

WEIR CONCEPTS INC.

PRODUCT GUIDE

- SELF CONTAINED HYDRAULIC PUMP - High Pressure (WCSCHP)



EXPECT QUALITY AND RELIABILITY

using our brand name

SELF CONTAINED HYDRAULIC PUMP (WCSCHP)

~ WARRANTY AND EXCHANGE PROGRAM ~



Manufactured at Weir Concepts Inc.



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MADE IN ALBERTA, CANADA PRODUCTS

Manufactured and assembled at our Edmonton based facility

DETAILS ARE THE DIFFERENCE BETWEEN ORDINARY AND EXCELLENCE

SELF CONTAINED HYDRAULIC EMERGENCY SHUTDOWN SYSTEM

STANDARD Range -40°C / -212°F

OPTIONAL Range -50°C / -212°F



Each WCSCHP unit is
frozen and tested for a
MINIMUM of 24 HOURS
to -30°C / -22°F

- SELF GENERATING POWER SOURCE
- AUTOMATIC SHUTDOWN
- STANDARD REMOTE ESD OPTIONAL
- COMPATIBLE WITH ACTUATORS
QUARTER TURN BALL / PLUG OR
BUTTERFLY
- DESIGNED FOR REMOTE LOCATIONS
AND EXTREME TEMPERATURES
- GUARANTEED SHUTDOWN
OPERATION
- SUCTION FILTER

FEATURES

The Weir Concepts Self Contained Hydraulic Emergency Shutdown System (WCSCHP) is crafted to ensure dependable valve shutdown even in situations where an external power source is either unavailable or unreliable.

The WCSCHP will perform in the most demanding of conditions with its versatile module suitable for both rotary and linear spring return hydraulic operators. This creates a fail-safe system that seamlessly adapts to various valves including:

- **Ball Valve**
- **Plug Valve**
- **Other quarter-turn valves**
- **Reverse-acting gate and other linear operator valves.**

The WCSCHP also comes equipped with built-in temperature compensation and pressure relief features for enhanced functionality.

Weir Concepts offers technical consulting and provides end to end solutions.

Weir Concepts Self Contained Hydraulic Pump

- Eliminates the need for plant air, fuel gas, electricity or nitrogen backup systems, emission of hazardous gasses such as H₂S, and corrosion problems associated with the use of fuel gas as a supplied medium.
- Adaptable for use with SCADA systems, telemetry control or other remote signals.
- Adaptable and flexible, this system utilizes a variety of available sensing and control options.

WEIR CONCEPTS WCSCHP OPERATES IN TANDUM WITH OUR OTHER PRODUCT LINES:

WCM 35 / 50 HYDRAULIC ACTUATOR
WC YS SERIES HYDRAULIC ACTUATOR



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 actuators 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"

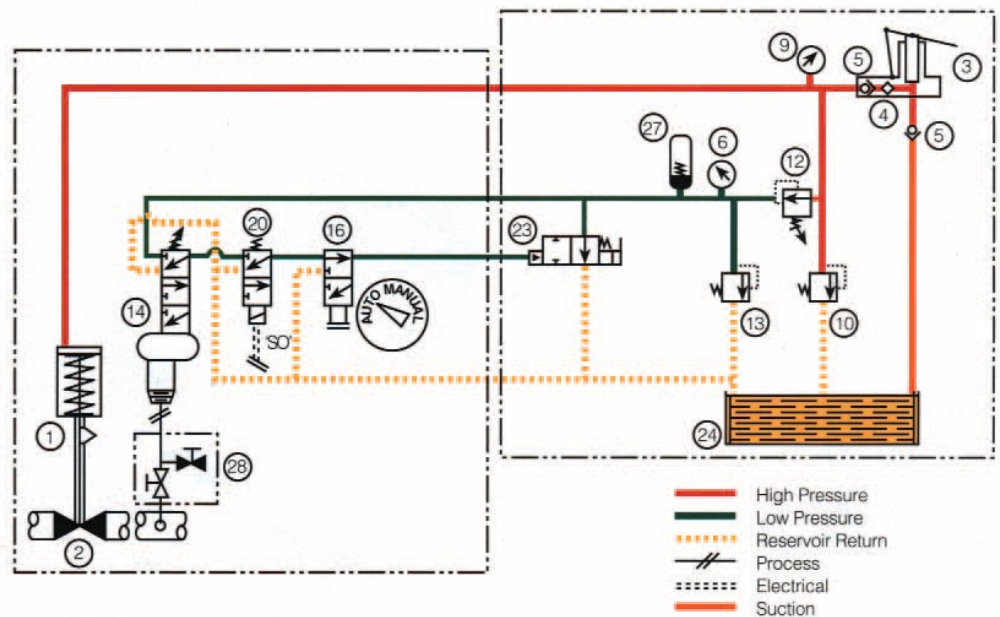
D) the solenoid (2) is de-energized

HP SELF CONTAINED HYDRAULIC SHUTDOWN SYSTEM SCHEMATIC

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

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)



RECOMMENDED MAINTENANCE

Regular maintenance should be performed each fall, or as required. **The use of PPE (protective clothing, gloves and eyewear) should always be used when performing any installation or maintenance.**

1. Empty fluid reservoir of any accumulated moisture.
2. Check filter element(s). Clean and/or replace as necessary.
3. Check set points on pressure relief valve(s). Reset valves if required.
4. Check operation and calibration of pressure pilot or optional solenoid.
5. Top up with UNVIS HVI 13 or compatible hydraulic fluid.

Please contact Weir Concepts' tech support if you have any questions or concerns.



HP SELF CONTAINED HYDRAULIC SHUTDOWN SYSTEM

TROUBLE SHOOTING

To identify leaks, it is recommended to pressurize & remove vent/return lines from reservoir without cycling the actuator. This process aids in effectively tracing and potential 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
3. Reset valve under operating conditions.
4. Remove fitting and tubing or plug from the second vent port of the module.
5. Check for oil leakage that may be caused by manifold leakage between low-pressure (LP) channel and vent (V) channel.
6. 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.

Pumping Difficulties:

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

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

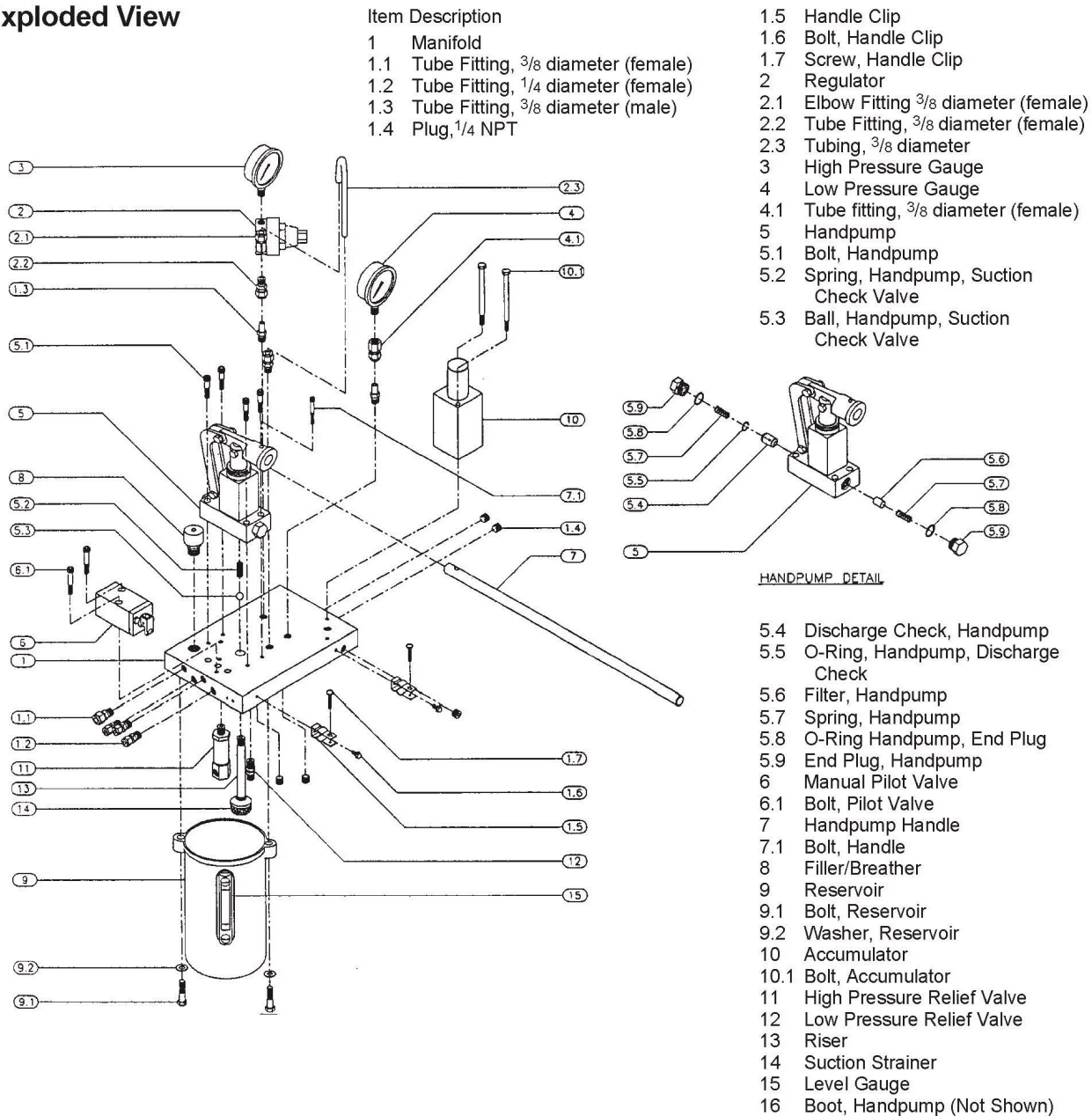
Note: before removing or disassembling any components on the manifold, depressurize the system

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OPTIONAL Range -50°C / -212°F

Exploded View



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WEIR CONCEPTS SELF CONTAINED HYDRAULIC PUMP (WCSCHP)



SOLUTIONS FOR YOUR COMPANY NEEDS

- HELP DESK -

FOR YOUR SUPPORT AND SERVICE

24 hours a day, 7 days a week

NO CHARGE ON CALLS SERVICE

We offer technical assistance, product knowledge, and reliable trouble shooting

Brochures/Maintenance info available online www.weirconcepts.com

HELP DESK EXPERTISE PROVIDED AT WEIR CONCEPTS

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