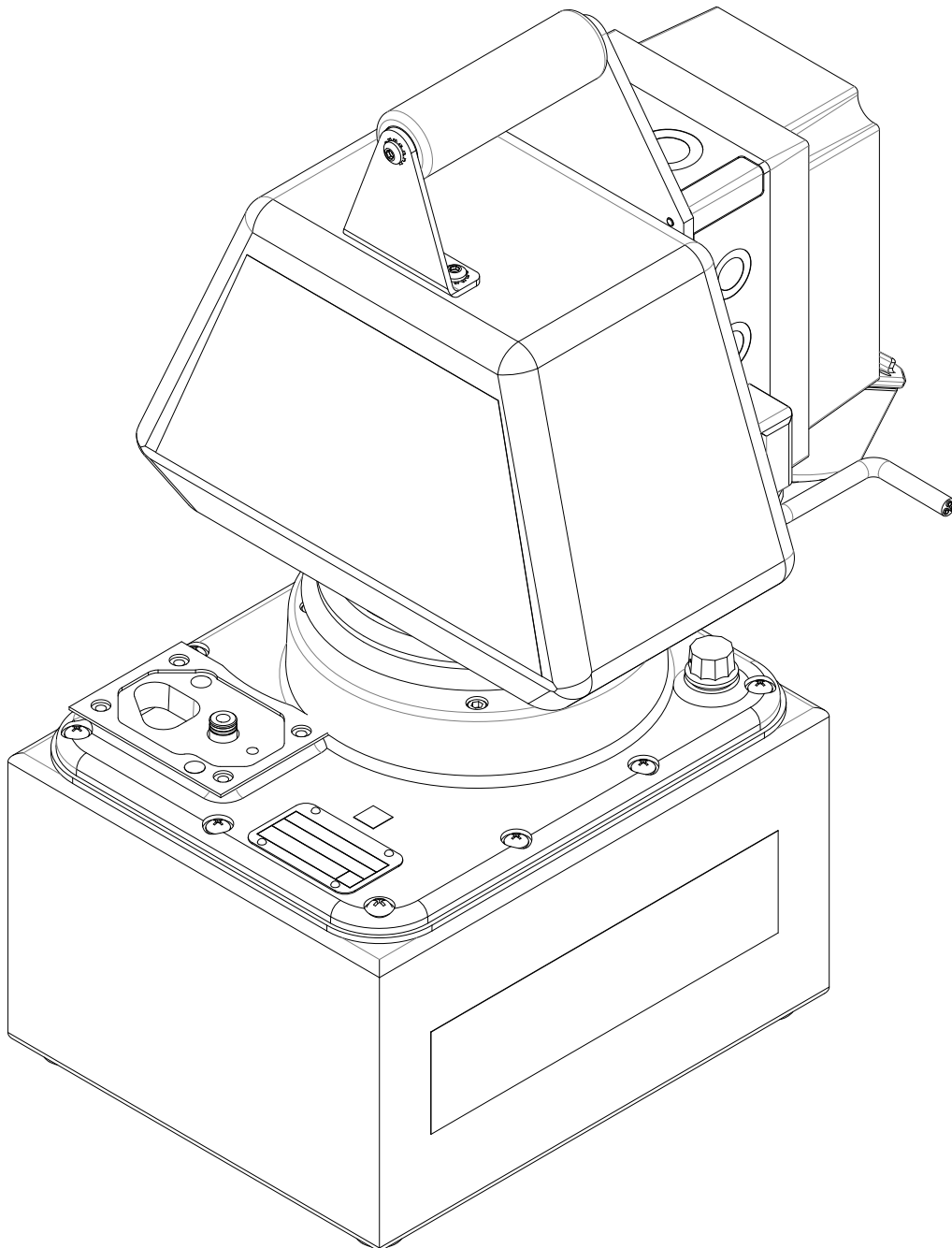




HYDRAULIC PUMP

MAX. CAPACITY : SEE PUMP DATA PAGE



CONTENTS

SAFETY DEFINITIONS.....	3
SAFETY PRECAUTIONS.....	3
SET-UP INSTRUCTIONS.....	7
1. Filling The Pump Reservoir	7
2. Hydraulic Connections	7
3. Bleeding The System	7
PUMP OPERATION	8
1. OPERATING THE PUMP FOR THE FIRST TIME:	8
2. ELECTRIC PUMP	9
DIRECTIONAL CONTROL VALVE OPTIONS.....	10
1. 2-Position, 2-Way Manual Valve Used With Single-acting Cylinder (Figure 1)	10
2. 3-Position, 3-Way Manual Valve Used With Single-acting Cylinders (Figure 3)	11
3. 3-Position, 4-Way Manual Valve used with Double-acting Cylinders (Figure 3)	11
4. “Posi-Check” Valves	12
5. Automatic Dump Valve	13
6. Solenoid Controlled, Pilot Operated Valve Used With Single-acting Cylinders	14
7. Solenoid Controlled, Pilot Operated Valve Used With Double-acting Cylinders	15
ADJUSTING THE PRESSURE REGULATING CONTROLS	16
1. Adjusting The Pressure Regulating Valve	16
2. Adjusting The Pressure Switch	16
PREVENTIVE MAINTENANCE.....	18
1. Checking The Hydraulic Fluid and Filling The Reservoir	18
2. Maintenance Cleaning	19
3. Reservoir Vent Air Filter (Optional for all pumps)	19
4. Draining And Cleaning The Reservoir	19
TROUBLESHOOTING GUIDE.....	20
HYDRAULIC SCHEMATIC.....	24
SPX HYDRAULIC TECHNOLOGIES	25
DECLARATION OF CONFORMITY	26

SAFETY DEFINITIONS

Safety symbols are used to identify any action or lack of action that can cause personal injury. Your reading and understanding of these safety symbols is very important.



Danger is used only when your action or lack of action will cause serious human injury or death.



Warning is used to describe any action or lack of action where a serious injury can occur.



Dangerous voltage is used to describe any action or lack of action that could cause serious personal injury or death from high voltage electricity.

IMPORTANT

Important is used when action or lack of action can cause equipment failure, either immediate or over a long period of time.

SAFETY PRECAUTIONS

These instructions are intended for end-user application needs. Many problems with new equipment are caused by improper operation or installation. For a detailed parts list or to locate a Power Team Authorized Hydraulic Service Center contact your nearest Power Team facility. A list of all Power Team facilities is located at the end of this document.



It is the operator's responsibility to read and understand the following safety statements,

- Only qualified operators should install, operate, adjust, maintain, clean, repair, or transport this machinery.
- These components are designed for general use in normal environments. These components are not specifically designed for lifting and moving people, agri-food machinery, certain types of mobile machinery or special work environments such as: explosive, flammable or corrosive. Only the user can decide the suitability of this machinery in these conditions or extreme environments. Power Team will supply information necessary to help make these decisions.

WARNING

To help prevent personal injury,

GENERAL



- Always wear eye protection whenever operating hydraulic equipment.
- Always wear hearing protection as required. Refer to the sound level (dB[A]) chart.
- Operation, repair, or maintenance of hydraulic equipment should be performed by a qualified person who understands the proper function of hydraulic equipment per local directives and standards.



- Hydraulic equipment must be assembled correctly and then checked for proper function before use. Use hydraulic components of the same hydraulic pressure ratings. An appropriate hydraulic pressure gauge is recommended to monitor pressure.
- Never place your hands or other body parts near a hydraulic fluid leak. Never use your hands or other body parts to check for a possible leak. High pressure fluid can be injected under your skin causing serious injury and/or infection.
- High pressure fluid is present throughout a hydraulic system. Always use caution when operating, repairing, or maintaining this equipment. Before beginning any work on any hydraulic system component, stop the equipment, disconnect from its power source, and relieve all pressure in all parts of the system. Do not tamper with the internal hydraulic relief valve settings.



- Avoid exposing hydraulic equipment (especially hoses) to extreme high or low temperatures. Damage to equipment or failure may result and cause loss of control or injury to the operator.
- Exercise caution to avoid the risk of fire.
- Do not drop any hydraulic system components. Damage to the equipment and/or injury may result.



- Avoid slipping or falling by cleaning up any oil spills.
- Avoid back injury by always lifting equipment carefully.
- It is strongly recommended to view the Power Team Hydraulic Safety video tape before using hydraulic equipment.

POWER SUPPLY

Electric



Electrical Shock or Electrocution

- Any electrical work must be done and tested by a qualified electrician per local directives and standards.
- Disconnect the pump from the power supply and relieve pressure before removing the motor case cover or performing maintenance or repair.
- Never use an ungrounded power supply with this unit.
- If the power cord is damaged or wiring is exposed, replace or repair immediately.
- Changing the voltage on this unit is an involved, and if improperly performed, hazardous procedure. Consult the manufacturer for specific information before attempting any rewiring.
- All PE55 Series pump motors must be wired for clockwise (CW) rotation when viewed from the lead end (top) of the motor.

- Check the total amperage draw for the electrical circuit you will be using. (For example: Do not plug a pump or pumps that may draw 25 amps into a 20 amp fused electrical circuit.)
- Do not attempt to increase the powerline capacity by replacing a fuse with another fuse of higher value. Overheating of the powerline and the possibility of a fire will result.
- To rewire a motor from one voltage to another or when a flow control valve is changed between manual and solenoid, consult the electrical schematic in the pump's parts list.
- Electric pumps should never be exposed to rain or water which could cause personal electrical hazard.
- Avoid conditions which can cause damage to the power cord such as abrasion, crushing, sharp cutting edges, or corrosive environment. Damage to the power cord can cause an electrical hazard.

HYDRAULIC HOSES AND FLUID TRANSMISSION LINES

- Avoid straight line tubing connections in short runs. Straight line runs do not provide for expansion and contraction due to pressure and/or temperature changes. See diagrams in "Set-up Instructions" section of this form.
- Eliminate stress in the tube lines. Long tubing runs should be supported by brackets or clips. Tubes through bulkheads must have bulkhead fittings. This makes easy removal possible and helps support the tubing.
- Before operating the pump, all hose connections must be tightened with the proper tools. Do not overtighten. Connections should only be tightened securely and leak-free. Overtightening can cause premature thread failure or high pressure fittings to split at pressures lower than their rated capacities.
- Should a hydraulic hose ever rupture, burst, or need to be disconnected, immediately shut off the pump and release all pressure. Never attempt to grasp a leaking pressurized hose with your hands. The force of escaping hydraulic fluid could cause serious injury.
- Do not subject the hose to potential hazard such as fire, sharp surfaces, extreme heat or cold, or heavy impact. Do not allow the hose to kink, twist, curl, crush, cut, or bend so tightly that the fluid flow within the hose is blocked or reduced. Periodically inspect the hose for wear, because any of these conditions can damage the hose and possibly result in personal injury. Never repair with tape.
- Do not use the hose to move attached equipment. Stress can damage the hose and possibly cause personal injury.
- Hose material and coupler seals must be compatible with the hydraulic fluid used. Hoses also must not come in contact with corrosive materials such as creosote-impregnated objects and some paints. Hose deterioration due to corrosive materials can result in personal injury. Consult the manufacturer before painting a hose. Never paint a coupler.

PUMP

- Do not exceed the hydraulic pressure rating noted on the pump nameplate or tamper with the internal high pressure relief valve. Creating pressure beyond rated capacities can result in personal injury.
- Before replenishing the fluid level, retract the system to prevent overfilling the pump reservoir. An overfill can cause personal injury due to excess reservoir pressure created when the cylinders are retracted.
- Always shut off the motor or engine and relieve pressure before breaking any connections in the system.
- The motor or engine is the major part of the weight of the pump. Always take this into consideration when lifting or moving the pump.

CYLINDER

- Do not exceed the rated capacities of the cylinders. Excess pressure can result in personal injury.
- Do not set poorly balanced or off-center loads on a cylinder. The load can tip and cause personal injury.
- Read and understand the cylinder operating instructions and warning decals before using the cylinder.



A double-acting cylinder or ram must have both hoses and all couplers securely connected to both ports. If one of the two ports is restricted or becomes disconnected, pressure will build and the cylinder, hose or coupler can burst, possibly causing serious injury or death.

HYDRAULIC FLUIDS

- Properly dispose of all fluids, components, and assemblies at the end of their useful life.
- Hydraulic fluid should be compatible with all hydraulic components.

HYDRAULIC PUMP

5,000 OR 10,000 PSI

Definition: A hydraulic pump delivers hydraulic fluid under pressure through the use of compressed air, an electric motor, or a gas engine as a power source.

Pump	kw	dB(A) at Idle and 700 Bar
PE55 Series	.84	87/86



NOTE

- Carefully inspect the pump upon arrival. The carrier, not the manufacturer, is responsible for any damage resulting from shipment.
- The customer can choose from a variety of motors, controls, reservoirs, and other options. These instructions will include directions for options that your particular pump may not have.
- Do not change motors without consulting the pump manufacturer's Technical Services Department.

SET-UP INSTRUCTIONS

1. Filling The Pump Reservoir.

NOTE

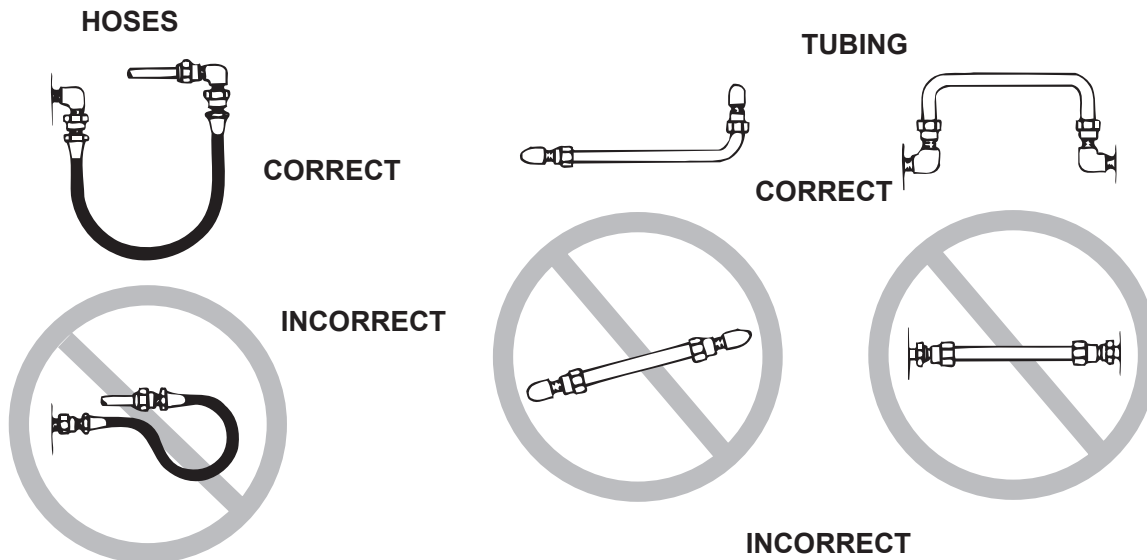
Most pumps are shipped without hydraulic fluid in the reservoir. Hydraulic fluid may have been shipped with the pump in a separate container. If hydraulic fluid is needed, use 215 SSU @ 100° F (47 cSt @ 38° C) hydraulic fluid.

- Clean the area around the filler cap to remove all dust and grit. Any dirt or dust in the hydraulic fluid can damage the polished surfaces and precision-fit components of this pump.
- Retract all cylinder(s) to their return position.
- Remove the filler cap and insert a clean funnel with a filter. Fill the reservoir with hydraulic fluid to 1" (25,4 mm) from the cover plate, replace the filler cap.

2. Hydraulic Connections

Remove the thread protectors or dust covers from the hydraulic ports if applicable. Clean the areas around the fluid ports of the pump and cylinder. Inspect all threads and fittings for signs of wear or damage, and replace as needed. Clean all hose ends, couplers and union ends. Connect all hose assemblies to the pump and cylinder. Use an approved, high-grade pipe thread sealant to seal all hydraulic connections. Tighten securely and leak-free but do not overtighten.

Hydraulic lines and fittings can act as restrictors as the cylinder or ram retracts. The restricting or slowing of the fluid flow causes back pressure that slows the cylinder's or ram's return. Return speed also varies because of the application, condition of the cylinder or ram, inside diameter of hose or fitting, length of the hose, and the temperature and viscosity of the hydraulic fluid.



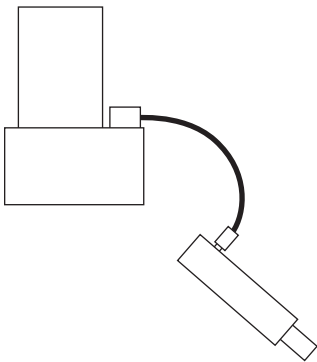
3. Bleeding The System

After all connections are made, the hydraulic system must be bled of any trapped air. Refer to the diagrams below.

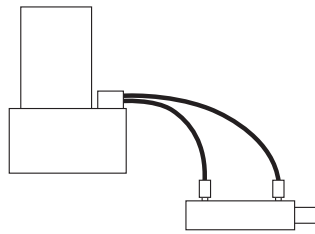
With no load on the system and the pump vented and positioned higher than the cylinder or ram, cycle the system several times. Check the reservoir for possible low fluid level and fill to proper level with approved, compatible hydraulic fluid as necessary (see "Filling The Pump Reservoir" section under Set-up Instructions).

IMPORTANT

Some spring return cylinders or rams have a cavity in the rod which forms an air pocket. This type of cylinder or ram should be bled when positioned upside down or lying on its side with the port facing upward.



System with a
single acting
cylinder



System with a
double-acting
cylinder

PUMP OPERATION

1. OPERATING THE PUMP FOR THE FIRST TIME:

- A. Valve and hose connections must be tight, and the reservoir must be filled to the proper fluid level. Start the motor.
- B. Jog the pump several times to build pressure.
- C. Run cylinder out to its full travel several times to eliminate air from the system. For more complete instructions, refer to the section titled "Bleeding The System" under Set-up Instructions.
- D. With the cylinder(s) retracted completely, check the fluid level in the reservoir and add fluid if necessary. Refer to "Filling The Pump Reservoir" under Set-up Instructions.
- E. The pump is now ready to be put into regular operation.



DANGER

When lifting or lowering a load, the load must be under operator control at all times and others must be clear of the load. Use blocking and cribbing to guard against a falling load. Do not drop the load. The use of a load lowering or metering valve is recommended in addition to the pump directional control valve.

2. ELECTRIC PUMP

Universal Motor: The universal motor is wired for 115 or 230 volts, 50/60 cycles according to the customer's request. **This motor cannot be rewired.**

TEFC : See pump data plate for voltage, frequency, current, and power specifications. If rewired, retesting may be required per local directives and standards.

- A. Place the valve in neutral position.
- B. Plug in the pump.
- C. Start the pump and shift as required.
- D. Turn the pump off when not in use.

Note: For specific function of your pump see the "Valve Options" section of this form.

IMPORTANT:

- **Correct voltage is required for the pump to operate properly.**
 - **Low voltage may cause: overheated motor; motor fails to start under load; motor surging when trying to start; or motor stalls before maximum pressure is reached.**
 - **Check the voltage rating on the pump motor name plate to be certain the outlet or power source you are using is of the proper voltage.**
 - **Always check the voltage at the motor with the pump running at full pressure.**
- **Never run the motor on long, light gauge extension cords. Refer to the minimum recommended gauge chart below.**

AMPS At Maximum Hyd. Pressure	Electrical Cord Size AWG (mm ²) 3.2 Volt Drop			
	Length of Electrical Cord			
	0-25 ft. (0-8 m)	25-50 ft. (8-15 m)	50-100 ft. (15-30 m)	100-150 ft. (30-46 m)
6	18 (.82)	16 (1.33)	14 (2.09)	12 (3.32)
10	18 (.82)	14 (2.09)	12 (3.32)	10 (5.37)
14	16 (1.33)	12 (3.32)	10 (5.37)	8 (8.37)
18	14 (2.09)	12 (3.32)	8 (8.37)	8 (8.37)
22	14 (2.09)	10 (5.37)	8 (8.37)	6 (13.30)
26	12 (3.32)	10 (5.37)	8 (8.37)	6 (13.30)
30	12 (3.32)	10 (5.37)	6 (13.30)	4 (21.29)

DIRECTIONAL CONTROL VALVE OPTIONS

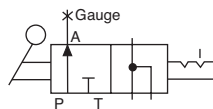
NOTE

- Some valves return fluid to the reservoir when the pump stops or when the valve is shifted. The correct valve must be used, especially when lifting a load.
- “Hold-to-run” controls are recommended and must be used with correct valves for certain applications, especially when lifting a load.
- Not all valves fit on all pumps.



When lifting or lowering a load, the load must be under operator control at all times and others must be clear of the load. Use blocking and cribbing to guard against a falling load. Do not drop the load. The use of a load lowering or metering valve is recommended in addition to the pump directional control valve.

1. 2-Position, 2-Way Manual Valve Used With Single-acting Cylinder (Figure 1)



9584
PE55 SERIES (9584)

- A. To HOLD pressure, turn the valve control handle counterclockwise (CCW).
- B. Activate the pump unit to advance the cylinder.
- C. When the cylinder has advanced to the desired position, deactivate the switch or remote switch, or turn the pump unit OFF. The cylinder will HOLD pressure.
- D. To retract the cylinder, turn the valve control handle clockwise (CW) slowly.

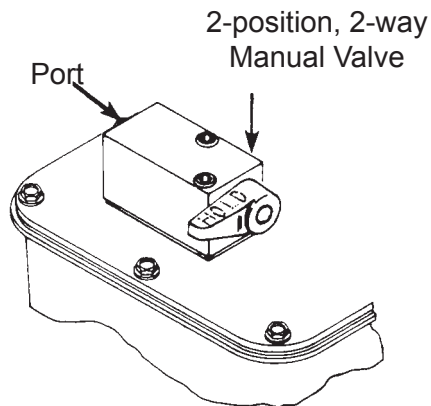
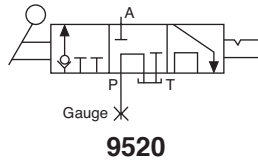


Figure 1

2. 3-Position, 3-Way Manual Valve Used With Single-acting Cylinders (Figure 3)



- A. To hold pressure, turn the valve control handle clockwise (CW).
- B. Activate the pump unit to advance the cylinder.
- C. When the cylinder has advanced to the desired position, deactivate the switch or remote switch, or turn the pump unit OFF or shift the valve to the center position. The cylinder will HOLD pressure.
- D. To retract the cylinder, turn the valve control handle counterclockwise (CCW) slowly.

! WARNING

When the valve is in the **ADVANCE** position, the cylinder will advance when the pump is running, and hold when the pump is stopped or the valve is in the **CENTER** position. The cylinder can be retracted by moving the valve to the **RETRACT** position.

3. 3-Position, 4-Way Manual Valve used with Double-acting Cylinders (Figure 3)

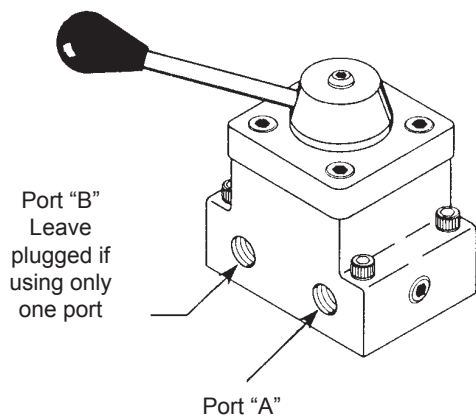
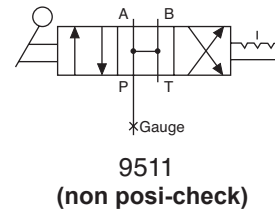
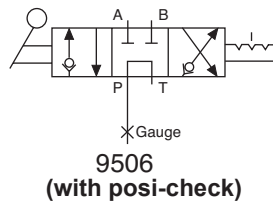
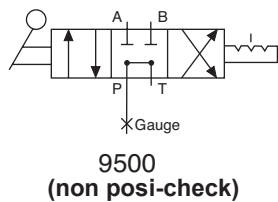


Figure 2

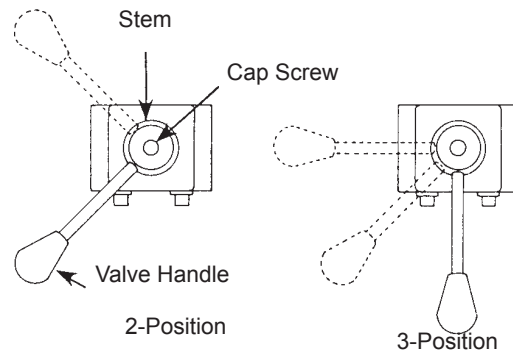


Figure 3

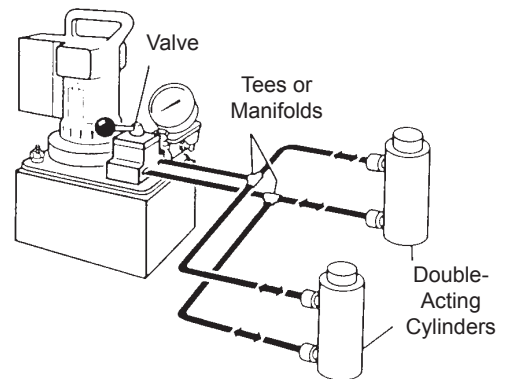
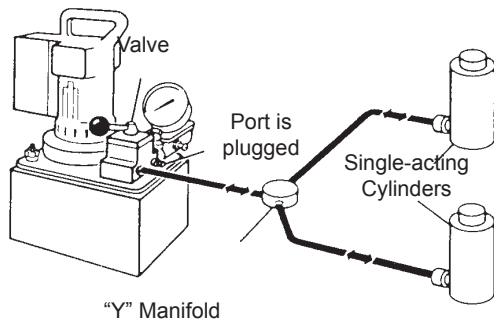
NOTE

- This valve is a low torque design for use with double-acting or single-acting cylinder(s).
 - If this valve is to be used as a 3-way with single-acting cylinder(s), one port (A or B) must remain plugged (use steel plug). (Figure 2)
 - Valve handle can be moved to the desired position by loosening the cap screw and rotating in increments of 22-1/2°.
- A. Position the valve control lever in the NEUTRAL or HOLD position.
 - B. Activate the pump unit.
 - C. Advance the cylinder by shifting the valve control lever to the ADVANCE position.
 - D. When the cylinder has advanced to the desired position, turn the pump unit OFF, or shift the valve to the HOLD position.

NOTE

Non “posi-check” valves will momentarily lose pressure when shifting to HOLD position. See “posi-check” valve section of this form.

- E. Retract the cylinder by shifting the valve control lever to the RETRACT position.
- F. Activate the pump unit if using double-acting cylinders.



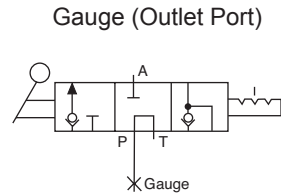
Examples of typical workholding applications:

**SINGLE-ACTING CYLINDER(S) IN THE CIRCUIT
CONTROLLED BY A PUMP-MOUNTED VALVE**

**DOUBLE-ACTING CYLINDER(S) IN THE CIRCUIT
CONTROLLED BY A PUMP-MOUNTED VALVE**

Other valves are available.
Consult your dealer, catalog or valve
operating instructions for details of operation.

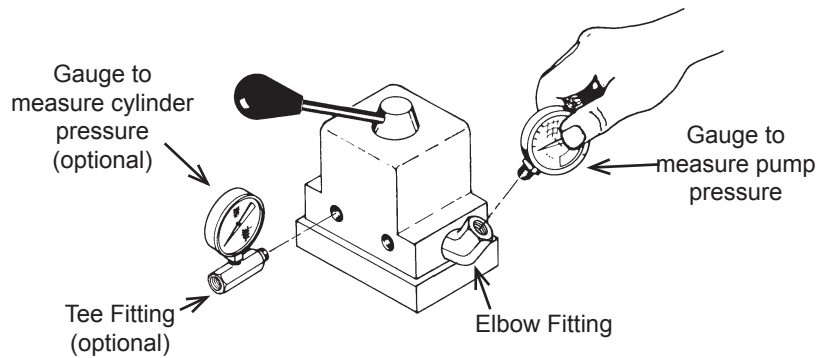
4. “Posi-Check” Valves



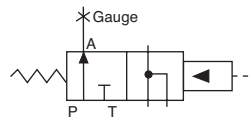
If an open center valve is used, a hydraulic gauge in the gauge port shows zero pressure when the valve is switched to the neutral (hold) position. Cylinder pressure, however, is held without loss. **If reading the cylinder pressure, a gauge must be installed in the outlet port of the valve.**

To install a hydraulic gauge (refer to Figure 4):

- A. Remove the pipe plug from the valve's gauge port.
- B. Install a steel 45° elbow fitting.
- C. Install the gauge into the 45° elbow fitting.



5. Automatic Dump Valve



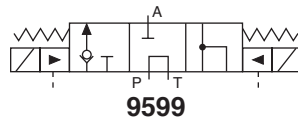
9610

- A. Activate the pump unit to advance the cylinder.
- B. Release the remote switch to release pressure and retract the cylinder.



Never use this valve for lifting a load!

6. Solenoid Controlled, Pilot Operated Valve Used With Single-acting Cylinders



OPERATION

Neutral (HOLD): When neither solenoid is energized, fluid from pump is directed back to tank and fluid from cylinder is checked in the cylinder.

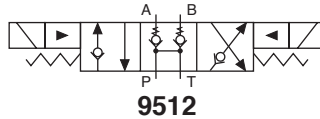
Advance: When solenoid “B” is energized, fluid from pump is directed through pressure port to cylinder.

Return: When solenoid “A” is energized, fluid from the pump and from the cylinder is directed back to tank.

NOTE

Pressure holds without loss when shifted from cylinder port to the neutral (HOLD) position.

7. Solenoid Controlled, Pilot Operated Valve Used With Double-acting Cylinders



OPERATION

Neutral (HOLD): When both solenoids are de-energized, fluid from pump circulates at free flow from the pressure port “P” to tank “T”. Both cylinder ports are blocked.

Solenoid “A” Energized: Pressure to cylinder port “A”. Cylinder port “B” to tank.

Solenoid “B” Energized: Pressure to cylinder port “B”. Cylinder port “A” to tank.

NOTE

Pressure holds without loss when shifted from cylinder port to the neutral (HOLD) position.

Single-acting, Spring Return Cylinder: Either fluid port “A” or “B” must be plugged with a steel plug on the valve. With port “B” plugged, the sequence of operation is as follows: When solenoid is energized to position “A”, fluid port “A” becomes pressurized. When solenoid is energized to position “B”, fluid port “A” becomes the return port.

Double-acting Cylinders: When operating double-acting cylinders, fluid port “A” can be connected to either the advance or return port of the cylinder and fluid port “B” will be connected to the remaining port. Sequence of operation is as follows: When solenoid is energized to position “A”, port “A” becomes pressurized and extends the cylinder and fluid port “B” becomes the return port. When solenoid “B” is energized, the opposite of step 1 happens.

The application in Figure 5 represents a typical set-up using a control valve and multiple double-acting cylinders (one double-acting cylinder may be used). Interflow will occur.

If a different set-up or cylinder is being considered, contact your nearest Power Team facility.

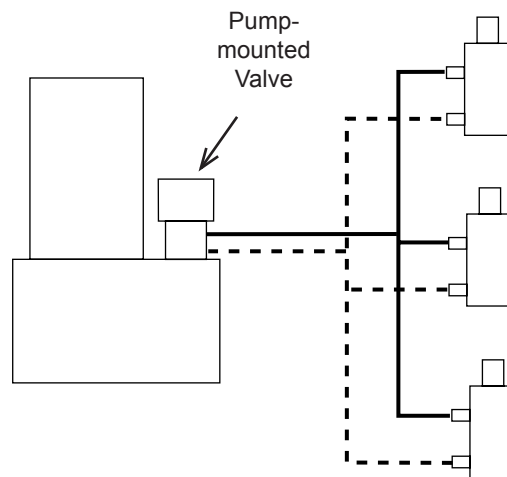


Figure 5

ADJUSTING THE PRESSURE REGULATING CONTROLS

The pressure regulating valve and pressure switch are shown in Figure 6. The pressure regulating valve can be adjusted to bypass fluid at a given pressure setting while the pump continues to run. The pressure switch can be adjusted to stop the pump at a given pressure setting. To ensure accuracy and low pressure differential (approx. 300 PSI [21 BAR]) throughout the pressure range (1,000 to 10,000 PSI [70 to 700 BAR] depending on the pump model), the pressure switch should be used with the pressure regulating valve. The pressure switch must be set at a pressure lower than the pressure regulating valve to work properly.

1. Adjusting The Pressure Regulating Valve

NOTE

For easy adjustment of the pressure regulating valve, always adjust the pressure by increasing to the desired pressure setting.

- A. Loosen the locknut (B) on the pressure regulating valve, and back the adjusting screw or knob (A) out a few turns by turning it in a counterclockwise (CCW) direction. This will *decrease* the setting to a lower than desired pressure.
- B. The pump must be completely connected electrically and hydraulically. Start the pump.
- C. Slowly turn the adjusting screw or knob (A) in a clockwise (CW) direction. This gradually *increases* the pressure setting. When the desired pressure is reached, lock the adjusting screw (A) in position by tightening the locknut (B). Shut off the pump.

IMPORTANT

- The pressure range is from 1,000 to 10,000 PSI (70 to 700 BAR) depending on the pump model.
- The pressure switch must be set at a higher pressure than working range to prevent shut down during adjustment.

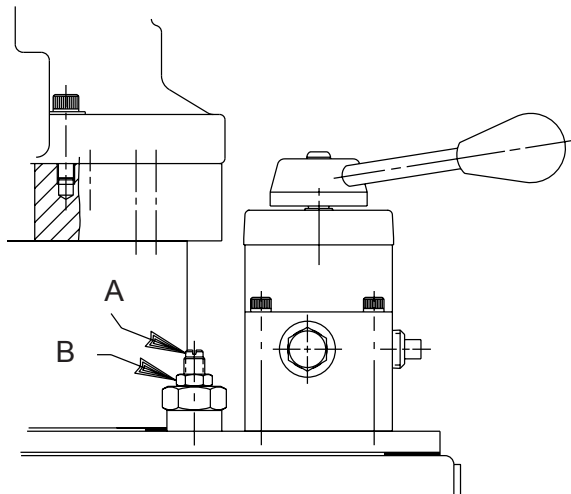


Figure 6

2. Adjusting The Pressure Switch

Generally, the pressure switch should be used with the pressure regulating valve. A pressure switch can be used *alone* for operating electrical devices such as motors, solenoids, relays, etc., which are located elsewhere in the circuit. Refer to Figure 7.

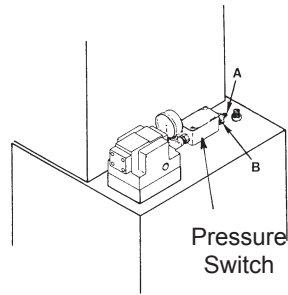


Figure 7

- A. Loosen the locknut (B) on the pressure switch, and turn adjusting screw (A) in a clockwise (CW) direction. This *increases* the pressure setting to a higher than desired pressure.
- B. Adjust the pressure regulating valve to the desired pressure setting. Refer to the section titled “Adjusting The Pressure Regulating Valve”.
- C. With the pump running and bypassing fluid at the desired pressure, slowly turn the pressure switch adjusting screw (A) in a counterclockwise (CCW) direction, *decreasing* the pressure switch setting until the pump motor shuts off. Then lock the adjusting screw (A) in position by tightening the locknut (B).
- D. Release pressure. Run the pump to check the pressure setting and cut-out of the motor. It may be necessary to make a second adjustment.

NOTE

When the pressure switch setting is reached, the motor will shut off. However, the inertia of the motor continues to deliver fluid for a brief period. The pressure regulating valve bypasses this surplus hydraulic fluid, preventing it from going into the system. As a result, the pressure differential can be held to approximately 300 PSI (21 BAR).

PREVENTIVE MAINTENANCE



To help prevent personal injury,

- **Disconnect the pump from the power supply before performing maintenance or repair procedures.**
- **Repairs and maintenance are to be performed in a dust-free area by a qualified technician.**

1. Checking The Hydraulic Fluid and Filling The Reservoir

The hydraulic fluid level should be checked after initial set-up and after each ten hours of use.

- A. Thoroughly clean the area around the filler cap with a clean cloth to prevent contamination of the hydraulic fluid.
- B. Cylinder(s) must be fully retracted and the power supply disconnected.
- C. Remove the filler cap and insert a clean funnel with filter. Fill to proper level as instructed in “Filling The Pump Reservoir” under Set-up Instructions.
- D. Replace filler cap.
- E. The frequency of fluid changes will depend upon the general working conditions, severity of use, and over cleanliness and care given the pump. Three hundred hours of use under general shop conditions is considered a standard change interval. Drain, clean, and refill the reservoir with a high grade hydraulic fluid.

2. Maintenance Cleaning

IMPORTANT

Never use a high pressure washer to clean hydraulic components!

- A. Keep the pump's outer surface as free from dirt as possible.
- B. Seal all unused couplers with thread protectors.
- C. Keep all hose connections free of dirt and grime.
- D. The breather-hole in the filler cap must be clean and unobstructed at all times.
- E. Equipment connected to the pump must be kept clean.
- F. Use a high grade hydraulic fluid in this pump. Change as recommended (every 300 hours). Some conditions may require the use of different viscosity hydraulic fluids.

3. Reservoir Vent Air Filter (Optional for all pumps)

- A. Remove the filler cap, and insert either the 45° fitting or the straight fitting. Fasten O-ring end of fitting into pump.
- B. If the 45° fitting is used, place the rubber spacer (included) on the top threaded portion. Then thread the air filter on and hand tighten.
- C. If the straight fitting is used, thread the air filter on and hand tighten.

4. Draining And Cleaning The Reservoir

IMPORTANT

Clean the pump exterior before the pump interior is removed from the reservoir.

- A. Remove the screws fastening the motor and pump assembly to the reservoir.

IMPORTANT

Do not damage the gasket or pump filter or pressure regulating valves when lifting the pump and motor off the reservoir.

- B. Clean the inside of the reservoir and clean the filter.
- C. Place the pump and motor assembly back onto the reservoir, and secure with machine screws.
- D. Fill the reservoir with a clean, high grade hydraulic fluid (refer to "Filling The Pump Reservoir" under Set-up Instructions for proper fluid level for your pump).

TROUBLESHOOTING GUIDE



WARNING

- To help prevent personal injury, any repair work or troubleshooting must be done by qualified personnel familiar with this equipment.
- Use the proper gauges and equipment when troubleshooting.


NOTE

- For a detailed parts list or to locate a Power Team Authorized Hydraulic Service Center contact your nearest Power Team facility.




WARNING

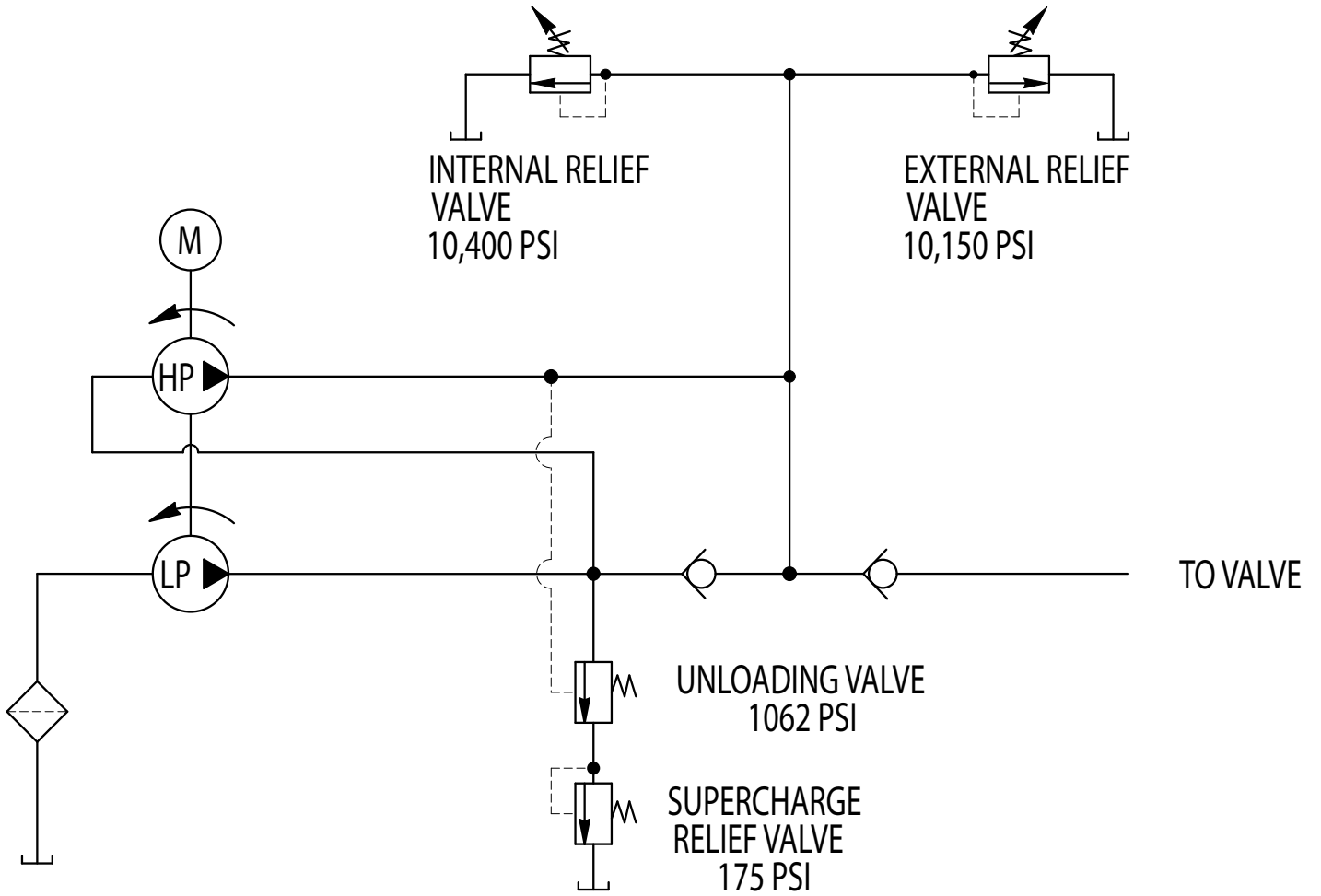
- It is best to check for system leaks by using a hand pump and applying pressure to the suspect area. Watch for leaking fluid and follow it back to its source. Never use your hand or other body parts to check for a possible leak.

PROBLEM	CAUSE	SOLUTION
Electric motor does not run.	<ol style="list-style-type: none"> 1. Pump not turned ON. 2. Unit is not plugged in. 3. No voltage supply. 	<ol style="list-style-type: none"> 1. Set switch to "ON" position. 2. Plug in unit. 3. Check line voltage. Check reset button on power panel.
 WARNING To help prevent personal injury, disconnect power supply before removing cover. Any electrical work should be performed by a qualified electrician.	<ol style="list-style-type: none"> 4. Pressure switch not set properly. 	<ol style="list-style-type: none"> 4. Refer to "Adjusting The Pressure Switch" information under "Adjusting The Pressure Regulating Controls" section.
	<ol style="list-style-type: none"> 5. Broken lead wire or defective power cord plug. 	<ol style="list-style-type: none"> 5. Contact a Power Team Authorized Hydraulic Service Center.
	<ol style="list-style-type: none"> 6. Overheated motor has caused overcurrent protection to disengage. 	<ol style="list-style-type: none"> 6. Wait for motor to cool before restarting.
Electric motor will not shut off.	<ol style="list-style-type: none"> 1. Defective motor controls. 	<ol style="list-style-type: none"> 1. Disconnect from power supply and contact a Power Team Authorized Hyd. Service Center.
Electric motor stalls, surges, overheats or will not start under a load.	<ol style="list-style-type: none"> 1. Low voltage or electrical cord size too small. 	<ol style="list-style-type: none"> 1. Refer to the "Electric Pump" information under "Pump Operation" section.
Electric overload protector keeps tripping.	<ol style="list-style-type: none"> 1. Wired incorrectly. 	<ol style="list-style-type: none"> 1. See Service Bulletin #9903PT at the end of this document.
Pump is not delivering fluid or delivers only enough fluid to advance cylinder(s) partially or erratically.	<ol style="list-style-type: none"> 1. Fluid level too low. 2. Quick disconnect couplings are not completely coupled. 3. Air in system. 4. Cold fluid or fluid too viscous. 5. Reservoir capacity is too small for the size of cylinder(s) used. 	<ol style="list-style-type: none"> 1. Fill reservoir according to directions "Filling The Pump Reservoir" under "Set-up Instructions" section. 2. Check quick-disconnect couplings to cylinders to ensure that they are completely coupled. Occasionally couplers have to be replaced because the ball check does not stay open due to wear. 3. Refer to the section titled "Bleeding the System" under "Set-up Instructions" section. 4. Hydraulic fluid is of a higher viscosity than necessary. Change to a lighter fluid. 5. Use smaller cylinder(s) or larger reservoir.

PROBLEM	CAUSE	SOLUTION
	6. Three phase motor rotating in wrong direction.	6. Refer to electrical schematic on motor.
	7. Vacuum in reservoir.	8. Check for plugged vent in filler plug.
Pump builds pressure but cannot maintain pressure.	1. External leaks.	1. Seal leaking pipe fittings with pipe sealant. Replace leaking pipes or hoses.
	2. Internal or external leakage on hydraulic cylinder.	2. Remove the cylinder from pump. If the pump builds and maintains full pressure, the cylinder is defective. Contact a Power Team Authorized Hydraulic Service Center.
	3. Leaking control valve or check valve	3. Contact a Power Team Authorized Hyd. Service Center.
Pump will not build full pressure.	1. Faulty pressure gauge.	1. Calibrate gauge.
	2. Check for external leakage.	2. Seal faulty fittings with sealant. Replace leaking pipes or hoses.
	3. Improperly adjusted external pressure regulator setting.	3. Refer to "Adjusting The Pressure Regulator Valve" information under "Adjusting the pressure Regulating Controls" section.
	4. Internal or external leakage on hydraulic cylinder.	4. Remove the cylinder from the pump. If the pump builds full pressure, the cylinder is defective. Contact a Power Team Authorized Hyd. Service Center.
	5. Inadequate power supply.	5. Refer to "Electric Pump" information under "Pump Operation" section.
	6. Leaking control valve or defective pump.	6. Contact a Power Team Authorized Hydraulic Service Center.

PROBLEM	CAUSE	SOLUTION
Cylinder(s) will not retract or extend.	<p>1. Quick disconnect couplings are not completely coupled.</p> <div data-bbox="634 275 883 342" style="text-align: center;">  DANGER </div> <p>A Double acting cylinder or ram must have <i>both</i> hoses and all couplers securely connected to both ports. If one of the two ports is restricted or becomes disconnected, pressure will build and the cylinder, hose or coupler can burst, possibly causing serious injury or death.</p> <p>2. Broken return spring in spring return cylinder or seals blown in double-acting cylinder.</p>	<p>1. Check quick disconnect coupling to cylinders to ensure that they are completely coupled. Occasionally couplers have to be replaced because the ball check does not stay open due to wear.</p> <p>2. Contact a Power Team Authorized Hydraulic Service Center.</p>
Pump delivers excess oil pressure.	<p>1. Faulty pressure gauge.</p> <p>2. Relief valve not properly set.</p>	<p>1. Calibrate gauge.</p> <p>2. Contact a Power Team Authorized Hydraulic Service Center.</p>

HYDRAULIC SCHEMATIC (REF)



SPX HYDRAULIC TECHNOLOGIES

Rockford, Illinois USA

Customer Service/Order Entry
Tel: +1 800 541 1418
Fax: +1 800 288 7031

Technical Services

Tel: + 1 800 477 8326
Fax: + 1 800 765 8326
info@powerteam.com

European Headquarters

Tel: +31 45 567 8877
Fax: +31 45 567 8878
infoeurope@powerteam.com

Shanghai, China

Tel: +86 21 2208 5888
Fax: +86 21 2208 5682
infochina@powerteam.com

Asia Pacific Headquarters

Tel: +65 6265 3343
Fax: +65 6265 6646
infoasia@powerteam.com

EC DECLARATION OF CONFORMITY



We declare under our sole responsibility that our Electric Pump Model:

PE55xx – E110 & PE55xx – E220 series

to which this declaration relates are in conformity with the following:

<u>EN, EN-ISO, ISO standards</u>	<u>Title</u>
Per the provisions of the Machinery Safety Directive	2006/42 EC
EN_ISO 12100:2011	Safety of machinery, basic concepts, general principles for design, risk assessment & risk reduction
EN 4413:2010	Hydraulic Fluid Power – general rules and safety requirements for systems & their components
Per the provisions of the EMC Directive	2004/108 EC
EN_61000-4-2:2001	Electromagnetic Discharge Immunity test
EN_61000-4-3:2001	Radiated, Radio Frequency, Electromagnetic Field Immunity test
EN_61000-4-4:2001	Electrical Fast Transient / Burst Immunity test
EN_61000-4-5:2001	Surge immunity test
EN_61000-4-6:2001	Immunity to Conducted Disturbances, Induced by Radio-Frequency Fields
EN_61000-4-11:2001	Voltage Dip and Interrupt test
EN55011_2007	Industrial, Scientific and Medical (ISM) Radio Frequency Equipment-Electromagnetic Disturbance Characteristics-Limits and Methods of Measurement
Per the provisions of the Low Voltage Directive	2006/95 EC
EN_60204-1	Safety of Machinery –Electrical equipment of machines – Part 1 General requirements
Per the provisions of the Noise Emission in the Environment by Equipment for Use Outdoors Directive	2000/14 EC
EN_3200L0014	Noise emission in the environment for use outdoors
ISO 3744:1994	Sound Power Level Measurements
Per the provisions of the RoHS Directive	2011/65 EU
	Restriction of the use of certain hazardous substances in electrical and electronic equipment

SPX Hydraulic Technologies
5885 11th Street
Rockford, IL 61109-3699
United States of America

SPX Hydraulic Technologies
Christophe Bouvet
Andreas J. Klemm
SPX Hydraulic Technologies
Albert Thijsstraat 12
NL-6471 WX Eygelshoven
The Netherlands

We, the undersigned, hereby declare that the equipment specified conforms to the above European Communities Directive(s) and Standard(s).

The Netherlands November 23, 2014

Christophe Bouvet, Managing Director

Andreas J. Klemm, Appl.Eng. Manager

Section 1. Identification

Product name Hyspin HVI 46
SDS no. 460902
Code 460902-VN02

Relevant identified uses of the substance or mixture and uses advised against

Product use Hydraulic fluid.
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Supplier Castrol BP Petco
9th Floor – Times Square building
57-69F Dong Khoi Street
District 1, Ho Chi Minh City
Vietnam
Tel: 84-8-38219596 / 38219153
Fax: 84-8-38219603 / 38219152
Carechem: +65 3158 1074 (24/7)

EMERGENCY SPILL INFORMATION:

Section 2. Composition, information on ingredients

Substance/mixture Mixture
Highly refined base oil (IP 346 DMSO extract < 3%). Proprietary performance additives.

Ingredient name	CAS number	%
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	≥25 - ≤50
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	≥25 - ≤50

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 3. Hazards identification

Classification of the substance or mixture Not classified.

GHS label elements

Signal word No signal word.
Hazard statements No known significant effects or critical hazards.
Precautionary statements
Prevention Not applicable.
Response Not applicable.
Storage Not applicable.

Product name Hyspin HVI 46	Product code 460902-VN02	Page: 1/9
Date of issue 10/06/2020.	Format Vietnam	Language ENGLISH
Version 3	(Vietnam)	(ENGLISH)

Section 3. Hazards identification

Disposal	Not applicable.
Routes of entry	Dermal contact. Eye contact. Inhalation.
Other hazards which do not result in classification	Defatting to the skin. Note: High Pressure Applications Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. See 'Notes to physician' under First-Aid Measures, Section 4 of this Safety Data Sheet.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.
Inhalation	If inhaled, remove to fresh air. Get medical attention if symptoms occur.
Skin contact	Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.
Ingestion	Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	Treatment should in general be symptomatic and directed to relieving any effects. Note: High Pressure Applications Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. Injuries may not appear serious at first but within a few hours tissue becomes swollen, discoloured and extremely painful with extensive subcutaneous necrosis. Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimise tissue loss and prevent or limit permanent damage. Note that high pressure may force the product considerable distances along tissue planes.
Specific treatments	No specific treatment.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training.

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media	In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray.
Unsuitable extinguishing media	Do not use water jet.

Specific hazards arising from the chemical

Hazardous thermal decomposition products	In a fire or if heated, a pressure increase will occur and the container may burst. Combustion products may include the following: carbon oxides (CO, CO ₂) (carbon monoxide, carbon dioxide)
---	---

Product name Hyspin HVI 46	Product code 460902-VN02	Page: 2/9
Date of issue 10/06/2020.	Format Vietnam	Language ENGLISH
Version 3	(Vietnam)	(ENGLISH)

Section 5. Firefighting measures

Special protective actions for fire-fighters	No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.
Special protective equipment for fire-fighters	Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling.
For emergency responders	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Small spill	Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large spill	Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
Not suitable	Prolonged exposure to elevated temperature

Product name Hyspin HVI 46

Product code 460902-VN02

Page: 3/9

Date of issue 10/06/2020.

Format Vietnam

Language ENGLISH

Version 3

(Vietnam)

(ENGLISH)

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Distillates (petroleum), hydrotreated heavy paraffinic	Ministry of Health (Viet Nam). TWA: 5 mg/m ³ 8 hours. Issued/Revised: 10/2002 Form: Mist STEL: 10 mg/m ³ 15 minutes. Issued/Revised: 10/2002 Form: Mist
Distillates (petroleum), solvent-dewaxed heavy paraffinic	Ministry of Health (Viet Nam). TWA: 5 mg/m ³ 8 hours. Issued/Revised: 10/2002 Form: Mist STEL: 10 mg/m ³ 15 minutes. Issued/Revised: 10/2002 Form: Mist

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained.

Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.

The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety glasses with side shields.

Skin protection

Hand protection

Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Nitrile gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the

Product name Hyspin HVI 46

Product code 460902-VN02

Page: 4/9

Date of issue 10/06/2020.

Format Vietnam

Language ENGLISH

Version 3

(Vietnam)

(ENGLISH)

Section 8. Exposure controls/personal protection

working conditions.

Skin protection

Use of protective clothing is good industrial practice. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Section 9. Physical and chemical properties

Appearance

Physical state	Liquid.
Colour	Yellow. [Light]
Odour	Slight
Odour threshold	Not available.
pH	Not available.
Melting point	Not available.
Boiling point	Not available.
Flash point	Closed cup: >180°C (>356°F) [Pensky-Martens.]
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Lower and upper explosive (flammable) limits	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Density	<1000 kg/m ³ (<1 g/cm ³) at 15°C
Relative density	Not available.
Solubility	insoluble in water.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Kinematic: 46 mm ² /s (46 cSt) at 40°C Kinematic: 8.1 mm ² /s (8.1 cSt) at 100°C

Product name Hyspin HVI 46

Product code 460902-VN02

Page: 5/9

Date of issue 10/06/2020.

Format Vietnam

Language ENGLISH

Version 3

(Vietnam)

(ENGLISH)

Section 10. Stability and reactivity

Reactivity	No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerisation will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame).
Incompatible materials	Reactive or incompatible with the following materials: oxidising materials.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Aspiration hazard

Not available.

Information on likely routes of exposure Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact

No known significant effects or critical hazards.

Inhalation

Vapour inhalation under ambient conditions is not normally a problem due to low vapour pressure.

Skin contact

Defatting to the skin. May cause skin dryness and irritation.

Ingestion

No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

No specific data.

Inhalation

No specific data.

Skin contact

Adverse symptoms may include the following:
irritation
dryness
cracking

Ingestion

No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects

Not available.

Potential delayed effects

Not available.

Long term exposure

Potential immediate effects

Not available.

Potential delayed effects

Not available.

Potential chronic health effects

General

No known significant effects or critical hazards.

Product name Hyspin HVI 46

Product code 460902-VN02

Page: 6/9

Date of issue 10/06/2020.

Format Vietnam

Language ENGLISH

Version 3

(Vietnam)

(ENGLISH)

Section 11. Toxicological information

Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Developmental effects	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Environmental effects This material is harmful to aquatic life.

Persistence and degradability

Expected to be biodegradable.

Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

Mobility in soil

Soil/water partition coefficient (K_{oc}) Not available.

Mobility Spillages may penetrate the soil causing ground water contamination.

Other adverse effects

No known significant effects or critical hazards.

Other ecological information

Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

Section 13. Disposal considerations

Disposal methods

The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Product name Hyspin HVI 46

Product code 460902-VN02

Page: 7/9

Date of issue 10/06/2020.

Format Vietnam

Language ENGLISH

Version 3

(Vietnam)

(ENGLISH)

Section 14. Transport information

	IMDG	IATA
UN number	Not regulated.	Not regulated.
UN proper shipping name	-	-
Transport hazard class(es)	-	-
Packing group	-	-
Environmental hazards	No.	No.
Additional information	-	-

Special precautions for user Not available.

Transport in bulk according to Annex II of Marpol and the IBC Code Not available.

Section 15. Regulatory information

Safety, health and environmental regulations specific for the product

No known specific national and/or regional regulations applicable to this product (including its ingredients).

Toxic classification (TCVN 3164-79)

Not classified as hazardous.

International lists

Australia inventory (AICS)

All components are listed or exempted.

Canada inventory

All components are listed or exempted.

China inventory (IECSC)

All components are listed or exempted.

REACH Status

For the REACH status of this product please consult your company contact, as identified in Section 1.

Japan inventory (ENCS)

All components are listed or exempted.

Korea inventory (KECI)

All components are listed or exempted.

Philippines inventory (PICCS)

All components are listed or exempted.

Taiwan Chemical Substances Inventory (TCSI)

All components are listed or exempted.

United States inventory (TSCA 8b)

All components are active or exempted.

Product name Hyspin HVI 46

Product code 460902-VN02

Page: 8/9

Date of issue 10/06/2020.

Format Vietnam

Language ENGLISH

Version 3

(Vietnam)

(ENGLISH)

Section 16. Other information

History

Date of issue/ Date of revision	06 October 2020
Date of previous issue	8/3/2018
Prepared by	Product Stewardship
Key to abbreviations	ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations Varies = may contain one or more of the following 64741-88-4, 64741-89-5, 64741-95-3, 64741-96-4, 64742-01-4, 64742-44-5, 64742-45-6, 64742-52-5, 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-57-0, 64742-58-1, 64742-62-7, 64742-63-8, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0, 72623-87-1

✔ Indicates information that has changed from previously issued version.

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

Product name Hyspin HVI 46	Product code 460902-VN02	Page: 9/9
Date of issue 10/06/2020.	Format Vietnam	Language ENGLISH
Version 3	(Vietnam)	(ENGLISH)