

Standard and Stainless Steel Single and Dual Circulation Kits

Introduction

The single and dual high-pressure circulation kits allow you to vary and control the circulation rate of coating material through a fluid circuit. The kits are available in standard (steel, non-corrosive) and stainless steel.

Use the single circulation kit for systems with one high-pressure fluid circuit and the dual circulation kit for systems with two high-pressure fluid circuits.

Circulation Kit Assembly

Tools and Material Required

The following tools and materials are needed to assemble and install the kit:

- large and small adjustable wrenches
- vice grip or channel-lock pliers
- pipe thread adhesive/sealant part 900481 (Loctite High Temp SS567) or equivalent

Assembly

See Figure 1.

1. Install the $\frac{3}{4}$ in. NPT close nipple (9) in the pump siphon inlet.
2. Install the $\frac{3}{4} \times \frac{3}{4} \times \frac{1}{2}$ in. tee (8) (single kit) or the cross (11) (dual kit) on the close nipple.
3. If you are assembling a standard dual valve kit, install the $\frac{3}{4}$ in. NPT side of the bushings (10) into the cross.
4. Install the circulation valve(s) on the $\frac{1}{2}$ in. NPT side outlet of the tee, bushings, or cross. Orient the valve so the $\frac{1}{4}$ in. NPT ports are on the top and the bottom of the valve.
5. Install the $\frac{3}{8} \times \frac{1}{4}$ in. NPT male hex nipple (7) and the ball valve (6) in the bottom $\frac{1}{4}$ in. NPT port of the circulation valve.
6. Install the male connector (3) in the bottom of the ball valve. Install the drain-off hose (5) on the male connector.
7. Install a male connector (3) in the drain-off rod, and connect the hose.

Assembly *(contd)*

8. Install a $\frac{1}{4}$ in. NPT x $\frac{1}{2}$ -20 JIC elbow (1) in the remaining $\frac{1}{4}$ in. NPT port on the top of the circulation valve.
9. Connect a high pressure fluid hose from the return side of the fluid circuit to the elbow on the circulation valve.
10. Connect your siphon hose to the tee or cross.

Circulation Valve Operation

Rotate the circulation valve outer knob clockwise to close the valve, counter-clockwise to open it. To lock the valve setting, rotate the inner knob until it contacts the valve body and tighten it securely.



CAUTION: Never close the circulation valve more than finger tight. Over-tightening may damage the carbide point and seat.

Opening the circulation valve increases the return flow through the valve, causes the pump to run faster (increases the cycle rate), and increases the volume of fluid flowing through the system. Closing the valve decreases the return flow, causes the pump to run slower, and decreases the volume of fluid flowing through the system.

The typical stroke rate for most pumps while circulating coating material, with no guns spraying, is 5–10 strokes per minute (6–12 seconds per stroke).

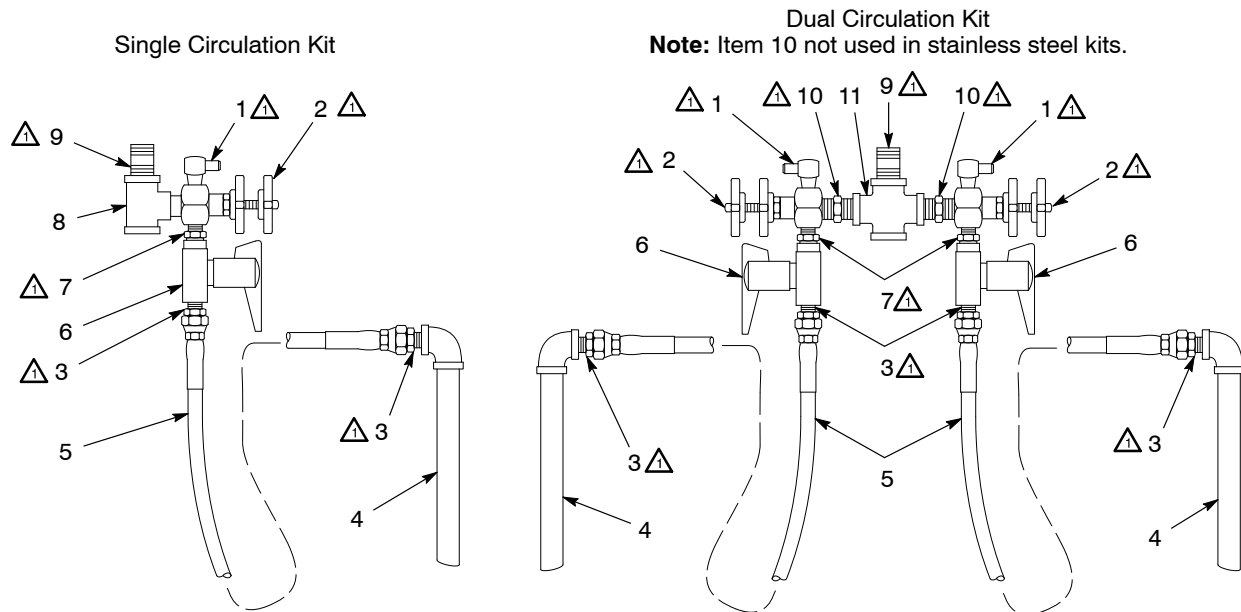
NOTE: The more the circulation valve is opened, the more potential there is for fan pattern collapse or “wink” at the spray device when the pump changes direction or shifts. Open the circulation valve just enough to maintain the required fluid temperature and agitation in the circulation loop.

Bleeding and Flushing

To bleed air or to drain waste fluid or flushing material from the system, place the drain rod in a grounded container, then close the circulation valve and open the ball valve.

Parts

To order parts, call the Nordson Finishing Customer Support Center at (800) 433-9319 or your local Nordson representative.



1 Apply pipe thread adhesive/sealant part 900481 (Loctite High Temp SS567) to fitting threads before installing.

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Figure 1 Single and Dual Circulation Kits

Standard Single and Dual Circulation Kit

See Figure 1.

Item	Part	Description	Quantity		Note
			Single	Dual	
–	244777	SERVICE KIT, circulating, single	1	–	
–	244779	SERVICE KIT, circulating, dual	–	1	
1	972176	• ELBOW, male, 37, 1/2-20 x 1/4 in., steel	1	2	
2	750022	• VALVE, circulation	1	2	A
3	972101	• CONNECTOR, male, 37, 3/4-16 x 3/8 in., steel	2	4	
4	750070	• ROD, drain off	1	2	
5	823060	• HOSE, drain off, 3/8 in. ID, 5 feet	1	2	
6	750040	• VALVE, ball	1	2	B
7	973958	• NIPPLE, hex, 3/8 x 1/4 x 1.406 in., steel, nickel	1	2	
8	973293	• TEE, pipe, class 150, 3/4 x 3/4 x 1/2 in.	1	–	
9	973109	• NIPPLE, steel, schedule 40, 3/4, 2.00 in.	1	1	
10	973399	• BUSHING, pipe, hydraulic, 3/4 x 1/2 in., steel, zinc	–	2	
11	973969	• CROSS, pipe, class 150, 3/4 in., zinc	–	1	
NOTE A: Refer to the <i>Circulation Valve</i> instruction sheet part 1033690 for repair and parts information.					
B: Refer to the <i>Ball Valve</i> instruction sheet part 104667 for repair and parts information.					

Stainless Steel Single and Dual Circulation Kit

See Figure 1.

Item	Part	Description	Quantity		Note
			Single	Dual	
–	244778	SERVICE KIT, circulating, stainless steel, single	1	–	
–	244780	SERVICE KIT, circulating, stainless steel, dual	–	1	
1	972177	• ELBOW, male, 37, 1/2-20 x 1/4 in., stainless steel	1	2	
2	750222	• VALVE, circulation, stainless steel	1	2	A
3	972103	• CONNECTOR, male, 37, 3/4-16 x 3/8 in., stainless steel	2	4	
4	750250	• ROD, drain off	1	2	
5	823060	• HOSE, drain off, 3/8 in. ID, 5 feet	1	2	
6	750130	• VALVE, ball, stainless steel	1	2	B
7	973971	• NIPPLE, hex, 3/8 x 1/4 x 1.406 in., stainless steel	1	2	
8	973294	• TEE, pipe, 3/4 x 3/4 x 1/2 in., stainless steel	1	–	
9	973113	• NIPPLE, ex heavy, 3/4 x 2.50 in., stainless steel	1	1	
11	973970	• CROSS, 3/4 x 1/2 in., stainless steel	–	1	
NOTE A: Refer to the <i>Circulation Valve</i> instruction sheet part 1033690 for repair and parts information.					
B: Refer to the <i>Ball Valve</i> instruction sheet part 104667 for repair and parts information.					

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