

Installation & Operation for (-D) Double Flush Mechanical Seal Option

The (-D) seal option is the best choice for long trouble free operation when pumping liquids with suspended abrasives. It requires an external fresh water source to flush and lubricate the seals. The double seal arrangement is described as two standard mechanical seals placed back-to-back in the stuffing box cavity. The inner seal prevents the fresh water (flush liquid) from entering the product being pumped. The outer seal prevents the fresh water from leaking to the atmosphere. Pumps supplied with the double flush mechanical seal option (-D) are sold without flushing lines or related control circuit hardware, these items are customer supplied and installed.

MAXIMUM STUFFING BOX PRESSURE

Seal Size	1750 RPM	3500 RPM
1 ¹ / ₄	120#	75#
1 ⁵ / ₈	105#	75#
2	90#	-
2 ⁵ / ₈	75#	-
3 ³ / ₄	45#	-

MINIMUM STUFFING BOX PRESSURE

SEE "DETERMINING MINIMUM STUFFING BOX PRESSURES" PAGE WITHIN THIS PUBLICATION

FLUSHING OF THE STUFFING BOX FROM AN EXTERNAL SOURCE IS REQUIRED AT ALL TIMES.

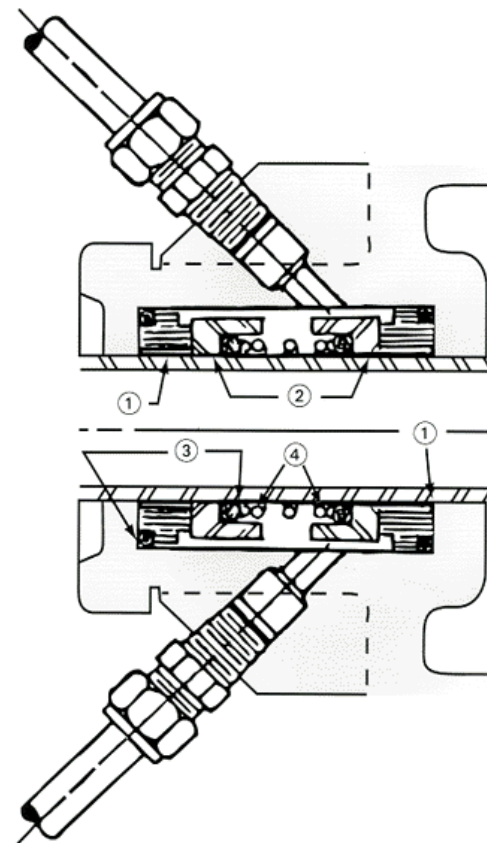
LIMITATION AND REQUIREMENTS

Temperature	250°F Max.
PH	7-9
Coolant Flow	1/2 GPM
Coolant Temp.	180°F Max.

Applications & Limitations

This Option is Available on:

- Series 80
 - 1510/1531
 - VSC/VSCS
- with stuffing box configurations



DOUBLE SEAL MATERIALS

- ① Stationary Seat: Carbon
- ② Rotating Element: Ceramic
- ③ Elastomers: EPR
- ④ Wetted Metal Parts: 316SS

INSTALLER: PLEASE LEAVE THIS MANUAL FOR THE OWNER'S USE.



SAFETY INSTRUCTION

This safety alert symbol will be used in this manual and on the pump safety instruction decals to draw attention to safety related instructions. When used, the safety alert symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED! FAILURE TO FOLLOW THE INSTRUCTIONS MAY RESULT IN A SAFETY HAZARD.

Wiring & Operation Steps

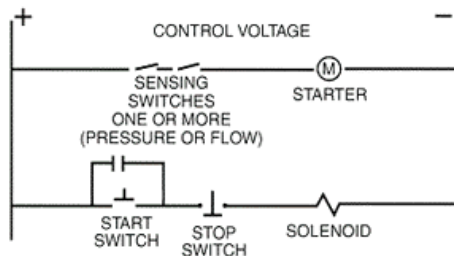
FOR (-D) DOUBLE FLUSH MECHANICAL SEAL OPTION



WARNING: ELECTRICAL SHOCK HAZARD

Electrical connections to be made by a qualified electrician in accordance with all applicable codes, ordinances and good practices. Failure to follow these instructions could result in serious personal injury or death, and property damage.

MANUAL CONTROL



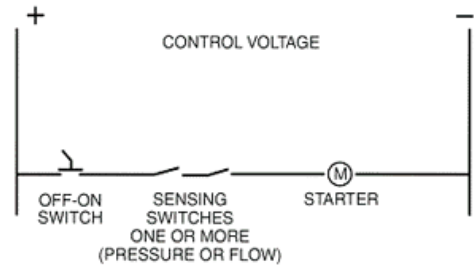
TO START

1. Open flush line gate valve. Sensing switch will close.
2. Start pump.

TO STOP

1. Stop Pump.
2. Close Flush Line Gate Valve.

MANUAL CONTROL with Solenoid Valve



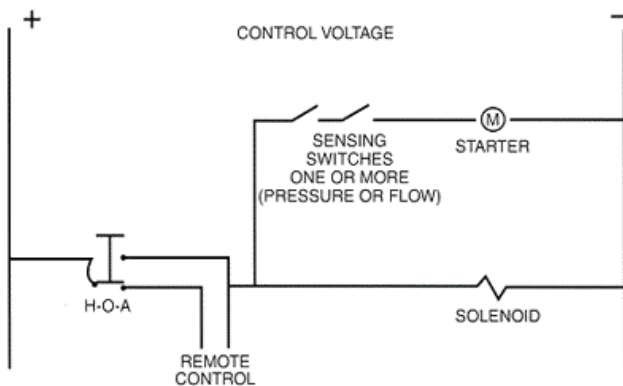
TO START

1. Press start switch. Solenoid valve will open, sensing switches will close and pump will start.

TO STOP

1. Press stop switch. Solenoid valve will close, sensing switches will open and pump will stop.

AUTOMATIC CONTROL



AUTOMATIC OPERATOR

1. Set selector switch in "AUTO" position.
2. When remote control makes contact, solenoid valve will open, sensing switches will close and pump will start.
3. When remote control breaks contact, solenoid valve will close, sensing switches will open and pump will stop.

MANUAL OPERATION

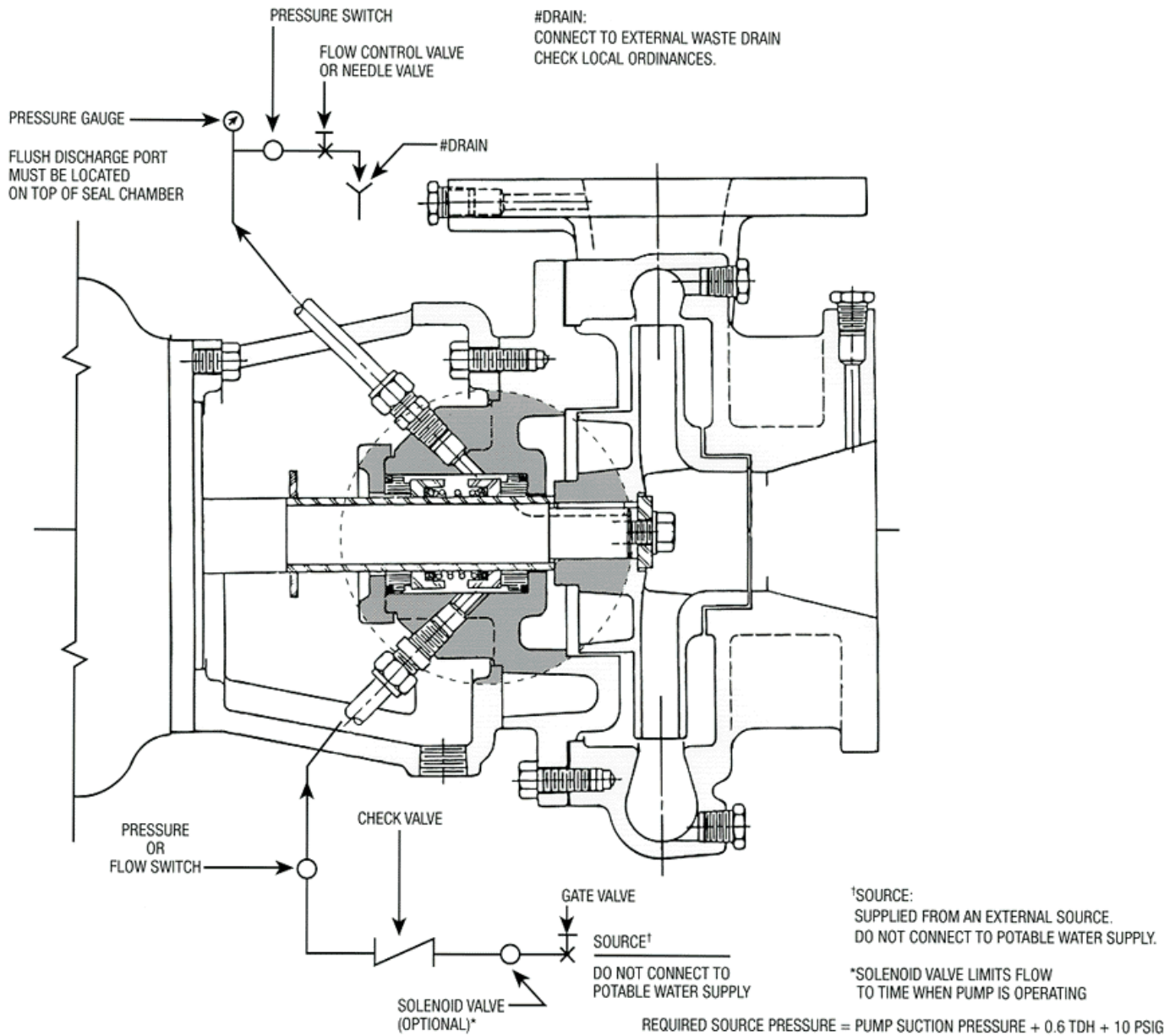
TO START

1. Set selector switch in "HAND" position control will operate as 2 above.

TO STOP

1. Set selector switch in "OFF" position control will operate as 3 above.

Recommended External Source Flush Water Piping Arrangement for Double Flush Seal Series 1510/1531 80 Pumps



⚠ WARNING: ELECTRICAL SHOCK HAZARD
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⚠ CAUTION: WATER DAMAGE HAZARD, SEAL DAMAGE HAZARD
 Do not start pump with double seal without properly installing external flush line and drain. Do not run seals dry. Failure to follow these instructions could result in property damage and/or moderate personal injury.

⚠ CAUTION: SUPPLY WATER CONTAMINATION HAZARD
 When flushing with city water, city main pressure may fall below that of pump, permitting contaminated water to enter the city main. Local ordinances must be observed. Failure to follow these instructions could result in property damage and/or moderate personal injury.

Determining Minimum Stuffing Box Pressures

ALL SERIES VSC, VSCS: Box Pressure = Suction Pressure + 15 PSI

ALL SERIES 80, 1510, 1531: USE TABLES BELOW.

DETERMINE CORRECT FORMULA. CALCULATE AS INSTRUCTED.

SERIES 80

MOTOR PUMP SIZE	FRAME SIZE	FORMULA
1½X7B	ALL	A
2X7	ALL	A
2½X7	ALL	A
3X7B	143-184	B
3X7B	213-UP	A
4X7	ALL	B
5X7	ALL	B
6X7	ALL	B
1½X9	ALL	A
2X9-½B	143-184	A
2X9-½B	213-UP	B
3X9-½B	145-184	A
3X9-½B	213-UP	B
4X9-½	ALL	B
5X9-½	ALL	B
6X9-½	ALL	B
8X9-½	ALL	B
4X4X11	ALL	B
6X6X11	ALL	B
8X8X11	ALL	B

SERIES 1510/1531

MOTOR PUMP SIZE	FRAME SIZE	FORMULA
1¼AC	ALL	A
1½AB	ALL	A
2AC	ALL	A
2½AB	143-184	B
2½AB	254-UP	A
3AC	ALL	B
4AC	ALL	B
5A	ALL	B
1¼BC	ALL	A
1½BC	ALL	A
2BC	145-215	A
2BC	284-UP	B
2½BB	182-215	A
2½BB	254-UP	B
3BC	ALL	B
4BC	ALL	B
5BC	ALL	B
6BC	ALL	B
1½BC	ALL	A
2E	182-254	A
2E	286-UP	B
3E	ALL	B
4E	ALL	B
5E	ALL	B
6E	ALL	B
2G	ALL	A
3G	ALL	A
4GB	ALL	A
5G	ALL	B
6G	ALL	B
8G	ALL	B

SERIES 80, 1510, 1531 MINIMUM STUFFING BOX PRESSURE FORMULAS USE WITH ABOVE TABLE

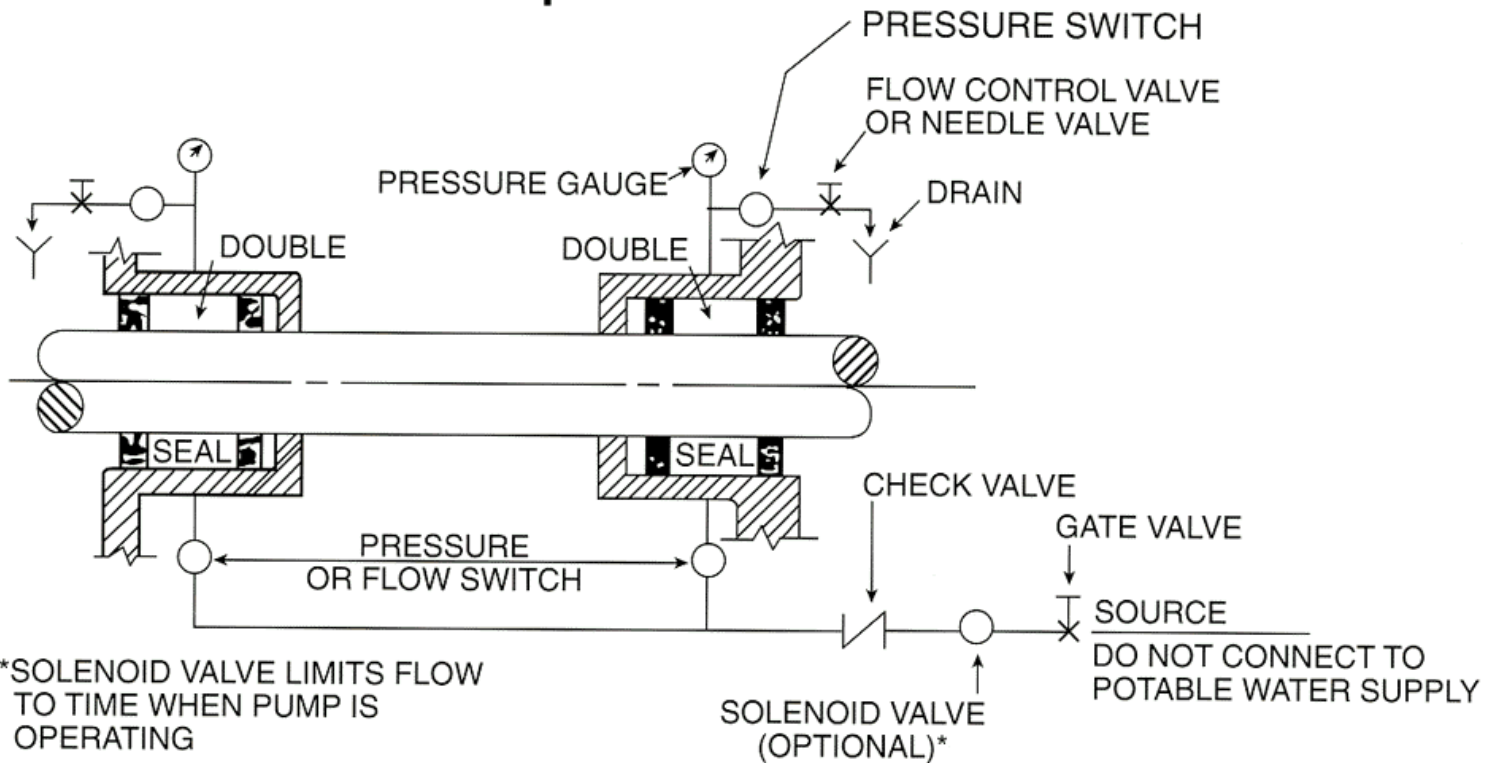
FORMULA "A": SUCTION PRESSURE + .6 TDH + 15 PSI

FORMULA "B": SUCTION PRESSURE + 15 PSI

IMPORTANT: TO PREVENT THE SEALS FROM BEING RUINED IN CASE THE BOX PRESSURE DROPS BELOW MINIMUM, AN ELECTRIC INTERLOCK OR FLOW SWITCH TO SHUT OFF THE PUMP IS RECOMMENDED.

Recommended Flush Water Piping Arrangement for

Double Flush Seal VSC/CS Pump



*SOLENOID VALVE LIMITS FLOW TO TIME WHEN PUMP IS OPERATING

MINIMUM FLOW RATE = 0.5 GPM PER SEAL

MINIMUM REQUIRED SOURCE PRESSURE = PUMP SUCTION PRESSURE + 15 PSIG



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Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

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