Instructions
Dispensit® 715

332095A
EN

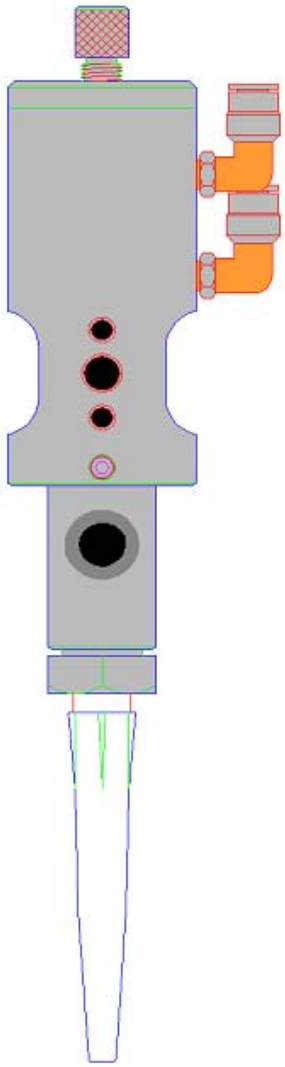
Usage Statement – Depending on valve configuration this valve can be used to dispense the following: Acrylics • Urethanes • Lubricants • UV Curables • Silicone Oil • RTV Silicone • Sealants • Epoxies • Greases • Filled Materials • Heat Sink Compounds

Dispense Valve

100*psi (0.69 MPa, 6.9 bar) Maximum Working Pressure*

Important Safety Instructions
Read all warnings and instructions in this manual.
Save these instructions.

See Page 3 for model information, including maximum working pressure and approvals.



DISPENSIT® MODEL 715
DISPENSE VALVE
OPERATING & MAINTENANCE MANUAL

GENERAL INFORMATION

The Model 715 Dispense Valve is an On/Off valve designed for a continuous flow of viscous material through a dispense needle in automatic, semi-automatic or manual applications. It is shipped complete with the following:

- Model 715 Dispense Valve
- Two 3 foot (.9 m) sections of pneumatic air line
- Seal Kit
- Operating and Maintenance Manual

SAFETY INFORMATION

This product should be used only by employees who have been given appropriate training and safety warnings as set forth in this manual. Read completely before operating.

WARNING: Do not exceed 100 psi (6.9 bar) pressure on the operating system. Do not exceed 2000 psi (137.9 bar) material inlet pressure. Higher pressures may cause a hazard or serious injury. Note: The minimum recommended pneumatic operating system pressure is 70 psi (4.8 bar) clean/dry air.

Toxicity and flammability hazards depend upon the product being dispensed by this unit, and the user should take appropriate safety precautions as indicated on the MSDS of the product.

Always wear safety glasses.

ILLUSTRATION REFERENCES

Throughout this manual you will find references by illustration item number to the illustrations in the manual. The references are indicated by parentheses around a number such as: (7). Illustrations represent typical valve configurations. The drawings for your exact model are inserted at the back of the manual and include the part numbers for ordering replacement parts.

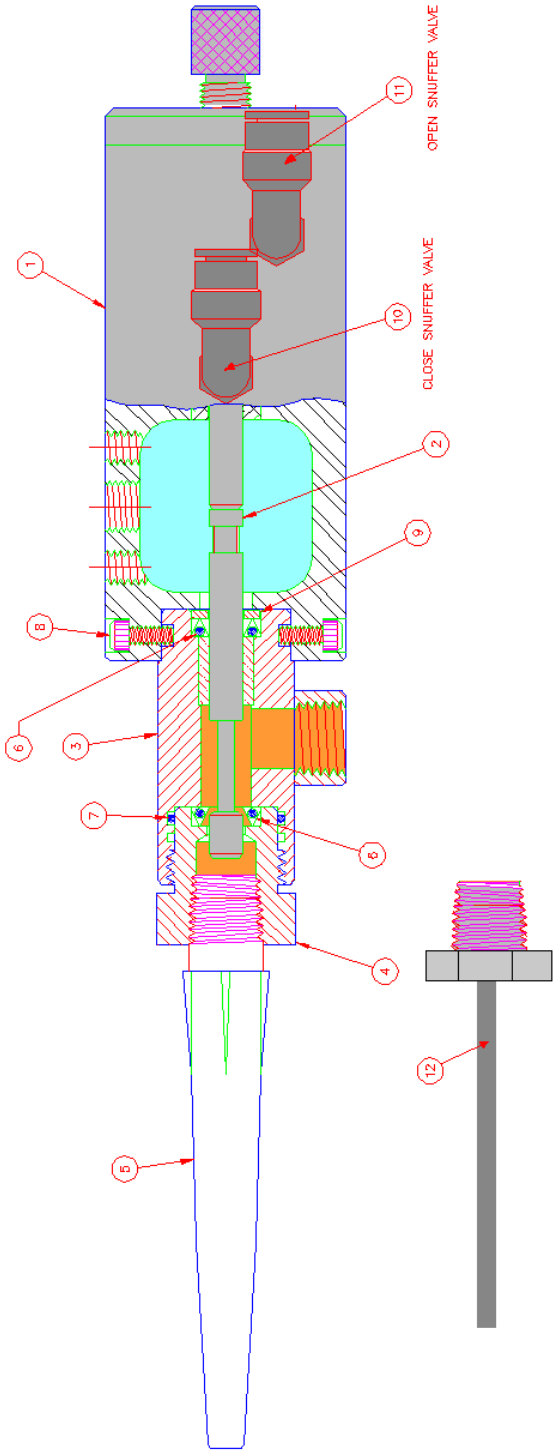
GENERAL ACCESSORIES

GracoOhio offers a full line of standard and custom accessories for your dispensing needs including:

- Valve Controllers
- Syringe Feed Systems
- Cartridge Retainers and Pressure Reservoirs
- Titan 200 High Pressure Cartridge Feed Systems
- Transfer Pump Feed Systems for 1, 5 and 55 gallon containers
- Mounting Bases and Brackets
- Custom Needles and Needle Blocks

Consult your Dispensit dealer or the factory for details.

DESCRIPTION OF OPERATION



1. The normal “ready” state of the system is as follows:
   - The material supply line is filled with dispensable material.
   - The system has been purged, filling the valve with material up to the Spool (2).
   - The Spool (2) is seated in the lower Posipak Seal (6).

2. The dispense cycle begins when the controller is activated. Air at 70 psi (4.8 bar) enters the Open port and extends the Spool (2) through the lower Posipak Seal (6).

3. Material flows through the Material Inlet (3), around the narrow section of the Spool (2) and out through the Nozzle (5) (or Needle (12). Volume can be varied by changing the material pressure, nozzle size, dispense speed and dispense time.

4. When the correct amount of material has been dispensed, the controller relieves air from the Open port and applies air to the Close port. The Spool (2) retracts into the lower Posipak Seal (6) “snuffing” the material back into the Nozzle (5), sealing the valve and ending the dispensing process. The system is again in the normal “ready” state.

SETUP PROCEDURE

MOUNTING DISPENSE VALVE

Mounting holes are drilled through the valve body. The valve may be tilted to a maximum of 60 degrees from the vertical depending on the application.

AIR CONTROLLER

Operation of the Model 715 Dispense Valve requires a controller that can provide the following:

- A minimum of 0.5 SCFM (2.3 cm^3) of dry unlubricated air at a minimum pressure of 70 psi (4.8 bar) and a maximum of 100 psi (6.9 bar).
- Time delay capability to allow the valve to cycle.
- Independent air pressure regulators for material supply and valve operation.
- "Purge capability" which is the ability for the operator to pass or not pass air to the valve's Open port.
- For semiautomatic or automatic applications, a foot switch or other control to cycle the valve.
- Connection for .16"ID x .25" OD (6.35mm) pressure tubing for use between the dispense valve and controller.
- Connection for .16"ID x .25" OD (6.35mm) pressure tubing for use between the controller and material supply air inlet.

OPERATING PROCEDURES

If there are any problems in getting started, refer to the Troubleshooting section or call Technical Service at (330) 494-1313.

DRY SYSTEM CHECKOUT

This is an initial checkout to determine if the setup has been properly completed. The dry checkout is conducted without any material in the system. Refer to the illustrations above or below.

1. Turn on the controller and the air supply.
2. Set the air pressure to 70 psi (4.8 bar) on the system pressure gauge.
3. In the normal "ready" state the Spool (2) is seated in the Posipak Seal (6), sealing the dispense valve. For this test, remove the Nozzle (5) so that you can visually verify that the Spool (2) extends upon actuation.
4. Momentarily press the dispense valve cycling control switch.
5. The controller applies air to the Open port of the dispense valve, the Spool (2) extends. After the time delay the controller applies air to the Close port causing the Spool (2) to retract. Visually verify the spool movement. When this happens, the system is correctly installed.

MATERIAL LOADING

Material is supplied from a pressure vessel or pump with enough pressure to cause a proper rate of flow from the dispense nozzle. (Note: The material pressure will vary depending on the application.)

Warning: Do not apply either operating or material supply pressure to the product until all screws, material supply connections and air system connections are in place and properly tightened.

Attach the air line to the regulator and set the air pressure control to the setting required for the application. (Note: When using a remote reservoir, the delivery tubing and fittings must be compatible with the material being dispensed and capable of withstanding the dispensing pressure.)

WARNING: Do not exceed 100 psi (6.9 bar) pressure on the operating system. Do not exceed 2000 psi (137.9 bar) material inlet pressure. Higher pressures may cause a hazard or serious injury. Note: The minimum recommended pneumatic operating system pressure is 70 psi (4.8 bar) clean/dry air.

OPERATING PROCEDURES

WET CUP LOADING

Some models are equipped with a wet cup around the Spool (2) to keep it wetted. This helps prevent curing or crystallization of material on the spool and consequent premature seal failure. Fill the wet cup with a compatible self-leveling material prior to operation if your valve is so equipped.

WET SYSTEM CHECKOUT

Using the purge cycle on the air supply controller, run the material through the material supply line and valve until a smooth material flow is observed through the dispense nozzle.

After the purge cycle has been completed, set the air supply controller to the manual cycle mode and cycle the dispense valve several times.

OPERATION ADJUSTMENTS

AIR SUPPLY ADJUSTMENT

The air pressure to the controller and material supply regulator is typically 70 psi (4.8 bar). Do not exceed 100 psi (6.9 bar) pressure to the dispense valve. However, the material supply pressure must be adjusted according to the type of material being dispensed. Too low a pressure will give you an inconsistent dispensed volume because the material does not have sufficient pressure to flow smoothly through the nozzle. Too high a pressure may cause material separation or packing. Use the minimum pressure needed to obtain smooth material flow during the purge cycle.

MATERIAL OUTPUT AND SNUFF-BACK ADJUSTMENT

The material output depends on the material pressure, size of nozzle or needle, the dispense time and the rate at which the dispense valve is moved by the system to which it is attached.

The Model 715 Snuffer allows material to be drawn back into the dispense nozzle/needle when the Spool (2) retracts to minimize post-dispense dripping or drooling. This is the “snuff-back” feature. Snuff-back can be adjusted only while dispensing. The snuff-back adjustment knob on the top of the valve controls this. Turn the knob “in” or clockwise to decrease snuff-back or turn the knob “out” or counterclockwise to increase snuff-back. If desired results are not achieved try adjusting through the full range of travel.

DISPENSE NOZZLE/NEEDLE HEIGHT ADJUSTMENT

Ideally, the material should just contact the work piece enough to create an adhesive bond and cause a clean separation of the material from the outlet tip upon completion of the dispense cycle.

PERIODIC MAINTENANCE

DISPENSE NOZZLE/NEEDLE REPLACEMENT

If no material or reduced volumes of material come out of the dispense nozzle/needle it may be partially or completely clogged. Clean with water or solvent depending on the material dispensed. A fine wire, used cautiously, will help open clogged needles. Replace the nozzle or needle if damaged or severely clogged. Replacement nozzles and needles can be ordered by specifying the proper part number. See the Recommended Spare Parts section of this manual or consult the drawings for your exact model.

DISASSEMBLY - WET SECTION

Refer to the illustration on the next page and the drawings in the back of this manual for your exact model.

1. Turn off the air supply and disconnect the air lines.
2. Turn off the material supply and remove the material line from the Material Inlet (3).
3. Remove the valve from its mounting.
4. Remove the Screws (8).
5. Pull the Material Inlet (3) away from the Air Cylinder Assembly (1).
6. Grasp the end of the Spool (2) and pull it down to the fully extended position.
7. Wipe off the Spool (2) and inspect it for wear. Remove the Spool (2) if worn.
8. Remove the Nozzle (5) or Needle (12) from the Adapter (4).
9. Remove the Adapter (4) from the Material Inlet (3).
10. Remove and discard the O-ring (7).
11. Remove the Seal Retainer (9) and Posipak Seals (6).

The 715 Dispense Valve Wet Section is now ready for cleaning and assembly.

ASSEMBLY - WET SECTION

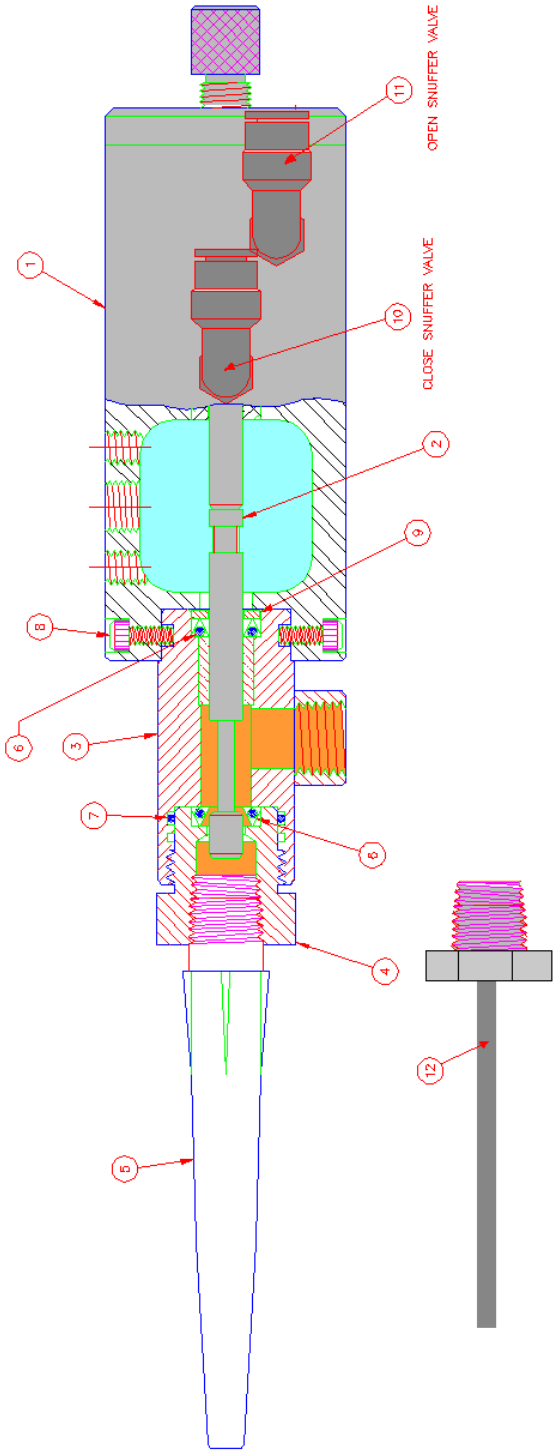
Note: Clean all valve parts with an appropriate solvent prior to assembly. Always install new, lightly lubricated o-rings and seals when assembling the valve. Use Krytox 203GPL (part number 84/0200-K3/11) for lubricating valve parts including seals and o-rings. Lubricate the outside of the Spool (2) before assembly. Check the Spool (2) for wear and if it is worn secure a replacement before proceeding.

Note: Use caution as you install new Posipak seals so that they are not pinched or torn. Do this by making sure they are lubricated, and by tucking the lips of the seal inward before uniformly pushing them into position. Always consult the illustrations and drawings to be sure that seals face the correct direction.

1. Install the Spool (2) if you removed it.
2. Install the O-ring (7) in the bottom end of the Material Inlet (3).
3. Install the Posipak Seal (6) in the top end of the Material Inlet (3). Some models have a single seal in this location and some have 3 seals in this location. Check the drawings for your exact model.
4. Install the Seal Retainer (9).
5. Slide the Material Inlet (3) carefully over the Spool (2) until it seats in the Air Cylinder Assembly (1).
6. Install the Screws (8).
7. Install the other Posipak Seal (6) into the Adapter (4).
8. Screw the Adapter (4) into the Material Inlet (3), taking care that the Posipak Seal (6) slides over the extended Spool (2) without rolling the lip .
9. Install the Nozzle (5) or Needle (12) into the Adapter (4).

Perform the Dry System Checkout, Material Loading and Wet System Checkout procedures.
The 715 Dispense Valve is now ready to be placed back in service.

MODEL 715 GENERAL ILLUSTRATION



1	AIR CYLINDER ASSEMBLY
2	SPOOL
3	MATERIAL INLET
4	ADAPTER
5	NOZZLE (some models)
6	POSIPAK SEAL (2 pieces most models, 4 pieces some models)
7	O-RING
8	SCREW
9	SEAL RETAINER
10	ELBOW
11	ELBOW
12	NEEDLE (some models)

PERIODIC MAINTENANCE

DISASSEMBLY - AIR CYLINDER ASSEMBLY

Refer to the illustration on the next page and the drawings in the back of this manual for your exact model.

1. Turn off the air supply and disconnect the air lines.
2. Turn off the material supply and remove the material line from the Material Inlet (3).
3. Remove the valve from its mounting.
4. Remove the Screws (8) and pull the Wet Section away from the Air Cylinder Assembly. Unscrew the Spool (2 on the prior illustration) from the Piston Rod (5).
5. Unscrew the End Cap (2) from the Air Cylinder Body (1).
6. Remove and discard the O-ring (12).
7. Remove the Screw (11) and Lock Washer (15) from the Snuff-Back Adjustment Knob (3).
8. Remove the Piston (4) from the Air Cylinder Body (1).
9. Remove and discard the O-ring (13).
10. Remove and discard the O-rings (14).

The 715 Dispense Valve Air Cylinder Assembly is now ready for cleaning and assembly.

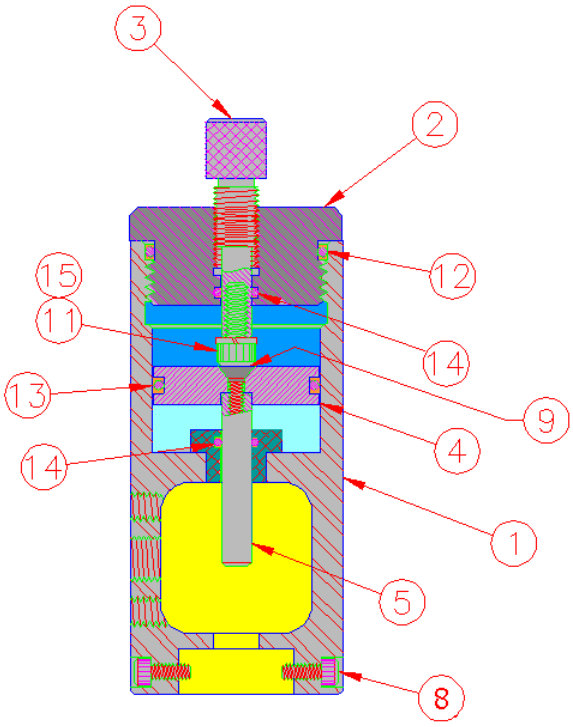
ASSEMBLY - AIR CYLINDER ASSEMBLY

Note: Clean all valve parts with an appropriate solvent prior to assembly. Always install new, lightly lubricated o-rings and seals when assembling the valve. Use Krytox 203GPL (part number 84/0200-K3/11) for lubricating valve parts including seals and o-rings. Lubricate the inside of the Air Cylinder Body (1) and the outside of the Piston Rod (5) before assembly. Check the Piston Rod (5) for wear and if it is worn secure a replacement before proceeding.

1. Install the lower O-ring (14) into the groove in the Air Cylinder Body (1). This is easiest if performed from the top. Squeeze the O-ring to an oblong shape to get it started in the groove, then push it gradually into place with a small, blunt tool.
2. Install the O-ring (13) around the Piston (4).
3. Insert the Piston (4) assembly carefully into the Air Cylinder Body (1) until the Piston Rod (5) passes through the lower O-ring (14).
4. Install the upper O-ring (14) into the groove in the End Cap (2).
5. Install the Screw (11) through the Lock Washer (15) and upper O-ring (14) and into the Snuff-Back Adjustment Knob (3). Make sure the Lock Washer (15) is fully compressed.
6. Install the O-ring (12) into the Air Cylinder Body (1).
7. Screw the End Cap (2) into the Air Cylinder Body (1).
8. Screw the Spool (2 on prior illustration) into the Piston Rod (5).
9. Slide the Wet Section over the Spool (2 on prior illustration) until it seats in the Air Cylinder Body (1) and secure it with the Screws (8).

Perform the Dry System Checkout, Material Loading and Wet System Checkout procedures.
The 715 Dispense Valve is now ready to be placed back in service.

MODEL 715 AIR CYLINDER ASSEMBLY ILLUSTRATION



1	AIR CYLINDER BODY
2	END CAP
3	SNUFF-BACK ADJUSTMENT KNOB
4	PISTON
5	PISTON ROD
6	ELBOW
8	SCREW,#6-32 x 5/16
9	SCREW,#6-32 x ½
11	SCREW,#10-24 x 1/2
12	O-RING
13	O-RING
14	O-RING
15	LOCK WASHER

TROUBLESHOOTING

If operating difficulties are encountered, review the symptoms below. With each problem there are one or more possible causes that should be investigated to resolve the situation.

NOTHING HAPPENS - If absolutely nothing happens when trying to cycle the Dispense Head, check the electric pneumatic power. Check the footswitch or cycle start switch to be sure it is plugged in.

VALVE CYCLES, NOTHING DISPENSED - First, try to purge the unit; this should fix most situations. If it doesn't, check to see that there is enough pressure to the reservoir or transfer pump. Perhaps the Reservoir/Nozzle/Needle path is clogged; examine and clear or replace as necessary. Consider whether the material could have set up in the system. (See the "Wet System Checkout" and "Operation Adjustments" sections.)

IRREGULAR VOLUME DISPENSED - Frequently, this is caused by faulty material. The material must be a smooth (homogeneous) mixture, without any air entrapped in it. A second cause could possibly be that the material is not being supplied. Check the reservoir pressure as it may be too low for the type of material being dispensed and/or the rate at which the system moves the dispense valve may be too fast. To adjust, follow the directions found in the "Operation Adjustments" section of this manual.

REDUCED VOLUMES DISPENSED - Check to see if Nozzle/Needle is partially clogged (refer to "Periodic Maintenance" section).

NO MATERIAL DISPENSED - This is due to a clogged Nozzle/Needle (refer to "Periodic Maintenance" section).

MATERIAL CONTINUES TO FLOW AFTER SHUT OFF – This can be typical for the material and can often be compensated for by adjusting the amount of Snuff-Back. See the Material Output and Snuff-Back Adjustments section under Operation Adjustments. More extreme situations can be due to material preventing the Spool from seating properly into the Posipak Seal seat or to a worn Spool and/or seat. Refer to "Periodic Maintenance" for the Wet Section, clear the blockage or replace the worn components.

MODEL 715 RECOMMENDED SPARE PARTS

Note: These parts are routine supply items or wear parts not covered by warranty for normal wear.

Quantity	Description	Part Number
1	SEAL KIT,715	*see assembly drawing for part number*
1	SPOOL	*see assembly drawing for part number*
1	PISTON ROD	*see assembly drawing for part number*
**	KRYTOX 203GPL ASSEMBLY LUBRICANT	84/0200-K3/11

Replacement Nozzles		
Quantity	**Description**	**Nozzle Part Number**
**	NOZZLE, 1/4 NPTM x 2", 1/8" Orifice	94/0553-2/85
**	NOZZLE, 1/4 NPTM x 4", 1/32" Orifice	94/0554/85
**	NOZZLE, 1/4 NPTM x 4", 3/32" Orifice	94/0555/85
**	NOZZLE, 1/4 NPTM x 4", 1/8" Orifice	94/0553/85

Replacement Needles		
Quantity	**Description**	**Needle Part Number**
**	Needle, 1/4 NPTM, 16 ga. x 2 ½"	94/0624/98
**	Needle, 1/4 NPTM, 15 ga. x 2 ½"	94/0624-H/98
**	Needle, 1/4 NPTM, 14 ga. x 2 ½"	94/0624-A/98
**	Needle, 1/4 NPTM, 13 ga. x 2 ½"	94/0624-B/98
**	Needle, 1/4 NPTM, 12 ga. x 2 ½"	94/0624-C98
**	Needle, 1/4 NPTM, 11 ga. x 2 ½"	94/0624-D/98
**	Needle, 1/4 NPTM, 10 ga. x 2 ½"	94/0624-E/98
**	Needle, 1/4 NPTM, 8 ga. x 2 ½"	94/0624-F/98
**	Needle, 1/4 NPTM, 7 ga. x 2 ½"	94/0624-G/98

*** The quantity or needle size may vary for your application.*

GENERAL GUIDELINES FOR O-RINGS AND U-CUP SEALS

Sizes and materials of construction for O-rings and U-cup seals are selected by Graco based on compatibility with the chemicals to which they will be exposed. Solvents that may remove residual chemicals often have negative effects on the mechanical properties of O-rings and seals.

O-Ring Guidelines

- Always replace an O-ring with the identical one in size, durometer hardness, type and material of construction. Always be alert to the location and size of each O-ring as many look alike and be careful not to mix them. Often similar sizes may be used in various locations on the equipment and if replaced incorrectly, the equipment may not function properly. Refer to the Machine Operation and Service Manual for the correct part number of all O-rings used throughout the equipment and replace them with factory approved parts only.
- Re-use of O-rings is not recommended. Only re-use O-rings as a last resort. If you must re-use them, be sure that they are clean, have no cuts or flat spots and contain NO foreign material. Also, be sure not to soak them in solvent for extended periods as this can cause deterioration of the O-ring. Always replace O-rings that are cut, nicked, or distorted in shape or cross-section.
- Always apply a very thin film of Krytox 203GPL lubricant, item 84/0200-K3/11, to the entire surface of the o-ring before installation. Avoid excessive lubrication. If installing O-rings over threads on a shaft or across sharp edges, roll or push the O-ring carefully into place being careful to avoid cutting or nicking it.
- Avoid stretching the O-ring too much as it may not return to the proper size.
- Do not use any sharp tools or objects to install O-rings

U-cup Seal Guidelines

- Always replace a U-cup seal with the identical one in size, durometer hardness, type and material of construction. Always be alert to the location and size of each U-cup seal as many look alike and be careful not to mix them. Often similar sizes may be used in various locations on the equipment and if replaced incorrectly, the equipment may not function properly. Refer to the Machine Operation and Service Manual for the correct part number of all U-cups used throughout the equipment and replace them with factory approved parts only.
- Always apply a very thin film of Krytox 203GPL lubricant, item 84/0200-K3/11, to the inner and outer lips of the seal before installation.
- Re-use of U-cup seals is not recommended. Only re-use U-cups as a last resort. If you must re-use them, be sure that they are clean, have no cuts or flat spots and contain NO foreign material. Also, be sure not to soak them in solvent for extended periods as this can cause deterioration of the seal. Always replace U-cups that are cut, have flat spots, are distorted in shape or are damaged in any manner.
- Always be alert to the proper orientation of the sealing lips and re-install them in the same direction as shown on the specific equipment assembly drawing. The U-cup seals are intended to seal in only one direction and if installed incorrectly, chemical leakage through the U-cup can occur.
- Whenever possible, push the back side of the seal over the shaft to protect the inner and outer lips. If this is not possible, carefully tuck the lip in to avoid rolling it back or cutting it.
- If installing over sharp edges, slide the seal carefully into place to avoid cutting it.
- Do not use any sharp tools or objects to install U-cups.

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.

TO PLACE AN ORDER, contact your Graco distributor or call to identify the nearest distributor.
Phone: 612-623-6921 **or Toll Free:** 1-800-746-1334 **Fax:** 330-966-3006

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.
For patent information, see www.graco.com/patents.

Original Instructions. This manual contains English. MM 332095

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