VALVE SYSTEMS

WC-SELF CONTAINED HYDRAULIC PUMP - HIGH PRESSURE

SELF CONTAINED HYDRAULIC SHUTDOWN SYSTEM

FEATURES

- This ESD design is a fail safe system.
- Suitable for remote, unmanned, unpowered and critial service designed for remote locations.
- Adapts to quarter-turn or linear operated valves.
- Durable for extreme climate conditions.
- Standard hydraulic model for all valve sizes and configurations.
- Emergency shutdown model can be local or remote mounted for customer specifications.

ELIMINATES;

need for plant air, fuel gas, electricity or nitrogen backup systems, emission of hazardous gasses such has H_2S, and

corrosion problems associated with the use of fuel gas as a supplied medium.

- Adaptable for use with SCADA systems, telemetry control or other remove signals.
- Adaptable and flexible, this system utilizes a variety of available sensing and control options.

Movac Valve Systems Self-Contained Hydraulic Emergency Shutdown Pump (WCSCHP) is designed to provide reliable valve shutdown capability when an external power source is not available or not dependable. The WCSCHP will perform in the most demanding of conditions. It's module can be used for rotary or linear spring-return hydraulic operators to provide a fail-safe system adaptable to ball, plug and other quarter-turn valves as well as reverse-acting gate and other linear operated valves. The WCSCHP offers a built-in temperature compensation and pressure relief.

Need Assistance?
Please give Movac a call to help in trouble shooting problems
24 hours a day, 7 days a week

Contact Us

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WCSCHP-OPERATION

THE SELF-CONTAINED HYDRAULIC EMERGENCY SHUTDOWN PUMP (WCSCHP) OPERATES IN TANDEM WITH THE

WCM35 AND WCM 50 ACTUATORS

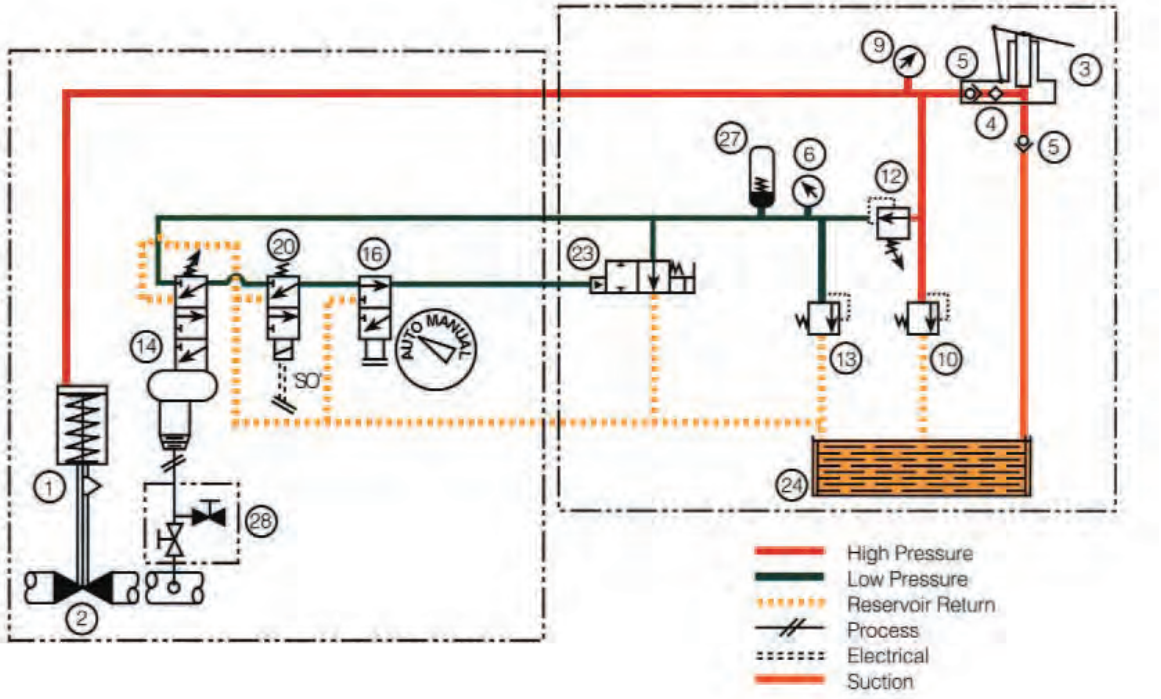
THE DIAGRAM BELOW SHOWS THE LINE VALVE CLOSED AND RESET VALVE (23) UNLATCHED.

TO OPEN THE VALVE

1. Latch the reset valve so the actuator can be opened.
2. Operate the manual hand pump to transfer hydraulic oil from a reservoir (24), compressing the actuator's spring and opening the valve to its normal operating position.
3. The WCSCHP enters its automatic mode when the pilot (14) senses pressure build up within set points and the solenoid (20) is energized.

TO CLOSE THE VALVE

1. The line valve closes when the hydraulic oil in the actuator's cylinder is released back to the reservoir, decompressing the spring and activating the valve. This occurs when:
   - A) the reset valve (23) is released manually
   - B) the pressure pilot (14) senses that the pressure is out of range
   - C) the selector valve is switched to "manual"
   - D) the solenoid (2) is de-energized



List of Components

1. Operator
2. Line Valve
3. Hand Pump
4. Filter
5. Check Valve
6. Gauge, LP
9. Gauge, HP
10. Relief Valve, HP
12. Pressure Regulator
13. Relief Valve, LP
14. Pressure Pilot (optional)
16. Selector Valve (optional)
20. Solenoid Valve, N.C. (optional)
23. Reset Valve
24. Reservoir
27. Accumulator
28. Isolation Test Valve (optional)

WCSCHP-RECOMMENDED MAINTENANCE

Movac recommends regular maintenance should be performed each fall, or as required. Also, the use of protective clothing, gloves and eyewear should be used when performing any installation or maintenance.

1. Empty fluid reservoir of any accumulated moisture.
2. Check filter element(s) and clean and/or replace as necessary.
3. Check set points on pressure relief valve(s) and reset valves if required.
4. If possible, check operation and calibration of pressure pilot or optional solenoid.
5. Top up standard Automatic Transmission Fluid (ATF). Be sure to use compatible fluid.

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Trouble Shooting

Without cycling the actuator, but with the pressurized removal of the reservoir vent/return lines will assist in tracing leakage. To trace leakage:

1. Disconnect the vent line from the pilot/solenoid vent port. This isolates it from WCSCHP module and allows for checking oil leakage throughout the device.

Note: This procedure also checks o-ring seals of poppets/ spool and spool/sleeve in operating positions.

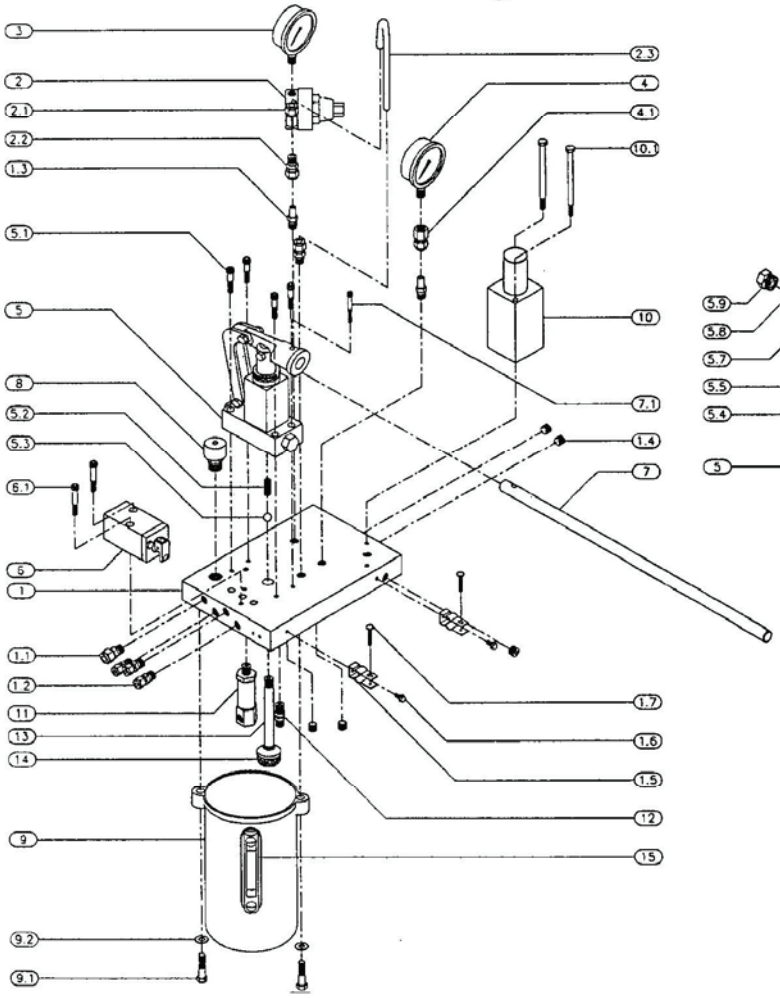
2. Remove reservoir from the module and check for oil leakage of relief and reset valve under operating conditions.
3. Remove fitting and tubing or plug from the second vent port of the module. Check for oil leakage that may be caused by manifold leakage between low-pressure (LP) channel and vent (V) channel.
4. Remove operator inspection cover or plate, and/or tubing from the cylinder plate to check for oil leakage across the piston seal and the piston center o-ring.

In the case of pumping problems, access the pump suction valve by removing the pump assembly from the sub-plate. Pumping difficulties are usually caused by a dirty filter element, contaminated oil (with water or methanol), or using incorrect fluid in the unit.

When the unit fails to regulate it is noticeable by a low pres sure gauge reading of 130 psi after two strokes. Service the regulator according to the appropriate maintenance manual.

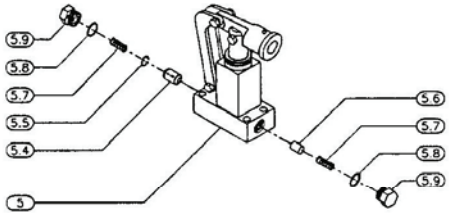
Note: Before removing or disassembling any components on the manifold, depressurize the system.

Exploded View



Item Description

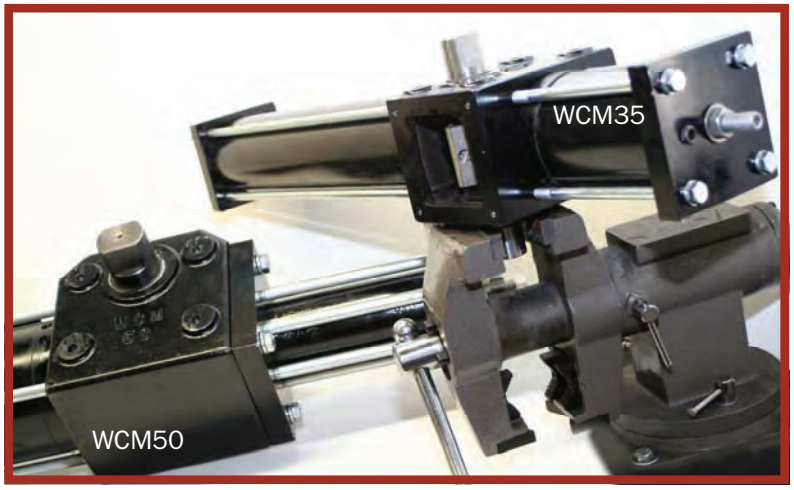
1 Manifold
1.1 Tube Fitting, 3/8 diameter (female)
1.2 Tube Fitting, 1/4 diameter (female)
1.3 Tube Fitting, 3/8 diameter (male)
1.4 Plug, 1/4 NPT
1.5 Handle Clip
1.6 Bolt, Handle Clip
1.7 Screw, Handle Clip
2 Regulator
2.1 Elbow Fitting 3/8 diameter (female)
2.2 Tube Fitting, 3/8 diameter (female)
2.3 Tubing, 3/8 diameter
3 High Pressure Gauge
4 Low Pressure Gauge
4.1 Tube fitting, 3/8 diameter (female)
5 Handpump
5.1 Bolt, Handpump
5.2 Spring, Handpump, Suction Check Valve
5.3 Ball, Handpump, Suction Check Valve



HANDPUMP DETAIL

5.4 Discharge Check, Handpump
5.5 O-Ring, Handpump, Discharge Check
5.6 Filter, Handpump
5.7 Spring, Handpump
5.8 O-Ring Handpump, End Plug
5.9 End Plug, Handpump
6 Manual Pilot Valve
6.1 Bolt, Pilot Valve
7 Handpump Handle
7.1 Bolt, Handle
8 Filler/Breather
9 Reservoir
9.1 Bolt, Reservoir
9.2 Washer, Reservoir
10 Accumulator
10.1 Bolt, Accumulator
11 High Pressure Relief Valve
12 Low Pressure Relief Valve
13 Riser
14 Suction Strainer
15 Level Gauge
16 Boot, Handpump (Not Shown)

WCSCHP-
ORDER INFORMATION



The Movac Self-Contained Hydraulic Emergency Shutdown Pump (WCSCHP)
Operates in tandem with the
Movac WCM35 and WCM50 Actuators

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For best results and to meet your requirements completely when ordering the Movac Self-Contained Hydraulic Emergency Shutdown Pump (WCSCHP) we require the following information:

- Minimum required and maximum allowable actuator working pressure (for existing actuator).
- Actuator hydraulic displacement (existing actuator).
- Pressure pilot setting (if any) high or low.
- Signal voltage (if any).
- Operating temperature range.
- Required options and accessories.