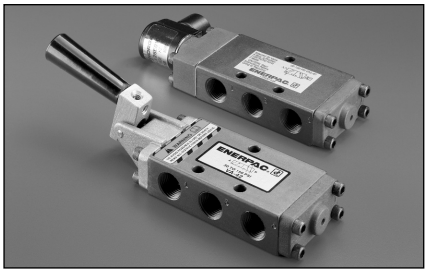
ENERPAC
Hydraulic Technology Worldwide

Instruction Sheet

VA-32, VAS-32
VA-42, VAS-42

L1330 Rev A 10/03

Repair Parts Sheets for this product are available from the Enerpac web site at www.enerpac.com, or from your nearest Authorized Enerpac Service Center or Enerpac Sales office.



1.0 IMPORTANT RECEIVING INSTRUCTIONS

Visually inspect all components for shipping damage. Shipping damage is not covered by warranty. If shipping damage is found, notify carrier at once. The carrier is responsible for all repair and replacement costs resulting from damage in shipment.

SAFETY FIRST

2.0 SAFETY ISSUES

Read all instructions, warnings and cautions carefully. Follow all safety precautions to avoid personal injury or property damage during system operation. Enerpac cannot be responsible for damage or injury resulting from unsafe product use, lack of maintenance or incorrect product and/or system operation. Contact Enerpac when in doubt as to the safety precautions and operations. If you have never been trained on high-pressure hydraulic safety, consult your distribution or service center for a free Enerpac Hydraulic safety course.

Failure to comply with the following cautions and warnings could cause equipment damage and personal injury.

A **CAUTION** is used to indicate correct operating or maintenance procedures and practices to prevent damage to, or destruction of equipment or other property.

A **WARNING** indicates a potential danger that requires correct procedures or practices to avoid personal injury.

A **DANGER** is only used when your action or lack of action may cause serious injury or even death.

WARNING: Wear proper personal protective gear when operating hydraulic equipment.

WARNING: Stay clear of loads supported by hydraulics. A cylinder, when used as a load lifting device, should never be used as a load holding device. After the load has been raised or lowered, it must always be blocked mechanically.

DANGER: To avoid personal injury keep hands and feet away from cylinder and workpiece during operation.

WARNING: Do not exceed equipment ratings. Never attempt to lift a load weighing more than the capacity of the cylinder. Overloading causes equipment failure and possible personal injury. The cylinders are designed for a max. pressure of 350 bar [5,000 psi]. Do not connect a jack or cylinder to a pump with a higher pressure rating.

Never set the relief valve to a higher pressure than the maximum rated pressure of the pump. Higher settings may result in equipment damage and/or personal injury.

WARNING: The system operating pressure must not exceed the pressure rating of the lowest rated component in the system. Install pressure gauges in the system to monitor operating pressure. It is your window to what is happening in the system.

CAUTION: Avoid damaging hydraulic hose. Avoid sharp bends and kinks when routing hydraulic hoses. Using a bent or kinked hose will cause severe back-pressure. Sharp bends and kinks will internally damage the hose leading to premature hose failure.

Do not drop heavy objects on hose. A sharp impact may cause internal damage to hose wire strands. Applying pressure to a damaged hose may cause it to rupture.

IMPORTANT: Do not lift hydraulic equipment by the hoses or swivel couplers. Use the carrying handle or other means of safe transport.

CAUTION: Keep hydraulic equipment away from flames and heat. Excessive heat will soften packings and seals, resulting in fluid leaks. Heat also weakens hose materials and packings. For optimum performance do not expose equipment to temperatures of 65 °C [150 °F] or higher. Protect hoses and cylinders from weld spatter.

DANGER: Do not handle pressurized hoses. Escaping oil under pressure can penetrate the skin, causing serious injury. If oil is injected under the skin, see a doctor immediately.

WARNING: Only use hydraulic cylinders in a coupled system. Never use a cylinder with unconnected couplers. If the cylinder becomes extremely overloaded, components can fail catastrophically causing severe personal injury.

IMPORTANT: Hydraulic equipment must only be serviced by a qualified hydraulic technician. For repair service, contact the Authorized ENERPAC Service Center in your area. To protect your warranty, use only ENERPAC oil.

WARNING: Immediately replace worn or damaged parts by genuine ENERPAC parts. Standard grade parts will break causing personal injury and property damage. ENERPAC parts are designed to fit properly and withstand high loads.

CAUTION: Do not forcefully tighten hydraulic connections. Use a high quality thread sealer to guard against leaks. Excessive force can damage threads and castings, causing failure at lower than rated capacity.

CAUTION: Teflon tape is an excellent thread sealer, however use extreme care to guard against loose pieces of tape entering the system. Pieces of tape in the system will cause component damage.

CAUTION: Use clean, lubricated air supply to prevent clogging system components. Filter regulators are recommended.

3.0 DESCRIPTION

Four models of air valves are covered by this instruction sheet, they are VA-32, 3 way two position; VAS-32 3 way two position solenoid operated; VA-42, 4 way two position and VAS-42, 4 way two position solenoid operated. (Fig. 1) All models are spring return units. The air valves are designed for controlling the air supply to a booster or air operated power pump. The pilot operated solenoid models can be wired directly to an automated machine (NC or CNC) circuit or to an independent switch. The manual model is operator controlled.

OPERATING PRESSURE	30 to 150 PSI
OPERATING TEMPERATURE	40°F to 180° F
CYCLE RATE	600 cycles per minute (MAX)
ELECTRICAL	110/120 VAC, 50/60 HZ, 7 WATT
SPOOL SEAL MATERIALS	Viton
PORT SIZES	3/8-18 NPTF

4.0 INSTALLATION

1. All four model air valves have mounting holes through the body. See figure 2. The valve can be mounted in any position as long as wiring and air lines can be properly installed.
2. Mount the air valve between the filter regulator and the booster pump. Be sure the incoming air supply provides 30 to 150 PSI operating pressure.
3. Use thread sealer on all fitting and pipe threads.

CAUTION: Teflon tape is an excellent thread sealer, however, use care to prevent teflon tape from entering the system. Cut all loose ends and leave the last two threads bare. Teflon tape does not dissolve and if lodged in the system, could cause damage or malfunction.

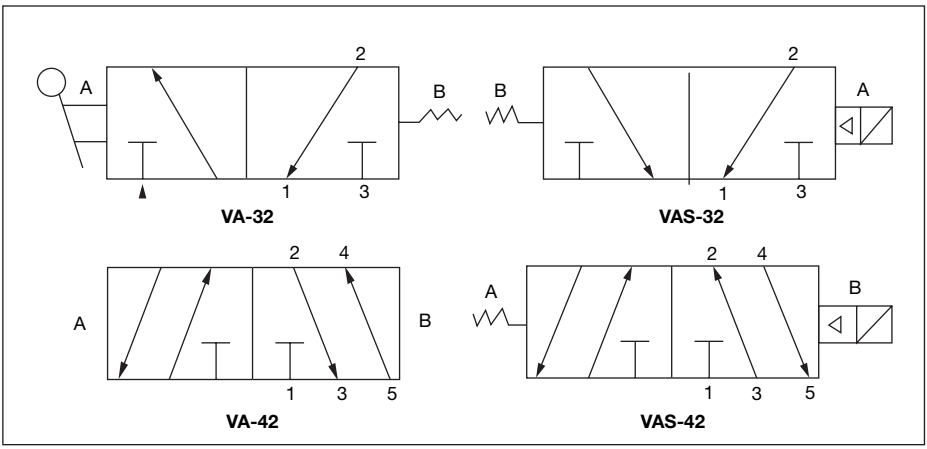


Figure 1

4. Incoming air should be clean and lubricated installing a filter lubricator regulator is recommended.
5. The #2 port is for incoming air lines. The remaining ports are connected to booster or pump line. For single acting systems the #1 and #3 ports in VA-32 and VAS-32 models are plumbed to the booster or pump. For double acting systems using VA-42 and VAS-42, the #1, 3 and 5 ports are plumbed to the booster or pump 6. Wiring for VAS-32 and VAS-42 pilot operated solenoid air valve, is connected directly to the power source of NC/CNC machines for automatic control, or wired to an independent switch. See figure 3 for typical wiring diagram

4.0 LUBRICATION

Filtered and lubricated air is recommended to ensure maximum performance and minimum maintenance of the system components. ENERPAC filter-lubricator-regulator, model RFL-101 provides protection, lubrication and has a built-in pressure regulator.

5.0 TROUBLESHOOTING

5.1 Air leaks through exhaust ports

1. Check center spool seals for damaged surfaces and/or nicks, cracks and tears on the spool seals.
2. Check for missing, damaged or incorrectly installed o-rings and gaskets.
3. Inspect stem guides for nicks, scratches and contamination. Check valve bore for damage and wear. Replace damaged items.
4. Replace o-rings, seals and gaskets or entire spool assembly if damaged or worn.
5. Inspect body to end cap gaskets. Replace the gasket anytime valve is disassembled.

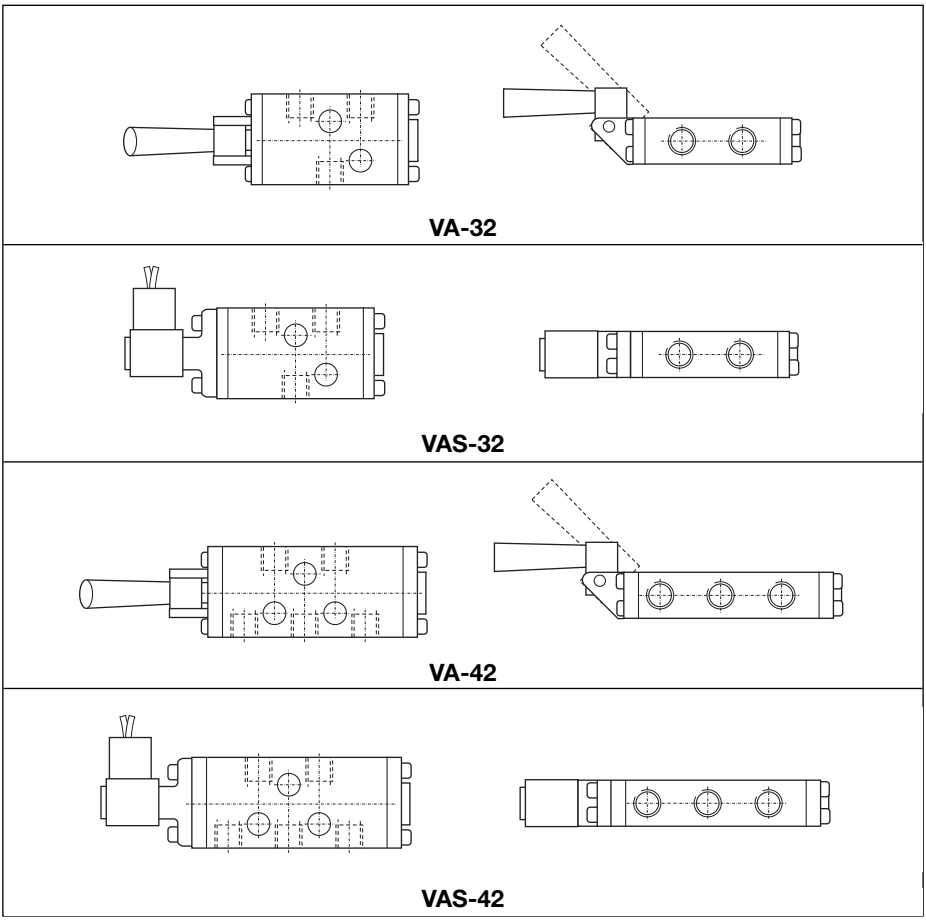
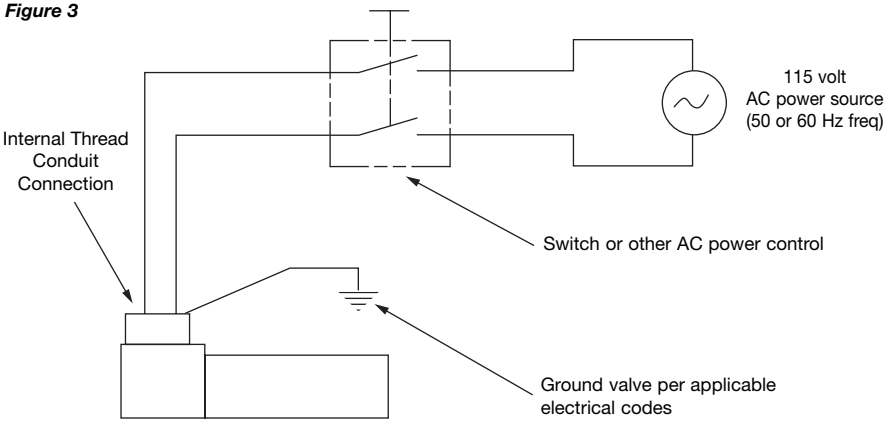


Figure 2

Figure 3



Typical electrical wiring diagram for VAS 32/42 valves

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