

SDV15 and XDV20 Dispense Valve

312789E
ENG

- For non-metered dispensing of petroleum and synthetic-based oil -

Models: Pages 2 and 3

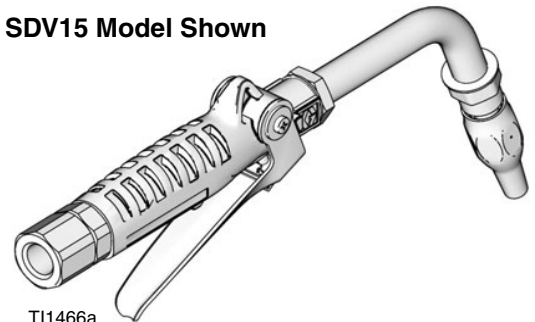
1500 psi (10 MPa, 103.4 bar) Maximum Working Pressure



Important Safety Instructions

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

SDV15 Model Shown



T11466a

Models

SDV15 Dispense Valve Models

All models include: 1/2 npt(f) swivel with locking-open trigger

| Part No. | Extension | Nozzles | Fluid Type |
|----------|-----------|----------------------------------|-------------|
| 247712 | Rigid | Automatic non-drip, quick close | Oil |
| 247713 | Flexible | Automatic non-drip, quick close | Oil |
| 247714 | Gear Lube | Automatic, non-drip, quick close | Gear Lube |
| 247715 | Rigid | Automatic, non-drip, quick close | Anti-freeze |
| 247716 | Flexible | Automatic, non-drip, quick close | Anti-freeze |
| 247717 | NONE | NONE | All |

All models include: 1/2 - 14 BSPP swivel with locking-open trigger

| Part No. | Extension | Nozzles | Fluid Type |
|----------|-----------|----------------------------------|-------------|
| 24H384 | Rigid | Automatic non-drip, quick close | Oil |
| 24H385 | Flexible | Automatic non-drip, quick close | Oil |
| 24H386 | Gear Lube | Automatic, non-drip, quick close | Gear Lube |
| 24H387 | Rigid | Automatic, non-drip, quick close | Anti-freeze |
| 24H388 | Flexible | Automatic, non-drip, quick close | Anti-freeze |
| 24H389 | NONE | NONE | All |

All models include: 1/2 - 14 BSPT swivel with locking-open trigger

| Part No. | Extension | Nozzles | Fluid Type |
|----------|-----------|----------------------------------|-------------|
| 24H390 | Rigid | Automatic non-drip, quick close | Oil |
| 24H391 | Flexible | Automatic non-drip, quick close | Oil |
| 24H392 | Gear Lube | Automatic, non-drip, quick close | Gear Lube |
| 24H393 | Rigid | Automatic, non-drip, quick close | Anti-freeze |
| 24H394 | Flexible | Automatic, non-drip, quick close | Anti-freeze |
| 24H395 | NONE | NONE | All |

XDV20 Non-metered Valve Models

NPT Models - All models include locking-open and closed trigger

| Part No. | Swivel | Extension | Nozzles | Fluid Type |
|----------|--------------|-----------|----------------------------------|-------------------|
| 247718 | 1/2" npt (f) | Rigid | High flow, non-drip, quick close | Oil / Anti-freeze |
| 247721 | 1/2" npt (f) | Flexible | High flow, non-drip, quick-close | Oil / Anti-freeze |
| 247722 | 3/4" npt (f) | Rigid | High flow, non-drip, quck close | Oil / Anti-freeze |
| 247723 | 3/4" npt (f) | Flexible | High flow, non-drip, quick close | Oil / Anti-freeze |
| 247724 | 1/2" npt (f) | NONE | NONE | Oil / Anti-freeze |
| 247725 | 3/4" npt (f) | NONE | NONE | Oil / Anti-freeze |

BSPP Models - All models include locking-open and closed trigger





| Part No. | Swivel | Extension | Nozzles | Fluid Type |
|----------|----------------|-----------|----------------------------------|-------------------|
| 24H407 | 1/2" - 14 BSPP | Rigid | High flow, non-drip, quick close | Oil / Anti-freeze |
| 24H408 | 1/2" - 14 BSPP | Flexible | High flow, non-drip, quick-close | Oil / Anti-freeze |
| 24H409 | 3/4" - 14 BSPP | Rigid | High flow, non-drip, quck close | Oil / Anti-freeze |
| 24H410 | 3/4" - 14 BSPP | Flexible | High flow, non-drip, quick close | Oil / Anti-freeze |
| 24H411 | 1/2" - 14 BSPP | NONE | NONE | Oil / Anti-freeze |
| 24H412 | 3/4" - 14 BSPP | NONE | NONE | Oil / Anti-freeze |

BSPT Models - All models include locking-open and closed trigger

| Part No. | Swivel | Extension | Nozzles | Fluid Type |
|----------|----------------|-----------|----------------------------------|-------------------|
| 24H413 | 1/2" - 14 BSPT | Rigid | High flow, non-drip, quick close | Oil / Anti-freeze |
| 24H414 | 1/2" - 14 BSPT | Flexible | High flow, non-drip, quick-close | Oil / Anti-freeze |
| 24H415 | 3/4" - 14 BSPT | Rigid | High flow, non-drip, quck close | Oil / Anti-freeze |
| 24H416 | 3/4" - 14 BSPT | Flexible | High flow, non-drip, quick close | Oil / Anti-freeze |
| 24H417 | 1/2" - 14 BSPT | NONE | NONE | Oil / Anti-freeze |
| 24H418 | 3/4" - 14 BSPT | NONE | NONE | Oil / Anti-freeze |

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.

|  WARNING | |
|--|---|
|  | <p>FIRE AND EXPLOSION HAZARD</p> <p>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:</p> <ul style="list-style-type: none"> • Use equipment only in well ventilated area. • Eliminate all ignition sources, such as cigarettes and portable electric lamps. • 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. • Ground all equipment in the work area. • Use only grounded hoses. • If there is static sparking or you feel a shock, stop operation immediately. Do not use equipment until you identify and correct the problem. • Keep a working fire extinguisher in the work area. |
|  | <p>EQUIPMENT MISUSE HAZARD</p> <p>Misuse can cause death or serious injury.</p> <ul style="list-style-type: none"> • 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 MSDS forms from distributor or retailer. • Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only. • Do not alter or modify equipment. • 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. |
|  | <p>SKIN INJECTION HAZARD</p> <p>High-pressure fluid from dispense valve, 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.</p> <ul style="list-style-type: none"> • Do not point dispense valve at anyone or at any part of the body. • Do not put your hand over the end of the dispense nozzle. • Do not stop or deflect leaks with your hand, body, glove, or rag. • Follow Pressure Relief Procedure in this manual, when you stop spraying and before cleaning, checking, or servicing equipment. |

Installation

Grounding



NOTICE

Do not use PTFE tape on pipe joints; it may cause a loss of ground across the pipe joint.

The equipment must be grounded. Grounding reduces the risk of static and electric shock by providing an escape wire for the electrical current due to static build up or in the event of a short circuit.

Pump: follow manufacturer’s recommendations.

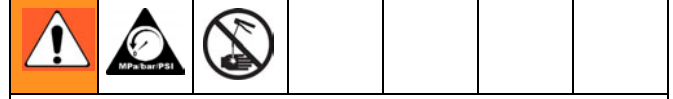
Air and fluid hoses: use only grounded hoses.

Air compressor: follow manufacturer’s recommendations.

Fluid supply container: follow local code.

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

Pressure Relief Procedure



The equipment stays pressurized until pressure is manually relieved. To reduce the risk of serious injury from pressurized fluid, accidental spray from the dispense valve or splashing fluid, follow this Pressure Relief procedure whenever you:

- Are instructed to relieve pressure
- Check, clean or service any system component
- Install or clean fluid nozzles

1. Turn off power supply to pump.
2. Trigger valve into waste container to relieve pressure.
3. Open any bleeder-type air valves and fluid drain valves in the system.
4. Leave drain valve open until you are ready to pressurize the system.

If you suspect the spray tip or hose is clogged or that pressure has not been fully relieved after following the steps above, VERY SLOWLY loosen tip guard retaining nut or hose end coupling to relieve pressure gradually, then loosen completely. Clear hose or tip obstruction.

Pre-Installation Procedure

1. **Relieve pressure** as described in Pressure Relief Procedure.
2. Close fluid shut-off valve (A, FIG. 1).
3. Ground hose, reel and console (See **Grounding**).

Typical Installation

FIG. 1 shows a typical installation. The installation 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 particular needs.

Dispense valves can also be installed on a console.

| NOTICE | |
|---|--|
| <ul style="list-style-type: none"> Do not use this dispense valve on non-Graco consoles. Such use could result in trigger becoming inadvertently pressed while valve is stowed. To prevent line contamination, which can cause equipment damage or malfunction, flush the lines before you install the equipment in the system. | |

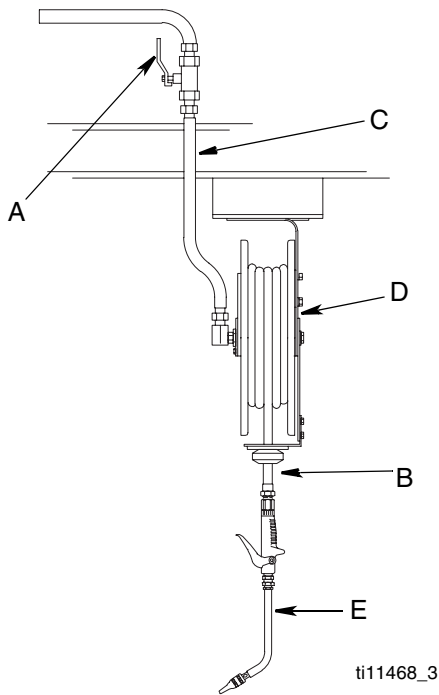
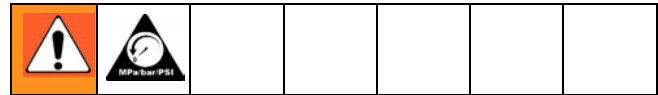


FIG. 1

Installation Procedure

| NOTICE | |
|---|--|
| If this is a new installation, or if the lines are contaminated, flush the lines before you install dispensing valve. | |



- Relieve pressure**, page 5.

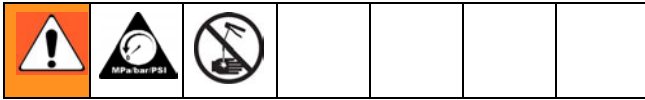
Steps 2 - 6 are the Flushing Procedure.

- Close fluid shut-off valve (A) at each dispense position.
- Make sure main fluid outlet valve at pump is closed, the air pressure to the pump motor is adjusted, and the air valve is open. Slowly open main fluid valve.
- Place hose end (with no dispense valve connected) into a container of waste oil. Secure hose in container so it will not come out during flushing. If you have multiple dispense positions, flush the dispense position farthest from pump first and work your way toward the pump.
- Slowly open fluid shut off valve (A) at dispense position. Flush out a sufficient amount of oil to ensure the entire system is clean. Close valve.
- Repeat Step 5 for all dispense positions.

| Key | Description |
|-----|----------------------------|
| A | Fluid shutoff valve |
| B | Hose |
| C | Hose reel fluid inlet hose |
| D | Hose reel |
| E | Dispense valve |

A Thermal Relief Kit (not shown) is required. The Kit required will vary by pump selected. See Parts, page 16 for a list of available kits.

Existing Installation



1. **Relieve pressure**, page 5.
2. Loosen and disconnect hose from old dispense valve (the one you are replacing).

Existing or New Installation

For Steps 3 - 5 see FIG. 2.

3. Thread extension (11) into outlet of the dispense valve handle (1). Tighten securely.

NOTICE

- Do not overtighten extension.
- Thread extension in at least three full turns. Position extension for proper alignment with valve handle (1) and tighten nut (11a).

4. Apply thread sealant to male threads of hose fitting. Thread hose fitting into swivel (6). Tighten firmly.
5. Thread nozzle (12) or nozzle adapter onto extension and tighten firmly.
6. Open all dispense position shut-off valves. Start pump to pressurize system.

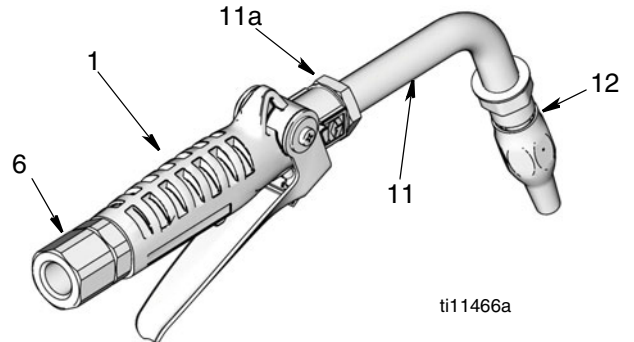
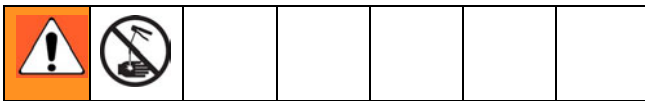



FIG. 2

Operation

For part numbers referenced in these instructions, see Parts, page 10.



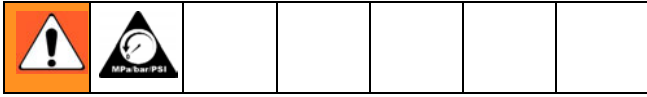
To reduce the risk of a serious bodily injury, including fluid injection, **never** exceed the maximum working pressure of the valve you are using or of the lowest rated component in your system.

 The XDV20 dispense valve trigger automatically locks whenever you release the trigger and must be unlocked each time you begin a new dispense.

Dispensing Procedure

1. Open (or unlock) nozzle.
2. Pull trigger (15) toward the valve handle (1) to open valve and begin dispensing.
3. Lock valve open by keeping trigger (15) squeezed and depressing trigger lock button (14). Then you can release trigger.
4. To release trigger lock (14), pull trigger (15) toward valve handle (1).
5. Release trigger (15) to stop dispensing.
6. Close (lock) nozzle.

Troubleshooting




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

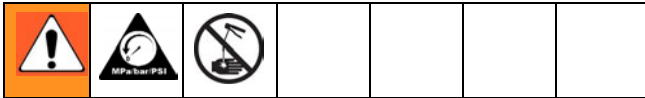
| Problem | Cause | Solution |
|------------------------|---|---|
| Slow or no fluid flow | Screen is clogged | 1. Relieve pressure. 2. Clean or replace strainer (4a) and washer 4b. <i>Order Filter Kit 256164.</i> 3. If the problem remains, contact your Graco distributor for repair or replacement. |
| | Pump pressure is low | |
| | Shutoff valve is not full open | |
| Oil leaks from swivel | Swivel is loose | Torque the swivel (6) to 7-10 ft-lb (9-13 N.m). If the problem remains, contact your Graco distributor for repair or replacement. |
| | O-ring is worn or damaged | Replace swivel (6). Torque swivel to 7-10 ft-lb (9-13 N.m). If the problem remains, contact your Graco distributor for repair or replacement. |
| Oil drips from nozzle* | Nozzle is damaged or obstructed | Inspect nozzle for damage or obstructions. Replace if damaged. |
| Valve leaks | O-rings or valve seat are worn or damaged | Replace seals (9) and/or valve seat (2). |

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


Service

Valve Handle Repair

 The large end of the push rod (3) fits into a notch in the cam (8) which is part of the trigger assembly. It is important you know this before you remove or install parts.



1. **Relieve pressure**, page 5.
2. If you are replacing the seals (9), the cam (8) or the push rod (3), remove the swivel (6) and remove the internal pieces. **You must remove the cam in order to get the push rod out of the valve end.**
3. Remove screws (7) and washers (10) and remove trigger (15).
4. Push cam (8) out of valve handle (1).
5. Replace seals (9) and/or cam (8).
6. Replace any worn or broken parts.
7. Reassembly internal parts. Refer to FIG. 3 for correct installation order and orientation of parts.

 The push rod (3) must be inserted through the outlet end of the valve handle before cam (8) is installed.

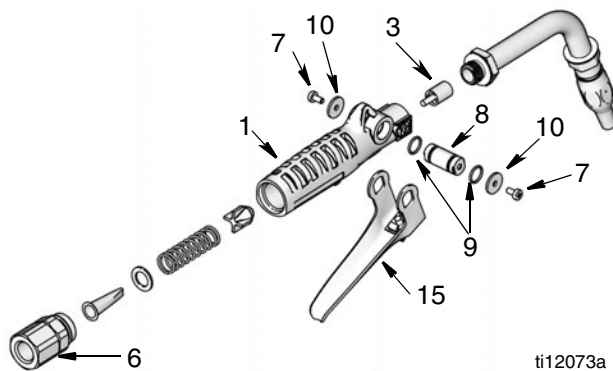
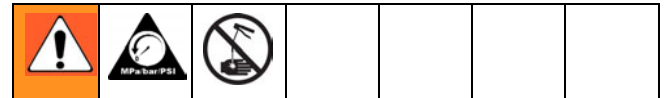


FIG. 3

8. Lubricate the cam (8) and slide it into the valve handle (1), making sure the notch is oriented as shown in FIG. 3, with the large end of the push rod (3) resting in the notch of the cam.
9. Replace the screws (7) and seals (9). Torque screws to 15 -25 in-lb (1.7 to 2.8 N•m).
10. Replace swivel (6). Torque to 7-10 ft-lb (31 to 44 N•m).

Filter Replacement

Order Filter Kit 256164.



1. **Relieve pressure**, page 5.
2. Unscrew hose fitting from swivel (6).
3. Remove swivel (6) from valve handle (1).
4. Remove strainer (4a) and washer (4b) from inside of swivel (6).
5. Replace washer (4b) and strainer (4a). Refer to FIG. 4 to ensure correct orientation of filter in swivel.

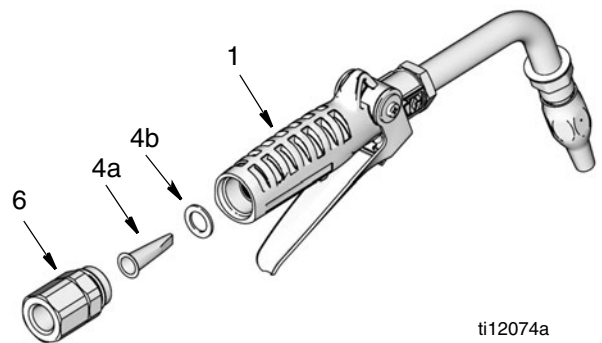


FIG. 4

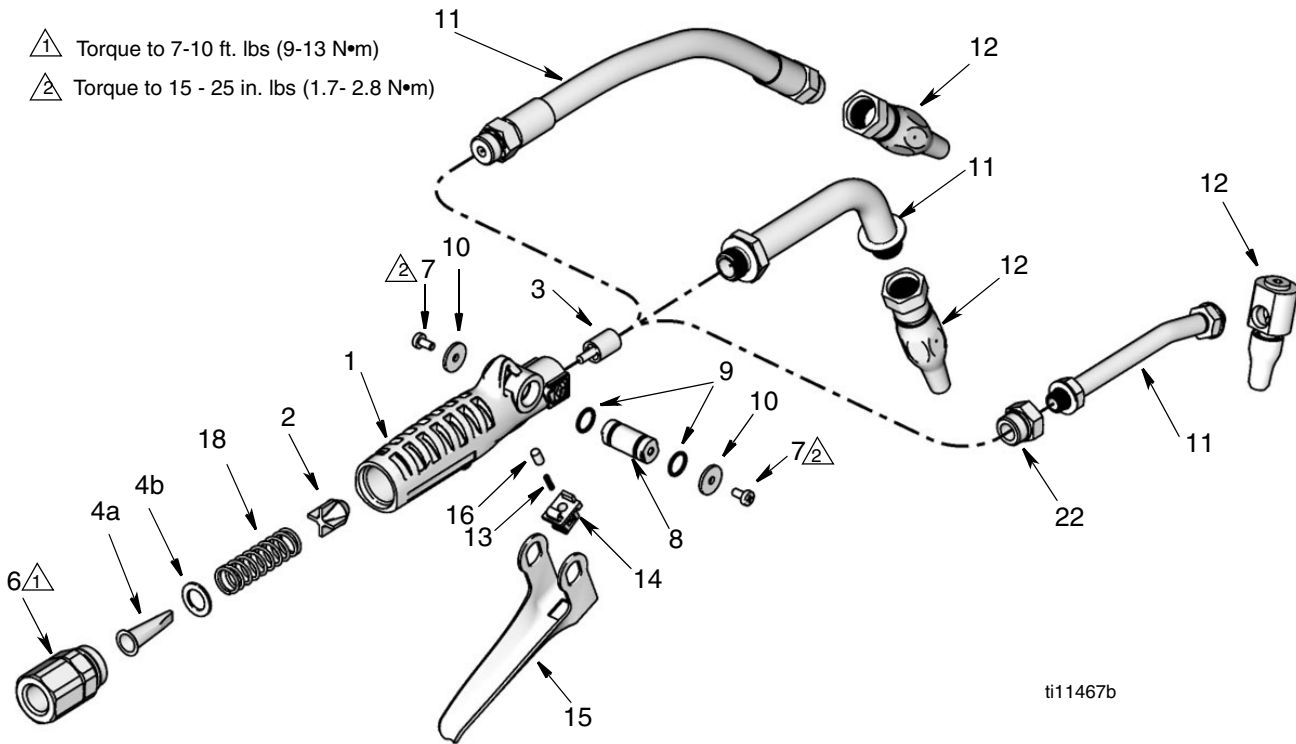
6. Thread hose fitting into swivel (6) and tighten. Torque swivel to 7-10 ft-lb (31- 44 N•m).

Parts

SDV15 Dispense Valves

| FN | Part No. | Description | Qty | FN | Part No. | Description | Qty |
|----|----------|---------------------------------|-----|-----|----------|------------------------------------|-----|
| 1 | 15R709 | HANDLE, valve, standard duty | 1 | 11* | | KIT, nozzle and extension, page 12 | 1 |
| 2 | 191313 | SEAT, valve | 1 | 12* | | | 1 |
| 3 | 277673 | ROD, push | 1 | 13 | 113924 | SPRING, compression | 1 |
| 4 | 256164 | KIT, filter, includes 4a and 4b | 1 | 14 | 15R526 | LOCK, trigger | 1 |
| 4a | | STRAINER | 10 | 15 | 191320 | TRIGGER | 1 |
| 4b | | WASHER, plain | 10 | 16 | 192106 | GUIDE, spring | 1 |
| 6 | 238399 | SWIVEL, straight, NPT | 1 | 18 | 113493 | SPRING, compression | 1 |
| | 24H382 | SWIVEL, straight, BSPP | 1 | 20† | 172479 | TAG, warning | 1 |
| | 24H383 | SWIVEL, straight, BSPT | 1 | 22 | 15K672 | ADAPTER, o-ring, model 247714 | 1 |
| 7 | 110637 | SCREW, machine, pan head | 2 | 25† | 290180 | TAG, caution | 1 |
| 8 | 191315 | CAM | 1 | | | | |
| 9 | 113574 | SEAL, quad ring | 2 | | | | |
| 10 | 191552 | WASHER, flat | 2 | | | | |

*These parts are not included on model 247717
 † Not shown



Parts

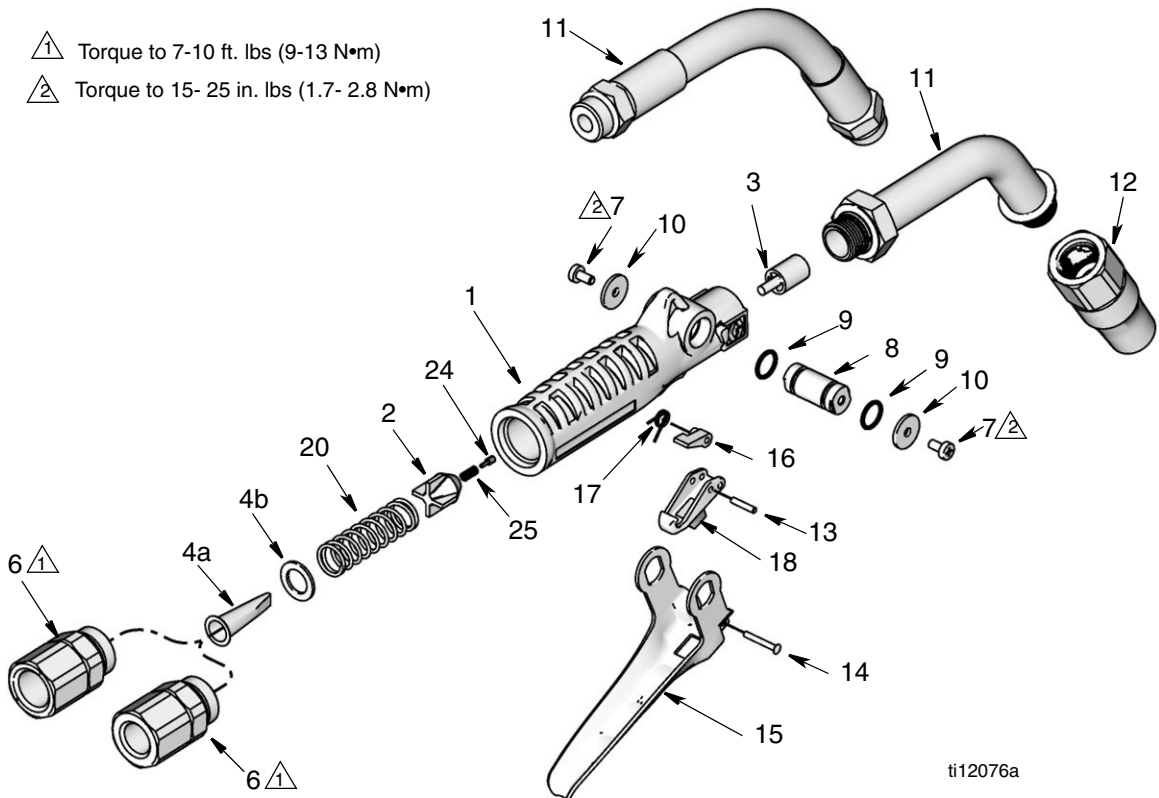
XDV20 Non-metered Valves

| FN | Part No. | Description | Qty | FN | Part No. | Description | Qty |
|----|----------|--|-----|-----|----------|------------------------------------|-----|
| 1 | 15M660 | HANDLE, valve, medium duty | 1 | 9 | 113574 | SEAL, quad ring | 2 |
| 2 | 15U704 | SEAT, valve | 1 | 10 | 191552 | WASHER, flat | 2 |
| 3 | 277673 | ROD, push | 1 | 11* | | KIT, nozzle and extension, page 12 | 1 |
| 4 | 256164 | KIT, filter, includes 4a and 4b | 1 | 12* | | | 1 |
| 4a | | STRAINER | 10 | 13 | 114680 | PIN, dowel | 1 |
| 4b | | WASHER, plain | 10 | 14 | 15R016 | LATCH, pin | 1 |
| 6 | 247344 | SWIVEL, straight, 1/2 NPT models 247718, 247721, 247724 | 1 | 15 | 15M886 | TRIGGER | 1 |
| | 24H097 | SWIVEL, straight, 1/2 BSPT, mod- els 24H413, 24H414, 24H417 | 1 | 16 | 15R015 | LATCH, arm | 1 |
| | 24H098 | SWIVEL, straight, 1/2 BSPP, mod- els 24H407, 24H408, 24H411 | 1 | 17 | 15R014 | LATCH, spring | 1 |
| | 247345 | SWIVEL, straight, 3/4 NPT models 247722, 247723, 247725 | 1 | 18 | 15R013 | LATCH, lever | 1 |
| | 24H099 | SWIVEL, straight, 3/4 BSPT, mod- els 24H415, 24H416, 24H418 | 1 | 20 | 113493 | SPRING, compression | 1 |
| | 24H100 | SWIVEL, straight, 3/4 BSPP, mod- els 24H409, 24H410, 24H412 | 1 | 22† | 172479 | TAG, warning | 1 |
| 7 | 110637 | SCREW, machine, pan head | 2 | 24 | 15U700 | PLUNGER, trigger, lift | 1 |
| 8 | 191315 | CAM | 1 | 25 | 15U701 | SPRING, secondary | 1 |
| | | | | 26† | 290180 | TAG, caution | 1 |

* These parts are not included on models 247724 or 247725

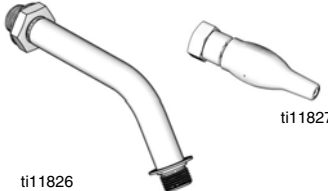
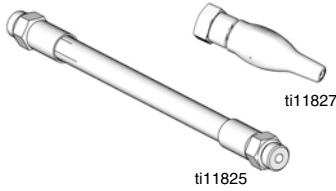
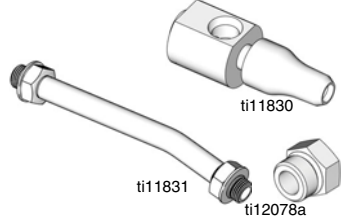
† Not shown

- ⚠ Torque to 7-10 ft. lbs (9-13 N•m)
- ⚠ Torque to 15- 25 in. lbs (1.7- 2.8 N•m)



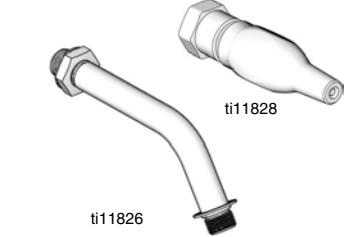
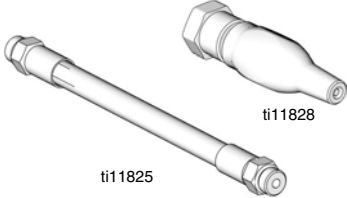
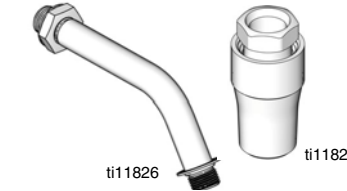
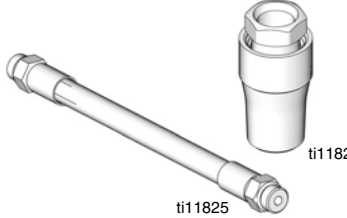
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SDV15 Nozzle Extension Kits

| Part No. | Description | Fluid Type | <i>*illustration note</i> |
|----------|--|------------|---|
| 255852* | Automatic, non-drip quick close nozzle with rigid extension. | Oil |  |
| 255853* | Automatic, non-drip quick close nozzle with flexible extension | Oil |  |
| 255854 | Non-drip, quick close nozzle with rigid extension | Gear Lube |  |

*Used for dispensing 5gpm (22.7 lpm) or less.

continued

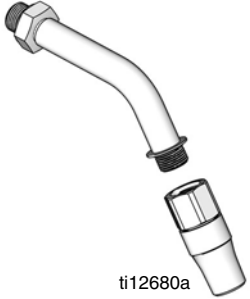
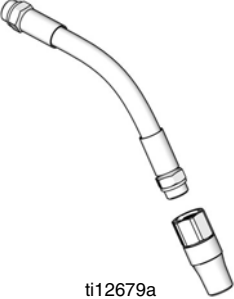
| Part No. | Description | Fluid Type | <i>*illustration note</i> |
|----------|---|---------------------|---|
| 255855* | Non-drip, quick close nozzle with rigid extension | Anti-freeze |  |
| 255856* | Non-drip, quick close nozzle with flexible extension | Anti-freeze |  |
| 255857 | Non-drip, quick close, high-flow nozzle with rigid extension | Oil and Anti-freeze |  |
| 255858 | Non-drip, quick close, high flow nozzle with flexible extension | Oil and Anti-freeze |  |

*Used for dispensing 5gpm (22.7 lpm) or less.

SDV15 Nozzle Kits

| Part No. | Description | Qty | Fluid Type |
|---|---|-----|---------------------|
| 255459* | Automatic, non-drip, quick-close nozzle | | Oil |
| | • BODY, nozzle | 1 | |
| | • O-RING, packing | 1 | |
| | • SPRING, compression | 1 | |
| | • O-RING, packing | 1 | |
| | • STEM, nozzle, valve | 1 | |
| | • SEAT, valve | 1 | |
| 255460* | Automatic, non-drip, quick-close nozzle | | Anti-freeze |
| | • BODY, nozzle | 1 | |
| | • SPRING, compression | 1 | |
| | • O-RING, packing | 1 | |
| | • STEM, nozzle, valve, | 1 | |
| | • O-RING, packing | 1 | |
| | • SEAT, valve | 1 | |
| 255461 | Automatic, non-drip, high-flow nozzle | | Oil and Anti-freeze |
| a | • STEM, nozzle, qty 1 | | |
| b | • BODY, nozzle, qty 1 | | |
| c | • O-RING, packing, qty1 | | |
| d | • O-RING, packing, qty 1 | | |
| e | • O-RING, packing, qty 1 | | |
| 255470 | Non-drip, quick-close nozzle | | Gear Lube |
| | • Housing | 1 | |
| | • Body, nozzle | 1 | |
| | • O-RING, packing | 1 | |
| | • O-RING, packing, | 1 | |
| | • Plug, Hollow, hex | 1 | |
| *Used for dispensing 5gpm (22.7 lpm) or less. | | | |

XDV20 Nozzle Extension Kits

| Part No. | Description | Fluid Type | <i>*illustration note</i> |
|----------|---|---------------------|--|
| 255921 | Non-drip quick close, high flow nozzle with rigid extension. | Oil and Anti-freeze |  ti12680a |
| 255859 | Non-drip quick close, high flow nozzle with flexible extension. | Oil and Anti-freeze |  ti12679a |

XDV20 Nozzle Kits

| Part No. | Description | Qty | Fluid Type |
|----------|---|-----|---------------------|
| 255793 | Non-drip, quick close, high flow nozzle | | Oil and Anti-freeze |
| | • O-RING, packing | 1 | |
| | • O-RING, packing | 1 | |
| | • BODY, nozzle, high flow | 1 | |
| | • O-RING, packing | 1 | |
| | • STEM, nozzle, heavy duty | 1 | |

Thermal Relief Kits

| Part No. | Description | PSI (bar) Rating |
|----------|--|--------------------|
| 112353 | Diaphragm pump for fuel dispense, valve only | 50 psi (3.4 bar) |
| 235998 | Mini Fire-Ball™ 225, 3:1 | 600 psi (41 bar) |
| 237601 | Fire-Ball 425, 3:1 | 600 psi (41 bar) |
| 237893 | Fire-Ball 300, 5:1 and Fire-Ball 425, 6:1 | 900 psi (62 bar) |
| 248296 | (same as 237893 minus bung adapter and swivel. Includes 6-foot hose) | 900 psi (62 bar) |
| 238899 | Diaphragm pump | 150 psi (10.4 bar) |
| 240429 | Fire-Ball 425, 10:1 | 1600 psi (110 bar) |
| 248324 | Fire-Ball 425, 10:1 (same as 240429 minus bung adapter and swivel. Includes 6-foot hose) | 1600 psi (110 bar) |

Technical Data

Maximum Flow Range

SDV15 15 gpm (56.8 lpm)

XDV20 20 gpm (75 lpm)

Maximum Working Pressure SDV15/XDV20 1500 psi (102 bar)

SDV15/XDV20 Weight 0.4 lbs (0.18 kg)

Inlet See pages 2 and 3 for models and configuration information

Outlet

SDV15 3/4 - 16 straight thread o-ring boss

XDV20 7/8 - 14 straight thread o-ring

Operating temperature range -40°F to 180°F (-40°C to 82°C)

Wetted parts Aluminum, Stainless Steel, CS, Acetal, Nitrile Rubber, TPE

Fluid compatibility Antifreeze, gear lube, oil

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