Older Models											
ULTRA + 600 HI-BOY	231-348	231-358	0.025	0.55	2.10	3000	210	1/4 npsm(m)	308-498	235-703	SHORT
ULTRA + 600 LO-BOY	231-346	231-356	0.025	0.55	2.10	3000	210	1/4 npsm(m)	308-498	235-703	SHORT
ULTRA + 1000 HI-BOY	231-410	231-411	0.031	1.00	3.81	3000	210	1/4 npsm(m)	308-436	222-588	LONG
ULTRA + 1500 HI-BOY	231-811	231-812	0.035	1.25	4.75	3000	210	1/4 npsm(m)	308-551	220-877	LONG
ULTRA 333 HI-BOY	231-007	231-333	0.025	0.60	2.27	3000	210	1/4 npsm(m)	307-643	222-588	LONG
ULTRA 433 HI-BOY	231-008	231-433	0.029	0.95	2.90	3000	210	1/4 npsm(m)	307-607	222-588	LONG
ULTRA 400 HI-BOY	231-006	231-400	0.021	0.45	1.70	2500	175	1/4 npsm(m)	307-659	222-587	LONG
ULTRA 500 HI-BOY	231-032	231-041	0.023	0.55	2.10	2750	195	1/4 npsm(m)	307-758	222-587	LONG
ULTRA 500 LO-BOY	231-054	231-055	0.023	0.55	2.10	2750	195	1/4 npsm(m)	307-758	222-587	LONG
ULTRA 600 HI-BOY	231-325	231-307	0.025	0.55	2.10	2750	195	1/4 npsm(m)	308-319	235-703	SHORT
ULTRA 750 HI-BOY	231-033	231-042	0.027	0.75	2.90	3000	210	1/4 npsm(m)	307-786	222-588	LONG
ULTRA 750 LO-BOY	221-120	221-130	0.027	0.75	2.90	3000	210	1/4 npsm(m)	307-786	222-588	LONG
ULTRA 1000 HI-BOY	231-034	231-043	0.031	1.00	3.78	3000	210	1/4 npsm(m)	307-785	222-588	LONG
ULTRA 1500 HI-BOY	220-627	231-053	0.035	1.25	4.73	3000	210	1/4 npsm(m)	307-827	220-877	LONG

Quick Reference Chart-Electric

PACKAGES

<i>Manifold Filter</i>	<i>Inlet Strainer</i>	<i>Inlet Strainer Thread</i>	<i>Rod</i>	<i>Cylinder</i>	<i>Sleeve</i>	<i>Intake Valve</i>	<i>Piston Valve</i>	<i>Control Box</i>	<i>Circuit Board</i>	<i>Motor Fan</i>	<i>Brush Kit</i>
239-447	235-004	3/4"	235-709	235-708	NONE	218-197	224-806	235-008	NONE	235-668-LES	235-007-LES
										237-666-PAC	236-967-PAC
239-447	235-004	3/4"	235-709	235-708	NONE	224-966	218-197	235-008	NONE	237-666-PAC	236-967-PAC
239-447	235-004	3/4"	235-709	235-708	NONE	224-966	218-197	235-008	NONE	237-666-PAC	236-967-PAC
239-425	183-770	3/4"	235-709	235-708	NONE	224-966	218-197	235-007	NONE	237-666-LES	235-727-LES
										237-666-PAC	235-967-PAC
239-425	183-770	3/4"	235-709	235-708	NONE	224-966	218-197	235-007	NONE	110-155	220-853
239-425	183-770	3/4"	235-709	235-708	NONE	224-966	218-197	235-007	NONE	235-668-LES	235-727-LES
										237-666-PAC	235-967-PAC
214-570	181-072	1"	218-017	178-949	NONE	217-574	218-036	220-858	NONE	110-155	220-853
NONE	237-820	5/8"	187-613	236-786	NONE	224-966	224-808	235-008	NONE	235-668-LES	235-007-LES
										237-666-PAC	236-967-PAC
NONE	235-004	3/4"	187-613	236-786	NONE	224-966	224-808	235-008	NONE	235-668-LES	235-007-LES
										237-666-PAC	236-967-PAC
235-677	235-004	3/4"	235-709	235-708	NONE	224-966	218-197	235-008	NONE	237-666-PAC	236-967-PAC
235-677	235-004	3/4"	235-709	235-708		224-966	218-197	235-007	NONE	235-668-LES	235-727-LES
										237-666-PAC	236-967-PAC
235-677	237-675	1/2"	235-709	235-708	NONE	224-966	218-197	235-007	NONE	235-668-LES	235-727-LES
										237-666-PAC	236-967-PAC
235-677	235-004	3/4"	235-709	235-708	NONE	224-966	218-197	235-007	NONE	235-668-LES	235-727-LES
										237-666-PAC	236-967-PAC
214-570	167-759	N/A	223-603	207-420	167-077	206-399	205-538	NONE	NONE	102-654	NONE
214-570	167-759	N/A	223-589	207-420	164-481	205-981	206-345	NONE	NONE	102-654	NONE
214-570	181-073	1/2"	181-879	177-929	NONE	215-455	218-197	215-860	*	110-155	NONE
214-570	181-073	1/2"	181-879	177-929	NONE	215-455	218-197	215-860	*	110-155	NONE
214-570	181-073	1/2"	181-879	177-929	NONE	215-455	218-197	215-860	106-076	110-155	NONE
214-570	181-073	1/2"	181-879	177-929	NONE	215-455	218-197	215-860	106-076	110-155	NONE

* Series AD 105-683

* Series E 223-597

240-038	183-770	1/2"	240-515	240-516	NONE	239-922	239-937	—	240-168	240-035	236-967
240-038	183-770	1/2"	240-515	240-516	NONE	239-922	239-937	—	240-168	240-035	236-967
240-315	181-072	1-11/16"	240-518	240-522	240-521	239-922	239-932	—	240-168	240-015	220-853
240-314	181-072	1-11/16"	240-518	240-522	240-521	239-922	239-932	—	240-168	240-034	220-853
N/A	181-072	1-11/16"	240-517	240-520	240-523	240-524	240-150	—	239-752	220-854	220-853
N/A	181-072	1-11/16"	240-517	240-520	240-523	240-524	240-150	—	239-752	220-854	220-853
235-677	235-004	3/4"	235-709	235-708	NONE	224-966	218-197	N/A	237-659	110-158	235-727
235-677	237-675	1/2"	235-709	235-708	NONE	224-966	218-197	N/A	237-659	110-158	235-727
214-570	181-072	1"	222-438	185-211	185-213	222-437	218-036	220-455	236-563	110-158	220-853
214-570	181-072	1"	220-630	183-181	183-361	220-629	220-631	239-760	N/A	110-158	220-853
214-570	181-072	1"	218-017	178-949	NONE	217-574	218-036	220-455	218-405	110-157-IG	220-367
214-570	181-072	1"	218-017	178-949	NONE	217-574	218-036	220-455	218-405	110-157-IG	220-367
214-570	181-073	1/2"	181-879	177-929	NONE	215-455	218-197	220-455	218-405	110-157-IG	220-367
214-570	183-770	3/4"	183-563	183-562	NONE	221-098	218-197	220-455	218-405	110-158	220-853
214-570	181-073	1/2"	183-563	183-562	NONE	221-098	218-197	220-455	218-405	110-158	220-853
235-677	235-004	3/4"	235-709	235-708	NONE	224-966	218-197	N/A	237-659	110-158	235-727
214-570	181-072	3/4"	222-438	185-211	185-213	222-437	218-036	220-455	218-405	110-158	220-853
214-570	183-770	3/4"	222-438	185-211	185-213	222-437	218-036	220-455	218-405	110-158	220-853
214-570	181-072	1"	222-438	185-211	185-213	222-437	218-036	220-455	218-405	110-158	220-853
214-570	181-072	1"	220-630	183-181	183-361	220-629	220-631	239-760	N/A	110-158	220-853

