

VEW43 Pallet De-Coupling Valve VEW43P Continuous Connection Valve

L2708 Rev. B 11/07

For Date Codes Beginning with the Letter "A"

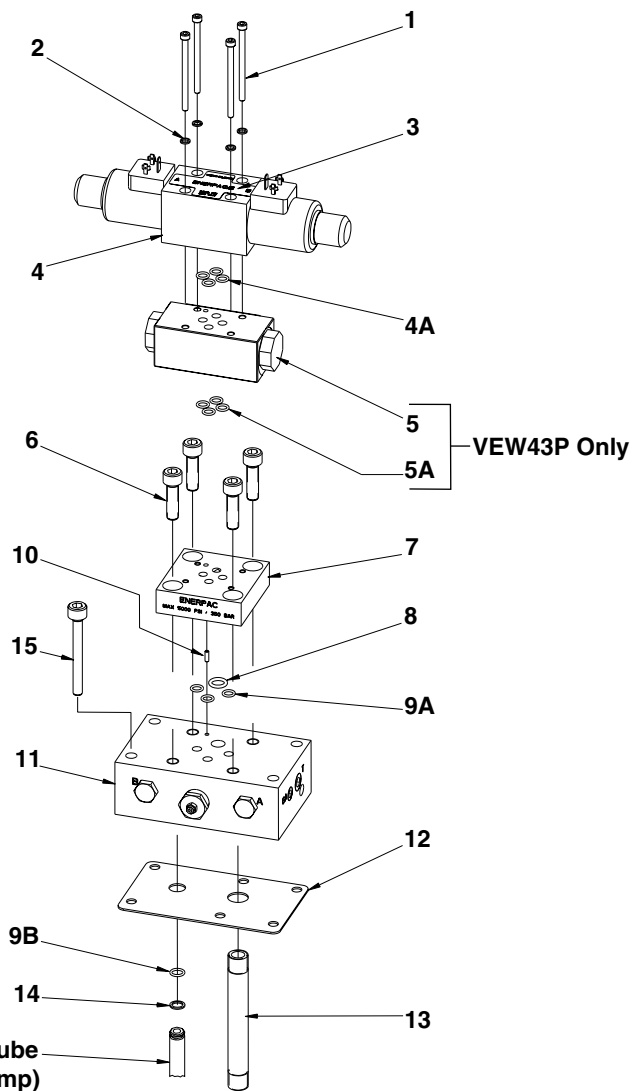
**To Protect Your Warranty,
Use Only ENERPAC
Hydraulic Oil.**

Enerpac recommends that all kit components be installed to insure optimum performance of the repaired product.

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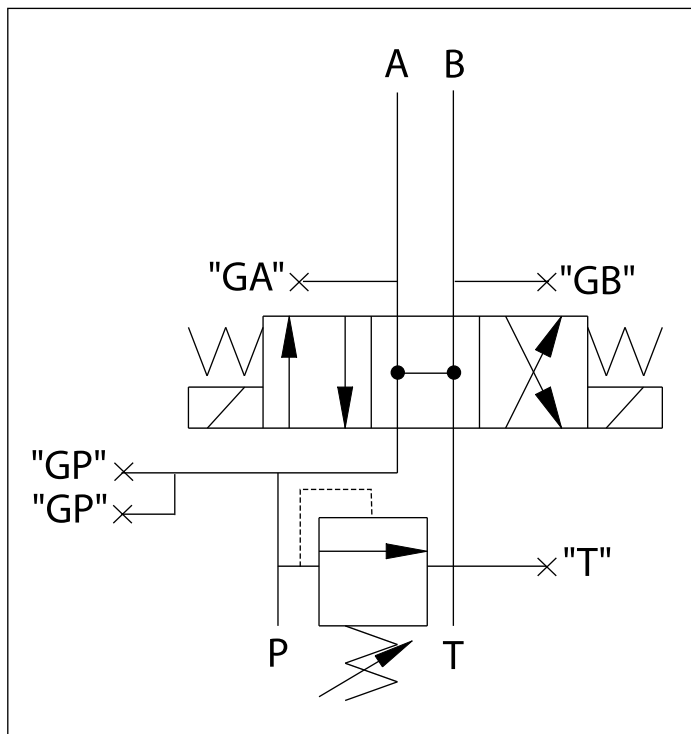
Figure 1
Valve Assembly,
VEW43 & VEW43P



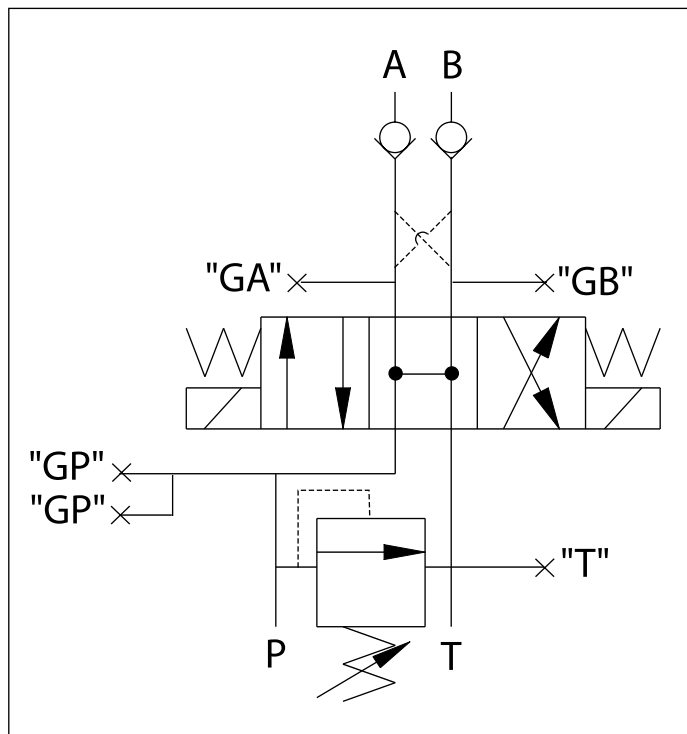
Repair Parts List for Figure 1

Item	Part Number	Qty.	Description	Item	Part Number	Qty.	Description
1	B1331028	4	Bolt (VEW43 Only)	8	★ B1111203	1	O-Ring
	B1317028	4	Bolt (VEW43P Only)	9A, 9B	★ B1011203	4	O-Ring
2	B1086066	4	Lock Washer	10	B1051057	1	Pin
3	PA2753026	1	Decal	11	DC6177950	1	Manifold
4	DC5142660	1	Assembly, Control Valve	12	★ DC9356037	1	Gasket
4A, 5A	★ B1012203	4 or 8	O-Ring	13	DC2749768	1	Pipe
5	PA2754661	1	Valve, P O (VEW43P Only)	14	★ B1012564	1	Ring, Back-Up
6	CBE1027028-1A	4	Bolt	15	CBE837028-1A	4	SHCS M8X60
7	PA2738038	1	Adapter				

★ Items included in Seal Kit VEW43K.



**Figure 2, Hydraulic Schematic,
VEW43 Pallet De-Coupling Valve**



**Figure 3, Hydraulic Schematic,
VEW43P Continuous Connection Valve**

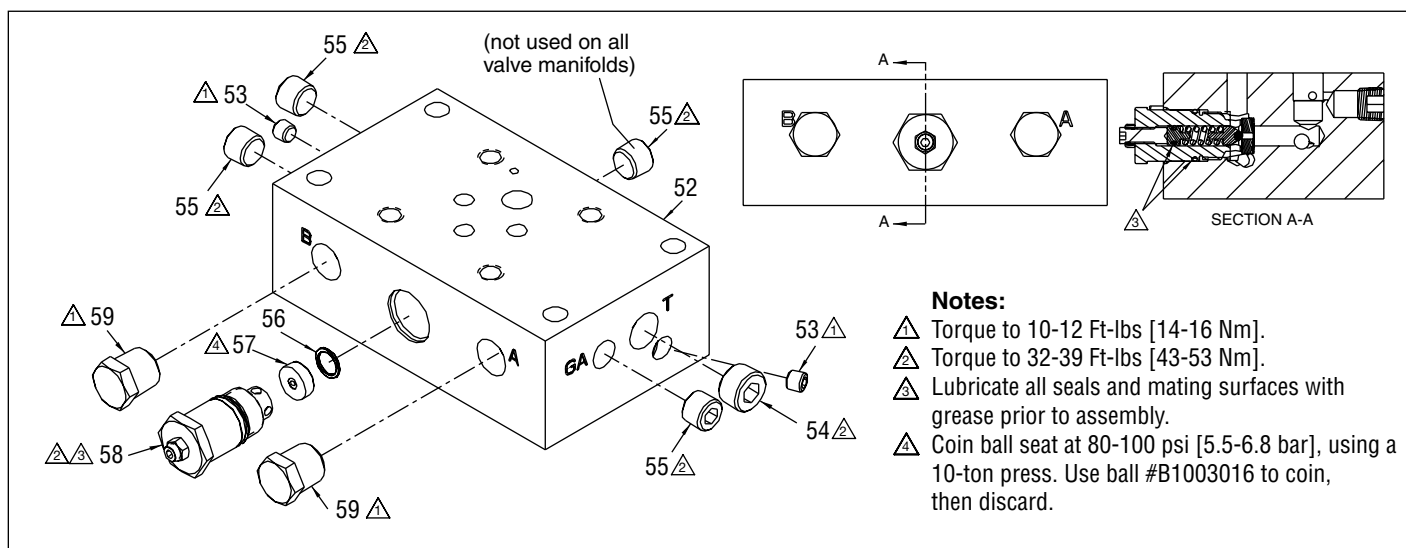


Figure 4, DC6177950SR, Manifold Assembly

Repair Parts List for Figure 4							
Item	Part Number	Qty.	Description	Item	Part Number	Qty.	Description
52	★ DC6038038	1	Assembly, Manifold	56	★ P20037	1	Gasket
53	★ DC6792245	2	Plug, 1/16"	57	★ DC5124290	1	Seat, Ball
54	★ DC6795245	1	Plug, 3/8"	58	★ DC5139900SR	1	Relief Valve Assy (See Fig. 5)
55	★ DC6794245	3 or 4	Plug, 1/4"	59	★ R515245-2	2	Plug
★ Items included in Repair Kit DC6177950SR.							

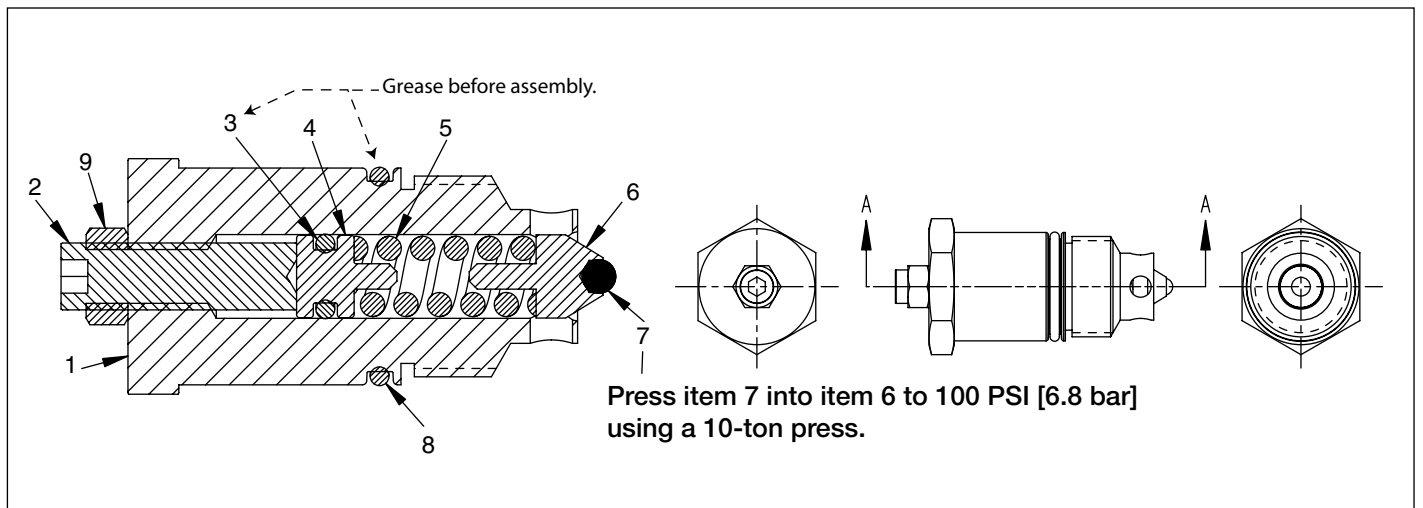


Figure 5, DC5139900SR, User Adjustable Relief Valve Assembly

Repair Parts List for Figure 5

Item	Part Number	Qty.	Description	Item	Part Number	Qty.	Description
1	★ DC5138190	1	Body	7	★ B1003016	1	1/8" Dia. Ball
2	★ BC2512027FX	1	Set Screw	8	★ B1223503	1	O-Ring
3	★ B1003503	1	O-Ring	9	★ B1001122	1	Lock Nut
4	★ DC5127007	1	Plug	-	▲ P20037	1	Gasket
5	★ A8126110	1	Spring	-	▲ DC5124290	1	Seat, Ball
6	★ DC5125013	1	Guide				

★ Items included in Repair Kit DC5139900SR. ▲ Not Shown - See Figure 4, Items 56 and 57.

Repair Parts List for Figure 6

Item	Part Number	Qty.	Description
6	† CBE1027028-1A	4	Bolt
7	† PA2738038	1	Adapter
8	★ † B1111203	1	O-Ring
9A, 9B	★ † B1011203	4	O-Ring
10	† B1051057	1	Pin
11	DC6177950	1	Manifold
12	★ DC9356037	1	Gasket
13	DC2749768	1	Pipe
14	★ B1012564	1	Ring, Back-Up
15	★ CBE837028-1A	4	SHCS M8X60

† Items included in Service Assembly PA2763900K.
★ Items included in Seal Kit VEW43K.

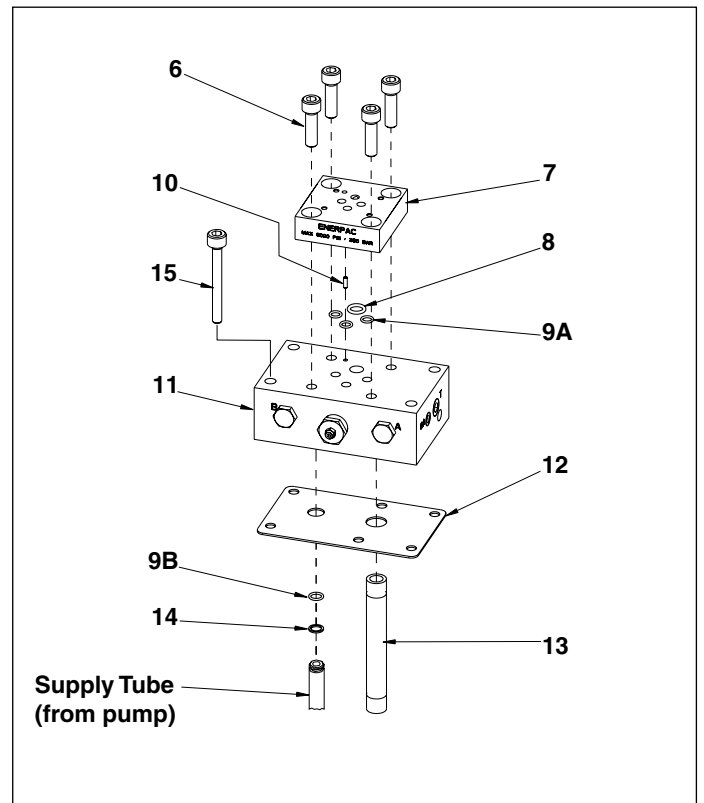


Figure 6, Single Station DO3 Assembly
(user-supplied control valve)

TROUBLESHOOTING AND REPAIR OF VEW43 and VEW43P SOLENOID VALVES

TROUBLESHOOTING:



CAUTION: Standard safety procedures are to be followed during assembly to minimize any possibility of injury.

1. Inability to obtain any pressure may be the result of a damaged connector seal on the pump (item 9B, figure 1), failed relief valve components (items 6, 7, figure 5), a damaged pilot-operated check valve (item 5, figure 1) or a damaged directional control valve (item 4, figure 1). These problems are usually a symptom of contaminated hydraulic oil. The system should be drained and refilled with fresh ENERPAC hydraulic oil.
2. Pressure leaks that are consistent and increase proportionately with increasing pressure ranges are usually the result of leaking gaskets or threaded surfaces such as NTPF fittings or plugs.
3. Leakage observed on the external surfaces around the relief valve body (item 1, figure 5) is an indication that the o-ring (item 8, figure 5) needs to be replaced.

VALVE DISASSEMBLY:

1. Remove the socket head bolts (item 15, figure 1) from the manifold (item 11) and remove the valve assembly from the pump.
2. Remove the return tube (item 13) and gasket (item 12).
3. Remove bolts (item 1) and lock washers (item 2) securing the directional control valve (item 4).
4. Remove the directional control valve (item 4) and o-rings (item 4A).
5. Model VEW43P only: remove the pilot-operated check valve (item 5) and o-rings (item 5A).
6. Remove socket head bolts (item 6), adapter block (item 7), o-ring (item 8) and o-rings (item 9A).
7. If worn or damaged, remove the back-up ring (item 14) and o-ring (item 9B) from the pump oil supply tube.
8. If worn or damaged, remove the spring pin (item 10) from adapter block (item 7).
9. If necessary, disassemble, inspect and reassemble the manifold. Refer to the "Manifold Disassembly" and "Manifold Reassembly" procedures later in this section.

VALVE REASSEMBLY:

Important: apply oil or grease to all o-ring seals before installation. Be sure all mating surfaces are clean and free of nicks, scratches, dirt and grit.

1. If removed during disassembly, install a new spring pin (item 10) in adapter block (item 7, figure 1).
2. If removed during disassembly, install a new o-ring (item 9B) and back-up ring (item 14) onto the pump oil supply tube.
3. On the bottom side of the adapter block (item 7), install o-rings (items 8 and 9A) in the correct ports.

4. Secure the adapter block to the manifold (item 11) with socket head bolts (item 6). Torque bolts to 28-34 in-lbs [3.1-3.8 Nm].
5. Model VEW43 only: Install o-rings (item 4A) in the ports on the bottom side of the control valve (item 4).
6. Model VEW43P only:
 - a. Install o-rings (item 4A) in the ports on the bottom side of the control valve (item 4).
 - b. Install o-rings (item 5A) in the ports on the bottom side of the pilot-operated check valve (item 5).
7. Align bolt holes in the directional control valve (item 4), pilot-operated check valve (item 5 - VEW43P only) and adapter block (item 7). Secure these parts with socket head bolts (item 1) and lock washers (item 2). Torque bolts to 60-72 in-lbs [6.8-8.1 Nm].
8. Reinstall the return tube (item 13). Place the gasket (item 12) under the manifold (item 11).
9. Secure the valve assembly to the pump with socket head bolts (item 15). Torque bolts to 16-19 ft-lbs [21.7-25.8 Nm].

MANIFOLD DISASSEMBLY:

1. Loosen lock nut (item 9, figure 5) and unscrew the set screw (item 2).
2. Using a 7/8" socket, loosen and remove the relief valve assembly (item 58, figure 4) from the body.
3. Remove the seat (item 57) from the body.
4. Inspect the seat (item 57) for damage, such as nicks or dents on the sharp edge of the internal diameter. Replace if necessary.
5. Inspect the o-ring (item 8, figure 5) for damage and replace if necessary.
6. Inspect the ball (item 7) and guide (item 6). Replace if necessary.
7. Remove the pipe plugs (items 53, 54, 55, figure 4) and clean the body. Inspect body for damages.

MANIFOLD REASSEMBLY:

1. Apply Teflon tape to threads. Install new pipe plugs (item 53, figure 4) and torque to 10-12 ft-lbs [14-16 Nm]. Install pipe plugs (items 54, 55) and torque to 32-39 ft-lbs [43-52 Nm].
2. Install copper gasket (item 56) onto seat (item 57), with round edges facing away from the seat.
3. Place seat onto the bottom counter bore in the valve body, with the gasket side down. Note: make sure that the seat is firmly seated and not crooked.
4. Grease o-ring (item 8, figure 5) on relief valve assembly (item 58, figure 4) and insert the assembly into cavity in the valve body.
5. Torque relief valve assembly (item 58) to 32-39 ft-lbs [43-53 Nm].

RELIEF VALVE ADJUSTMENT:

The VEW43 and VEW43P valve assemblies are equipped with a user-adjustable relief valve.

Adjust pressure as follows:

1. If the valve is mounted on an Enerpac Z-Class pump, be sure that AUTOMODE is OFF. On Pallet De-Coupling pumps only, set the pump to DWELL OFF Mode.
2. Install a 0-6,000 psi [0-400 bar] pressure gauge in the "A" port (see figure 7).
3. Place a 3/8" pipe plug in the "B" port and torque to 25 ft-lbs [33 Nm].
4. Loosen the relief valve locknut to permit adjustment of set screw.

5. Start the pump and allow the oil to warm.

NOTE: The control valve is shifted electrically via solenoids. On some pumps, the pump motor will start automatically when the valve is shifted. If electrical power to the valve is not available, the valve may be shifted manually using the pushbuttons located at each end of the valve housing.

6. Shift the control valve to the "A" position. Allow pressure to build.
7. To increase pressure: SLOWLY turn the relief valve set screw clockwise until pressure increases to the desired setting.
8. To decrease pressure:
 - a. Turn the relief valve set screw counter-clockwise one turn.
 - b. Shift the control valve to the "A" position. Allow pressure to build.
 - c. SLOWLY turn the relief valve set screw clockwise until pressure increases to the desired setting.
9. When the desired pressure setting is reached, lock the set screw with the locknut. DO NOT overtighten.
10. To check the pressure setting, shift the control valve several times from the "B" position to the "A" position while observing the pressure gauge. Verify that the setting remains correct.
11. •VEW43 only: Shift the control valve to the "neutral" position.
•VEW43P only: Before turning off pump, rapidly shift the control valve to the "B" position and back to the "neutral" position (without allowing pressure to build). This will relieve pressure at the "A" port. "B" port pressure will also be reduced, although some trapped pressure will remain (see Caution, below).
12. Check that "A" port gauge indicates zero (0) psi.
13. Stop the pump.

 **CAUTION (VEW43P Only):** Use caution when removing pipe plug from the "B" port. Pressures of up to 5000 psi [350 bar] can remain trapped in the "B" line even when "A" port pressure gauge indicates zero (0) psi [bar] and pump is turned-off.

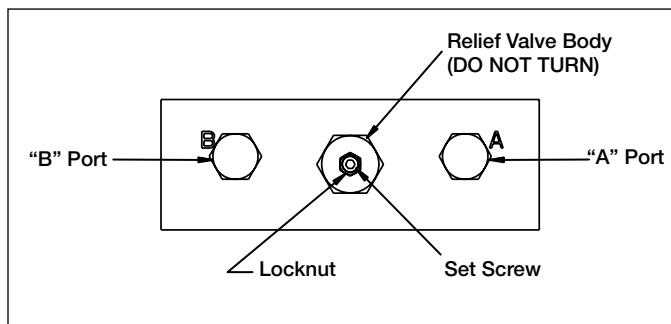


Figure 7, Relief Valve

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