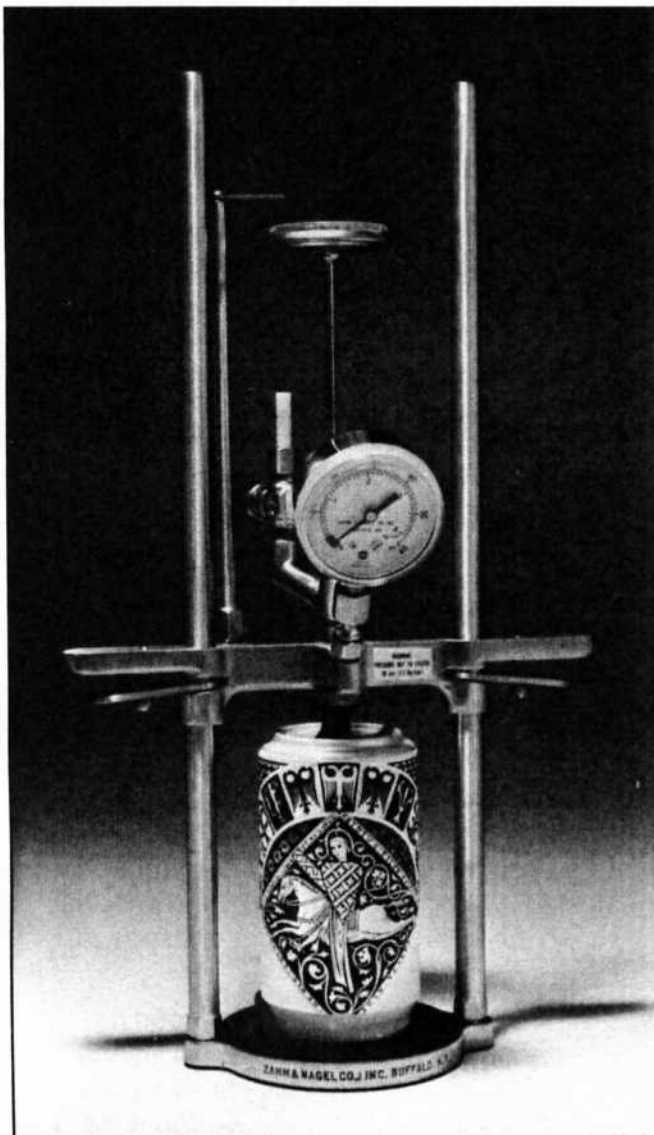


Zahm Model D.T. Piercing Device (Series 6000)



The Zahm Model D.T. Piercing Device is used to test carbonated beverages for volumes of CO₂ gas in glass/PET bottles and cans. This instrument uses a dual scale pressure gauge (0-60psi & 0-4.2kg/cm²) and an adjustable 2" dial thermometer (25/125°F. & -5/55°C.). It is available in one and two litre sizes. The Series 6000 Piercing Device will provide rapid and accurate determination of gas volumes in alcoholic and non-alcoholic beverages when used with the two pressure/temperature relationship charts furnished with this instrument.

Operating Instructions

CAUTION: EYE PROTECTION MUST BE WORN WHILE OPERATING THIS INSTRUMENT.

The instrument is ready for product testing as received from the factory but several checks should be made in order to assure that none of the fittings leak when testing is performed.

- 1 Apply a small amount of "O" ring lubricant to the dial thermometer stem (6003) and work it up and down to lubricate the "O" ring (6008). "O" ring lubricant may be purchased from Zahm & Nagel Co.
- 2 Pressurize the instrument and apply a soapy water solution to all fittings. The formation of bubbles will show any leakage and the condition can then be corrected. The instrument may also be pressurized and submersed in an aquarium filled with water and bubbles observed in this manner.

To Operate:

- 1 Close the Whitey™ valve (5056) and depress the lock plates (5026) while pulling up on the cross bar (6018) to a height that will clear the top of the container being tested.
- 2 Release the lock plates and the cross bar will remain in position until the operator is ready to pierce the container.
- 3 Raise the dial thermometer (6003) so that it touches the dial thermometer stop (6006).
- 4 Place the can to be tested upside-down on the base pad (5022) and center so that the rubber seal (6013) will line up approximately in the center of the container. Bottles should be tested by piercing through the crown.
- 5 Depress the lock plates and lower the cross bar to a point where the rubber seal just touches the top of the container.
- 6 Continue to depress the lock plates and with both hands push the cross bar rapidly downwards until the container is pierced.
- 7 Release the lock plates. The cross bar will remain locked in place with the rubber seal compressed to prevent leakage at the point of piercing. Be careful not to trip the lock plates after piercing as only a slight upward pressure on the lock plates will release the cross bar.
- 8 Hold the instrument at the bottom of the base with the right hand while the left hand holds both the guide rod (5017) and dial thermometer stop (6006). Shake the instrument with a rapid back and forth motion until maximum gauge pressure has been obtained. Record this pressure for future chart calculations of CO₂ gas volumes.
- 9 Insert the dial thermometer down into the container to its fullest extent and leave it there until a steady temperature is obtained. The time required for a steady temperature reading may be thirty seconds or longer, depending upon the temperature of the product being tested. Record this temperature for future chart calculations of CO₂ gas volumes.

NOTE: Do not record the pressure reading when the dial thermometer is inserted in the container. This will cause a false pressure reading and resulting error in the number of volumes of CO₂ gas.

Operating Instructions *(Continued)*

- 10 When the pressure and temperature have been recorded, refer to the correct pressure/temperature relationships chart found on page 21 and 22 of this manual. Be sure to refer to the correct chart when determining volume of CO₂ gas. The chart on page 21 is for nonalcoholic products while the chart on page 22 is used for products containing alcohol.
- 11 After the test has been completed bleed off the pressure in the container by slowly opening the Whitey valve. To prevent the product from spraying the operator a piece of plastic tubing should be attached to the hose nipple (5057) of the Whitey valve and the product drained into a sink or other suitable container.
- 12 Withdraw the dial thermometer until it touches the dial thermometer stop.
- 13 Depress the lock plates and raise the cross bar to clear the container.
- 14 Close the Whitey valve and remove the container. The instrument is now ready for the next container to be tested.

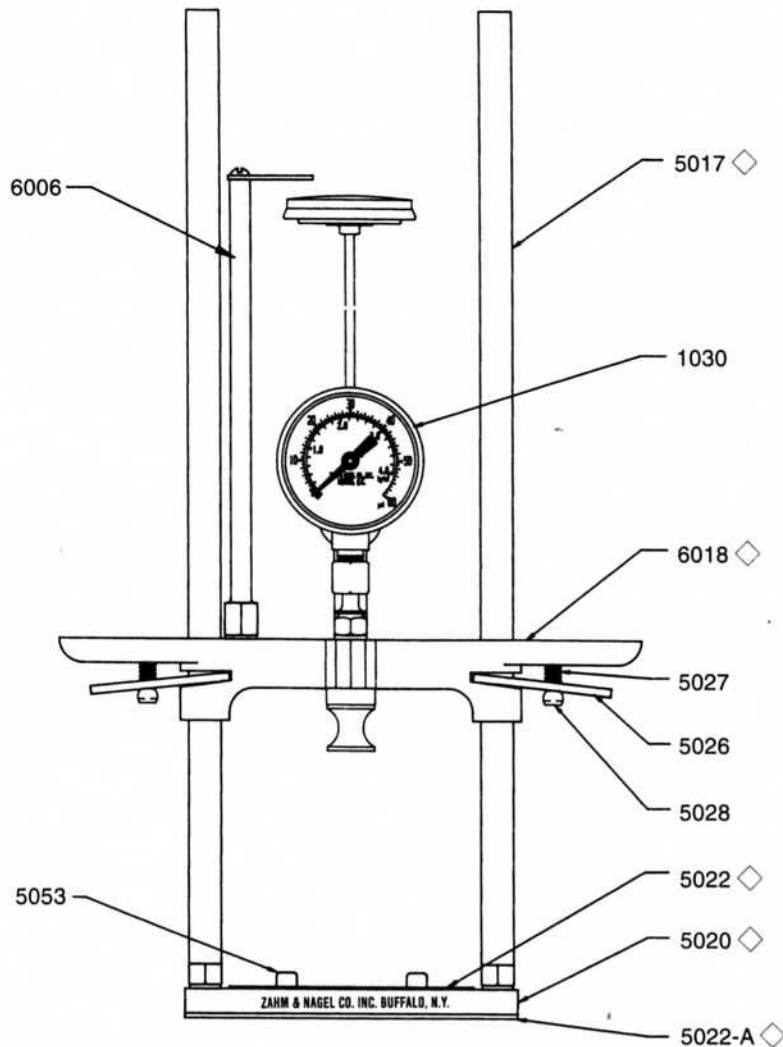
Care of the Instrument

After the tests have been completed the instrument should be cleaned and checked as follows:

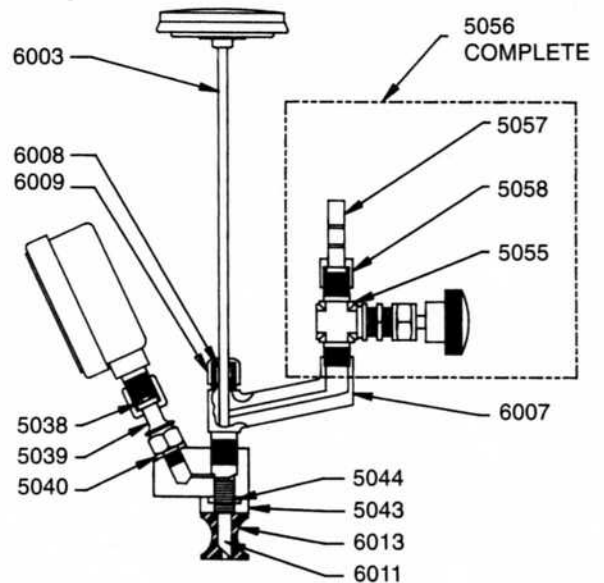
- 1 Backflush the piercing assembly system with warm water. To do this, attach a hose to a water supply and then to the teflon nipple of the Whitey valve. Open the Whitey valve and allow the water to flush through the system for several minutes.
- 2 Rinse the entire instrument with warm water and dry with a soft towel.
- 3 Check the dial thermometer for accuracy (re-calibration instructions are shipped with the instrument). Before installing the dial thermometer, apply a small amount of "O" ring lubricant to the stem and work the thermometer up and down to lubricate the internal "O" ring.
- 4 Check the pressure gauge for accuracy (re-calibration instructions are shipped with the instrument). Be sure to install gauge gasket in the gauge adapter before the pressure gauge is installed on the instrument.

NOTE: All replacement parts for the 6000 Series are the same as used on the Zahm New Style Air Tester 5000 Series except for parts #6003 through #6018 as listed on parts list.

Parts List



◇ PARTS LISTED ARE FOR
1 LITRE SIZE
REFER TO PARTS LIST
FOR 2 LITRE SIZE



P/N	DESCRIPTION	P/N	DESCRIPTION	P/N	DESCRIPTION
6001	CO ₂ TESTER COMPLETE W/#6003 DIAL THERMOMETER & #1030 PRESSURE GAUGE	6013	RUBBER SEAL	5040	GAUGE GASKET
6003	DIAL THERMOMETER 2" DIAL, DUAL SCALE (25/125°F. & -5/55°C.), 8" LONG STEM, ADJUSTABLE	6018	CROSS BAR FOR 1 LITRE SIZE	5043	PACKING NUT
6006	DIAL THERMOMETER STOP	5017	GUIDE ROD	5044	NUT GASKET
6007	DIAL THERMOMETER ADAPTER	5020	BASE 1 LITRE SIZE	5053	CAN STOP (2 REQ'D)
6008	ADAPTER "O" RING	5022	BASE PAD (TOP) FOR 1 LITRE BASE	5055	WHITEY VALVE
6009	ADAPTER NUT	5022-A	BASE PAD (BOTTOM) FOR 1 LITRE BASE	5056	WHITEY VALVE COMPLETE W/#5057 HOSE NIPPLE & #5058 NIPPLE NUT
6011	PIERCING NEEDLE .703 OAL OF PIERCING POINT	5026	LOCK PLATE (2 REQ'D)	5057	HOSE NIPPLE
		5027	LOCK SPRING (2 REQ'D)	5058	NIPPLE NUT
		5028	LOCK SCREW (2 REQ'D)	1030	PRESSURE GAUGE 2" DIA., (DUAL SCALE 0-60PSI & 0-4.2 KG/CM ²) 1/8 NPT LOWER MALE CONNECTION
		5038	GASKET		
		5039	GAUGE ADAPTER		