

Instructions-Parts



# High Flow Severe Duty Shutoff Check Valve

313343A

---

*For recirculation valves, shutoff check valves, or outlet shutoff check valves on XM plural-component sprayers.*

## **Part No. 255278**

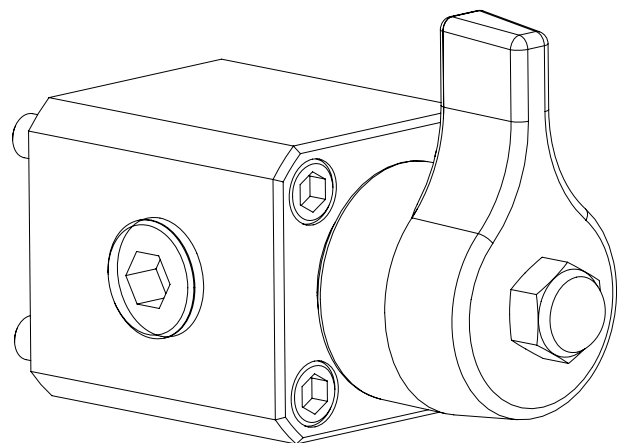
Complete high flow severe duty shutoff check valve assembly

*7250 psi (50 MPa, 500 bar) Maximum Working Pressure  
160°F (71°C) Maximum Fluid Temperature*



### **Important Safety Instructions**

Read all warnings and instructions in this manual and manuals 312359 and 313289. Save these instructions.



# Contents

<b>Related Manuals</b> .....	<b>2</b>
<b>Warnings</b> .....	<b>3</b>
<b>Overview</b> .....	<b>4</b>
<b>Setup</b> .....	<b>6</b>
<b>Repair</b> .....	<b>6</b>
<b>Parts</b> .....	<b>7</b>
<b>Troubleshooting</b> .....	<b>8</b>
<b>Repair Kit</b> .....	<b>8</b>
<b>Accessories</b> .....	<b>8</b>
<b>Technical Data</b> .....	<b>9</b>
<b>Mounting Dimensions</b> .....	<b>9</b>
<b>Graco Standard Warranty</b> .....	<b>10</b>
<b>Graco Information</b> .....	<b>10</b>






# Related Manuals

## Component Manuals in U.S. English:

<b>Manual</b>	<b>Description</b>
312359	XM Operation
313289	XM Repair
313292	XM OEM, Instructions-Parts
313342	Dosing Valve, Instructions-Parts
312749	XM Mix Manifold Kits Instructions-Parts

# Warnings

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbol refers to procedure-specific risk. Refer back to these warnings. Additional, product-specific warnings may be found throughout the body of this manual where applicable.

 <b>WARNING</b>	
	<p><b>FIRE AND EXPLOSION HAZARD</b></p> <p>Flammable fumes, such as solvent and paint fumes, in <b>work area</b> can ignite or explode. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> <li>• Use equipment only in well ventilated area.</li> <li>• Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc).</li> <li>• Keep work area free of debris, including solvent, rags and gasoline.</li> <li>• Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present.</li> <li>• Ground all equipment in the work area. See <b>Grounding</b> instructions.</li> <li>• Use only grounded hoses.</li> <li>• Hold gun firmly to side of grounded pail when triggering into pail.</li> <li>• If there is static sparking or you feel a shock, <b>stop operation immediately</b>. Do not use equipment until you identify and correct the problem.</li> <li>• Keep a working fire extinguisher in the work area.</li> </ul>
	<p><b>PRESSURIZED EQUIPMENT HAZARD</b></p> <p>Fluid from the gun/dispense valve, leaks, or ruptured components can splash in the eyes or on skin and cause serious injury.</p> <ul style="list-style-type: none"> <li>• Follow <b>Pressure Relief Procedure</b> in this manual, when you stop spraying and before cleaning, checking, or servicing equipment.</li> <li>• Tighten all fluid connections before operating the equipment.</li> <li>• Check hoses, tubes, and couplings daily. Replace worn or damaged parts immediately.</li> </ul>
	<p><b>TOXIC FLUID OR FUMES HAZARD</b></p> <p>Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.</p> <ul style="list-style-type: none"> <li>• Read MSDS's to know the specific hazards of the fluids you are using.</li> <li>• Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.</li> <li>• Always wear impervious gloves when spraying or cleaning equipment.</li> </ul>
	<p><b>PERSONAL PROTECTIVE EQUIPMENT</b></p> <p>You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect you from serious injury, including eye injury, inhalation of toxic fumes, burns, and hearing loss. This equipment includes but is not limited to:</p> <ul style="list-style-type: none"> <li>• Protective eyewear</li> <li>• Clothing and respirator as recommended by the fluid and solvent manufacturer</li> <li>• Gloves</li> <li>• Hearing protection</li> </ul>

# Overview

The high flow severe duty shutoff check valve is a valve that acts as a spring loaded one-way check valve when the valve is in the open position. When the handle is turned to the closed position, the ball is held against the seat closing flow in either direction. The valve can be manifold mounted with four screws and an o-ring face seal on the inlet, or it can be plumbed in place with 1/2 in. npt (f) threads on the inlet and two outlets.

**NOTE:**

It is recommended that this valve be used in the fully open and fully closed positions. To control the flow rate on a circulation line, use adjustable restriction valve 222200. See **Accessories** on page 8.

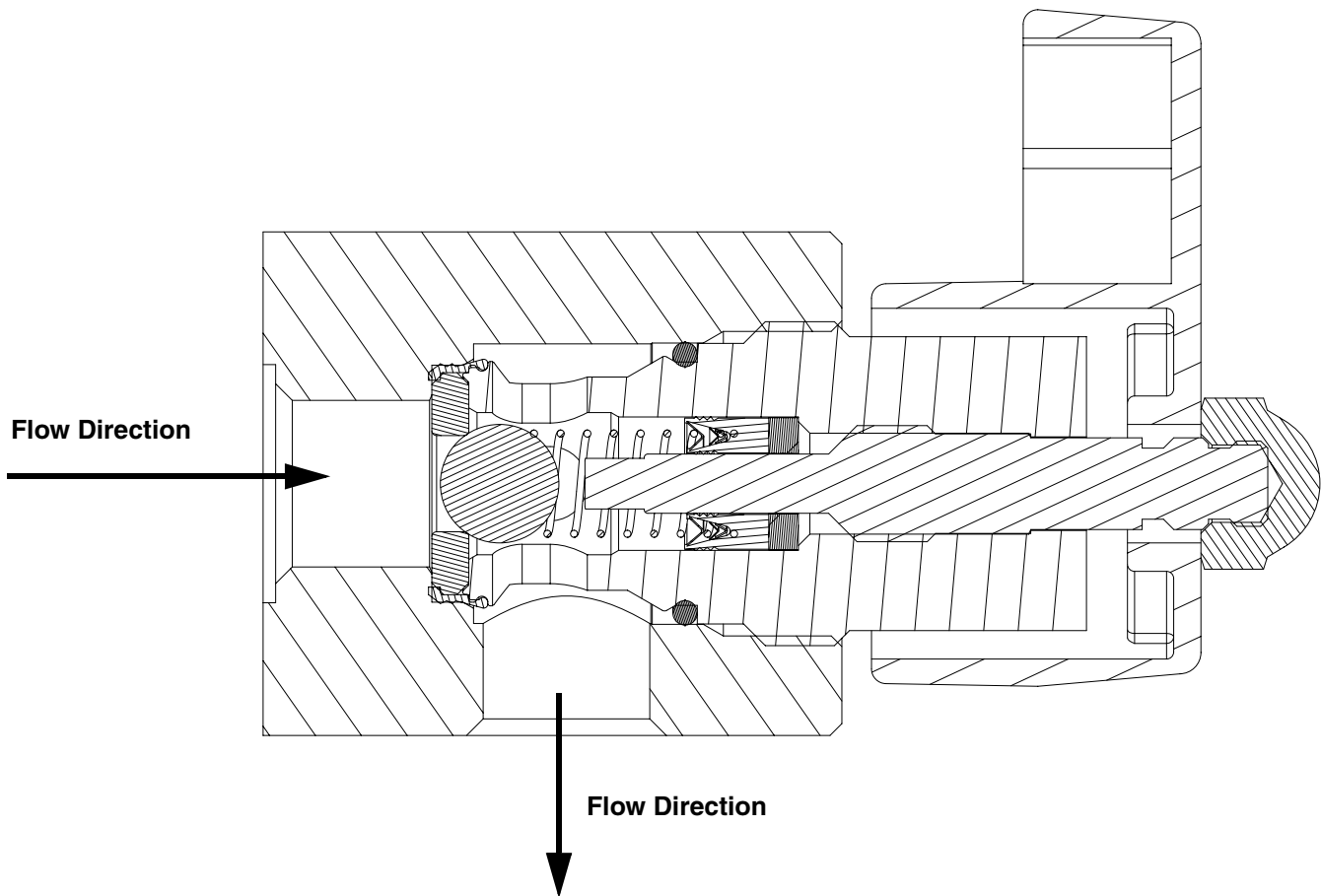


FIG. 1: Cutaway View



# Setup

Reference parts illustration on page 7.

1. Mount the valve in place with two outlet ports pointed in the desired direction using o-ring (14) and four screws (11).
2. Plug the un-used outlet port with plug (15). Use thread tape or sealant on the npt threads.
3. Use handle (12) to close the valve stem (8) clockwise. Position handle (12) to point in the direction you want to show as “closed”.
4. Secure handle (12) in place on stem (8) with crown nut (11).

# Repair



# Disassemble

Reference parts illustration on page 7.

1. Relieve upstream and downstream pressure. See operation manual 312359 for **Pressure Relief Procedure**. Leave stem (8) in open position.
2. Clamp housing (1) in a vice. Remove nut (13) and handle (12) from top check valve housing (10).
3. Remove cartridge assembly (10) from housing (1).
4. Remove ball (4), and spring (5).
5. Use plastic tool (110) provided in repair kit 256239 to remove seat (3) and seal (2).

## NOTE:

If valve housing (10) is still mounted on a machine, use a 90° hex key to grab under seat (3) and remove from housing (1).

6. Place handle (12) upside down on stem (8). Turn clockwise and remove stem (8) from cartridge (10). The seal (6) and spacer (7) will come out with the stem. Remove seal (6) and spacer (7) from stem (8).

7. Clean and inspect parts for wear and damage. Replace damaged parts from repair kit 256239.

# Assemble

Reference parts illustration on page 7.

1. Install o-ring (9) in groove of check valve housing (10).

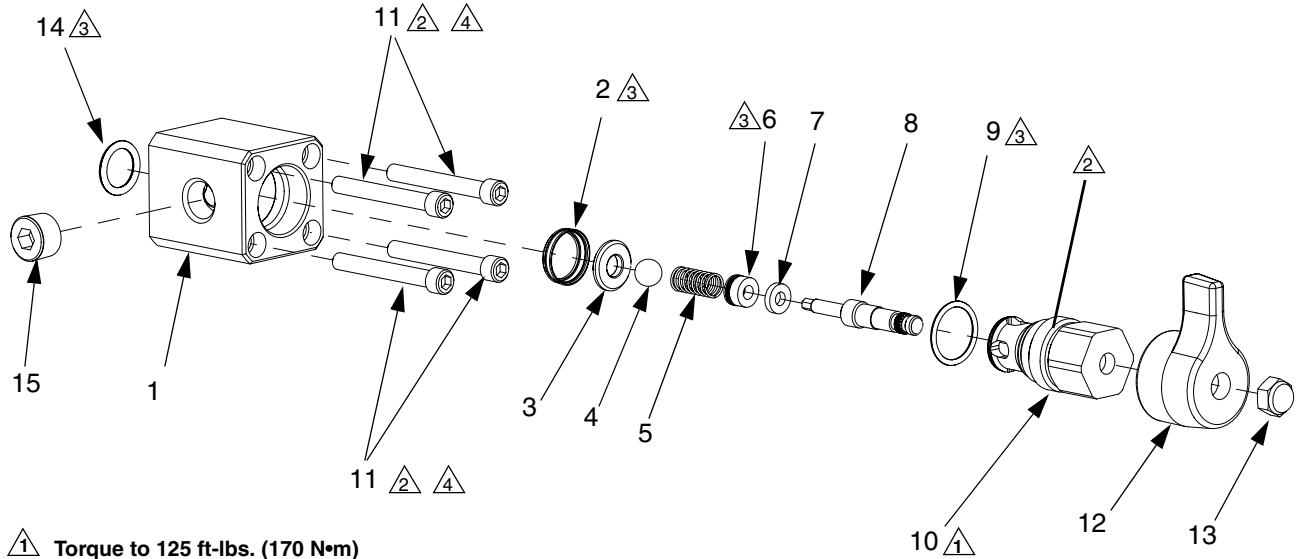
## NOTICE

Do not install seal (6) and spacer (7) at this time to prevent damage to seal.

2. Start to thread stem (8) by hand into bottom of cartridge (10). Place handle (12) on stem (8) and turn counter-clockwise to fully thread stem (8) through top of cartridge (10) to full open position.
3. Insert spacer (7). Use plastic tool (110) and hammer (not provided) to install seal (6) with lips facing away from spacer (7) on to stem (8) until it stops against spacer (7).
4. Place cartridge (10) in vice with bottom facing upward. Place spring (5) and ball (4) on stem (8). Firmly press seal (2) over lip of cartridge until it snaps into place and holds all the parts in place.
5. Apply blue thread lock, from repair kit 256239, on cartridge (10) external threads and insert cartridge assembly into check valve housing (1).
6. Place housing (1) in vice and torque to 125 ft-lbs.
7. Mount valve and position handle as described in **Setup**.

# Parts

## 255278, Complete Shutoff Check Valve Shown



- ① Torque to 125 ft-lbs. (170 N•m)
- ② Apply blue threadlock.
- ③ Apply lithium grease.
- ④ Torque to 16-20 ft-lbs. (22-27 N•m)

Ref.	Part	Description	Qty.
1	15J594	HOUSING, check valve	1
2*	15K692	SEAL, retainer, acetal	1
3*	15A968	SEAT, footvalve, carbide	1
4*	116166	BALL, carbide	1
5*	15M530	SPRING	1
6*	15M529	SEAL, u-cup; UHMWPE	1
7*	15M189	SPACER, backup, seal	1
8*	15K347	STEM	1
9*	121138	O-RING; PTFE	1
10*	15K199	HOUSING, top, check valve	1
11	121295	SCREW, cap, shcs; 5/16-18 x 2.5 in.	4
12	15R381	HANDLE, black	1
13	117623	NUT, cap (3/8-16)	1
14	121139	O-RING; PTFE	1
15	100361	PLUG, pipe; 1/2 npt	1

\* Included in shutoff check valve cartridge 255747.

◆ Included in shutoff check valve repair kit 256239 (purchase separately). See page 8 for parts included in kit.

# Troubleshooting

Problem	Cause	Solution
Handle is hard to turn under pressure.	Cartridge (10) is not tightened completely into housing (1).	Torque cartridge (10) to 125 ft-lbs. (170 N•m).

## Repair Kit

### 256239, Shutoff Check Valve Repair Kit

See parts illustration on page 7.

Ref	Part	Description	Qty.
2	15K692	SEAL, retainer, carbide	1
6	15M529	SEAL	1
9	121138	O-RING	1
110†	15T630	TOOL, u-cup and manifold	1
111†	113500	ADHESIVE, anaerobic	1

† *Not shown.*

## Accessories

### Handles

Part	Description	Qty.
247789	HANDLE, blue	1
15R380	HANDLE, green	1
247788	HANDLE, red	1

### 15R529, Fluid Inlet Block

Used on XM outlet to mount high flow severe duty shut-off check valve when mix manifold is remote. See manual 312749 for parts.

### 256980, XM Remote Mix Manifold Conversion Kit

See manual 312749.

### 222200, Restriction Valve

Used to control flow rate in circulation lines. See manual 307892.

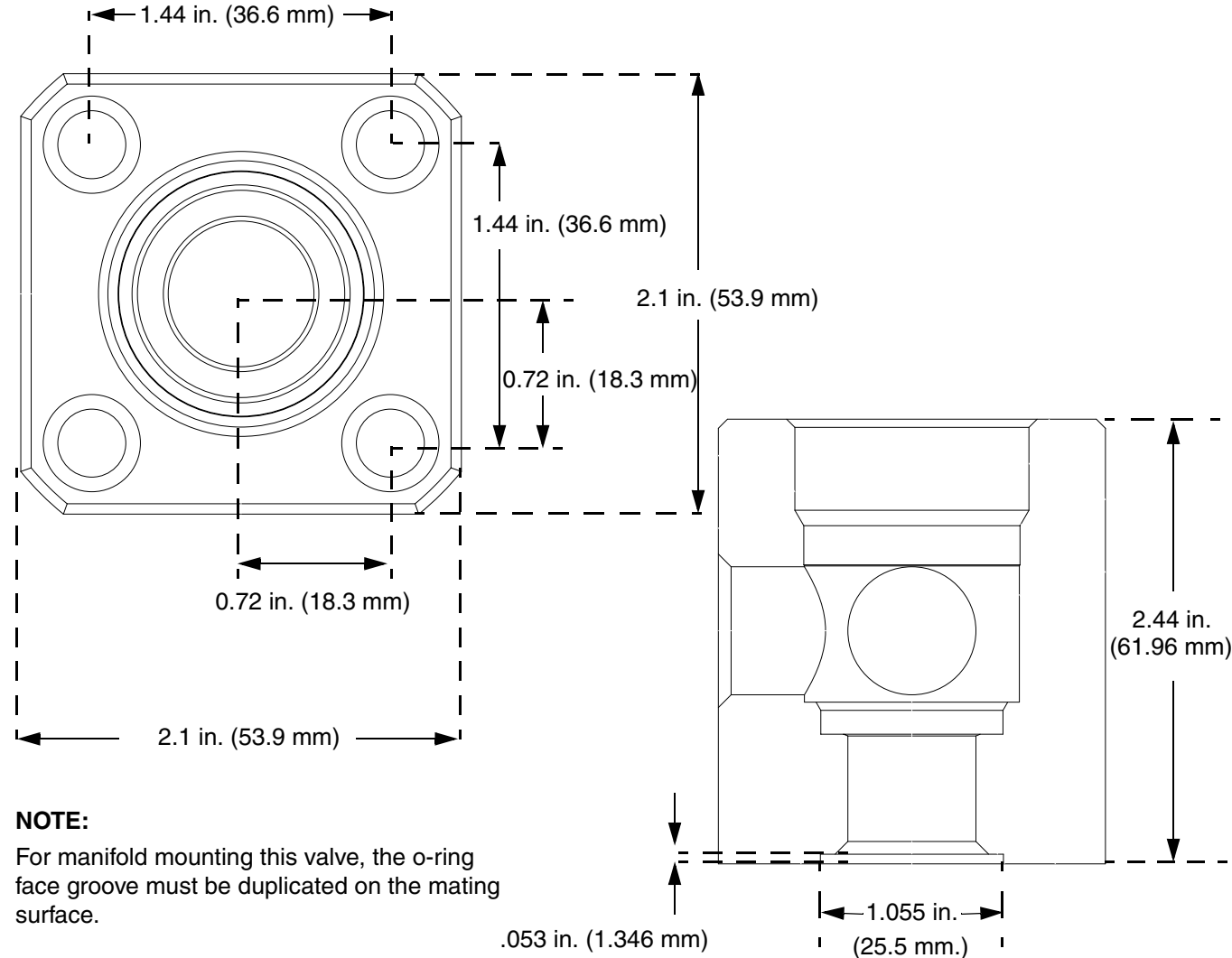


# Technical Data

Maximum Fluid Working Pressure .....	7250 psi (50 MPa, 500 bar)
Maximum Fluid Temperature .....	160°F (71°C)
Check Valve Housing Fluid Ports .....	1/2 in. npt
Wetted Parts .....	carbide ball, carbide seat, sst stem, nickel plated steel, PTFE o-rings, UHMWPE u-cup, acetal end cup seal.
Full turns from closed to open position. ....	1.5 turns

Loctite® is a registered trademark of the Loctite Corporation.

# Mounting Dimensions



# Graco Standard Warranty

Graco warrants all equipment referenced in this document which is 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 Information

For the latest information about Graco products, visit [www.graco.com](http://www.graco.com).

**TO PLACE AN ORDER**, contact your Graco distributor or call to identify the nearest distributor.

**Phone:** 612-623-6921 **or Toll Free:** 1-800-328-0211 **Fax:** 612-378-3505

*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.*

*This manual contains English. MM 313343*

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

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

Copyright 2009, Graco Inc. is registered to ISO 9001

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