Instructions-Parts List

XDM6™ and XDM12™ Dispense Valve

WITH OR WITHOUT ELECTRONIC METERS

308642U

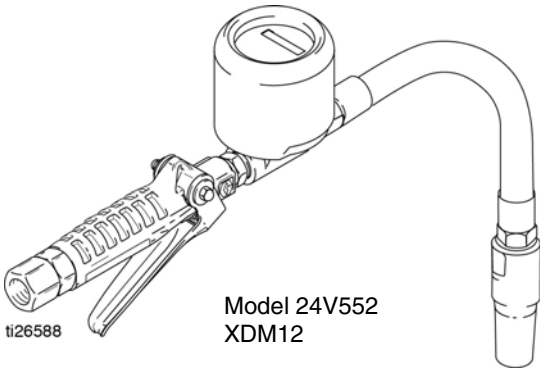
EN

For dispense of petroleum based oils. For professional use only.

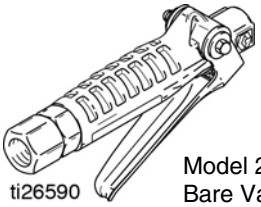
See page 2 for model information, including maximum working pressure and approvals.

Important Safety Instructions

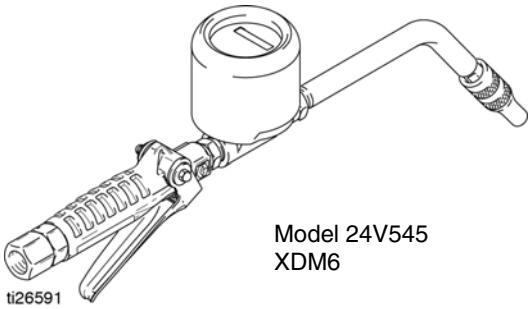
Read all warnings and instructions in this manual.
See 334852 for information on electronic meters.
Save all instructions.



Model 24V552
XDM12



Model 238646
Bare Valve



Model 24V545
XDM6

Models

Non-Metered Valves

Bare Valves; no extension

Part No.	Description		
	Swivel	Trigger Lock	Thread
238646	3/4 inch	✓	NPT
238647	1/2 inch	✓	NPT
243992	1/2 inch	NA	NPT
24Y318	3/4 inch	✓	BSPP
24Y315	1/2 inch	✓	BSPP
24Y312	1/2 inch	NA	BSPP
24Y319	3/4 inch	✓	BSPT
24Y316	1/2 inch	✓	BSPT
24Y314	1/2 inch	NA	BSPT

Metered Valves

XDM12 - With Trigger Lock and Extension

Part No.	Description		
	Swivel	Extension	Thread
24V549	3/4 inch	rigid	NPT
24V550	3/4 inch	flex	NPT
24V551	1/2 inch	rigid	NPT
24V552	1/2 inch	flex	NPT
24Y243	3/4 inch	rigid	BSPP
24Y244	3/4 inch	flex	BSPP
24Y246	1/2 inch	rigid	BSPP
24Y248	1/2 inch	flex	BSPP
24Y252	3/4 inch	rigid	BSPT
24Y253	3/4 inch	flex	BSPT
24Y254	1/2 inch	rigid	BSPT
24Y255	1/2 inch	flex	BSPT

XDM6 - Without Trigger Lock and Extension

Part No.	Description		
	Swivel	Extension	Thread
24V545	1/2 inch	rigid	NPT
24V547	1/2 inch	gear lube	NPT
24V548	1/2 inch	flex	NPT
24Y238	1/2 inch	rigid	BSPP
24Y239	1/2 inch	gear lube	BSPP
24Y242	1/2 inch	flex	BSPP
24Y249	1/2 inch	rigid	BSPT
24Y250	1/2 inch	gear lube	BSPT
24Y251	1/2 inch	flex	BSPT

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.

⚠WARNING

SKIN INJECTION HAZARD

High-pressure fluid from dispensing device, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. **Get immediate surgical treatment.**

- Engage trigger lock when not dispensing.
- Do not point dispensing device at anyone or at any part of the body.
- Do not put your hand over the fluid outlet.
- Do not stop or deflect leaks with your hand, body, glove, or rag.
- Use only extensions that are designed for use with dispensing valve.
- Do not use low-pressure flexible extension with this equipment.
- Follow the **Pressure Relief Procedure** when you stop dispensing and before cleaning, checking, or servicing equipment.
- Tighten all fluid connections before operating the equipment.
- Check hoses and couplings daily. Replace worn or damaged parts immediately.

FIRE AND EXPLOSION HAZARD

When flammable fluids are present in the work area, such as gasoline and windshield wiper fluid, be aware that flammable fumes can ignite or explode. To help prevent fire and explosion:

- Use equipment only in well ventilated area.
- Eliminate all ignition sources, such as cigarettes and portable electric lamps.
- Ground all equipment in the work area.
- Keep work area free of debris, including rags and spilled or open containers of solvent and gasoline.
- Do not plug or unplug power cords or turn lights on or off when flammable fumes are present.
- Use only grounded hoses.
- **Stop operation immediately** if static sparking occurs or you feel a shock**.** Do not use equipment until you identify and correct the problem.
- Keep a working fire extinguisher in the work area.

⚠WARNING

EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Data** in all equipment manuals.
- Use fluids and solvents that are compatible with equipment wetted parts. See **Technical Data** in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request Safety Data Sheet (SDS) from distributor or retailer.
- Turn off all equipment and follow the **Pressure Relief Procedure** when equipment is not in use.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards.
- Make sure all equipment is rated and approved for the environment in which you are using it.
- Use equipment only for its intended purpose. Call your distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.

PERSONAL PROTECTIVE EQUIPMENT

Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. Protective equipment includes but is not limited to:

- Protective eyewear, and hearing protection.
- Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.

⚠WARNING

CALIFORNIA PROPOSITION 65

This product contains a chemical known to the State of California to cause cancer, birth defects or other reproductive harm. Wash hands after handling.

Installation

Typical Installation

The installation shown in FIG. 1 is only a guide. The components shown are typical; however it is not a complete system design. Contact your Graco distributor for assistance in designing a system to suit your needs. Additionally, these dispense valves can be installed on a console.

NOTICE

Do not use this electronic metered dispense valve on non-Graco consoles. Such use could result in the trigger becoming inadvertently pressed while the dispense valve is stowed.

Key:

A Thermal Relief Kit (required). Part No. 237904. *(Install downstream from pump.)*
B Fluid Shutoff Valve
C Hose
D Hose Reel Fluid Inlet Hose
E Hose Reel
F Metered Dispense Valve

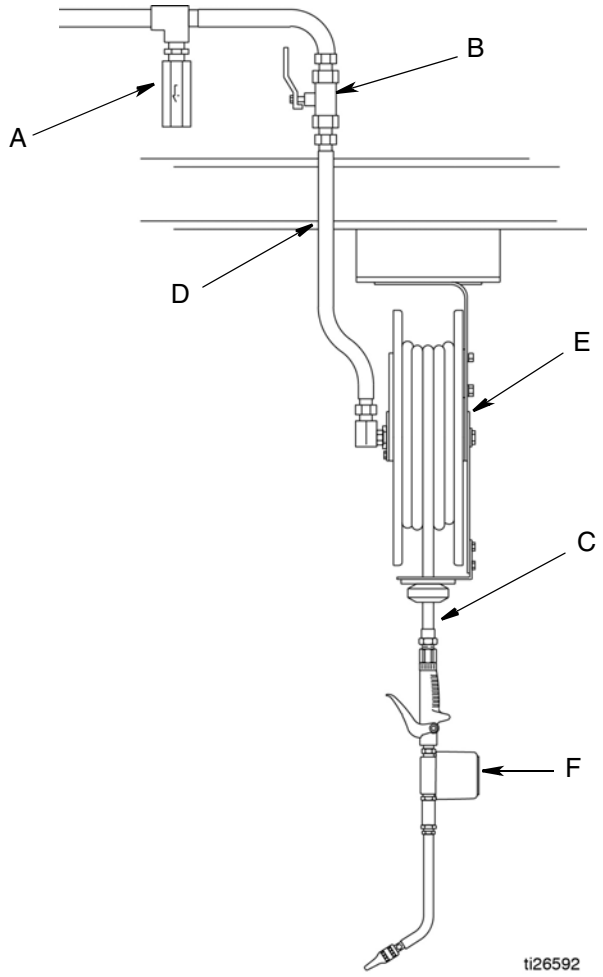


FIG. 1

NOTICE

To prevent line contamination, which can cause equipment malfunction or damage, flush the lines before you install the equipment in the system. See Flushing Procedure, page 7.

Grounding

The equipment must be grounded to reduce the risk of static sparking and electric shock. Electric or static sparking can cause fumes to ignite or explode. Improper grounding can cause electric shock. Grounding provides an escape wire for the electric current.

To reduce the risk of static sparking, ground all system components per local and national electrical codes. Refer to the user manuals for the pump and other system components to ground the following:

Pump: follow manufacturer's recommendations.

Air and fluid hoses: use only grounded hoses.

Air compressor: follow manufacturer's recommendations.

Fluid supply container: follow local code.

To maintain grounding continuity when flushing or relieving pressure: hold metal part of the dispense valve firmly to the side of a grounded metal pail, then trigger the valve.

Pressure Relief Procedure

Follow the Pressure Relief Procedure whenever you see this symbol.

This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid and moving parts, follow the Pressure Relief Procedure when you stop dispensing and before cleaning, checking, or servicing the equipment.

1. Turn off power supply to the pump.
2. Trigger the dispense valve into a grounded waste container to relieve pressure.
3. Open any bleed-type master air valves and fluid drain valves in the system.
4. Leave the drain valve open until you are ready to pressurize the system.
5. If you suspect the valve, extension or nozzle is clogged or that pressure has not been fully relieved:
   a. VERY SLOWLY loosen the fitting nut on the fluid line to relieve pressure gradually.
   b. Then loosen it completely.
   c. Clear the obstruction in the hose or tip.

Pre-Installation Procedure

The reference letters used in the following instructions refer to Typical Installation, FIG. 1, page 5.

1. **Relieve pressure**, page 6.
2. Close the fluid shut-off valve (B).
3. Ground the hose and reel or console. See Grounding, page 6. Do not use PTFE tape on the pipe joints; it may cause a loss of ground across the pipe joint.

Installation

NOTICE

If this is a new installation or if the oil in the lines is contaminated, flush the lines before installing the dispense valve.

Flushing Procedure

The reference letters used in the following instructions refer to Typical Installation, FIG. 1, page 5.

1. **Relieve pressure**, page 6.
2. Close the fluid shut-off valve (B) at each dispense position.
3. Verify the main fluid outlet valve at the pump is closed, the air pressure to the pump motor is adjusted, and the air valve is open. Slowly open the main fluid valve.
4. Place the hose end (with no dispense valve connected) into a container for waste oil. Secure the hose in the container so it will not come out during flushing.

   NOTE: If you have multiple dispense positions, first flush the dispense position farthest from the pump, and work your way toward the pump.
5. Slowly open the shut-off valve (B) at the dispense position. Flush out a sufficient amount of oil to ensure that the entire system is clean, and close the valve.
6. Repeat step 5 at all other dispense positions.

Existing Installations

1. **Relieve pressure**, page 6.
2. Loosen and disconnect the hose from the old dispense valve (the one that you are replacing).

For Steps 3 - 7, refer to FIG. 2.

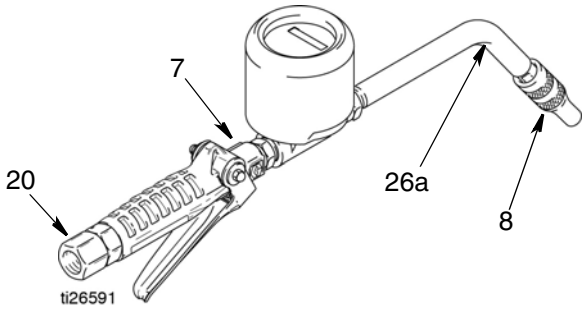


FIG. 2

3. Thread the extension, (26a) into the outlet of the dispense valve and tighten firmly.

   NOTE:

   - Do not over-tighten the extension tube assembly by using the nozzle adapter to hand turn the nozzle.
   - For rigid extensions, thread the extension in at least 3 full turns. Position the extension for proper alignment and tighten the sealing nut (7). The PTFE seal on the sealing nut must face the valve housing.
4. Apply thread sealant to the male threads of the hose fitting, thread the hose fitting into the swivel (20) and tighten firmly.
5. Thread the new nozzle (8) or nozzle adapter onto the extension, and tighten firmly.
6. Open all dispense position shut-off valves (B). Start the pump to pressurize the system. See the Operation section, page 8 for operation instructions.
7. For metered dispense valves, to ensure dispensing accuracy, purge all air from the fluid lines and dispense valves before you use them.

Operation

To reduce the risk of serious bodily injury, including fluid injection, **never** exceed the maximum working pressure of the valve you are using or the lowest rated component in your system.

Dispensing Procedure

See instruction manual 334852 for electronic meter operation.

NOTE: Before you begin, make sure you understand how to unlock the trigger. **Model XDM6 does not have a trigger lock.**

1. Pull the trigger toward the valve body to open the valve and begin dispensing.
2. Lock the valve open by keeping the trigger squeezed and depressing the trigger lock button (25 in the Parts Drawing, page 12). Then release the trigger, releasing your forefinger from the trigger lock last.
3. Pull the trigger toward the valve body to release the trigger lock. The trigger lock disengages.
4. Release the trigger to stop dispensing.

Troubleshooting

Relieve the pressure before you check or repair the dispensing valve. Be sure all other valves and controls and the pump are operating properly.

Problem	Cause	Solution
Display does not activate or is showing unintelligent characters	Electronic control is malfunctioning	Replace electronic control. See instruction manual 334852.
	Battery in electronic control is worn out.	Replace battery. See instruction manual 334852.
Slow or no fluid flow	Filter is clogged.	1. Relieve the pressure. 2. Clean or replace the filter (10). See **Filter Replacement**, page 11. 3. If the problem remains, contact your Graco distributor for repair or replacement.
	Pump pressure is low.	
	Shut off valve is not fully open.	
	Foreign material is jammed in the meter element.	
Oil leaks from swivel	Swivel is loose.	Torque the swivel (20) to 15 to 20 ft-lbs (20 to 27 N•m). If the problem remains, contact your Graco distributor for repair or replacement.
	O-ring is worn or damaged.	Replace the o-ring (6) and torque the swivel (20) to 15-20 ft-lbs (20 to 27 N•m). If the problem remains, contact your Graco distributor for repair or replacement.
Oil drips from nozzle*	Nozzle is damaged or obstructed.	Inspect the nozzle for damage or obstructions and replace if damaged.
Valve leaks	O-rings or valve seat are worn or damaged.	Replace the o-rings (15) and/or the valve seat (29). See **Valve Handle Repair**, page 10.

*Some fluid weepage is possible in applications where thermal expansion of fluid is possible.

Service

See instruction manual 334852 for electronic meter service instructions.

Valve Handle Repair

See FIG. 3.

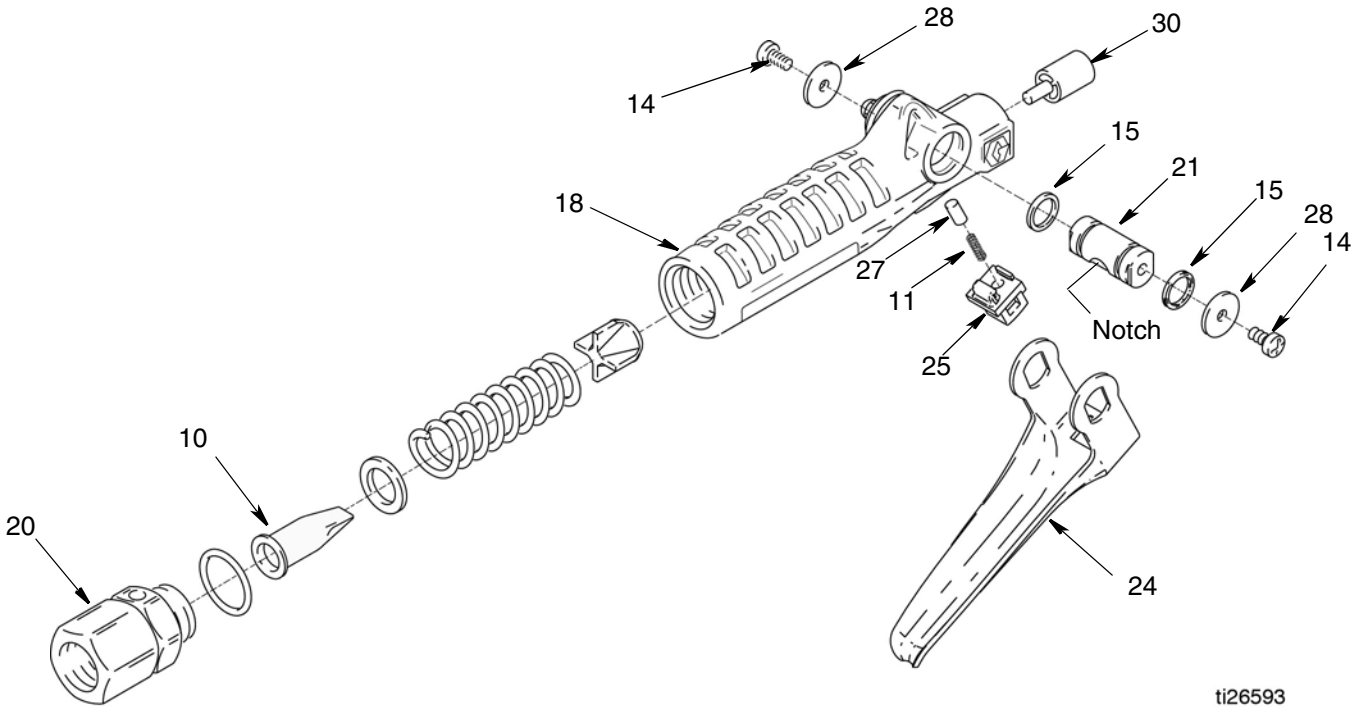


FIG. 3

NOTE:

- The large end of the pushrod (30) fits into the notch in the cam (21), which is part of the trigger assembly. It is important that you know this ***before*** you remove or install parts.
- For torque specifications and lubrication instructions in FIG. 3, see service notes in the Parts Drawings beginning on page 12. XDM6 models do not have trigger lock parts 11, 25 and 27.

1. **Relieve the pressure**, page 6.
2. If you are replacing the o-rings (15) or the cam (21) or the push rod (30), remove the swivel (20) and the internal pieces. **You must remove the cam in order to get the push rod out of the outlet end of the valve handle.**
3. Remove the screws (14) and washers (28) and remove the trigger (24). Push the cam (21) out of the valve handle (18). Replace the o-rings (15) and/or cam.
4. Replace any worn or broken parts.
5. Reassemble the internal pieces. **The push rod (30) must be inserted through the outlet end of the valve handle before the cam (21) is installed.**
6. Lubricate the cam and slide it into the valve handle, making sure the notch is oriented as shown in FIG. 3. Ensure that the large end of the pushrod is resting in the notch of the cam.
7. Replace the screws (14) and washers (28). Torque the screws to 15 to 25 in-lbs (1.7 to 2.8 N•m).
8. Replace the swivel (20) and torque to 15 to 20 ft. lbs (20 to 27 N•m).

Filter Replacement

See FIG. 3.

1. **Relieve the pressure**, page 6.
2. Unscrew the hose fitting from the swivel (20).
3. Remove and replace the filter (10), which is inside the valve handle (18). Make sure the filter is oriented as shown in FIG. 3.
4. Thread the hose fitting into the swivel (20) and tighten. Make sure the swivel (20) is torqued to 15 to 20 ft-lbs (20 to 27 N•m).

Parts

XDM12 Dispense Valves

See Models, page 2.

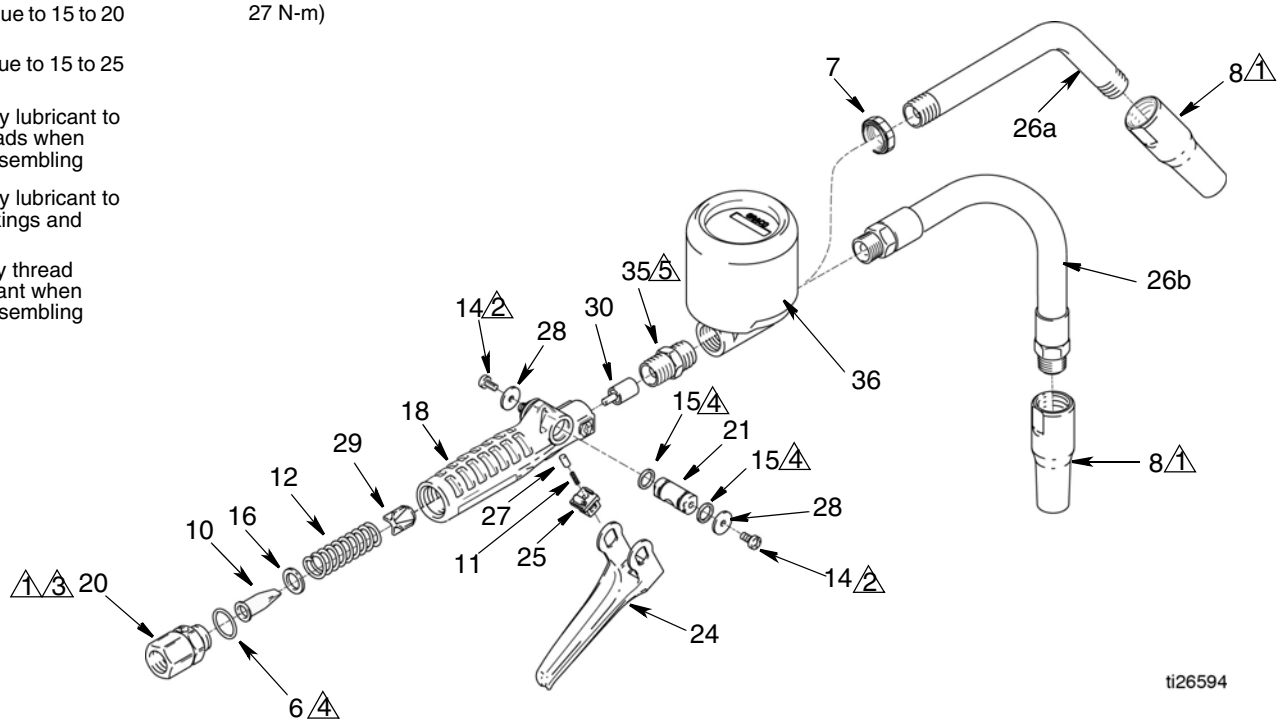
1 Torque to 15 to 20 27 N-m)

2 Torque to 15 to 25

3 Apply lubricant to threads when reassembling

4 Apply lubricant to packings and

5 Apply thread sealant when reassembling

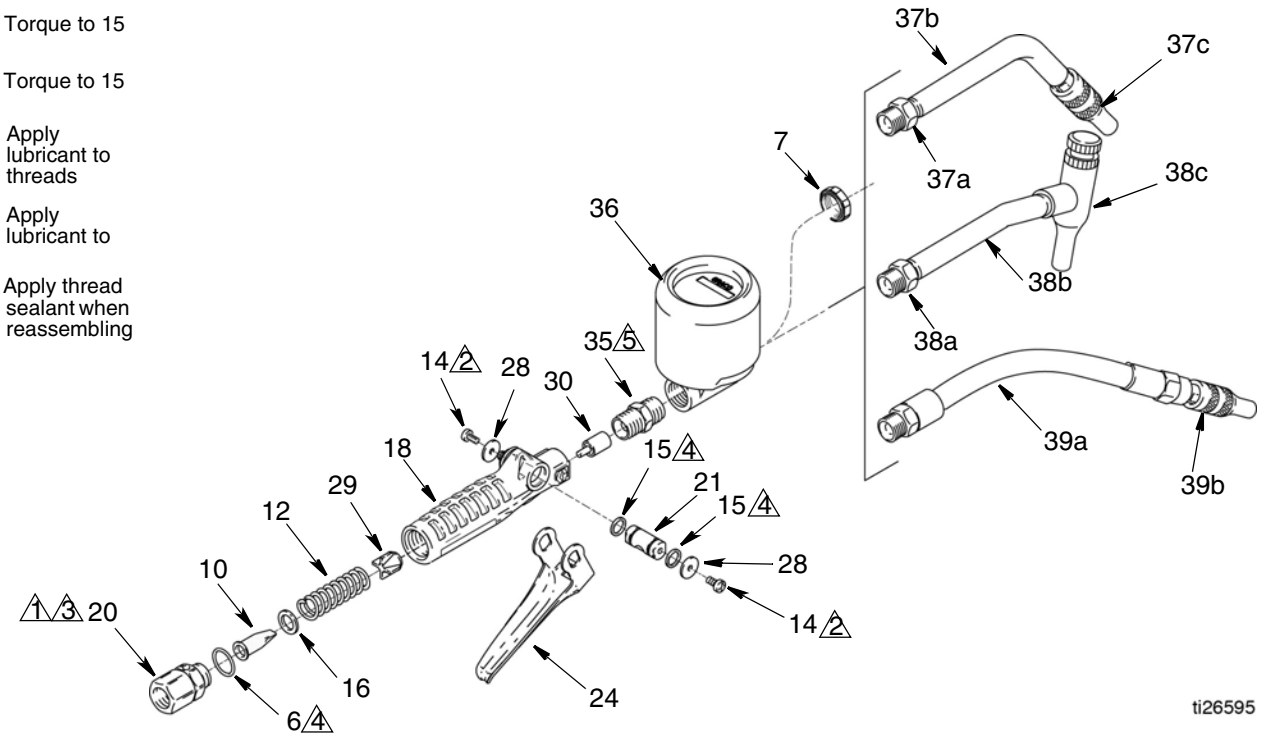


Ref.	Part	Description	Qty.
6	111137	O-RING, valve/swivel, models 24V549, 24V550, 24V551, 24V552, 24Y243, 24Y244, 24Y246, 24Y248, 24Y252, 24Y253, 24Y254, 24Y255, 238646, 238647, 24Y315, 24Y316, 24Y318, 24Y319	1
7	112841	NUT, seal; 1/2-14 NPT, models 24V549, 24V551, 24Y243, 24Y246, 24Y252, 24Y254	1
8	238400	NOZZLE, oil, models 24V549, 24V550, 24V551, 24V552, 24Y243, 24Y244, 24Y246, 24Y248, 24Y252, 24Y253, 24Y254, 24Y255	1
10	185416	FILTER	1
11	113924	SPRING, compression	1
12	113493	SPRING, compression	1
14	110637	SCREW, machine	2
15	113574	SEAL, o-ring	2
16	113627	WASHER, plain	1
18	191074	HANDLE, valve	1
20	238398	SWIVEL; 3/4-14 NPT, models 24V549, 24V550, 238646	1
	238399	SWIVEL; 1/2-14 NPT, models 24V551, 24V552, 238647	1
	24Y260	SWIVEL, 3/4-14 BSPP, models 24Y243, 24Y244 24Y318	1
	24Y261	SWIVEL, 3/4-14 BSPT, models 24Y252, 24Y253, 24Y319	1
	24H382	SWIVEL, 1/2-14 BSPP, models 24Y246, 24Y248, 24Y315	1
	24H383	SWIVEL, 1/2-14 BSPT, models 24Y254, 24Y255, 24Y316	1
21	191315	CAM	1
24	191320	TRIGGER	1
25	191321	TRIGGER LOCK	1
26a	191403	TUBE, 75° bend; 1/2 NPT, models 24V549, 24V551, 24Y243, 24Y246, 24Y252, 24Y254	1
26b	238401	HOSE, flexible; 1/2 NPT, models 24V550, 24V552, 24Y244 24Y248, 24Y253, 24Y255	1
27	192106	GUIDE, spring	1

Ref.	Part	Description	Qty.
28	191552	WASHER, flat	2
29	191313	SEAT, valve	1
30	192501	ROD, push	1
35	158491	NIPPLE, models 24V549, 24V550, 24V551, 24V552, 24Y243, 24Y244 24Y246, 24Y248, 24Y252, 24Y253, 24Y254, 24Y255	1
36	24V553	METER, electronic, models 24V549, 24V550, 24V551, 24V552, 24Y243, 24Y244, 24Y246, 24Y248, 24Y252, 24Y253, 24Y254, 24Y255	1

XDM6 Dispense Valves

See Models, page 2.



Ref.	Part	Description	Qty.
6	111137	O-RING, valve/swivel, models 24V545, 24V547, 24V548, 24Y238, 24Y239, 24Y242, 24Y249, 24Y250, 24Y251, 243992, 24Y312, 24Y314	1
7	112841	NUT, seal; 1/2-14 NPT, models 24Y242, 24Y249, 24Y250, 24Y251, 24V545, 24V547, 24V548, 24Y238, 24Y239	1
10	185416	FILTER	1
12	113493	SPRING, compression	1
14	110637	SCREW, machine	2
15	113574	SEAL, o-ring	2
16	113627	WASHER, plain	1
18	191074	HANDLE, valve	1
20	238399	SWIVEL; 1/2-14 NPT, models 24V545, 24V547, 24V548, 243992	1
	24H382	SWIVEL, 1/2-14 BSPP, models 24Y238, 24Y239, 24Y242, 24Y312	1
	24H383	SWIVEL, 1/2-14 BSPT, models 24Y249, 24Y250, 24Y251, 24Y314	1
21	191315	CAM	1
24	191320	TRIGGER	1
28	191552	WASHER, flat	2
29	191313	SEAT, valve	1
30	192501	ROD, push	1

Ref.	Part	Description	Qty.
35	158491	NIPPLE, models 24V545, 24V547, 24V548, 24Y238, 24Y239, 24Y242, 24Y249, 24Y250, 24Y251	1
36	24V553	METER, electronic, models 24V545, 24V547, 24V548, 24Y238, 24Y239, 24Y242, 24Y249, 24Y250, 24Y251	1
37	203265	NOZZLE, rigid extension, includes 37a-37c, models 24V545, 24Y238, 24Y249	1
37a	100081	BUSHING; 1/2 NPT(m) x 3/8 NPT(f)	1
37b	159246	TUBE, nozzle	1
37c	203655	NOZZLE, non-drip	1
38	201701	NOZZLE, gear lube, includes 38a-38c, models 24V547, 24Y239, 24Y250	1
38a	100206	BUSHING, 1/2 NPT(m) x 1/4 NPT(f)	1
38b	187046	TUBE, nozzle	1
38c	201540	NOZZLE, non-drip	1
39	203687	NOZZLE, flexible extension, includes 39a-39b, models 24V548, 24Y242, 24Y251	1
39a	109160	HOSE, coupled, 1 ft (0.3m); 1/2-14 NPT(m) x 1/4-18 NPT(f)	1
39b	203655	NOZZLE, non-drip	1

Technical Data

XDM6, and XDM12 Dispense Valve		
	US	**Metric**
Recommended maximum flow rate (under normal operating conditions)		
XDM6 Dispense Valve	6 gpm	23.0 lpm
XDM12 Dispense Valves	12.0 gpm	45.4 lpm
Maximum operating pressure		
All models	1500 psi	10 MPa, 102 bar
Meter Pressure Loss: Tested in 10W oil at 70°F (21°C). Flow rate varies with fluid pressure, temperature, viscosity, inlet fitting and nozzle type.		
XDM6 Dispense Valve	98 psi @ 6 gpm	676 kPa, 6.76 bar @ 23 lpm
XDM12 Dispense Valve	210 psi @ 12 gpm	1.45 MPa, 14.5 bar @ 45.4 lpm
Weight		
Without meter	0.4 lb.	0.18 kg
Temperature		
Operating Temperature Range	- 4°F to 130°F	-20°C to 55°C
Storage Temperature Range	- 40°F to 140°F	-40°C to 60°C
Inlet/Outlet Sizes		
Inlet size	1/2 in. NPT and 3/4 NPT 1/2 BSPP and 3/4 BSPP 1/2 BSPT and 3/4 BSPT	
Outlet size	1/2 NPT	
Materials of Construction		
Wetted materials	aluminum, stainless steel, carbon steel, acetal, nitrile rubber, Geolast™	

Geolast™ is a trademark of Advanced Elastomer Systems

Graco 7-Year Meter and Valve 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 from the date of sale as defined in the table shown below, repair or replace equipment covered by this warranty and 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.

Component	Warranty Period
Structural Components	7 years
Electronics (where applicable)	3 years
Wear Parts - included but not limited to o-rings, seals and valves	1 year

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 eight (8) years of the date of sale, or two (2) years for all other parts.

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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.

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