Instructions - Parts

Fluid Controls and Fittings

Part No. 223627, 208085, 223621, 208082, 223622, 223623, 223624, 208250, 214019, 223626, and 210097
200 psi (1.4 MPa, 14 bar) Maximum Inbound Fluid Pressure

Part No. 223625 and 223628
300 psi (2.1 MPa, 21 bar) Maximum Inbound Fluid Pressure

See page 2 for model information

Important Safety Instructions
Read all warnings and instructions in this manual. Save these instructions.
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<th>Twist Lock</th>
<th>Slip Ring</th>
<th>Union Adapter</th>
<th>Twist Lock</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8 npsm</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
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<tr>
<td>Models</td>
<td>223627*</td>
<td>208085*</td>
<td>223628*</td>
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<tr>
<td></td>
<td>1.0 oz</td>
<td>1.5 oz</td>
<td>1.3 oz</td>
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<tr>
<td>Gun Mounted Fluid Regulators</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
</tr>
<tr>
<td>1/4 npsm inlet &amp; return ports</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
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</tr>
<tr>
<td>5 to 35 psi (0.5 to 2.5 bar)</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
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<tr>
<td>Regulated Pressure</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
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<tr>
<td>Models</td>
<td>223621*</td>
<td>208082*</td>
<td>223622*</td>
<td>223623*</td>
</tr>
<tr>
<td></td>
<td>7.0 oz</td>
<td>7.5 oz</td>
<td>7.0 oz</td>
<td>7.3 oz</td>
</tr>
<tr>
<td>Straight Adapters</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
</tr>
<tr>
<td>3/8 npsm inlet</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
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<tr>
<td>Models</td>
<td>223624*</td>
<td>208250</td>
<td>223625*</td>
<td></td>
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<tr>
<td>Circulating Adapters</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
</tr>
<tr>
<td>1/4 npsm inlet &amp; return ports</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
<td>[Image]</td>
</tr>
<tr>
<td>Models</td>
<td>214019</td>
<td>223626*</td>
<td>210097</td>
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</table>

* Stainless Steel Models
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 symbols refer to procedure-specific risks. When these symbols appear in the body of this manual or on warning labels, refer back to these Warnings. Product-specific hazard symbols and warnings not covered in this section may appear throughout the body of this manual where applicable.

NOTE: The following warning applies only to Models 214018, 208250, 214019, and 210097, which contain aluminum housings.

**WARNING**

PRESSURIZED ALUMINUM PARTS HAZARD

Use of fluids that are incompatible with aluminum in pressurized equipment can cause serious chemical reaction and equipment rupture. Failure to follow this warning can result in death, serious injury, or property damage.

- Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents.
- Many other fluids may contain chemicals that can react with aluminum. Contact your material supplier for compatibility.
Installation

Connect the Fluid Hose

Regulators or Circulating Adapters
• Connect the fluid hoses to the 1/4 npsm(m) inlet and return fittings.

Straight Adapter
• Connect a hose to the 3/8 npsm(m) inlet fitting.

Connect the Regulator or Adapter to the Gun

Model 223622
• Screw the regulator union adapter onto the gun fluid inlet.

Models with Twist-lock Couplers
• Screw the coupler stem onto the gun inlet. Connect the twist-lock couplers by lining up the coupler slots with the pins on the stem, pushing the coupler onto the stem, then twisting the coupler clockwise to lock it.

Models with Slip-ring Couplers
• Pull the slip ring back as you push the coupler onto the stem.

Operation

NOTICE
To avoid damaging the regulator diaphragm, never exceed 200 psi (1.4 MPa, 14 bar) Maximum Inbound Fluid Pressure to the regulator.

To Adjust the Fluid Pressure
Trigger the gun. Turn the fluid regulator setscrew (2) clockwise to the desired setting. Release the gun trigger, tighten the locknut (1), and install the acorn nut (16).

Service

To Clean or Service the Regulator
1. Relieve the air and fluid pressures.
2. Disconnect the regulator from the gun and the hoses from the regulator.
3. Disassemble the regulator. Refer to the Parts Drawing.
4. Clean and inspect the parts carefully.
5. Replace worn or damaged parts and reassemble the regulator. Be sure the nylon side of the diaphragm (12) faces the fluid.

Torque Notes:

Diaphragm Nut (3) onto Valve Stem (8):
6 to 10 in-lb (0.7 to 1.1 N•m)

Screws (5) into the Housing (18):
20 to 30 in-lb (2.3 to 3.4 N•m)

Cap (14) into the Housing (18):
10 to 15 ft-lb (13.5 to 20.0 N•m)

NOTICE
To reduce the risk of serious injury, including splashing in the eyes or on the skin, always shut off the air and fluid pressure to the gun and trigger the gun to relieve pressure in the hoses before disconnecting hoses from the regulator or adapter.
## Parts

<table>
<thead>
<tr>
<th>Ref. No.</th>
<th>Part No.</th>
<th>Description</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100166</td>
<td>NUT, hex mach; No. 10-32</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>102433</td>
<td>SCREW, set, hex socket; No. 10-32 x 3/4&quot;</td>
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<td>3</td>
<td>102980</td>
<td>NUT, hex; stainless steel; No. 4-40</td>
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<tr>
<td>4*</td>
<td>102982</td>
<td>O-RING; PTFE</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>103229</td>
<td>SCREW, cap, socket head; No. 8-32 x 3/8&quot;</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>167244</td>
<td>RETAINER, spring</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>167245</td>
<td>SPRING, compression</td>
<td>1</td>
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<tr>
<td>8</td>
<td>168872</td>
<td>VALVE STEM</td>
<td>1</td>
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<tr>
<td>9</td>
<td>168877</td>
<td>HOUSING, upper</td>
<td>1</td>
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<tr>
<td>10*</td>
<td>178320</td>
<td>GASKET; cellulose fibre</td>
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<tr>
<td>11</td>
<td>168879</td>
<td>WASHER, back-up</td>
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<tr>
<td>12*</td>
<td>178321</td>
<td>DIAPHGRAM; nylon &amp; buna-n</td>
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<td>168881</td>
<td>WASHER; acetal</td>
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<td>15*</td>
<td>169597</td>
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<td>170303</td>
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<tr>
<td>17*</td>
<td>178322</td>
<td>GASKET; cellulose fibre</td>
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<td>18</td>
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<td>208180</td>
<td>HOUSING, lower; Model 223623 only</td>
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<tr>
<td>19†</td>
<td>101947</td>
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<tr>
<td>20</td>
<td>186203</td>
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<td>104338</td>
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<td>22†</td>
<td>171887</td>
<td>BALL SEAT; PTFE</td>
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<tr>
<td>23†</td>
<td>171888</td>
<td>HOUSING, seal; acetal</td>
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<td>24</td>
<td>186202</td>
<td>HOUSING, coupler; stainless steel</td>
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<td>25</td>
<td>168890</td>
<td>SPRING, compression</td>
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<tr>
<td>26†</td>
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<td>VALVE SEAT; acetal</td>
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<table>
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<tr>
<th>Ref. No.</th>
<th>Part No.</th>
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<td>SLIP RING COUPLER ASSY.</td>
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<td>Includes items 30-34</td>
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<tr>
<td>30</td>
<td>100172</td>
<td>BALL; chrome alloy; 0.188&quot; (4.76 mm) dia.</td>
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<td>31✓</td>
<td>157230</td>
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<td>32</td>
<td>168874</td>
<td>RING, coupler</td>
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<td>33</td>
<td>168875</td>
<td>SPRING, compression</td>
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<tr>
<td>34</td>
<td></td>
<td>HOUSING, coupler</td>
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</tr>
<tr>
<td>35✓</td>
<td>168882</td>
<td>GASKET; acetal</td>
<td>1</td>
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<td>36</td>
<td>223892</td>
<td>UNION, adapter; 3/8&quot; npsm(f) swivel</td>
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<tr>
<td>37**</td>
<td>178846</td>
<td>SEAL; nylon</td>
<td>1</td>
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<tr>
<td>38**</td>
<td>103075</td>
<td>BALL; stainless steel; 0.438&quot; (11.1 mm) dia.</td>
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<tr>
<td>39**</td>
<td>178847</td>
<td>GUIDE, coupler stem</td>
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<td>40**</td>
<td>178848</td>
<td>BALL SEAT; PTFE</td>
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<td>41†</td>
<td>111279</td>
<td>BALL; stainless steel; 0.438&quot; (11.1 mm) dia.</td>
<td>1</td>
</tr>
</tbody>
</table>

Recommended “tool box” spare parts. Keep these spare parts on hand to reduce down time.

* These parts are included in Repair Kit 208380, which may be purchased separately.

** These parts are included in Repair Kit 217502, which may be purchased separately.

† These parts are included in Repair Kit 210786, which may be purchased separately.

★ Accessory PTFE Diaphragm 185028 with PET Backing Diaphragm 168880 is available. See page 10.

■ These parts are included in Repair Kit 24U819, which may be purchased separately.
Coupler Stems

<table>
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<td>FITTING, coupler</td>
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<tr>
<td>3</td>
<td>3</td>
<td>168869</td>
<td>COUPLING NUT; 3/8 npsm (f)</td>
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</tbody>
</table>

Fluid Regulators

Model 223622 Series A
Includes items 1-18, 35, 36

Model 223621 Series A
Includes items 1-25

Model 208082 Series E
Includes items 1-19, 26-34

Model 223623 Series A
Includes items 1-18, 20, 24, 25, 37-40

Common Parts for Regulators

NOTES

⚠ Small hole faces down
⚠ Torque to 10–15 ft/lb (13.5–20 N·m)
⚠ Nylon side MUST face fluid
⚠ 1/4 npsm(m)
⚠ Torque to 6-10 in/lb (0.7-1.1 N·m)
⚠ Torque to 20-30 in/lb (2.3-3.4 N·m)
⚠ Spring inside faces down
⚠ Large chamfer faces up

307016U
## Straight Adapters

**NOTES**
- 3/8 npsm(m)
- Spring inside faces down
- Torque to 15-25 ft/lb (20-34 N•m)

### Model 223624 Series A TWIST LOCK COUPLER

Includes items 3-13

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<table>
<thead>
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<td>186203</td>
<td>COUPLING NUT; stainless steel</td>
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<td>186202</td>
<td>HOUSING, coupler; stainless steel</td>
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<tr>
<td>7</td>
<td>168890</td>
<td>SPRING, compression</td>
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<tr>
<td>9†</td>
<td>101947</td>
<td>BALL; stainless steel; 0.375&quot; (9.5 mm) dia.</td>
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<thead>
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<td>170755</td>
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<tr>
<td>12†</td>
<td>171887</td>
<td>BALL SEAT; PTFE</td>
<td>1</td>
</tr>
<tr>
<td>13†</td>
<td>171888</td>
<td>HOUSING, seal; acetal</td>
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† These parts are included in Repair Kit 210786, which may be purchased separately.
### Straight Adapters

**Model 223625 Series A**  
**TWIST LOCK COUPLER**  
Includes items 3, 4, 7, 24 - 27

- 3 -
- 4 -
- 25 -
- 26 -
- 28 -
- 7 -
- 27 -

**Model 208250 Series B**  
**SLIP RING COUPLER**  
Includes items 8, 9, 14 - 22

- 17 -
- 14 -
- 9 -
- 16 -
- 8 -

### NOTES
- 3/8 npsm(m)
- Small hole faces down
- Large chamfer faces up
- Torque to 15-25 ft-lb (20-34 N•m)

### Ref. No. | Part No. | Description | Qty. | Ref. No. | Part No. | Description | Qty.
--- | --- | --- | --- | --- | --- | --- | ---
3 | 186203 | COUPLING NUT; stainless steel | 1 | 21 | 168875 | SPRING, compression | 1
4 | 186202 | HOUSING, coupler; stainless steel | 1 | 22 | 168876 | HOUSING, coupler | 1
7 | 168890 | SPRING, compression | 1 | 24 | 178846 | SEAL; nylon | 1
8 | 169472 | HOUSING, straight adapter | 1 | 25 | 178847 | GUIDE, coupler stem | 1
9 | 101947 | BALL; stainless steel; 0.375" (9.5 mm) dia. VALVE SEAT; acetal | 1 | 26 | 178848 | BALL SEAT; PTFE | 1
14 | 168891 | SPRING, compression | 1 | 27 | 180050 | HOUSING, straight adapter | 1
16 | 168892 | SLIP RING COUPLER ASSY. Includes items 18-22 | 1 | 28 | 111279 | BALL; stainless steel, 0.438" (11.1 mm) dia. | 1
17 | 100172 | BALL; chrome alloy, 0.188" (4.76 mm) dia. | 3 | 19 | 157230 | RING, retaining | 1
19 | 168874 | RING, coupler | 1 | 20 | 168875 | SPRING, compression | 1

- Recommended “tool box” spare parts. Keep on hand to reduce downtime.
- These parts are included in Repair Kit 24U819, which may be purchased separately.
## Circulating Adapters

### Model 214019 Series B
**TWIST LOCK COUPLER**
Includes items 2, 3, 7 - 11, 15, 16

### Model 223626 Series A
**TWIST LOCK COUPLER**
Stainless Steel

### Model 210097 Series B
**TWIST LOCK COUPLER**
Includes items 2, 3, 7, 8, 26 - 30

### NOTES
- ▲ 1/4 nps(m)
- ▲ Small hole faces down
- ▲ Spring inside faces down
- ▲ Torque to 15–25 ft/lb (20–34 N•m)

### Ref. No. | Part No. | Description | Qty. |
---|---|---|---|
2 | 167394 | COUPLING NUT | 1 |
3 | 167395 | HOSE ADAPTER; 1/4 nps(m) | 2 |
4 | 186203 | COUPLING NUT; stainless steel | 1 |
5 | 186202 | HOUSING, coupler; stainless steel | 1 |
7 | 181578 | HOUSING, coupler | 1 |
8 | 188890 | SPRING, compression | 1 |
9 | 169473 | HOUSING, circulating adapter | 1 |
10† | 101947 | BALL; stainless steel; 0.375" (9.5 mm) dia. | 1 |
11† | 104338 | SEAL, spring loaded; PTFE | 1 |
12 | 170755 | HOUSING, straight adapter | 1 |
13 | 171233 | HOUSING, circulating adapter | 1 |
14 | 171234 | HOSE ADAPTER; 1/4 nps(m) | 2 |
15† | 171887 | BALL SEAT; PTFE | 1 |

16† | 171888 | HOUSING, seal; acetal | 1 |
26** | 103075 | BALL; stainless steel, 0.438" (11.1 mm) dia. | 1 |
27** | 178846 | SEAL; nylon | 1 |
28** | 178847 | GUIDE, coupler stem | 1 |
29** | 178848 | BALL SEAT; PTFE | 1 |
30 | 169471 | HOUSING, circulating adapter | 1 |

† These parts are included in Repair Kit 210786, which may be purchased separately.
** These parts are included in Repair Kit 217502, which may be purchased separately.
Accessories

Accessories must be purchased separately

PTFE Diaphragm 185028, with PET Backing
Diaphragm 168880*

Use when regulator must be submersed in a solvent incompatible with the buna-n backing of the standard diaphragm 178321.

* The PTFE diaphragm must face the fluid, with the PET diaphragm used as backing.
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
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For the latest information about Graco products, visit www.graco.com.
For patent information, see www.graco.com/patents.

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