



Blow Back Module Supplemental Instruction Manual

Two versions of a blow back module can be provided. The “smart” version includes an electronic control card. The “dumb” version requires the blow back solenoid valve to be powered by an external source. Both versions are discussed below.

DUMB BLOW BACK MODULE:

The dumb blow back module consists of the following components.

1. A compressed air connection.
2. An accumulator or air tank to allow air pressure to be collected near the filter assembly. This can be a heated or unheated tank.
3. An “acid blocker” heat sink to provide protection for the solenoid valve from condensable acids in the sample.
4. A solenoid valve to allow the accumulator to empty quickly through the filter to blow the contents of the filter back into the sample source. This solenoid valve can be ordered to open by any desired voltage, usually 12 or 24 VDC; or 115 or 230 VAC, 50/60 Hz.
5. Brackets as required to mount the Blow Back Module. These will depend on the type of heated filter assembly ordered.

There is no circuitry supplied with the dumb blow back module. The operation is simply for an external voltage to be supplied to the solenoid valve to open it for the period of time desired. The accumulator will empty in less than ½ second. The valve is usually held open for no longer than 2 seconds. Once the accumulator is empty, the air flow through the filter will drop off because of the pressure drop in the air supply line.

Since the only electrical connections to the dumb blow back module are the connections to the solenoid valve, the valve will just have wires extending from the ½” conduit fitting on the valve. Where the valve is mounted within an enclosure, the electrical leads will be terminated on a terminal strip and labeled appropriately.

SMART BLOW BACK MODULE:

In addition to the components provided for the “dumb” blow back module, the “smart” blow back module includes a timer circuit which will initiate the blow back cycle based on a regular, adjustable time period. The timer can be turned off by adding an external jumper. An external contact closure will initiate a blow back cycle whether the timer is active or not. The following drawings apply to the smart blow back module only.

The schematic and board layout for the automatic timer for the automatic blow back circuit follow. The potentiometer, R14, is the time cycle control. At the far left, the period of time between blow back cycles is about 15 minutes. At the far right side of the pot, the period of time is about 24 hours.

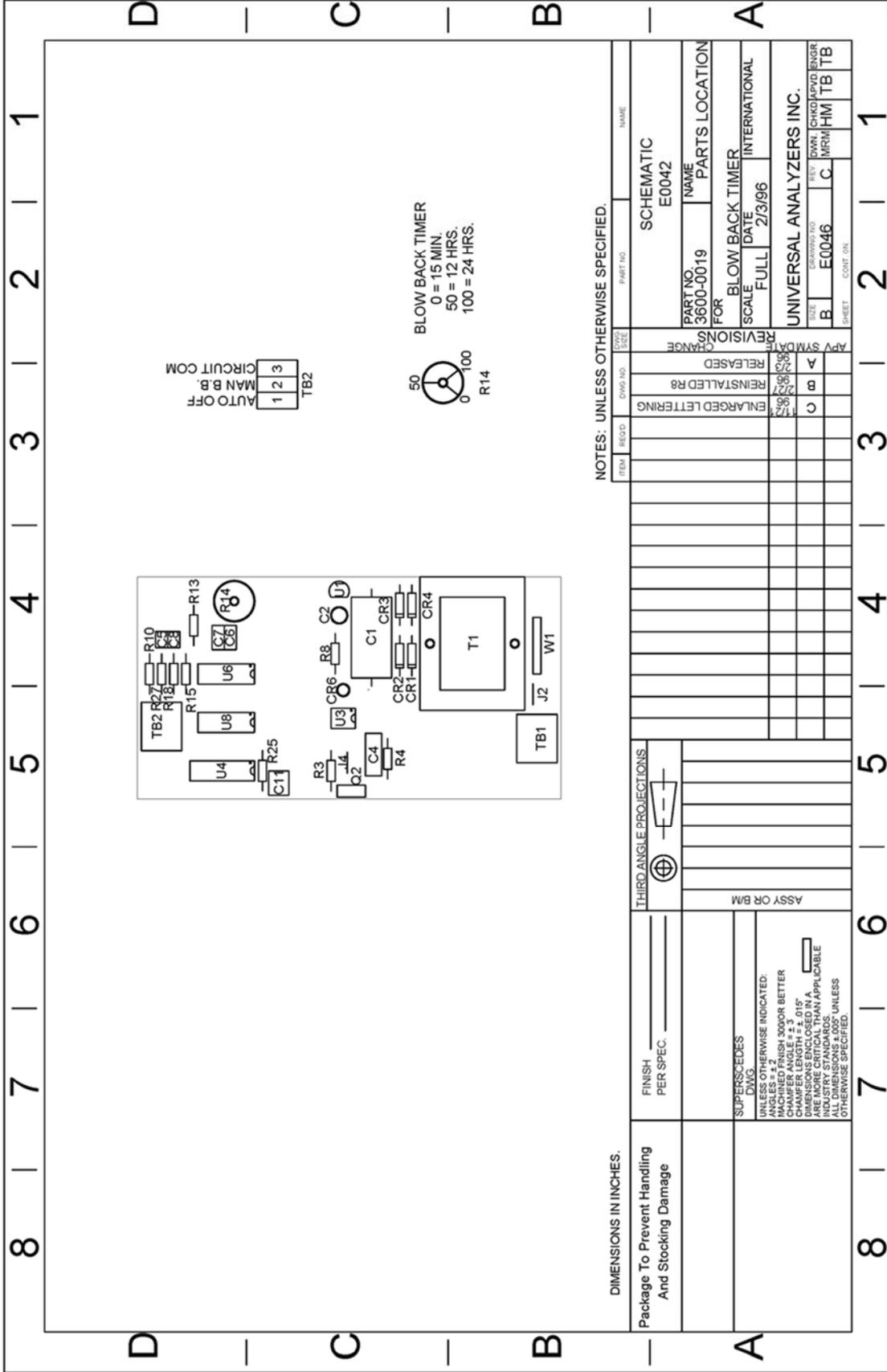
A jumper placed between terminals 1 and 3, labeled as “AUTO OFF” and “COM” of TB2 will disarm the timer. A contact closure between terminals 2 and 3, labeled as “MAN B-B” and “COM” will initiate a blow back cycle. These terminal labels may be found on the circuit board itself, or in the case where the board is mounted within a large enclosure, the connections are brought out to an external terminal strip which is also labeled as described. See the picture at the right.

The blow back solenoid valve will be opened for 2 seconds when the blow back cycle is started by either the internal timer or an external contact closure.

Power is to be provided to the timer circuit on TB1. The two jumpers labeled “115” are in place for 115 VAC operation. The jumper labeled “230” would be in place for 230 VAC, 50/60 Hz. Operation (with the 115 VAC jumpers removed). They can be changed in the field, however, the solenoid valve must be rated for the voltage provided to TB1. When the blow back assembly is mounted with the heated filter in a large enclosure, the power to TB1 is wired internally by the factory.

The “LOW TEMP” terminals shown in the picture above are connected to a dry circuit thermal switch located within the heater for the heated filter. These may be connected to an external alarm to indicate a low temperature condition within the filter. The switch will be “open” above 125°C. and “closed” below that temperature.





NOTES: UNLESS OTHERWISE SPECIFIED.

ITEM	REQD	DWG NO.	SIZE	PART NO.	NAME
					SCHEMATIC E0042
				3600-0019	PARTS LOCATION
					FOR BLOW BACK TIMER
					SCALE FULL DATE 2/3/96 INTERNATIONAL
					UNIVERSAL ANALYZERS INC.
					SIZE DRAWING NO. REV. DWG. CHKD/PVD ENGR
					B E0046 C JMR/HM TB TB
					SHEET COUNT ON

THIRD ANGLE PROJECTIONS



FINISH PER SPEC.



Package To Prevent Handling And Stocking Damage



DIMENSIONS IN INCHES.



SUPERSCEDES DWG



UNLESS OTHERWISE INDICATED: MACHINED FINISH 3000R BETTER CHAMFER ANGLE = ± 3° CHAMFER LENGTH = 0.125 ± 0.005 ARE MORE CRITICAL THAN APPLICABLE INDUSTRY STANDARDS, UNLESS OTHERWISE SPECIFIED.

