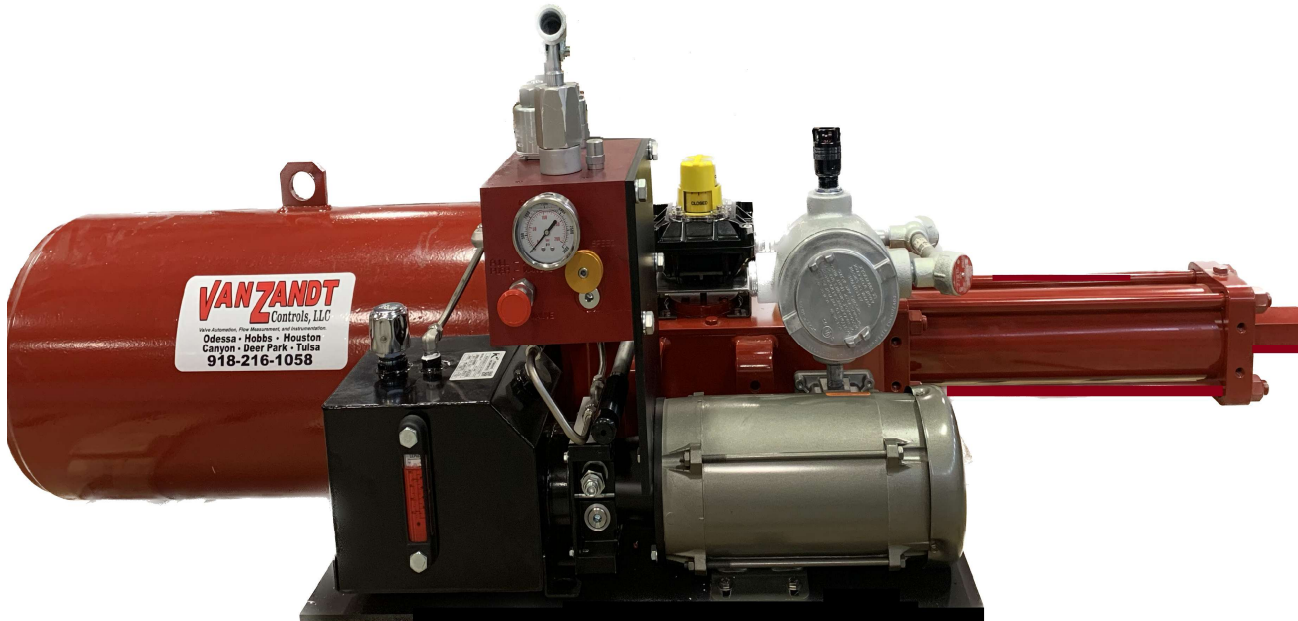


VANZANDT CONTROLS

VZ-ESD, ELECTRO-HYDRAULIC EMERGENCY SHUTDOWN

This ESD is designed to open when power is supplied and will close via a spring return actuator when the power is removed.



STANDARD STOCK ASSEMBLIES, OTHER SIZES AND VOLTAGES AVAILABLE UPON REQUEST

VZESD-HP120-02K VZESD-HP24-02K BTO: 2,643 lbf-in ETC: 1,603 lbf-in Opens in 10 sec Closes in 1-14 sec	VZESD-HP120-7K VZESD-HP24-7K BTO: 7,125 lbf-in ETC: 5,700 lbf-in Opens in 17 sec Closes in 1-14 sec	VZESD-HP120-12K VZESD-HP24-12K BTO: 12,000 lbf-in ETC: 9,420 lbf-in Opens in 20 sec Closes in 2-14 sec	VZESD-HP120-20K VZESD-HP24-20K BTO: 25,800 lbf-in ETC: 15,800 lbf-in Opens in 40 sec Closes in 3-48 sec	VZESD-HP120-55K VZESD-HP24-55K BTO: 55,000 lbf-in ETC: 44,100 lbf-in Opens in 55 sec Closes in 5-50 sec
--	--	---	--	--

- BACKUP HANDPUMP TO OPEN IF POWER IS NOT AVAILABLE
- SPEED CONTROL TO ADJUST THE CLOSING SPEED
- CONTROLS MANIFOLD DESIGNED TO REDUCE LEAK POINTS
- SITE GLASS ON RESERVOIR TO MONITOR FLUID LEVEL
- 2 SPDT SWITCHES FOR CUSTOMER USE & VISUAL INDICATOR BEACON
- MOTOR RUN TIMER AND ALARM LED/CONTACTS

TABLE OF CONTENTS

PAGE 2 – DETAILED SPECS, WEIGHTS AND DIMS, AND HYDRAULIC SCHEMATIC

PAGE 3 – 120VAC ELECTRICAL SCHEMATIC

PAGE 4 – 24VDC CONTROL/120VAC POWER ELECTRICAL SCHEMATIC

PAGE 5, 6 – OPERATIONS

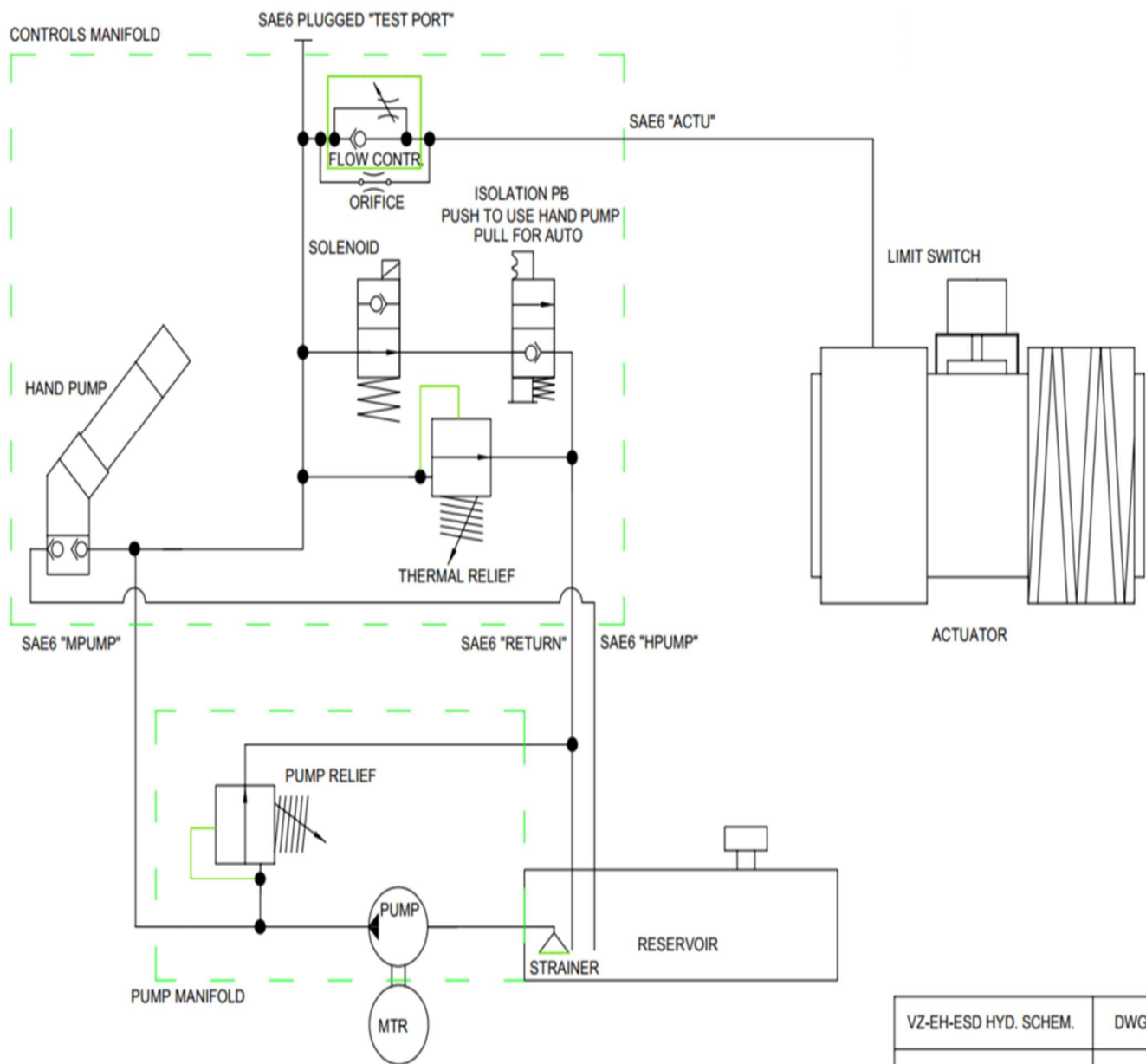
PAGE 7 – MAINTENANCE, BILL OF MATERIAL, LIMIT SWITCH CONNECTIONS

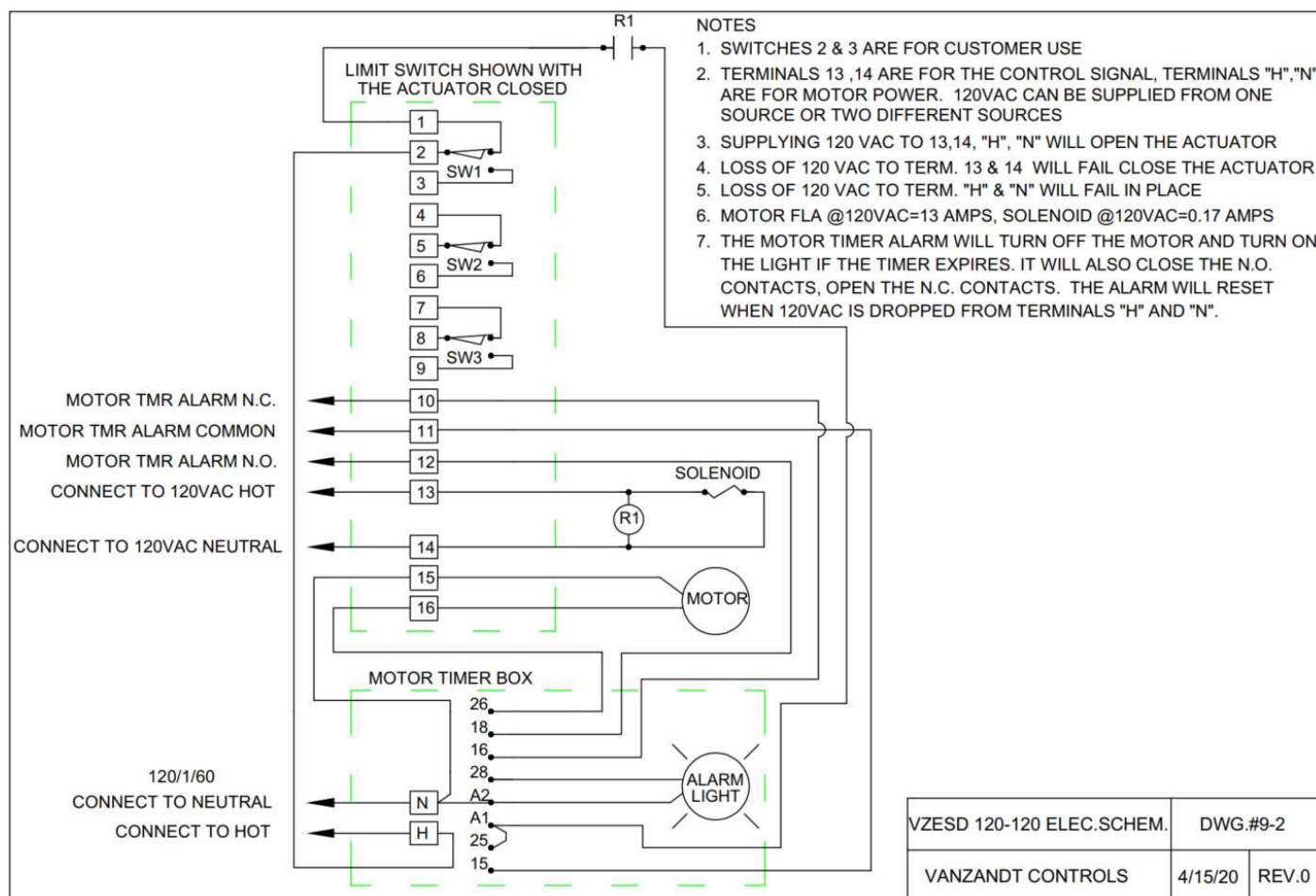
PAGE 8 – POWER CONNECTIONS, VANZANDT CONTACT INFO

Standard Hydraulic Fluid: Dexron III ATF or equivalent for 0-150F

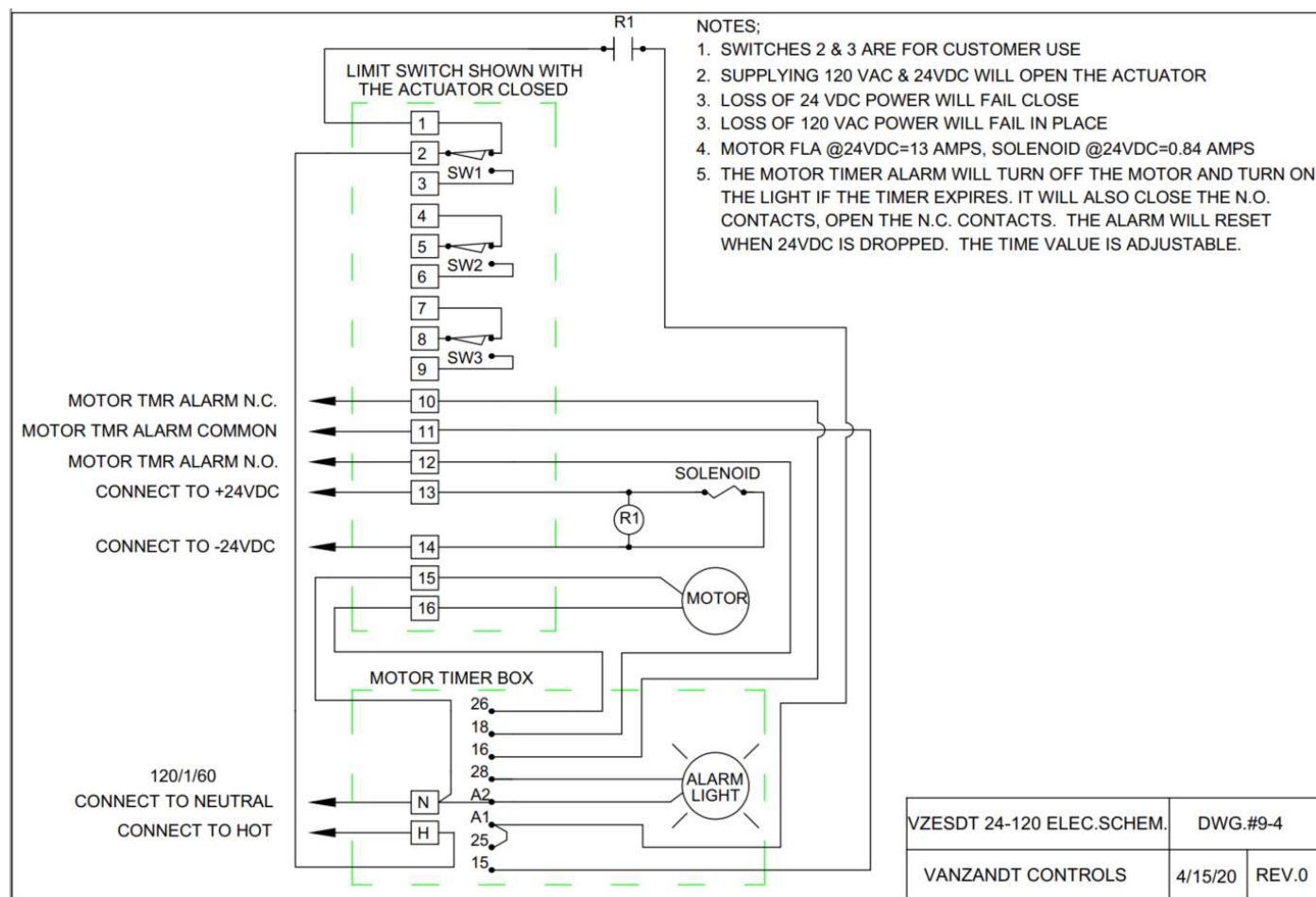
WEIGHTS AND DIMENSIONS				
VZESD-LP120-04K	VZESD-HP120-7K	VZESD-HP120-12K	VZESD-HP120-20K	VZESD-HP120-30K
210 lbs	490 lbs	550 lbs	615 lbs	680 lbs
41"x22"x21"	49"x30"x21"	54"x30"x21"	64"x30"x21"	66"x30"x21"

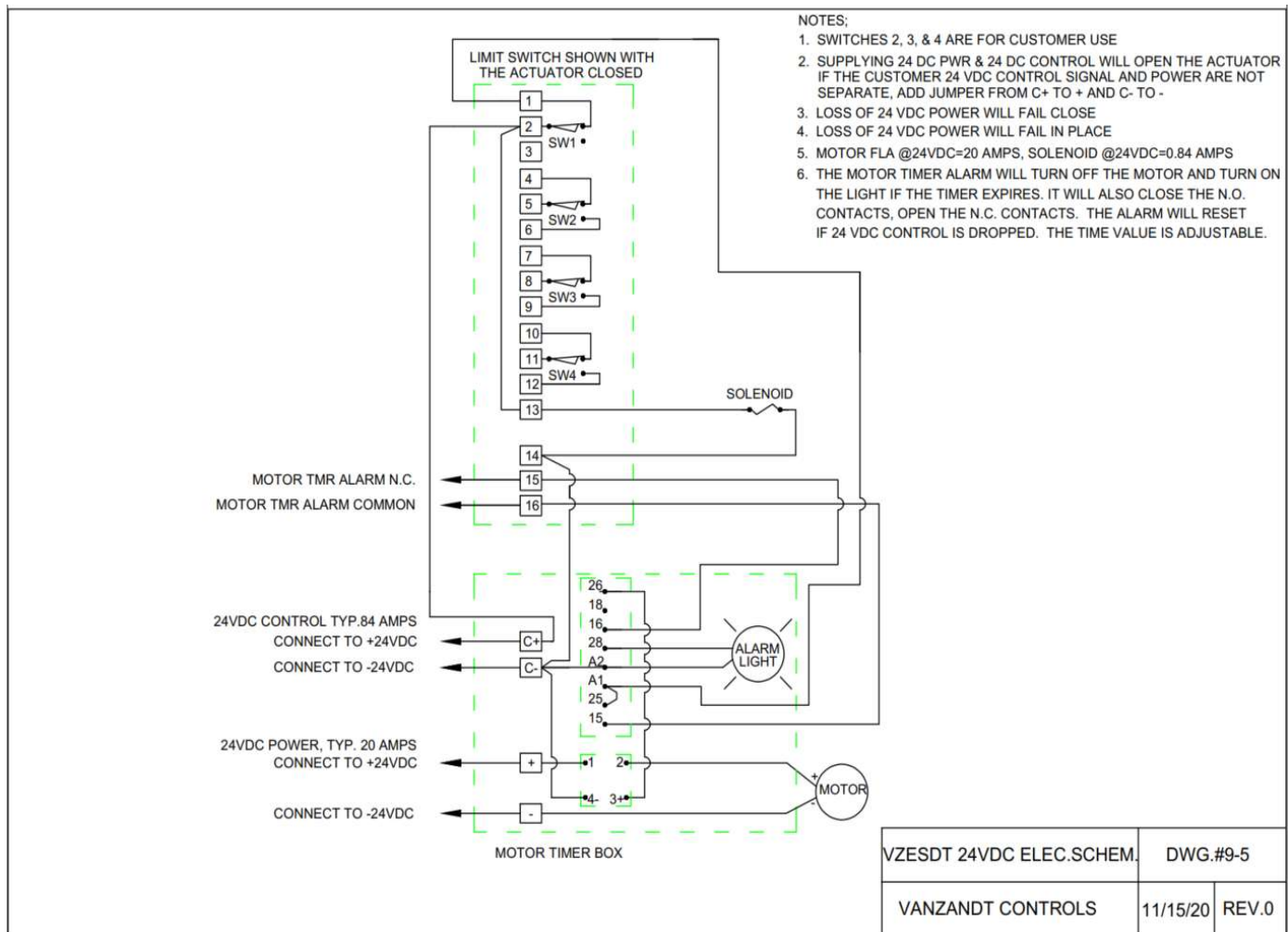
HYDRAULIC SCHEMATIC





24VDC CONTROL/120VAC MOTOR POWER ELECTRICAL SCHEMATIC





INSTALLATION INSTRUCTIONS

1. Mount to the Valve if Valve was not provided by VanZandt Controls. Make sure the bolts/nuts are properly secured.
2. The reservoir should be filled with DEXRON III or equivalent hydraulic fluid. If it is not, fill until the level is at the top of the sight glass. **WARNING: Do not fill the reservoir unless the actuator is in the closed position. Filling while in the open position can cause it to overflow when closed.**
3. Connect power/control per the above schematics.
4. The actuator has adjustable stops for end of travel open and close. These stops are set at the factory and typically should not need to be adjusted. The purpose for adjusting these stops is to help prevent wear and tear on the valve by not letting the actuator slam the valve open and closed.
If they need adjusted:

- a. Close the valve, loosen the lock nut and turn the stop bolt in the clockwise direction until it stops against the yoke.
 - b. Open the valve and repeat step one, close the valve again to ensure full travel.
 - c. Once travel adjustment is correct, re-tighten both lock nuts to ensure stop bolts are secure.
5. If the Valve was provided by VanZandt Controls, the limit switch “Cam” style switch labeled “SW1” will already be setup to shut off the motor when the actuator moves the valve to the fully open position. If VanZandt Controls didn’t provide the valve, the “SW1” needs to be adjusted to shut off the motor when the valve is opened. Failure to properly adjust this switch will cause the motor to continuously run *which* will wear out components prematurely.
 6. “SW2”, “SW3”, and “SW4” are for customer use and can be set up to signal when the valve is in the open or closed position. See wiring schematics for more details.
 7. During shipment, The fittings could vibrate loose. Verify all fittings are tight before turning on power to the unit. The unit is capable of generating pressure up to 3,000 psi and may cause injury if there is a leak.

Remote Operation With Power Supplied (Complete the above 7 steps first)

1. Verify the Red Manual Pushbutton is in the Pulled position. You must pull and twist it to lock it in position.
2. Supply the required power to open the valve. Some units have a 120VAC solenoid and some have a 24VDC solenoid. Both the motor and the solenoid need power to open the actuator. Once the actuator is open, the limit switch should turn off the motor.
3. The actuator will remain open until the solenoid power is removed. When the power is removed, the spring in the actuator will push the fluid back to the reservoir and close the valve. The valve will remain closed until power is supplied again.

Operation With Manual Hand Pump

1. If the solenoid has power, skip to step 3.
2. If the solenoid does not have power, Move the Red Manual Pushbutton to the pushed position. You must twist and then release to move it to the pushed position.
3. Remove the handle from the clips and place in the handpump.
4. Begin pumping up and down. The actuator will slowly move to the open position. Stop pumping when the actuator is fully open. There is a relief valve that will prevent you from over pumping the system and will bleed pressure back to the reservoir if continually pumped after it is fully open.
5. Remove the handle and place back into the clips
6. The actuator will remain open until the Red Manual Pushbutton is pulled and twisted to lock in the pulled position. Note that if the solenoid is on and the pushbutton is locked in the pulled position, the solenoid will override the pushbutton, and the actuator will NOT close. WARNING: LEAVING THE PUSHBUTTON IN THE "PUSHED" POSITION WILL OVERRIDE THE SOLENOID AND NOT ALLOW YOU TO CLOSE THE ACTUATOR VIA THE SOLENOID.

SPEED CONTROL

The Opening speed is not adjustable. The closing speed can be adjusted using the gold knob located below the pressure gauge. The following 4 steps will explain how to adjust the closing speed:

1. Close the actuator, which should release pressure from the system.
2. There is a locking nut behind the gold knob that must be turned counter clockwise before you can adjust the speed control. Back it off before proceeding to the next step.
3. Turn the knob clockwise to slow down the speed, or counter clockwise to make the actuator close faster. If the Knob will not turn any more then it is at the max setting.
4. Open the actuator and then close again to time the speed. If the speed is not what you want, repeat the previous step. If the speed is ok, then tighten the lock nut to maintain the desired speed. Note that hot temperatures will cause it to close faster and cold temperatures will cause it close slower.

RECOMMENDED MAINTENANCE

PAGE 7

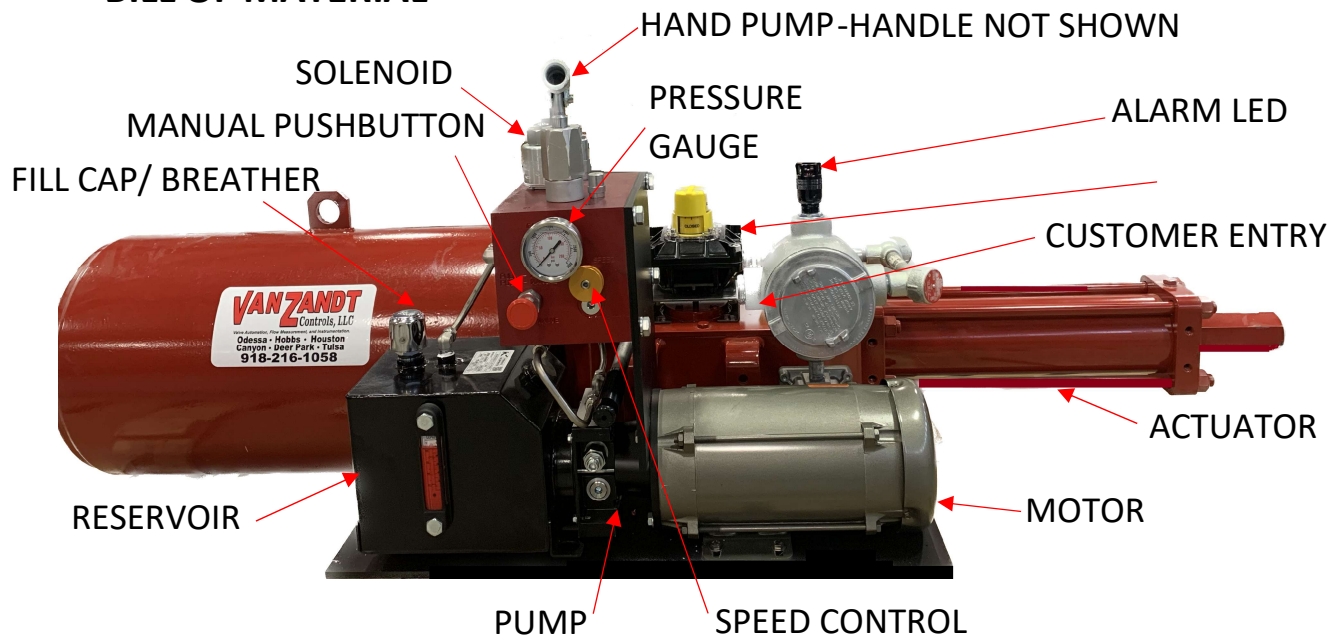
Every Month

- Visually inspect for leaks
- Check the reservoir level
- Make sure the fill cap is tight

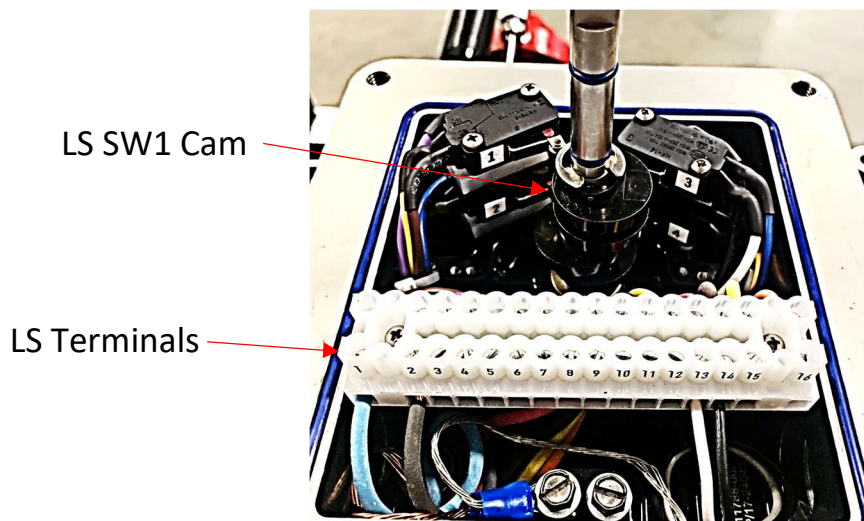
Every 6 Months

- Perform the monthly steps above
- Cycle the actuator closed and back open
- Verify the fittings are tight

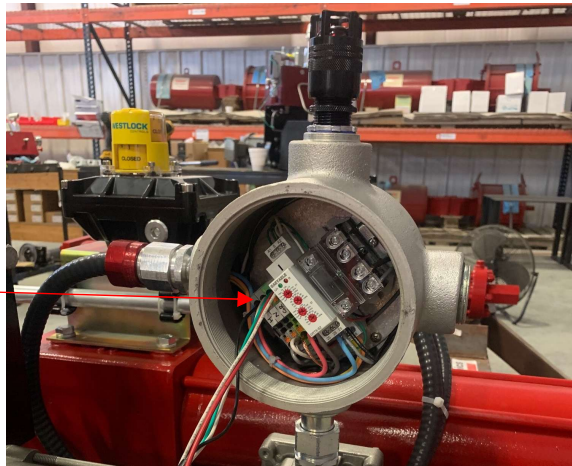
BILL OF MATERIAL



LIMIT SWITCH CONNECTIONS



Power Input
Terminals



FOR SALES/SERVICE CONTACT VANZANDT CONTROLS
TULSA, OK OFFICE – 918-216-1058