

## PRECISION PRESSURE PUMP MODEL 628

- **PORTABLE PRESSURE SOURCE**  
Generates from -2 to 100 psig
- **COARSE AND FINE ADJUSTMENTS**  
Provide resolution to 0.001 psig
- **DUAL OUTPUT PORTS**  
Simultaneous connection to two devices
- **CONVENIENT, ONE-HANDED OPERATION**  
Functions at any angle



### GENERAL DESCRIPTION

Generate pressure where you need it with Altek's Model 628 Precision Pressure Pump. Generate values from -2 to 100 psig, with a fine adjustment vernier providing output resolution to 0.001 psig. Use it independently or in conjunction with ALTEK's Model 620 pressure indicator, forming a convenient source/indicator in the 20 psig or 100 psig range.

Dual output ports allow simultaneous pressure application to two devices. For example, connect one port to the Model 620—providing digital verification of the generated pressure—and the second port to the device being checked or calibrated.

Pressure connections are made through two 1/8" NPT internally threaded fittings. Compatible media are any non-conductive, non-corrosive, instrument-grade clean air or inert gas.

The pump's small size and squeeze-action mechanism permit easy, one-handed operation at any angle. Although the unit is lightweight (less than two pounds), it is ruggedly constructed to withstand typical field use. The pump body and piston are machined brass, and the valve stem, piston rod, and handles are stainless steel. Model 628's simple design and quality construction ensure a long service life with virtually no maintenance.

### SPECIFICATIONS

OUTPUT RANGE: -2 to 100 psig

RESOLUTION: 0.001 psig

PRESSURE CONNECTIONS

Primary Port: 1/8"-27 NPT

Auxiliary Port: 1/8"-27 NPT

WEIGHT: 0.87 kg (1.9 lb.)

MEDIA COMPATIBILITY: Non-conductive, non-corrosive, instrument-grade clean air or inert gas

CONSTRUCTION: Machined brass pump body, piston; stainless steel piston rod, handles

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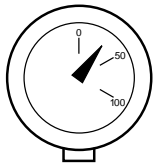
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## OPERATING INSTRUCTIONS

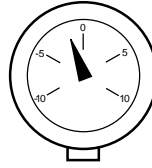
**IMPORTANT:** Read all operating instructions and general operating information *before* beginning any test procedures.

### PRODUCING POSITIVE PRESSURE



- 1) Connect one of the Model 628's ports to the instrument to be calibrated or checked. Use small-diameter tubing as short in length as possible (this will maximize the pressure adjustment range). An auxiliary port is provided for simultaneous output to a second device, e.g., application of pressure to an instrument or system under test and to a Model 620 to measure the actual pressure output. If the auxiliary port is not used, it should be securely plugged.
- 2) Set the brass fine pressure adjustment knob to the mid-travel position as indicated by the line cast into the pump body.
- 3) Turn the discharge knob fully clockwise. Do not overtighten.
- 4) Squeeze the actuating levers to generate pressure. At pressures above 150 psig the levers should be squeezed harder and more quickly at the end of the stroke. Additional force is required to open the discharge valve due to higher line pressure.
- 5) Use the discharge and fine pressure knobs to adjust pressure to the desired level.

### PRODUCING NEGATIVE PRESSURE



- 1) Perform Step 1 as described above.
- 2) Turn the brass fine pressure adjustment fully clockwise until resistance is felt. Do not overtighten.
- 3) Turn the discharge knob fully clockwise. Do not overtighten.
- 4) Turn the fine pressure adjustment counter-clockwise to generate the desired negative pressure (to -2 psig).

### WARNING



Even nominal pressure values can generate extreme force if fitting or tubing failure occurs due to improper installation or usage. Since the Model 628 is capable of generating pressures over 100 psig, it is imperative that all pressure connections and test procedures be done by qualified service personnel, according to standard engineering practices, to prevent possible personal injury or equipment damage.

## GENERAL OPERATING INSTRUCTIONS

### TEMPERATURE CONSIDERATIONS



Since the pressure change of a contained volume of gas is directly proportional to absolute temperature, temperature control is critical when using the Model 628 with any high-resolution measuring device. Tubing should be kept away from heat sources (i.e., lamps, operating electronic equipment, excessive hand contact, etc.) as well as from heat-dissipating structures (i.e., open windows, air conditioning vents, ventilation ducts, etc.) to minimize temperature variations that might induce measurement error.

Air is compressed when the Model 628's actuating levers are squeezed. This compression causes some heating of the air as it is forced into the system. Consequently, a noticeable decrease in pressure—caused by the cooling of the newly compressed air—may occur immediately after cessation of pumping.



### LUBRICATION

The Model 628 is lubricated at the factory and under normal operating conditions should not require additional lubrication. If lubrication is required, invert the pump and apply two drops of a light-grade machine oil to the piston rod near the base of the pump body. Do not over-oil.

### ONE YEAR WARRANTY

This equipment is guaranteed against defective material and workmanship for a period of one year from date of shipment. Claims under guarantee can be made by returning the equipment prepaid to our factory. The equipment will be replaced, repaired or adjusted at our option. The liability of Altek is restricted to that given under our guarantee. No responsibility is accepted for damage, loss or other expense incurred through sale or use of our equipment. Under no condition shall Altek be liable for any special, incidental or consequential damage.

No pump will be accepted for service unless all process materials have been completely removed from all components by the customer. Contaminated pumps will be returned to the customer for proper cleaning.

### OTHER PRODUCTS

Altek designs and manufactures fast, accurate instruments for measurement, generation and simulation of virtually every process control signal. Consult our factory directly or contact your local stocking representative to order precise, low cost Milliamp Calibrators, Voltage Sources, Direct Thermocouple Sources, RTD Simulators and Frequency Sources. Altek also produces calibrators for custom ranges and unique applications. Additional models and ranges are frequently added to the Altek instrument family to meet all of your critical calibration requirements. Altek products are made in the USA.

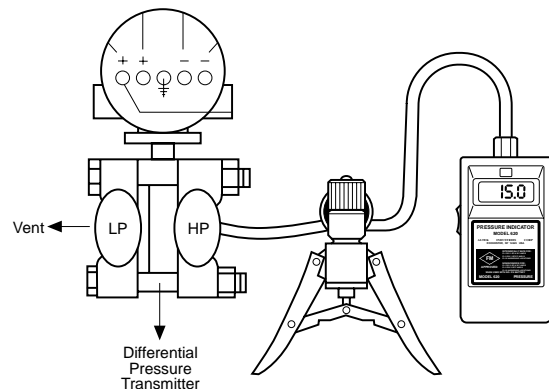
### LEAK PREVENTION AND DETECTION



In order to obtain maximum pressure indication stability, leaks must be avoided. It is strongly recommended that either Teflon® tape or commercial pipe sealant be used at all tapered fittings and connections. If Teflon® tape is used, care must be taken that the proper amount is applied. Excessive tape may fray and cause plugging of relief valves, orifices, nozzles, etc. Overuse of pipe sealant may cause similar problems.

External equipment should also be checked carefully for leaks. Process connections, flange bolts, and vents must be tightly closed. Defective gaskets, leaking valves, and damaged diaphragms are all potential sources of leaks.

For detection of very small system leaks, the traditional soap bubble method may not be sufficient. Halogen leak detection devices may be required when using highly sensitive pressure calibration equipment.



### ORDERING INFORMATION

Model 628 Precision Pressure Pump

Model 628

### OPTIONAL ACCESSORIES

Carrying Case

09-3783

Holds Model 628 Pump and Model 620 Pressure Indicator

**AVAILABLE FROM:**