

Color Change Valve

307941K

For color changing or distribution of industrial paints and coatings or fluids.

100 psi (0.7 MPa, 7 bar) Maximum Air Inlet Pressure

300 psi (2.1 MPa, 21 bar) Maximum Fluid Working Pressure

Part No. 195579, Series A

Stainless Steel Color Change Valve

Part No. 218900, Series A

Nylon Color Change Valve

Part No. 218964, Series A

Stainless Steel Color Change Valve

Part No. 222202, Series A

Stainless Steel Color Change Valve

Part No. 236853, Series A

Stainless Steel Color Change Valve

Part No. 692024, Series A

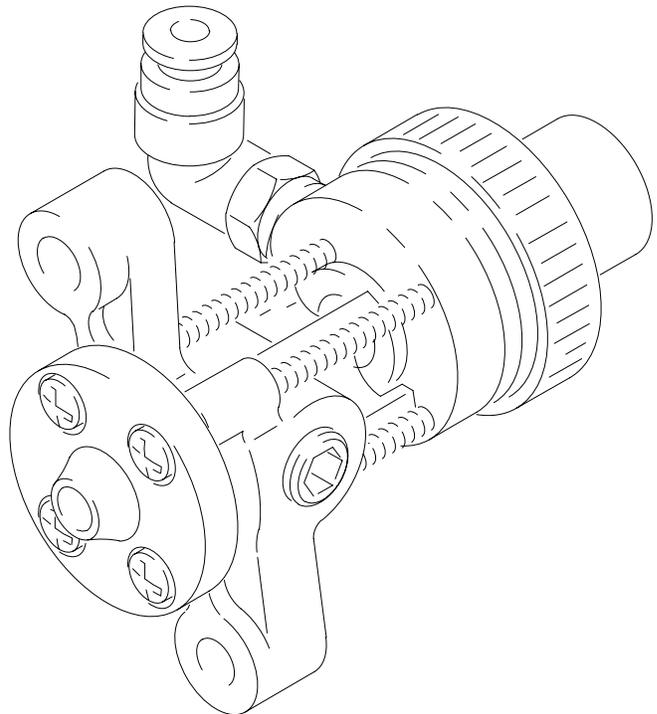
Stainless Steel Color Change Valve

Part No. 907438, Series A

Stainless Steel Color Change Valve

Part No. 948944, Series A

Low Pressure Valve Kit



Read warnings and instructions.

PROVEN QUALITY. LEADING TECHNOLOGY.

Valve Repair

⚠ WARNING

PRESSURIZED EQUIPMENT HAZARD

To reduce the risk of serious injury, including splashing in the eyes or on the skin, injury from moving parts, or electric shock, always relieve system pressure before checking or servicing the color change valve. Read and follow the warnings and procedures given in your pump and spraying device instruction manuals.

Disassembly

NOTE:

- Part no. 218966 Valve Repair Kit is available. It contains packings and two tools that are required for disassembly and assembly of the valve.
- Reference numbers and letters in parentheses refer to callouts on the parts drawing. Reference numbers with an asterisk (*) indicate the part is included in Repair Kit 218966.

1. Push in on the quick disconnect of the elbow fitting (6) and pull out the air tube. Disconnect the fluid lines. See Fig. 1.
2. Remove the color/trigger valve from the manifold.
3. Remove the retaining cap (2) and spring (18).
4. Using a wrench on each part, unscrew and remove the retaining nut (1) and the piston retainer (3).
5. Remove the four screws (11, 54, or 60), valve adapter (51) on Models 236852 and 907483, and seat (10 or 20) from the fluid housing (7 or 19).
6. Separate the fluid housing from the piston housing (5).

- 1 ⚠ Torque screws (11) oppositely and evenly to 3–5 in-lb (0.34–0.56 N•m). If leakage occurs, torque to 8 in-lb (0.91 N•m) maximum.
- 2 ⚠ Torque to 3–5 in-lb (0.34–0.56 N•m).
- 3 ⚠ Torque to 4–6 in-lb (0.45–0.68 N•m).
- 4 ⚠ Lubricate.
- 5 ⚠ Lubricate threads.
- 6 ⚠ Thread nut into housing until there is some resistance on needle. Slide needle back and forth to make sure it moves freely.
- 7 ⚠ Tighten the retainer until it just contacts the top of the piston (4), then back the retainer off 1-1/2 turns.

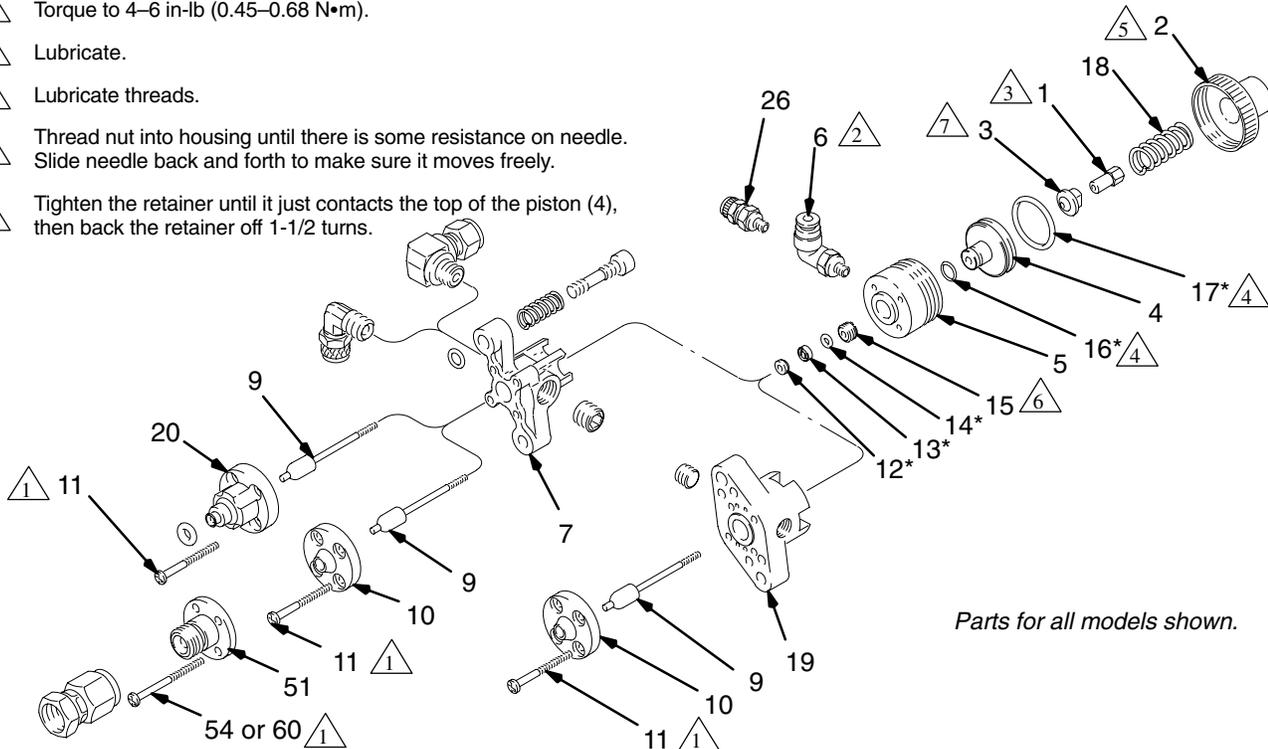


Fig. 1

03854

Valve Repair

- Pull the needle (9) out of the fluid housing (7 or 19).
- Unscrew the fitting (6 or 26) from the piston housing (5).
- Push on the shaft of the piston (4) to remove it from the piston housing (5). Remove the o-rings (16* and 17*) from the piston.
- Unscrew the packing nut (5), using the packing nut tool 181311. Remove the o-ring (14*), fluid packing (13*), and packing spacer (12*), using the packing tool 178798.
- Clean and inspect the needle seat (10 or 20), needle (9), piston housing (5), and fluid housing (7 or 19) for wear or damage. Replace parts as needed.
- Using the packing nut tool, thread the packing nut (15) into the fluid housing (7 or 19) until there is some resistance on the needle (9), which is about 1/2 turn after the nut touches the o-ring (14). Slide the needle back and forth to make sure it moves freely.
- Install the piston housing (5) on the fluid housing (7 or 19), aligning the air and fluid inlets.
- Install the seat (10 or 20), valve adapter (51) on Models 236852 and 907483, and screws (11, 54, or 60) on the fluid housing (7 or 19). Tighten the screws just until the seat and housing come into contact.
- Place the piston retainer (3) and retainer nut (1) on the needle (9). Push the needle down against the seat (10 or 20), then tighten the piston retainer until it just contacts the top of the piston (4). Now back off the piston retainer 1-1/2 turns.

Assembly

- Lubricate the o-rings (16* and 17*) with petroleum jelly and place them on the piston (4).
- Install the piston (4) in the piston housing (5).
- Thread the fitting (6 or 26) into the piston housing (5). Tighten the fitting to the torque shown in Fig. 1.
- Guide the threaded end of the needle (9) through the bottom of the fluid housing (7 or 19). One at a time, install the needle packing (12*), fluid packing (13*) with the lips of the packing facing into the housing, and the o-ring (14*) over the needle and into the fluid housing. See Fig. 2.
- Hold the piston retainer (3) and torque the retainer nut (1) to 4 to 6 in-lb (0.45 to 0.68 N•m).
- Install the spring (18). Lubricate the retaining cap (2) threads with petroleum jelly and thread the retaining cap onto the piston housing (5).
- Torque the four screws (11) oppositely and evenly to 3 to 5 in-lb (0.34 to 0.56 N•m). If leakage occurs, retorque the screw to 8 in-lb (0.91 N•m) maximum.

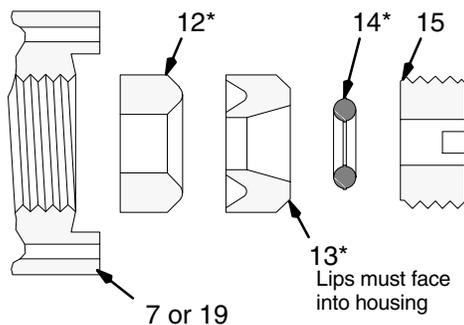


Fig. 2

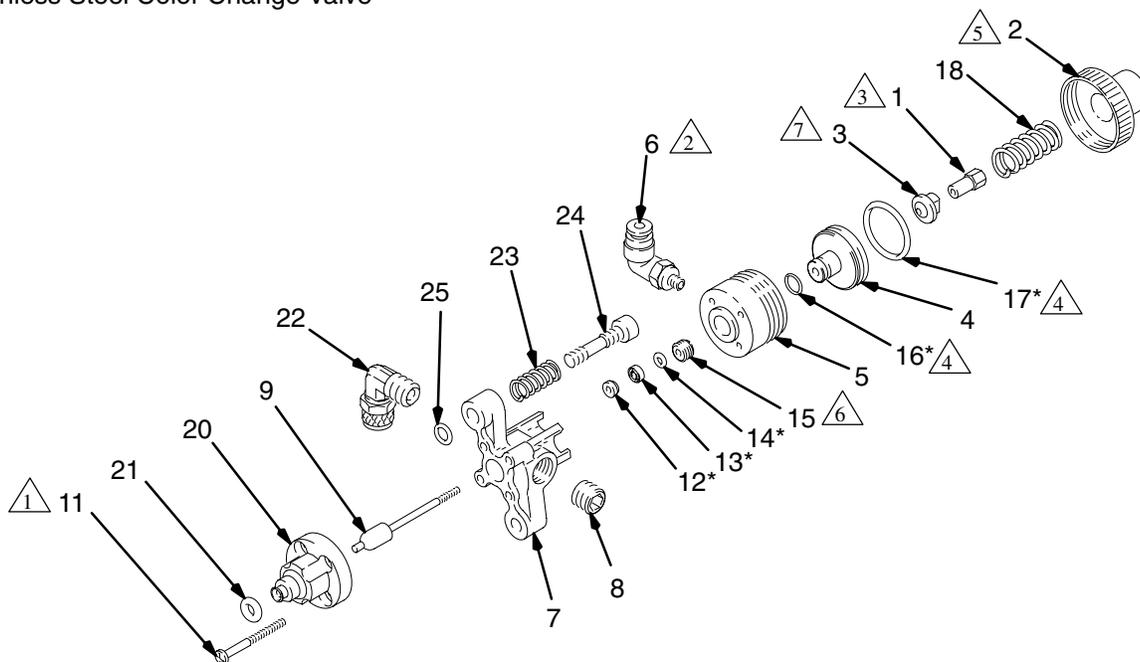
- Apply air to the air inlet fitting and actuate the valve several times. Check for any air leaks by submerging in water and watching for escaping air bubbles. Then apply approximately 80 psi (0.5 MPa, 5.5 bar) of air pressure to the fluid inlet. Submerge in water and watch for escaping air bubbles. Tighten or replace parts as necessary to eliminate any leaks.

- Attach the color/trigger valve to the manifold.

Parts

Part No. 222202

Stainless Steel Color Change Valve



03854

△1 Torque screws (11) oppositely and evenly to 3–5 in-lb (0.34–0.56 N•m). If leakage occurs, torque to 8 in-lb (0.91 N•m) maximum.

△2 Torque to 3–5 in-lb (0.34–0.56 N•m).

△3 Torque to 4–6 in-lb (0.45–0.68 N•m).

△4 Lubricate.

△5 Lubricate threads.

△6 Thread nut into housing until there is some resistance on needle. Slide needle back and forth to make sure it moves freely.

△7 Tighten the retainer until it just contacts the top of the piston (4), then back the retainer off 1-1/2 turns.

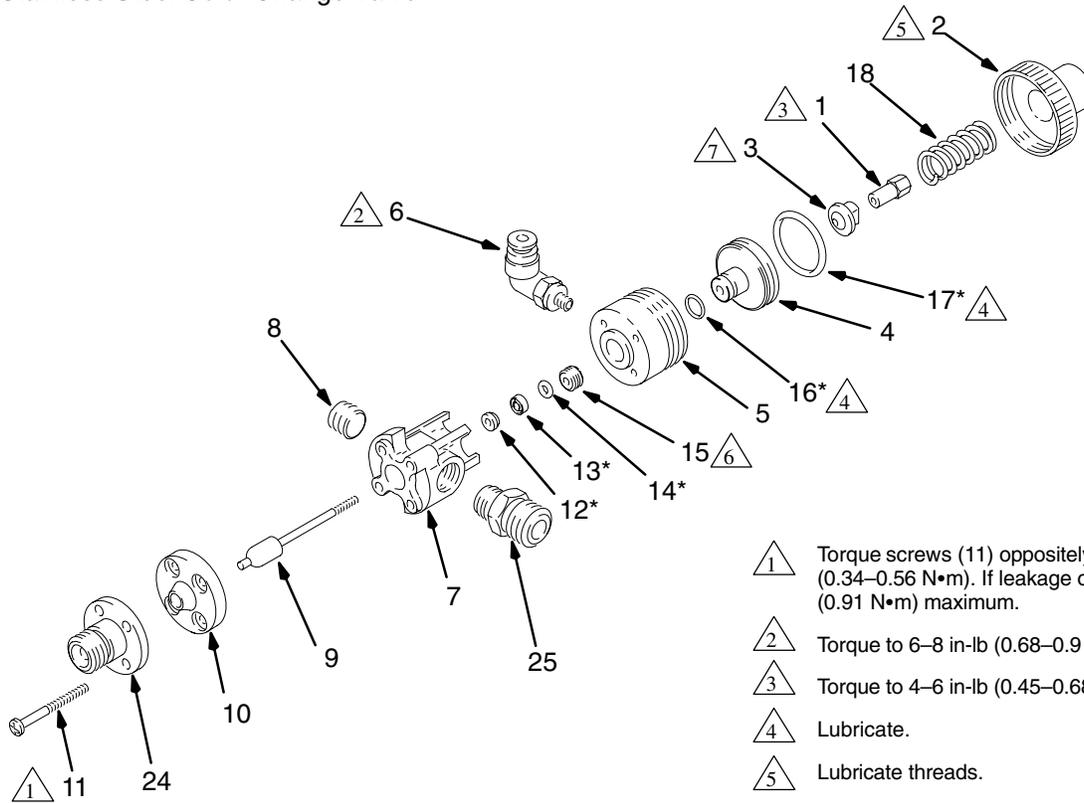
Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
1	180537	NUT, retainer; M2.5 x 0.45 mm	1	12*	178763	SPACER, packing; Delrin	1
2	180612	CAP, retaining	1	13*	178409	PACKING, fluid, UHMWPE	1
3	180539	RETAINER, piston; M2.5 x 0.45 mm	1	14*	168518	O-RING; Viton®	1
4	180538	PISTON	1	15	180542	NUT, packing; M8 x 1 mm; Delrin	1
5	180613	HOUSING, piston	1	16*	156454	O-RING; buna-N	1
6	109193	ELBOW, male tube; 90° swivel, 10–32 thread	1	17*	102620	O-RING; buna-N	1
7	181097	HOUSING, fluid; stainless steel	1	18	108017	SPRING, compression	1
8	110208	PLUG, pipe, headless; stainless steel; 1/8–27 nptf(m)	1	20	183837	SEAT, mount	1
9	218560	NEEDLE, fluid	1	21	109090	O-RING; PTFE®	1
11	108018	SCREW, machine, pan head; M3 x 0.5 mm	4	22	110193	ELBOW, male	2
				23	110019	SPRING, compression	2
				24	183979	SCREW, shoulder	2
				25	106456	O-RING; PTFE	2

* These parts are included in Repair Kit 218966. See page 11.

Parts

Part No. 195579

Stainless Steel Color Change Valve



-  Torque screws (11) oppositely and evenly to 3–5 in-lb (0.34–0.56 N•m). If leakage occurs, torque to 8 in-lb (0.91 N•m) maximum.
-  Torque to 6–8 in-lb (0.68–0.9 N•m).
-  Torque to 4–6 in-lb (0.45–0.68 N•m).
-  Lubricate.
-  Lubricate threads.
-  Thread nut into housing until there is some resistance on needle. Slide needle back and forth to make sure it moves freely.
-  Tighten the retainer until it just contacts the top of the piston (4), then back the retainer off 1-1/2 turns.

T11043

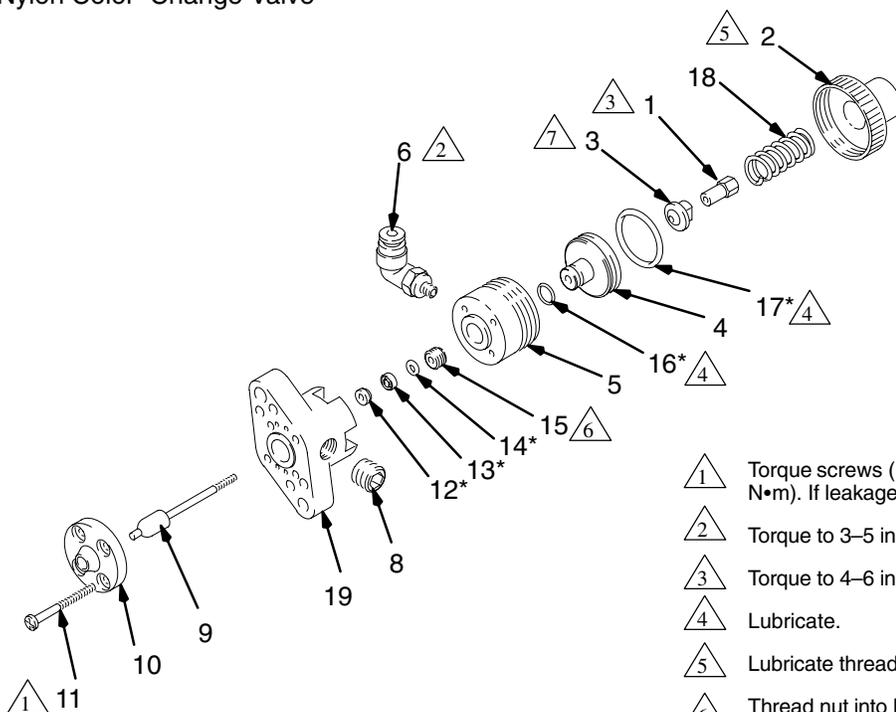
Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
1	180537	NUT, retainer; M2.5 x 0.45 mm	1	11	112858	SCREW, machine	4
2	180612	CAP, retaining	1	12*	178763	SPACER, packing; Delrin	1
3	180539	RETAINER, piston; M2.5 x 0.45 mm	1	13*	178409	PACKING, fluid, UHMWPE	1
4	180538	PISTON	1	14*	168518	O-RING; Viton®	1
5	180613	HOUSING, piston	1	15	180542	NUT, packing; M8 x 1 mm; Delrin	1
6	109193	ELBOW, male tube; 90° swivel, 10–32 thread	1	16*	156454	O-RING; buna-N	1
7	195578	HOUSING, fluid	1	17*	102620	O-RING; buna-N	1
8	110208	PLUG, pipe, headless; stainless steel; 1/8–27 nptf(m)	1	18	108017	SPRING, compression	1
9	218560	NEEDLE, fluid	1	24	188469	ADAPTER, valve	1
10	180596	SEAT, bell; Delrin®	1	25	191872	ADAPTER, valve	1

* These parts are included in Repair Kit 218966. See page 11.

Parts

Part No. 218900

Nylon Color Change Valve



- 1 Torque screws (11) oppositely and evenly to 3–5 in-lb (0.34–0.56 N•m). If leakage occurs, torque to 8 in-lb (0.91 N•m) maximum.
- 2 Torque to 3–5 in-lb (0.34–0.56 N•m).
- 3 Torque to 4–6 in-lb (0.45–0.68 N•m).
- 4 Lubricate.
- 5 Lubricate threads.
- 6 Thread nut into housing until there is some resistance on needle. Slide needle back and forth to make sure it moves freely.
- 7 Tighten the retainer until it just contacts the top of the piston (4), then back the retainer off 1-1/2 turns.

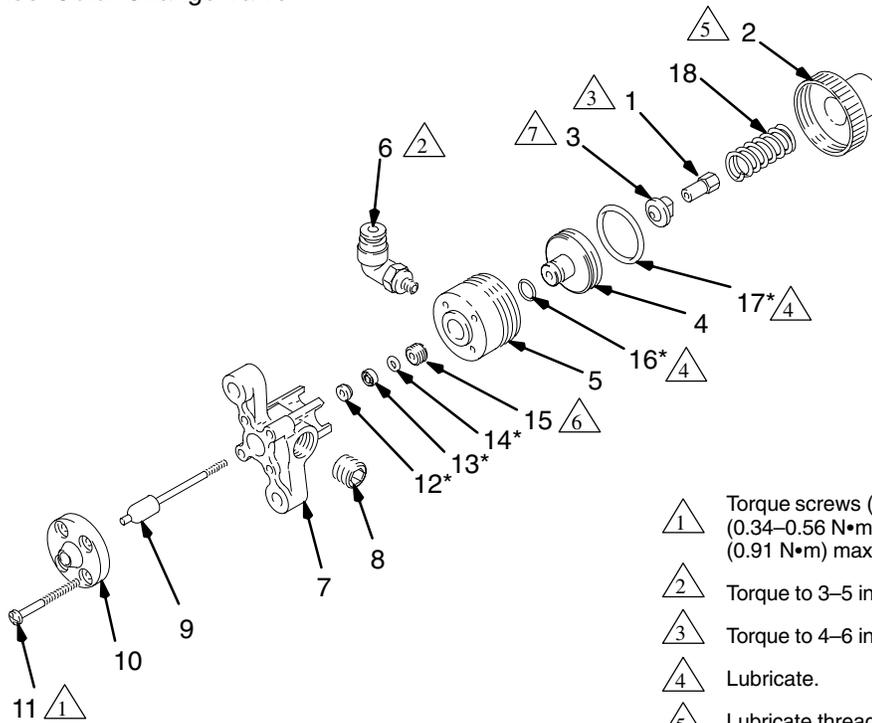
Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
1	180537	NUT, retainer; M2.5 x 0.45 mm	1	11	108018	SCREW, machine, pan head; M3 x 0.5 mm	4
2	180612	CAP, retaining	1	12*	178763	SPACER, packing; Delrin	1
3	180539	RETAINER, piston; M2.5 x 0.45 mm	1	13*	178409	PACKING, fluid, UHMWPE	1
4	180538	PISTON	1	14*	168518	O-RING; Viton®	1
5	180613	HOUSING, piston	1	15	180542	NUT, packing; M8 x 1 mm; Delrin	1
6	109193	ELBOW, male tube; 90° swivel, 10–32 thread	1	16*	156454	O-RING; buna-N	1
8	110208	PLUG, pipe, headless; stainless steel; 1/8–27 nptf(m)	1	17*	102620	O-RING; buna-N	1
9	218560	NEEDLE, fluid	1	18	108017	SPRING, compression	1
10	180596	SEAT, bell; Delrin®	1	19	180614	HOUSING, fluid; nylon	1

* These parts are included in Repair Kit 218966. See page 11.

Parts

Part No. 218964

Stainless Steel Color Change Valve



-  Torque screws (11) oppositely and evenly to 3–5 in-lb (0.34–0.56 N•m). If leakage occurs, torque to 8 in-lb (0.91 N•m) maximum.
-  Torque to 3–5 in-lb (0.34–0.56 N•m).
-  Torque to 4–6 in-lb (0.45–0.68 N•m).
-  Lubricate.
-  Lubricate threads.
-  Thread nut into housing until there is some resistance on needle. Slide needle back and forth to make sure it moves freely.
-  Tighten the retainer until it just contacts the top of the piston (4), then back the retainer off 1-1/2 turns.

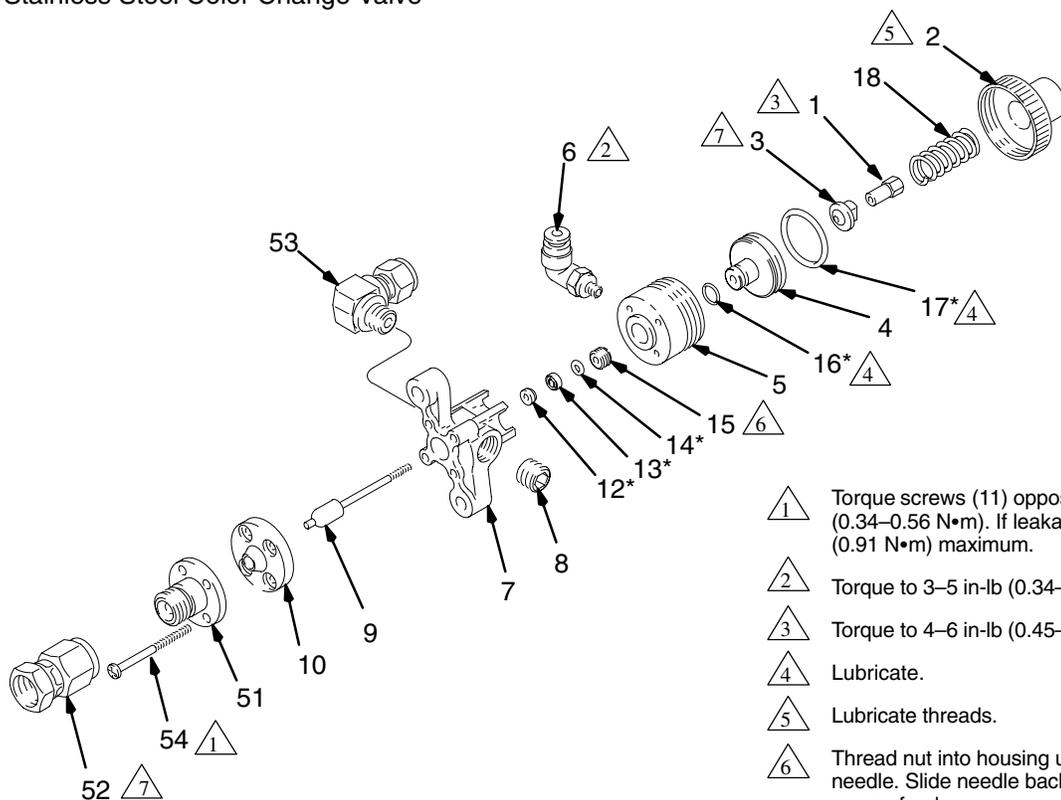
Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
1	180537	NUT, retainer; M2.5 x 0.45 mm	1	10	180596	SEAT, bell; Delrin®	1
2	180612	CAP, retaining	1	11	108018	SCREW, machine, pan head; M3 x 0.5 mm	4
3	180539	RETAINER, piston; M2.5 x 0.45 mm	1	12*	178763	SPACER, packing; Delrin	1
4	180538	PISTON	1	13*	178409	PACKING, fluid, UHMWPE	1
5	180613	HOUSING, piston	1	14*	168518	O-RING; Viton®	1
6	109193	ELBOW, male tube; 90° swivel, 10–32 thread	1	15	180542	NUT, packing; M8 x 1 mm; Delrin	1
7	181097	HOUSING, fluid; stainless steel	1	16*	156454	O-RING; buna-N	1
8	110208	PLUG, pipe, headless; stainless steel; 1/8–27 nptf(m)	1	17*	102620	O-RING; buna-N	1
9	218560	NEEDLE, fluid	1	18	108017	SPRING, compression	1

* These parts are included in Repair Kit 218966. See page 11.

Parts

Part No. 236853

Stainless Steel Color Change Valve



-  Torque screws (11) oppositely and evenly to 3–5 in-lb (0.34–0.56 N•m). If leakage occurs, torque to 8 in-lb (0.91 N•m) maximum.
-  Torque to 3–5 in-lb (0.34–0.56 N•m).
-  Torque to 4–6 in-lb (0.45–0.68 N•m).
-  Lubricate.
-  Lubricate threads.
-  Thread nut into housing until there is some resistance on needle. Slide needle back and forth to make sure it moves freely.
-  Tighten the retainer until it just contacts the top of the piston (4), then back the retainer off 1-1/2 turns.

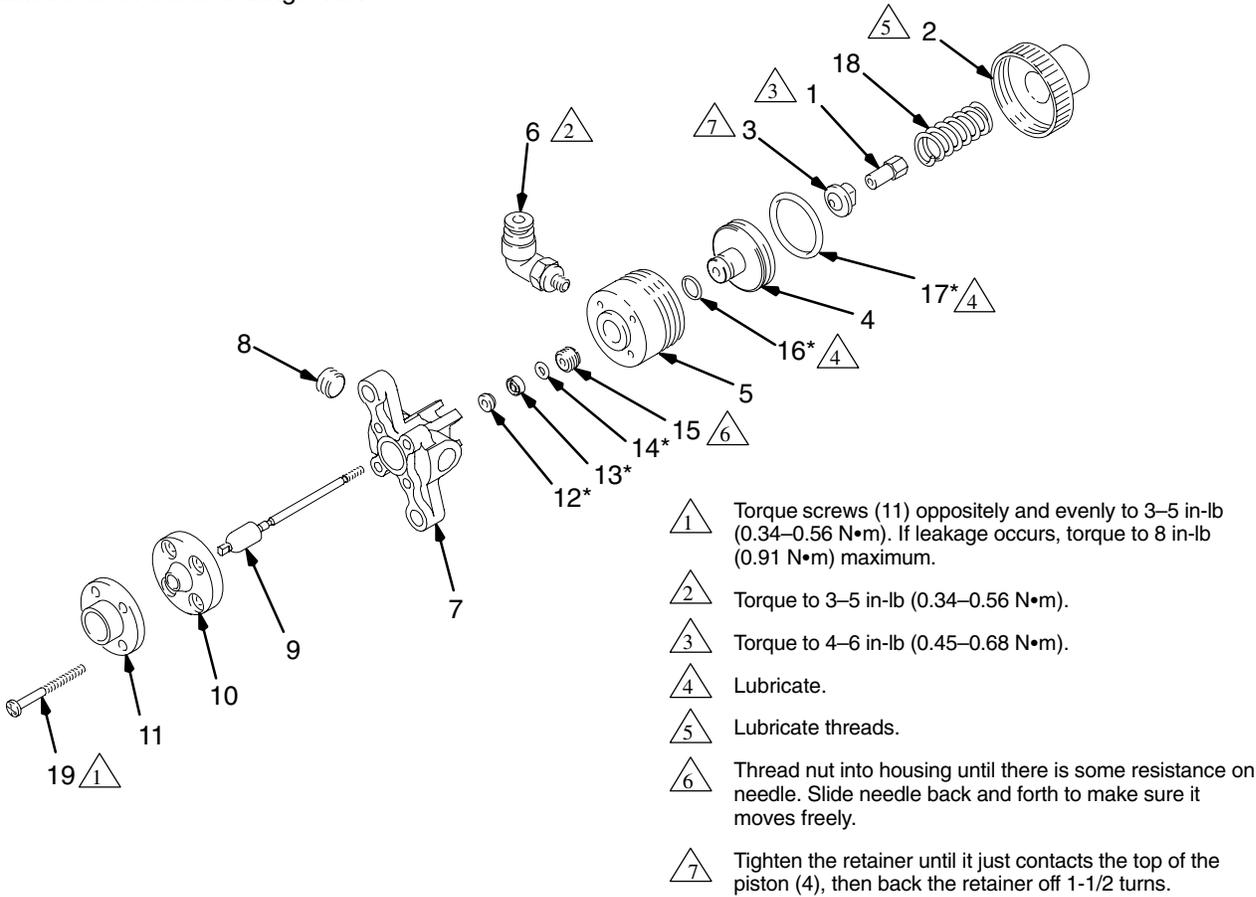
Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
1	180537	NUT, retainer; M2.5 x 0.45 mm	1	12*	178763	SPACER, packing; Delrin	1
2	180612	CAP, retaining	1	13*	178409	PACKING, fluid, UHMWPE	1
3	180539	RETAINER, piston; M2.5 x 0.45 mm	1	14*	168518	O-RING; Viton®	1
4	180538	PISTON	1	15	180542	NUT, packing; M8 x 1 mm; Delrin	1
5	180613	HOUSING, piston	1	16*	156454	O-RING; buna-N	1
6	109193	ELBOW, male tube; 90° swivel, 10–32 thread	1	17*	102620	O-RING; buna-N	1
7	181097	HOUSING, fluid; stainless steel	1	18	108017	SPRING, compression	1
8	110208	PLUG, pipe, headless; stainless steel; 1/8–27 nptf(m)	1	51	188469	ADAPTER, valve	1
9	218560	NEEDLE, fluid	1	52	155570	UNION, swivel	1
10	180596	SEAT, bell; Delrin®	1	53	111370	CONNECTOR, elbow	1
				54	112858	SCREW, machine	4

* These parts are included in Repair Kit 218966. See page 11.

Parts

Part No. 692024

Stainless Steel Color Change Valve



ti1609a

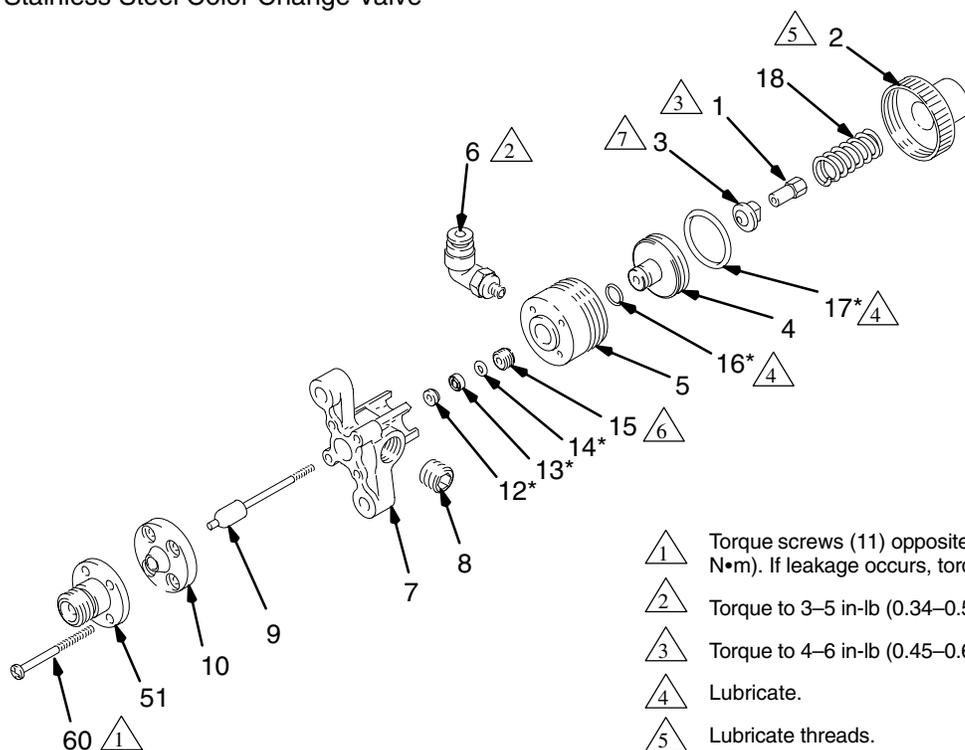
Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
1	180537	NUT, retainer; M2.5 x 0.45 mm	1	10	180596	SEAT, bell; Delrin®	1
2	180612	CAP, retaining	1	11	112858	SCREW, machine, phillips	4
3	180539	RETAINER, piston; M2.5 x 0.45 mm	1	12*	178763	SPACER, packing; Delrin	1
4	180538	PISTON	1	13*	178409	PACKING, fluid, UHMWPE	1
5	180613	HOUSING, piston	1	14*	168518	O-RING; Viton®	1
6	109193	ELBOW, male tube; 90° swivel, 10–32 thread	1	15	180542	NUT, packing; M8 x 1 mm; Delrin	1
7	181097	HOUSING, fluid; stainless steel	1	16*	156454	O-RING; buna-N	1
8	110208	PLUG, pipe, headless; stainless steel; 1/8–27 nptf(m)	1	17*	102620	O-RING; buna-N	1
9	218560	NEEDLE, fluid	1	18	108017	SPRING, compression	1
				19	690301	ADAPTER, valve	1

* These parts are included in Repair Kit 218966. See page 11.

Parts

Part No. 907438 and 948944

Stainless Steel Color Change Valve



-  Torque screws (11) oppositely and evenly to 3–5 in-lb (0.34–0.56 N•m). If leakage occurs, torque to 8 in-lb (0.91 N•m) maximum.
-  Torque to 3–5 in-lb (0.34–0.56 N•m).
-  Torque to 4–6 in-lb (0.45–0.68 N•m).
-  Lubricate.
-  Lubricate threads.
-  Thread nut into housing until there is some resistance on needle. Slide needle back and forth to make sure it moves freely.
-  Tighten the retainer until it just contacts the top of the piston (4), then back the retainer off 1-1/2 turns.

Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
1	180537	NUT, retainer; M2.5 x 0.45 mm	1	14*	168518	O-RING; Viton®	1
2	180612	CAP, retaining	1	15	180542	NUT, packing; M8 x 1 mm; Delrin	1
3	180539	RETAINER, piston; M2.5 x 0.45 mm	1	16*	156454	O-RING; buna-N	1
4	180538	PISTON	1	17*	102620	O-RING; buna-N	1
5	180613	HOUSING, piston	1	18	108017	SPRING, compression	1
6	109193	ELBOW, male tube; 90° swivel, 10–32 thread	1	51	188469	ADAPTER, valve	1
7	181097	HOUSING, fluid; stainless steel	1	60	112858	SCREW, machine, phillips	4
8	110208	PLUG, pipe, headless; stainless steel; 1/8–27 nptf(m)	1	61	502820	ELBOW, street 1/8" sst (948944 only, not assembled)	1
9	218560	NEEDLE, fluid	1	62	513842	ELBOW, 3/8" T x 1/8" NPT(m) sst (948944 only, not assembled)	1
10	180596	SEAT, bell; Delrin®	1	63	513949	CONNECTOR, swivel 1/4" npsf x 1/8" npt(m) (948944 only, not assembled)	1
12*	178763	SPACER, packing; Delrin	1				
13*	178409	PACKING, fluid, UHMWPE	1				

* These parts are included in Repair Kit 218966. See page 11.

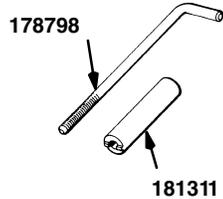
Accessories

Use Only Genuine Graco Parts and Accessories

Valve Repair Kit 218966

Must be purchased separately. Includes Packing Tool 178798 and Packing Nut Tool 181311 and the following:

Ref No.	Qty.
12	1
13	1
14	1
16	1
17	1



Air Tube 054177

5/32 in. (4 mm) OD; nylon
Specify length needed when ordering.

Straight Air Inlet Fitting 108294

For use where the standard 90° elbow air inlet fitting cannot be used. 10–32 male thread.

Fluid Inlet Adapter 169797

1/4 npsm x 1/8 npt

Fluid Inlet Adapter 181153

For use in Europe and other international applications.

1/4-1/8 npsm/R1/4-19 combined external male threads, compatible with NPSM and BSP female connectors.

Technical Data

Maximum Fluid Working Pressure 300 psi
(2.1 MPa, 21 bar)
Maximum Air Operating Pressure 100 psi
(0.7 MPa, 7 bar)
Air Inlet Tube Requirements 5/32 in. (4 mm) OD
Fluid Inlet 1/8 npt(f)

Fluid Outlet 1/8 npt(f)
Wetted Parts 304 Stainless Steel electropolished
and passivated castings, 304 Stainless
Steel passivated machined parts, Delrin®,
Ultra High Molecular Weight Polyethylene,
Nylon - Model 218900 only

Graco Standard Warranty

Graco warrants all equipment manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized Graco distributor 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.

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Graco Information

TO PLACE AN ORDER, contact your Graco distributor, or call one of the following numbers to identify the distributor closest to you:

1-800-328-0211 Toll Free

612-623-6921

612-378-3505 Fax

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International Offices: Belgium, China, Japan, Korea

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