

INSTRUCTIONS-PARTS LIST



307803

Rev. J



This manual contains important warnings and information.
READ AND KEEP FOR REFERENCE.

INSTRUCTIONS

First choice when
quality counts.™



ELECTROSTATIC AIR SPRAY

Air Caps and Fluid Nozzles

FAN PATTERN FLUID NOZZLES

PRO3500™ PRO4500™ Fluid Nozzle Part No.	PRO5500™ Fluid Nozzle Part No.	Fluid Nozzle Orifice Size
n/a	191830	0.75 mm (0.030 in.)
185156	191831	1.0 mm (0.040 in.)
185157	191832	1.2 mm (0.047 in.)
185158	191833	1.5 mm (0.059 in.)
185159	191834	1.8 mm (0.070 in.)

FAN PATTERN AIR CAPS (All Models)

Air Cap Part No.	Pattern Shape and Length	Recommended Fluids & Production Rates
193033	Round End 381 to 432 mm (15 to 17 in.)	Light to medium viscosity. Medium to high production.
177036	Tapered End 381 to 432 mm (15 to 17 in.)	Medium to high viscosity and high solids. Medium to high production.
177039	Tapered End 356 to 407 mm (14 to 16 in.)	Medium to high viscosity. Medium to high production.
180739	Round End 381 to 432 mm (15 to 17 in.)	Medium to high viscosity and high solids. Medium to high production.
196860	Tapered End 432 to 483 mm (17 to 19 in.)	Light to medium viscosity. Medium to high production.

ROUND PATTERN KITS

Light to Medium Viscosity. Light to Medium Production

PRO3500™ PRO4500™ PRO5500™ Kit Part No. (Manual No.)	Pattern Diameter
222329 (307935)	102 to 152 mm (4 to 6 in.)
222330 (307935)	203 to 254 mm (8 to 10 in.)

NOTE: All the air cap pattern shapes and lengths were measured under the following conditions.

Distance to Target: 305 mm (12 in.).

Atomization Air Pressure: 2.1 bar (30 psi).

Fan air: adjusted for maximum width.

Fluid Flow Rate: 300 cc/min. (10 oz./min.).

GRACO INC. P.O. BOX 1441 MINNEAPOLIS, MN 55440-1441

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WARNING

Always turn off the power, air, and fluid supply to the gun, and trigger the gun to relieve system pressure before installing or removing the air cap/fluid nozzle assembly. This will help reduce the risk of serious injury, including splashing in the eyes or on the skin, or electric shock.

NOTE: Refer to your air spray gun instruction manual to install the air cap and fluid nozzle. If you do not have a copy of the manual, copies are available at no charge from Graco Inc.

Terms

Viscosity

Light: 20 centipoise at 21°C (70°F)

Medium: 70 centipoise at 21°C (70°F)

Heavy: 160, 260 centipoise at 21°C (70°F)

High Solids: Over 360 centipoise at 21°C (70°F)

Centipoise = centistokes x fluid specific gravity.

NOTE: Refer to the **Viscosity Conversion Chart** on the back cover to convert to other units of measurement.

Fan Pattern Production Rate

Light Production: Fluid flow of up to 200 cc/min.
(7 oz./min.)

Medium Production: Fluid flow of up to 400 cc/min.
(14 oz./min.)

High Production: Fluid flow of up to 600 cc/min.
(14 oz./min.)

Round Pattern Production Rate

Light Production: Fluid flow of up to 150 cc/min.
(5 oz./min.)

Medium Production: Fluid flow of up to 200 cc/min.
(7 oz./min.)

How to Use the Fluid Nozzle Graphs

KEY

260 Centipoise Fluid	_____
160 Centipoise Fluid	— — — — —
70 Centipoise Fluid	— - — - -
20 Centipoise Fluid	- - - - -

Use the procedure below to select the proper fluid nozzle for your application.

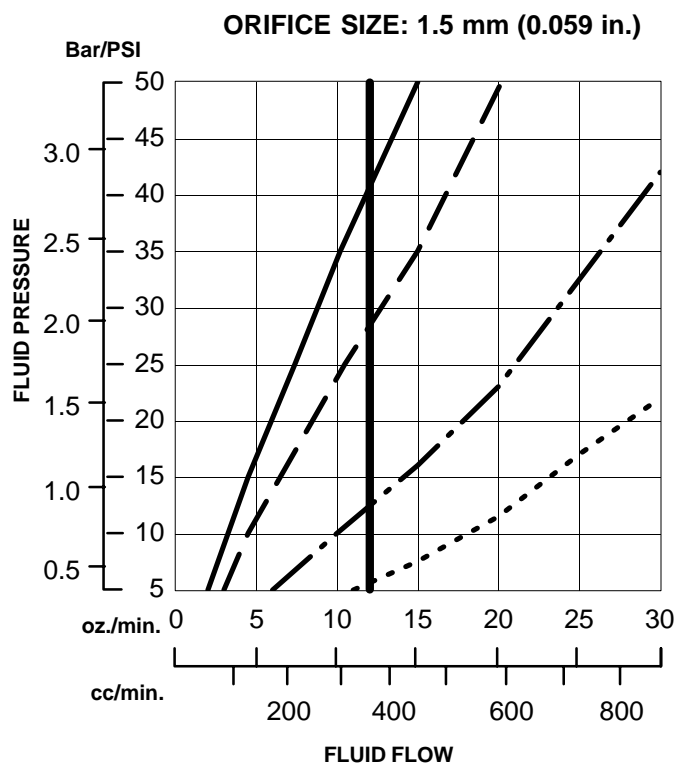
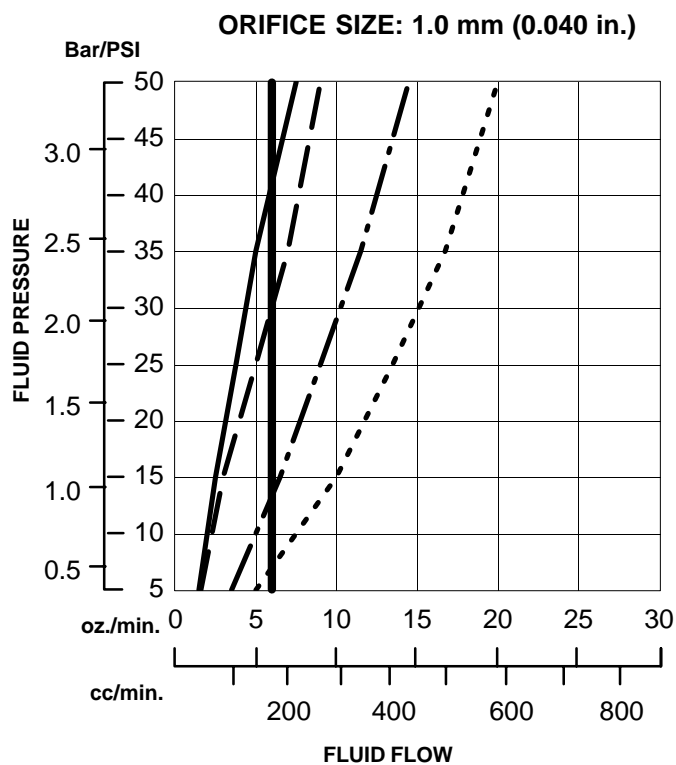
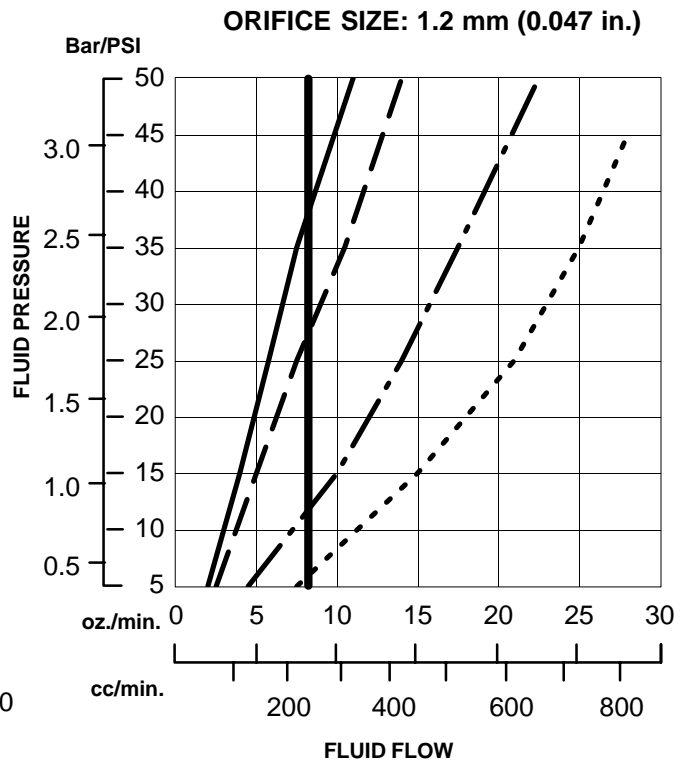
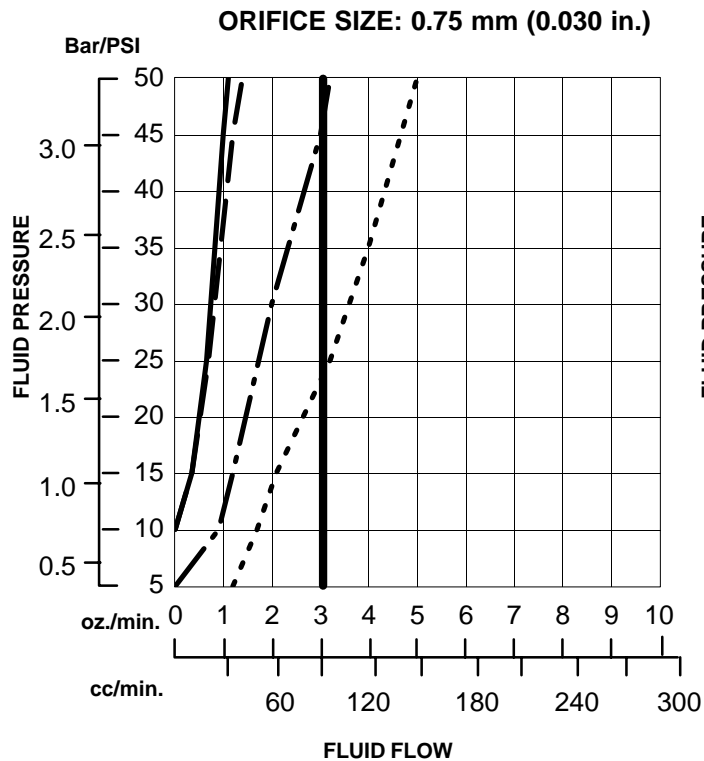
1. For each of the fluid nozzle graphs, find the point on the graph corresponding to your desired fluid flow rate and viscosity. Mark the point on each graph with a pencil.

2. The thick vertical line in each graph represents the target flow rate for that nozzle size. Find the graph that has the marked point closest to the thick vertical line. This is the recommended nozzle size for your application. Significantly exceeding the target flow rate may result in lower spray performance due to excessive fluid viscosity.

3. From the marked point, move across to the vertical scale to find the required fluid pressure. If the required pressure is too high, then use the next largest nozzle size. If the fluid pressure is too low (< 0.35 bar, 5psi), then use the next smallest nozzle size.

Fluid Nozzle Performance Graphs

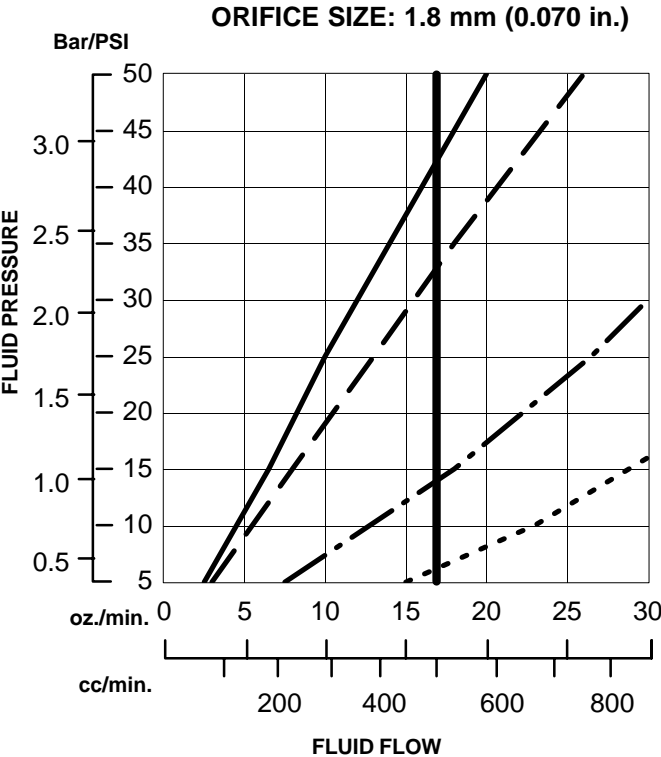
Fluid pressures are measured at the spray gun inlet.



Performance Graphs are continued on page 4.

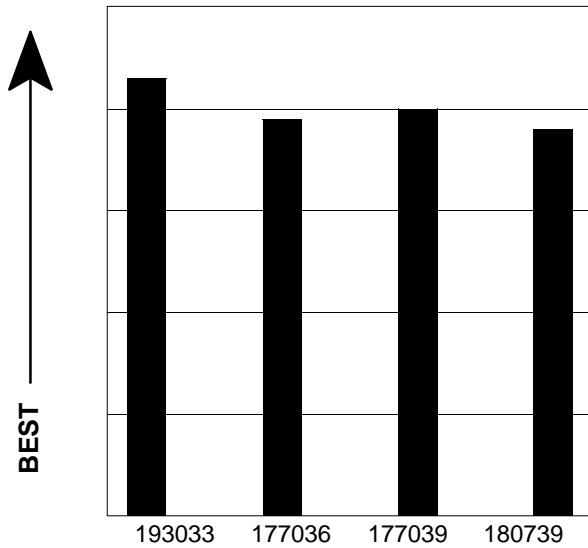
Fluid Nozzle Performance Graphs

Fluid pressures are measured at the spray gun inlet.

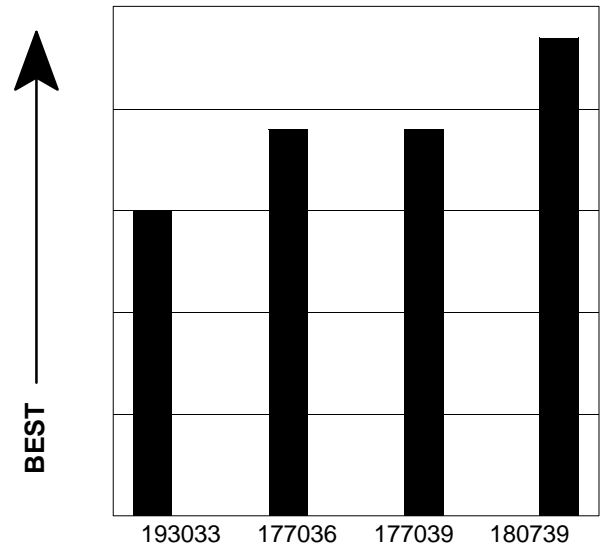


Air Cap Comparison

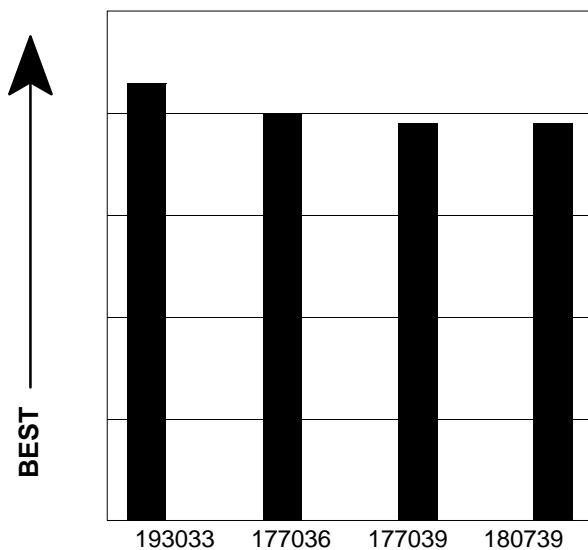
Atomization



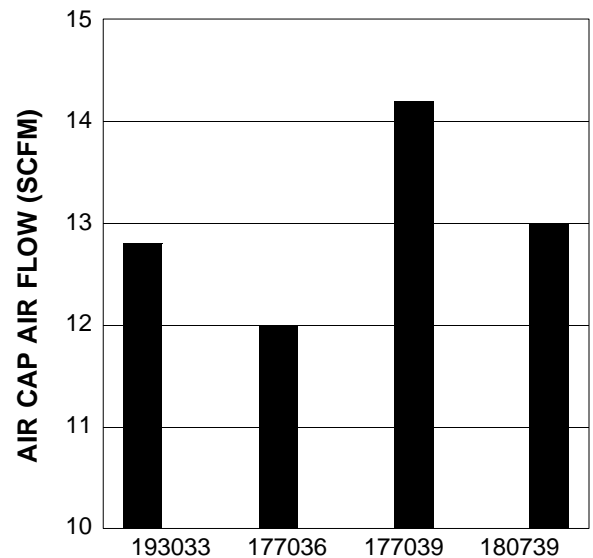
Air Cap and Operator Cleanliness



Transfer Efficiency



Air Cap Air Consumption



Test Conditions:

- Target Distance: 305 mm (12 in.)
- Fluid Flow Rate: 300 cc/min (10 oz/min.)
- PRO 4500 Gun with 2.8 bar (40 psi) air at the gun inlet.
- Fan Valve adjusted for a 356 mm (14 in.) pattern width.

[illegible]

Viscosity Conversion Chart

Measurement	Light	Medium	Heavy	High Solids
Poise	0.2	0.7	2.6	3.6
Centipoise	20	70	260	360
Du Pont Parlin 7	32			
Du Pont Parlin 10	13	20		
Fisher 1	30			
Fisher 2	15	33		
Ford Cup 3	12	36		
Ford Cup 4	10	28	68	
Krebs Units KU		35	58	62
Saybolt Universal SSU	100	370	1280	1730
Shell 2	40			
Shell 3	15	48		
Shell 4		22		

Measurement	Light	Medium	Heavy	High Solids
Zahn 1	37			
Zahn 2	18	30		
Zahn 3			30	41
Zahn 4			21	28
Zahn 5			13	18
Sears Craftsman Cup		23		
Redwood No. 1 Sec.	98	286	1060	1465
Redwood No. 2 Sec.		30.05	105.6	149
Engler Degrees	2.9	9.4	34.65	47.75
Saybolt Furol Sec.		35	124.5	171.5

Manual Change Summary

The manual was updated per ECO Z002055.

Graco Standard Warranty

Graco warrants all equipment manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized Graco distributor to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

Graco makes no warranty, and disclaims all implied warranties of merchantability and fitness for a particular purpose in connection with accessories, equipment, materials or components sold but not manufactured by Graco. These items sold, but not manufactured by Graco (such as electric motors, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

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1-800-367-4023 Toll Free

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PRINTED IN U.S.A. 307803 August 1986, Revised June 2000