

## Low Volume Air Regulators

308167 rev.K

Used to ensure consistent air pressure in systems requiring up to a maximum 90 scfm.

*300 psi (2.1 bar) Maximum Incoming Air Pressure*

- **Diaphragm- and Piston-Operated**
- **Self-Relieving**
- **Temperature Range: 40-120°F**

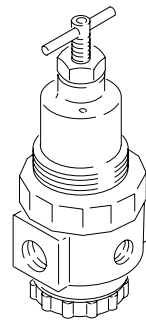


### Important Safety instructions

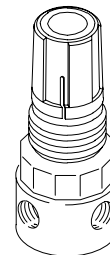
Read all warnings and instructions in this manual.  
Save these instructions.

See page 2 for a list of regulators. Bare regulators are available separately or in the regulator assemblies shown with them.

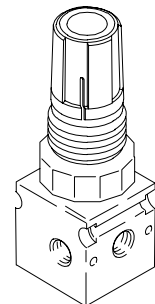
See manual 308168 for higher volume regulators.



**104266, 104267,  
171937, 110234,  
113406**



**104815  
110318**



**110341, 111804,  
116903, 116904**

### Table of Contents

List of Regulators .....	2
Dimensions .....	3
Installation .....	4
Adjustment .....	5
Repair .....	6
Repair Kit Drawings .....	7
Parts .....	8
Accessories .....	10
Flow Curves .....	11
Graco Standard Warranty .....	12
Graco Phone Numbers .....	12

PROVEN QUALITY. LEADING TECHNOLOGY.

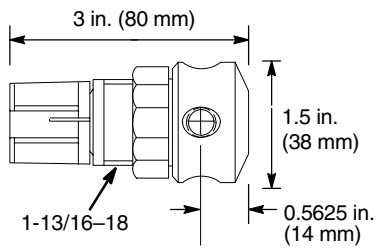


# List of Regulators

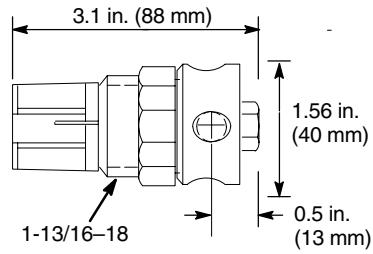
BARE REGULATOR Part No.	REGULATOR ASSEMBLY Part No.	Max. SCFM (m <sup>3</sup> /min)	Pump/System Application	Inlet/Outlet Port (npt)	Gage Ports (2) (npt)	Handle Type	Regulated Pressure Range	Diaphragm Material
104815		15 (0.4)	Pressure Cup, Prince	1/8	1/8	Knob	0–60 psi (0–4.2 bar, 0–0.42 MPa)	Nitrile Rubber
110318	110147	15 (0.4)	Mini–Flo, Standard & Fast-Ball	1/4	1/8	Knob	0–180 psi (0–11 bar, 0–1.1 MPa)	Nitrile Rubber
110341		39 (1.1)	Husky 715, Prince Husky 1030	1/8	1/8	Knob	0–125 psi (0–9 bar, 0–0.9 MPa)	None–piston type
111804		39 (1.1)	Husky 715, Prince Husky 1030, 2.5 gal. Pressure Tank PRO/Delta Spray Packages	1/4	1/8	Knob	0–125 psi (0–9 bar, 0–0.9 MPa)	None–piston type
110234	109075 224512 224024	90 (2.5)	Standard, Monark®, Fireball®, President®	3/8	1/4	Tee	0–250 psi (0–17.5 bar, 0–1.75 MPa)	Nitrile Rubber
104266	206849 203716 202156 202858 244844 248829	90 (2.5)	Monark, President Lube Ranger	1/2	1/4	Tee	0–250 psi (0–17.5 bar, 0–1.75 MPa)	Nitrile Rubber
104267	206237	90 (2.5)	Monark, President, Husky 1030, Glutton	1/2	1/4	Tee	0–125 psi (0–9 bar, 0–0.9 MPa)	Nitrile Rubber
171937		90 (2.5)	Pressure Tanks	1/2	1/4	Tee	0–125 psi (0–9 bar, 0–0.9 MPa)	Mylar
113406		90 (2.5)	Pressure Tanks	1/4	1/4	Tee	0–125 psi (0–9 bar, 0–0.9 MPa)	Nitrile Rubber
116903		39 (1.1)	Pressure Cup	1/8	1/8	Knob	0–60 psi (0–4.2 bar, 0–0.4 MPa)	None–piston type
116904		39 (1.1)	Pressure Cup	1/8	1/8	Knob	0–25 psi (0–1.8 bar) (0–0.2 MPa)	None–piston type

# Dimensions

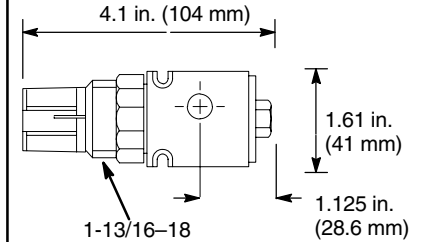
**Model 104815** (1/8 in. Port)



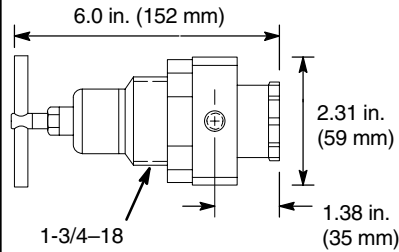
**Model 110318** (1/4 in. Port)



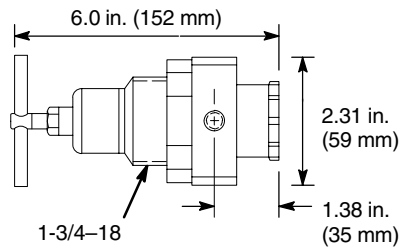
**Model 110341** (1/8 in. Port)  
**Model 111804** (1/4 in. Port)  
**Model 116903, 116904** (1/8 in. Port)



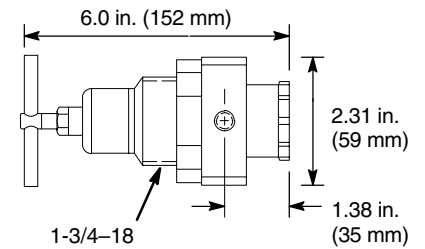
**Model 110234** (3/8 in. Port)



**Model 104266, 104267** (1/2 in. Port)  
**113406** (1/4 in. Port)



**Model 171937** (1/2 in. Port)



# Installation

Before installing any air line components, blow out the pipe line to remove scale and other debris. Use pipe compound or tape sparingly and only on male threads. Install the regulator in the pipe line so the flow is in the direction of the arrow stamped on the body. Locate the regulator as close as possible to the equipment it serves.

Mounting brackets and nuts are available. See page 10.

## WARNING

To reduce the risk of serious bodily injury, including fluid injection, splashing fluid in the eyes or on the skin, or injury from the pump starting unexpectedly, **be sure your system includes a bleed-type master air valve.**

Install the air valve between the air regulator outlet and the device the regulator is serving. When relieving system air pressure, close the bleed-type master air valve to fully relieve air pressure.

To provide the user with a variety of assembly options, a bleed-type master air valve is not included with all regulator assemblies. See ACCESSORIES to order this valve. Another bleed-type master air valve may also be installed upstream from the air controls to isolate them for servicing.

Be sure the air to the regulator is clean. Erratic regulator operation or loss of regulation is usually caused by dirt in the disc area. To clean the regulator, see the REPAIR section on page 6.

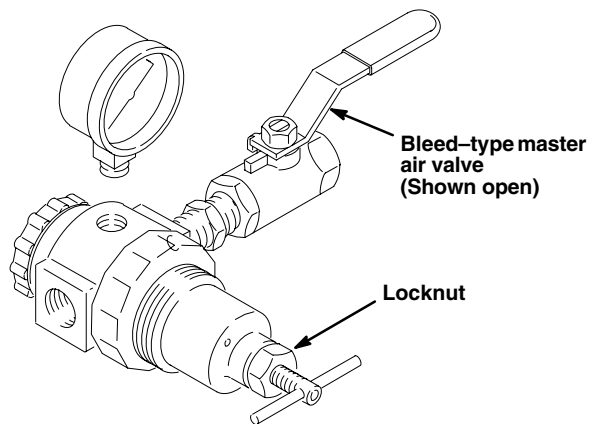
# Adjustment

## Relieving Pressure

1. Close the bleed-type master air valve to bleed air between the valve to the device it is serving.
2. Trigger the gun or dispense valve and open any fluid drain valves to relieve fluid pressure.

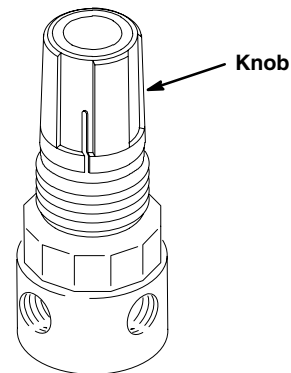
## Adjusting Pressure with a T-Handle Regulator

3. Loosen the locknut.
4. **To increase the regulated air pressure**, turn the T-handle clockwise.
5. **To decrease the regulated air pressure**, turn the T-handle counterclockwise.
6. Tighten the locknut to lock in the adjustment.



## Adjusting Pressure with a Knob-type Regulator

1. **If the knob does not have a screw**, pull the knob up to adjust. When the adjustment is complete, push the knob down to lock it in place.
2. **If the knob has a cross-head screw**, loosen the screw 1/4 turn and then adjust the knob. Tighten the screw to lock in the adjustment.
3. **To increase the regulated air pressure**, turn the knob clockwise.
4. **To decrease the regulated air pressure**, turn the knob counterclockwise.



# Repair

## WARNING

Relieve air and fluid pressure before servicing the regulator.

To reduce the risk of serious bodily injury, fluid injection, splashing in the eyes or skin, injury from moving parts, ALWAYS open the bleed-type master air valve (required) to relieve system air pressure and trigger the gun or dispense valve and open any fluid drain valves to relieve fluid pressure.

If the regulator fails to operate, operates roughly, vibrates, etc., follow the WARNING above. Remove the regulator and service it as follows.

Disassemble the regulator. See the drawings on page 7.

Wash the parts with household soap and water or denatured alcohol. Wipe the parts dry with a clean, soft, dry rag. Use compressed air to blow dirt and contaminants out of the regulator body.

## CAUTION

Do not use trichloroethylene, acetone or similar solvents to clean the regulator. These solvents could damage the regulator parts.

Inspect all parts for wear or damage. Replace damaged parts.

Lubricate the bearing area, adjusting screw threads, and spring ends with No. 2 lithium-base grease. Reassemble the regulator.

When installing the diaphragm, be sure the disc is firmly in place. Install the disc stem in the center hole of the diaphragm. Torque the spring housing to 45 in-lb (51 N.m).

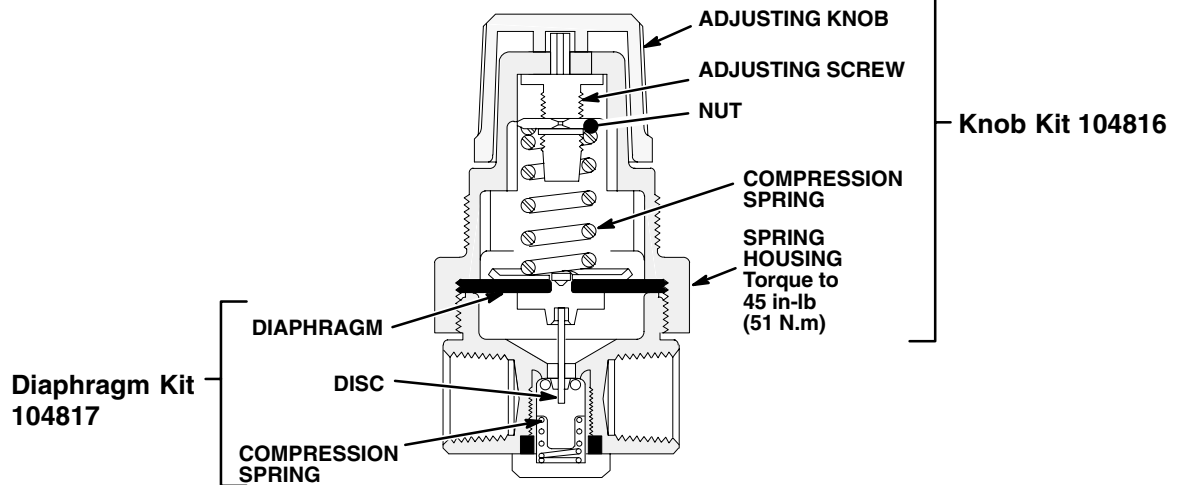
# Repair Kit Chart

This chart identifies the available repair kits for the regulators covered in this manual. The cutaway drawings shown on page 7 show the contents.

BARE REGULATOR Part No.	REPAIR KITS								
	104816 1/8" Knob	106173 T-Handle	180780 1/2" Diaphragm	180781 1/2" Diaphragm	180782 3/8" & 1/2" Diaphragm	104817 1/8" Diaphragm	223164 1/8" & 1/4" Piston	104695 1/2" Cap	112351 Disc
104266		X			X			X	X
104267		X	X					X	
171937		X		X				X	
110234		X			X				
104815	X					X			
110341							X		
111804							X		
110318	X					X			
113406		X	X					X	
116903							X		
116904							X		

# Repair Kit Drawings

FOR REGULATORS 104815, 110318



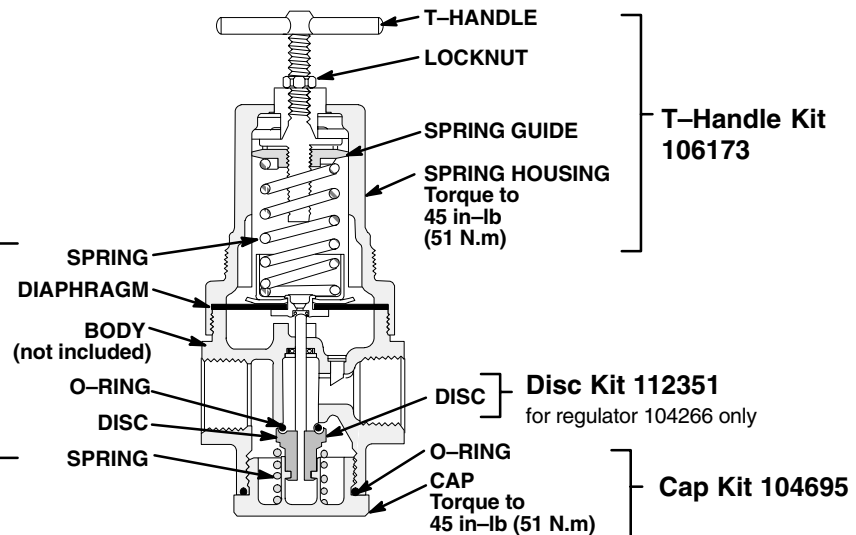
FOR REGULATORS  
104267, 171937,  
104266, 110234,  
113406

**Valve Kits**

**180780**  
for regulator 104267,  
113406

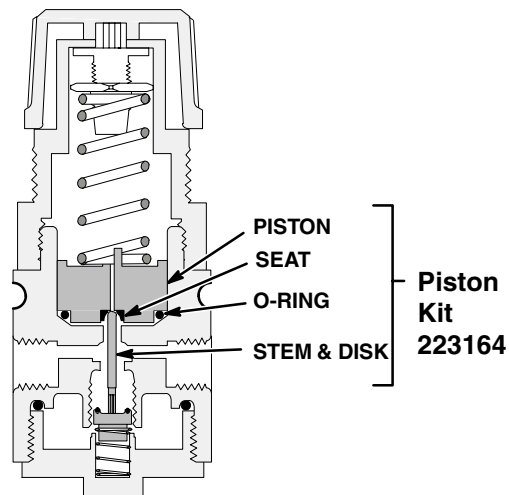
**180781**  
for regulator 171937

**180782**  
for regulators 104266,  
110234

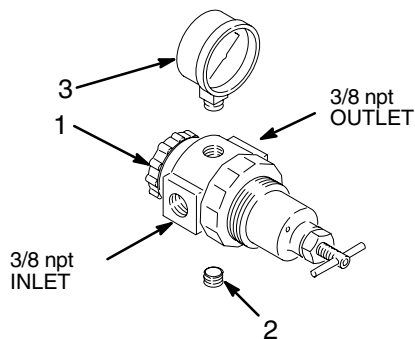


0926

FOR REGULATORS  
110341, 111804,  
116903, 116904



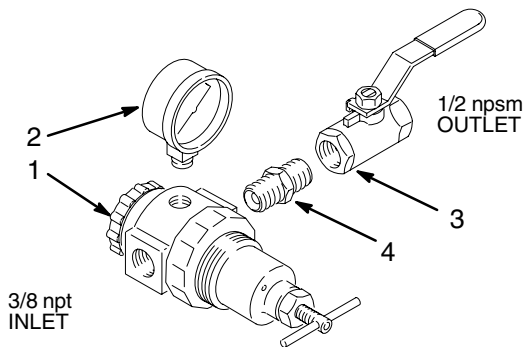
# Parts



0761

## Model 109075

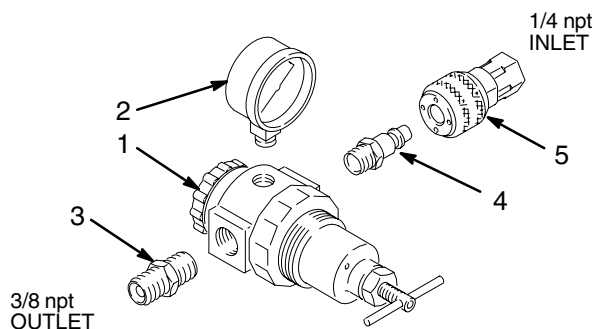
Ref No.	Part No.	Description	Qty
1	110234	3/8" AIR REGULATOR	1
2	100721	PLUG, pipe, 1/4 npt	1
3	100960	GAUGE, 0-200 psi (0-14 bar)	1



0944

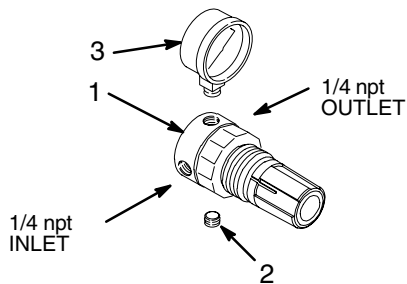
## Model 224512

Ref No.	Part No.	Description	Qty
1	110234	3/8" AIR REGULATOR	1
2	100960	GAUGE, 0-200 psi (0-14 bar)	1
3	110224	BALL VALVE, 3/8-18 npt(f)	1
4	156849	NIPPLE, 3/8-18 npt	1



## Model 224024

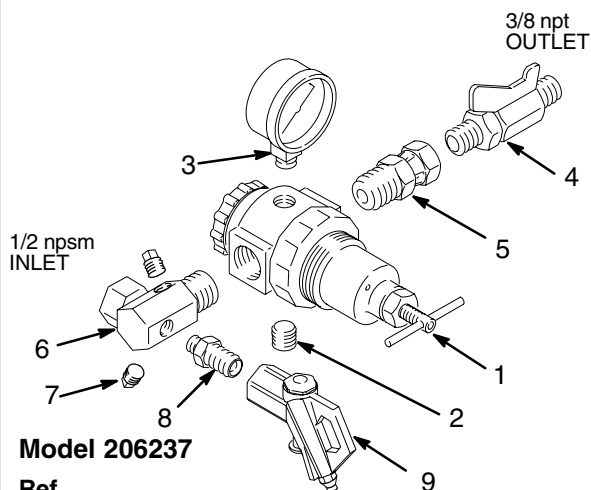
Ref No.	Part No.	Description	Qty
1	110234	3/8" AIR REGULATOR	1
2	100960	GAUGE, 0-200 psi (0-14 bar)	1
3	156849	NIPPLE, 3/8-18 npt	1
4	169970	FITTING, air line, 1/4 npt(m)	1
5	208536	COUPLER, air line	1



0762

## Model 110147

Ref No.	Part No.	Description	Qty
1	110318	1/4" AIR REGULATOR	1
2	100403	PLUG, pipe, 1/8 npt	1
3	110319	GAUGE, 0-200 psi (0-14 bar)	1

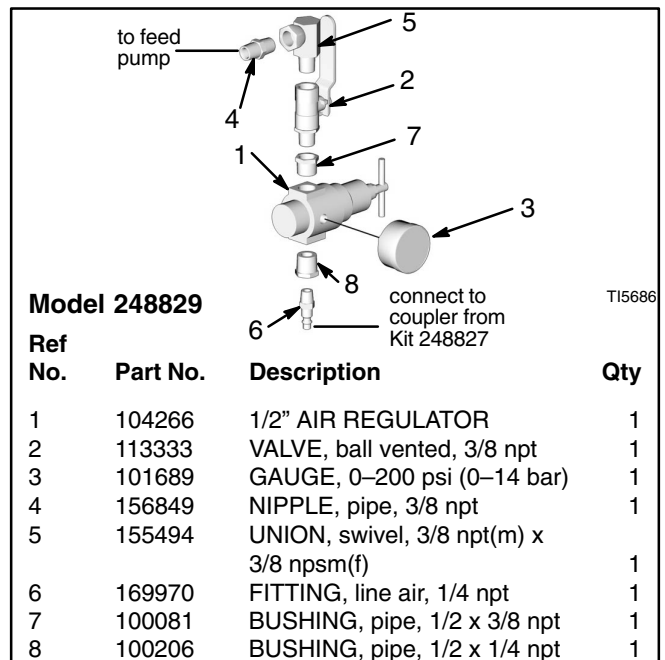
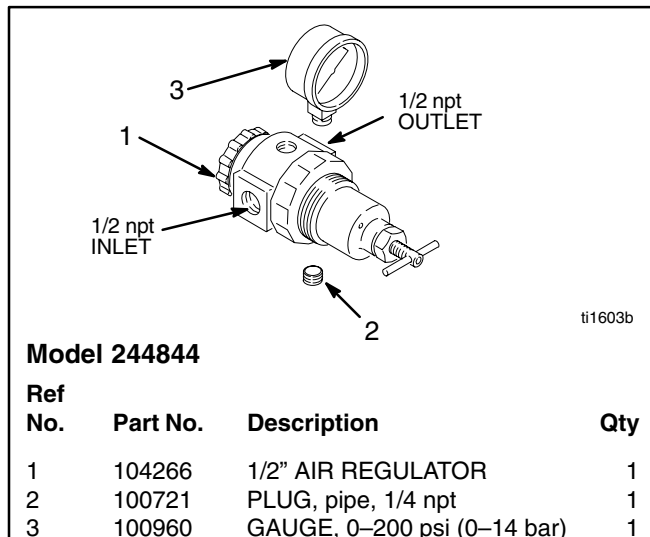
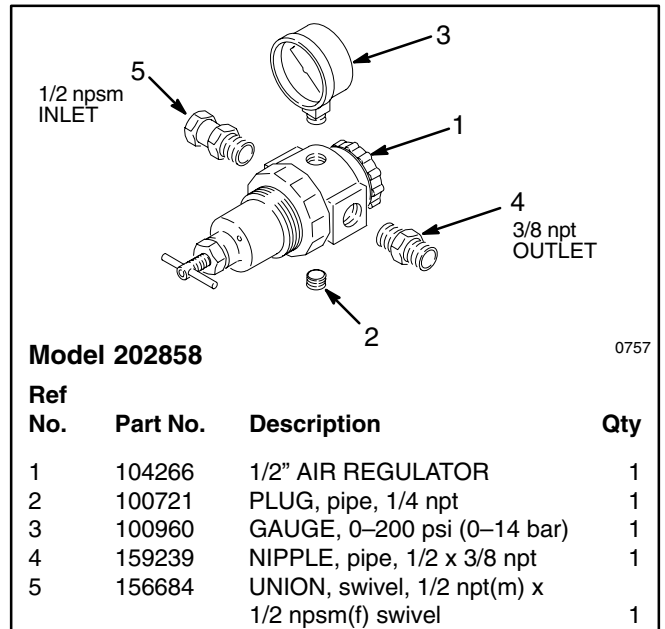
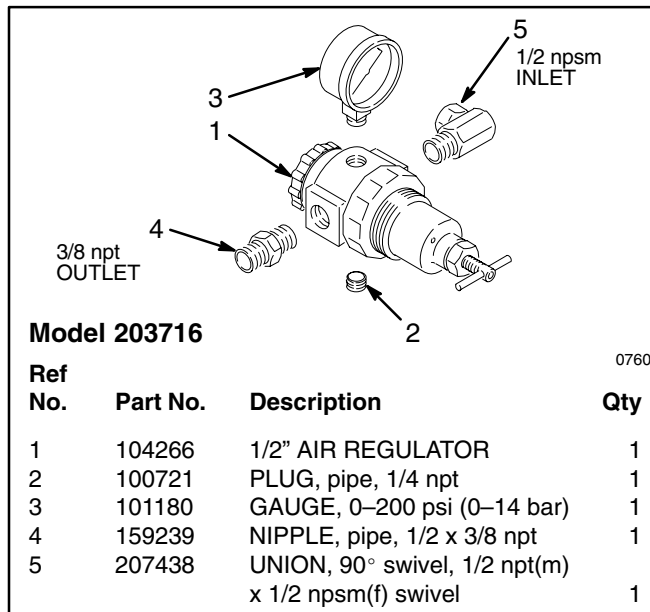
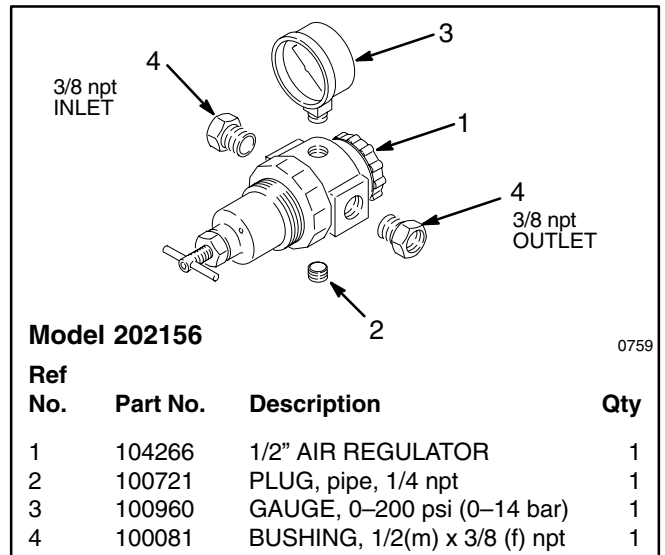
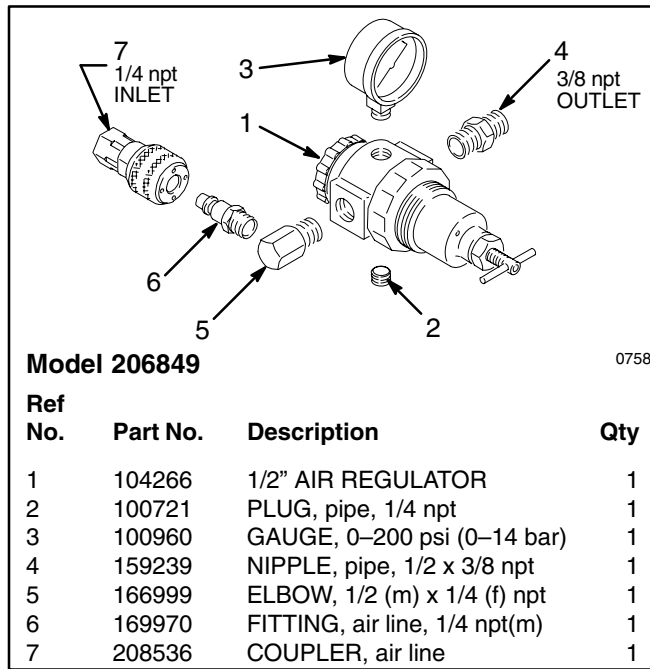


0943

## Model 206237

Ref No.	Part No.	Description	Qty
1	104267	1/2" AIR REGULATOR	1
2	100721	PLUG, pipe, 1/4 npt	1
3	101180	GAUGE, 0-200 psi (0-14 bar)	1
4	208393	BALL VALVE, 3/8-18 npt	1
5	158256	UNION, swivel,	1
6	162376	MANIFOLD, 1/2 npt(f) swivel, x 1/2 npt(m), two 1/8-27 npt ports	1
7	100403	PLUG, 1/8-27 npt	2
8	151519	NIPPLE, 1/4-18 x 1/8-27 npt	1
9	208625	AIR BLOW GUN	1

# Parts

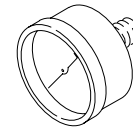
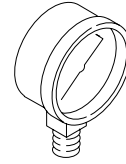


# Accessories

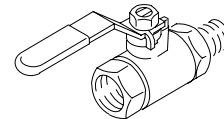
## GAUGES

Gauge Part Number	Air Pressure Range psi (bar)	Inlet npt(m)	Type of Case (includes ring)	Dial Dia. inch (mm)	Style	Glass P/N
160430	0–100 (7)	1/4	Black	2 (51)	1	102019
100960	0–200 (14)	1/4	Black	2 (51)	1	102019
101180	0–200 (14)	1/4	Chrome	2 (51)	1	102019
104655	0–60 (4)	1/8	Black	1.5 (38)	1	N/A
101689	0–200 (14)	1/4	Chrome	2 (51)	2	102019
108190	0–100 (7)	1/8	Black	1.5 (38)	2	N/A
110319	0–200 (14)	1/8	Black	1.5 (38)	1	N/A

Style 1 (Bottom Inlet)



Style 2 (Back Inlet)



**Regulator Mounting Bracket & Nut 105252**  
For Regulators

104266 171937  
104267 110234  
113406 111804

1-3/4–18 thread  
1.77" dia.

**Panel Mounting Bracket & Nut 110321**  
For Regulators

104815 110318  
110341 111804

1-13/16 thread  
1.25" dia.

**Panel Mounting Nut 110209**  
For Regulators

104815 110318  
110341 111804

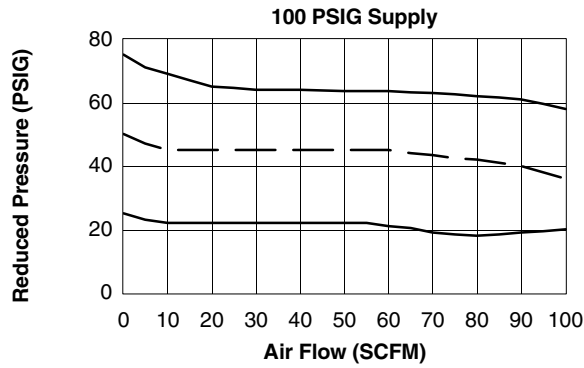
1-13/16 thread  
1.25" dia.

## BLEED-TYPE MASTER AIR VALVES

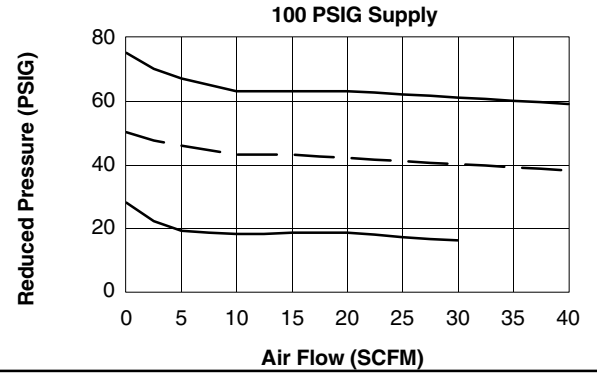
Part No.	Description
107141	3/4 npt (m x f)
107142	1/2 npt (m x f)
110223	1/4–18 npt (fbe)
110224	3/8–18 npt (fbe)
110225	1/2–14 npt (fbe)
110226	3/4–14 npt (fbe)

# Flow Curves

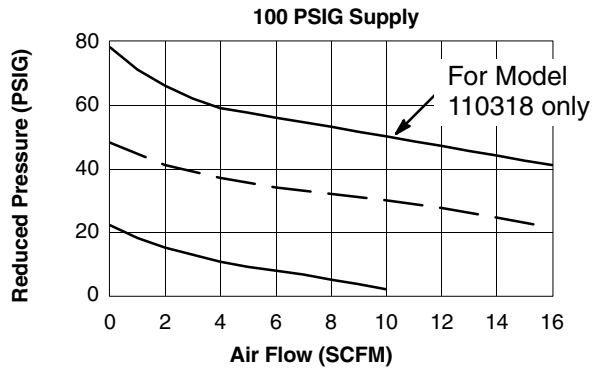
**Model 104266, 104267, 171937** (1/2 in. Port)  
**Model 110234** (3/8 in. Port)  
**Model 113406** (1/4 in. Port)



**Model 110341** (1/8 in. Port)  
**Model 111804** (1/4 in. Port)  
**Model 116903, 116904** (1/8 in. Port)



**Model 104815** (1/8 in. Port)  
**Model 110318** (1/4 in. Port)



# 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 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.

In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

## **FOR GRACO CANADA CUSTOMERS**

The parties acknowledge that they have required that the present document, as well as all documents, notices and legal proceedings entered into, given or instituted pursuant hereto or relating directly or indirectly hereto, be drawn up in English. Les parties reconnaissent avoir convenu que la rédaction du présente document sera en Anglais, ainsi que tous documents, avis et procédures judiciaires exécutés, donnés ou intentés à la suite de ou en rapport, directement ou indirectement, avec les procédures concernées.

# Graco Phone Numbers

**TO PLACE AN ORDER**, contact your Graco distributor, or call one of the following numbers to identify the distributor closest to you:

**1-800-325-0211 Toll Free**

**612-623-6921**

**612-378-3505 Fax**

*All written and visual data contained in this document reflects the latest product information available at the time of publication.*

*Graco reserves the right to make changes at any time without notice.*

MM308167

**Graco Headquarters:** Minneapolis  
**International Offices:** Belgium, Korea, China, Japan

**[www.graco.com](http://www.graco.com)**

308167 02/1995, Revised 06/2006