

# Circulation Kit for 180D/360D Pumps

## Introduction

This instruction sheet covers installation, operation, and parts for the 180D/360D pump circulation kit.

Use the circulation kit along with the optional siphon accessory kits available for the pumps. Refer to section B1 in your 180D/360D pump manual for siphon accessory kit part numbers.

## Circulation Kit Assembly



**WARNING:** Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

## Tools and Material Required

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

- large and small adjustable wrenches
- pipe thread sealant part 900481 (Loctite High Temp SS567) or equivalent

## Assembly

1. Apply the recommended thread sealant to all fitting threads.
2. The circulation kit is shipped partially assembled. Assemble the rest of the kit components and connect them to the pump as shown in [Figure 1](#).

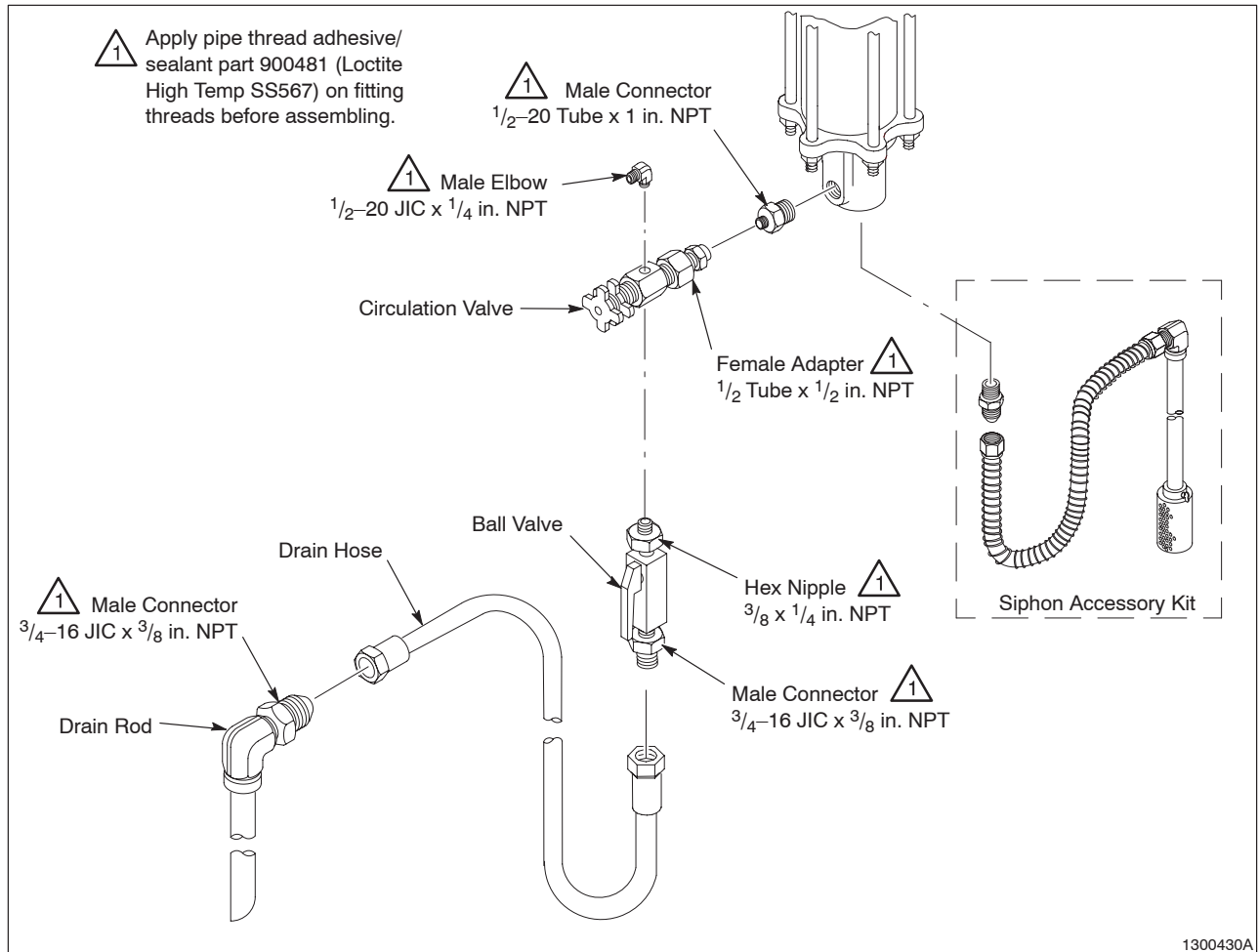


Figure 1 Circulation Kit Installation

## Siphon and Return Hose Connections

The optional siphon accessory kit includes a siphon hose, a siphon rod for use with 55 gallon drums of coating material, and a strainer.

**NOTE:** If you do not use the kit, make sure your siphon hose and rod have an ID of at least a 25.4 mm (1 in.).

See Figure 1.

1. Remove the bushing and pipe plug from the bottom siphon port of the pump. Install the male connector shipped with the siphon accessory kit in the port, then connect the siphon hose, siphon rod, and strainer.
2. Connect the return hose from the spray system to the male elbow on top of the circulation valve. The elbow threads are  $1/2-20$  JIC.

## 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 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.

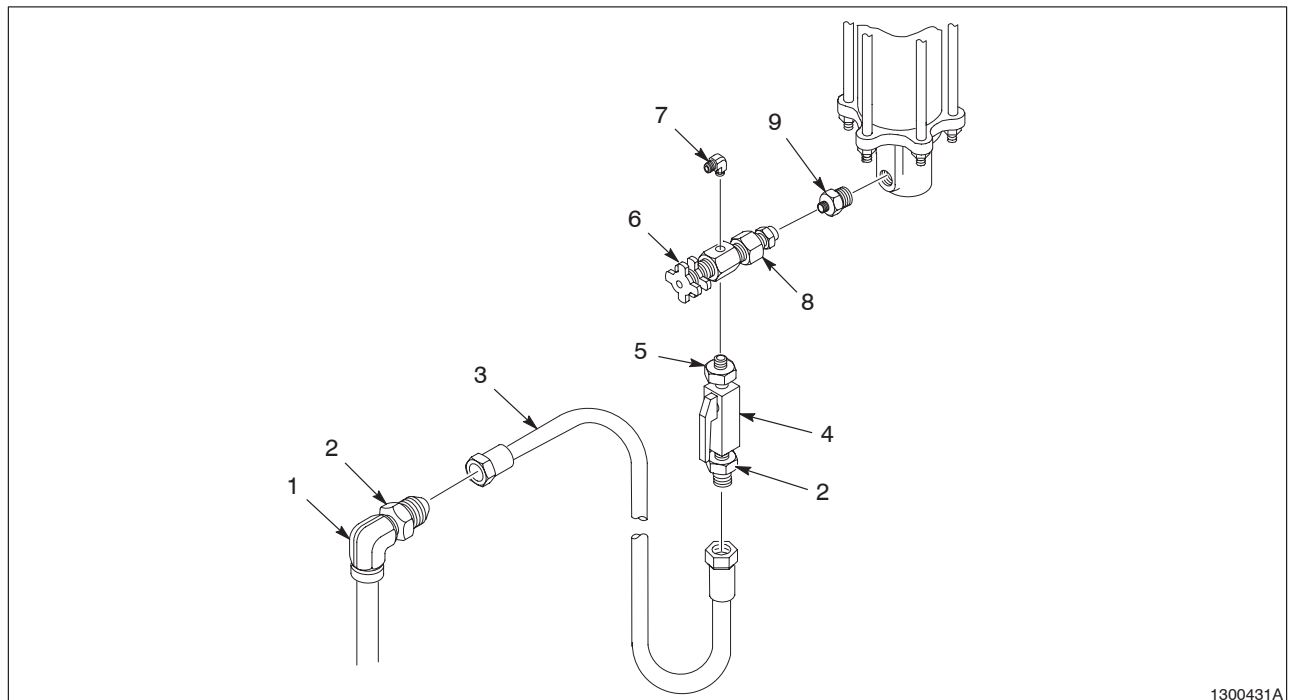
# Parts

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

Item	Part	Description	Quantity	Note
—	336841	KIT, circulation, stainless steel, 180D/360D	1	
1	750250	• ROD, drain-off	1	
2	972103	• CONNECTOR, male, 37, $\frac{3}{4}$ -16 x $\frac{3}{8}$ in., stainless steel	2	
3	823060	• HOSE, drain-off, $\frac{3}{8}$ in. ID, 5 ft	1	
4	750130	• VALVE, ball, stainless steel	1	A
5	973971	• NIPPLE, hex, $\frac{3}{8}$ x $\frac{1}{4}$ x 1.406 in., stainless steel	1	
6	750222	• VALVE, circulation, stainless steel	1	B
7	972177	• ELBOW, male, 37, $\frac{1}{2}$ -20 x $\frac{1}{4}$ in., stainless steel	1	
8	336842	• ADAPTER, female, Swagelok, $\frac{1}{2}$ x $\frac{1}{2}$ in., stainless steel	1	
9	336843	• CONNECTOR, male, Swagelok, $\frac{1}{2}$ x 1 in., stainless steel	1	

NOTE A: Refer to the *Ball Valve* instruction sheet part 104667 for repair and parts information.

B: Refer to the *Circulation Valve* instruction sheet part 1033690 for repair and parts information.



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Figure 2 Circulation Kit Parts

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