

Combustion Test Kit

It's complete — with extra supplies to save you time and money



No. 1200-A Combustion Test Kit

(1). New easy-to-carry, impact resistant, custom-molded polyethylene carrying case with handle, living hinges and clasps. All components are nested for quick access and protection.

(2). No. 1101 CO₂ Indicator - Clear acrylic plastic, virtually unbreakable, 4" adjustable scale, 0-16% in .2 divisions, Finger tight inlet valves - no tools needed to renew absorbent solution. O-ring seals will not leak.

(3). Aspirator Bulb, Filter and Tubing Assembly - Has refillable filter, metal terminal tube and CO₂ Indicator valve adapter.

(4). Filter Wool - Extra supply in bag for about 1000 tests.

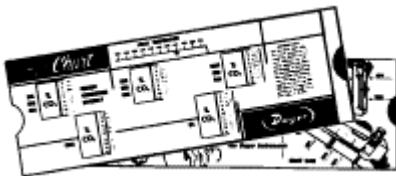
(5). No. 171 Draft Gages - Continuously indicating, permanently accurate. W.C. range in .01 divisions. Model 170 and 172 (optional, not shown) have 0 to .5 and 0. 1.0" W.C. ranges respectively. Magneclip equipped for "touch-cling" mounting of plastic gage on steel surfaces. (Also see No. 1200-B below).

- (6). New Dwyer Smoke Gage Pump - Fast-working, this first known unit to conform with ASTM D-2156-XX standards for testing smoke density in flue gases from burning distillate fuels.
- (7). Smoke Filter Paper - A new, exclusive Dwyer development. Roll of filter paper is contained in a dispenser box for protection and quick use.
- (8). Magnehelic® Gage - 0.25" W.C. and 300 to 2000 FPM. Included in Model 1200-B kit below.
- (9). Awl - Pierces smoke pipe for thermometer and sampling tubes.
- (10). CO₂ Absorbent Solution - extra supply for many tests.
- (11). No. A-503 Stack Thermometer - Dial type, stainless steel 200° to 1000°F ranges in 10° divisions. 2 1/4" dial, 5" stem.
- (12). Gage Oil - Long-lasting extra supply.
- (13). Spring Holders - for thermometer and terminal tubes.
- (14). Hole Plugs - Packet to fill awl holes.
- (15). Smoke Chart - Laminated plastic for comparison with samples taken.
- (16). Dwyer Combustion Efficiency Slide Rule Computer - Simple to operate. Backside demonstrates the relationships of flame height, temperature, smoke sample, gage readings, laminated plastic; wipes clean.
- (17). Operating Instructions - Simple, Illustrated. Show step-by-step use of each item. Wipe clean plastic.
- (18). Combustion Data Cards and Parts List - Plastic, Complete Kit, weight only 6 lbs. 8 oz.

No. 1200-B Combustion Test Kit

Includes portable Dwyer Magnehelic® Draft Gage with large 4" dial instead of No. 171 Inclined Draft Gage, 0 to .25" W.C. range in .01" divisions. Accurate within 4% of full scale. Also has air velocity scale with 800 to 2000 F.P.M. range. No leveling necessary; no gage oil required. Kit is otherwise identical to No. 1200-A, Weight only 7 lbs. 5 oz. Optional kit available with 0 to 0.5" or 0 to 1.0"W.C. Magnehelic® AV Gage; contact Dwyer.

Optional: On special order, the portable Dwyer No. 460 Air Meter may be substituted for the No. 171 Inclined Draft Gage. The Air Meter has a direct reading dual scale with high range of .05" to 1.0" W.C. and low range of .005" to .09" W.C. Low in cost, it also has air velocity scales with total range from 260 to 4,000 feet per minute.



Guesswork does not pay. Kit includes this easy-to-use Dwyer Slide Rule Computer. It gives you and your customer visual proof of heating plant efficiency.

The Dwyer Combustion Test Kit is quick and easy-to-use. With it, you can measure all four factors that govern overall efficiency: CO₂, content, draft, stack temperature and smoke. Accuracy to ± % CO₂, fully meets the requirements of the professional Heating Engineer. Yet an apprentice can follow the simple, illustrated step-the-step instructions.

CO₂ CONTENT: To a large extent, the efficiency of a boiler or furnace depends on the amount of air supplied to the combustion chamber. Too little air causes smoke. Too much air wastes heat up the stack. Testing fuel gases for CO₂ content gives you an instant, exact measure of combustion efficiency. A high CO₂ reading - 8% to 12% - shows high efficiency. A low CO₂ reading indicates low efficiency or too much air. The Dwyer CO₂ Indicator reveals the situation accurately.

SMOKE: As you adjust a clean fire toward a higher CO₂ reading, you will reach the smoke point. By inserting filter paper in the intake of the Dwyer Smoke Gage Pump, you can take a sample and match it with the Smoke Chart included. The chart facilitates balancing the burner for maximum CO₂ with minimum smoke. While conforming with ASTM D-2156-XX standards for distillate fuel smoke density, this Smoke Gage can also effectively test any gas or wood burner.

DRAFT: The Dwyer Draft Gage furnishes a continuous reading of the draft and instantly shows the slightest change as you make adjustments to increase efficiency.

STACK TEMPERATURES: Quickly determined with the Dwyer Stack Thermometer included.

THE RESULT A DEFINITE EFFICIENCY RATING: When you have finished checking the installation you will have raised the CO₂ content as high as possible without causing a smoking fire ... you will have the draft control set to provide about .02" or .03" water draft over the fire ... and you will have a stack temperature of about 500° to 600°F. At this point, you transfer the first and last of these figures to the Dwyer Computer and read out the percentage of efficiency - accurately and dependably. *Before checking gas or coal-fired units, consult local codes.

Air Velocity Measurement Tool!

By adding a small pilot tube, which will fit into the kit case, air velocity measurements can be taken in heating, ventilating and air conditioning installations with the gages furnished. The Magnehelic Gage and No. 460 Air Meter have dual scales calibrated in inches of water and in feet per minute for air velocity. A conversion chart can be used to quickly convert velocity pressure indicated on the No. 171 Draft Gage to air velocity.



Taking a CO₂ reading with No. 1101 CO₂ indicator is quickly and easily done.



Taking a smoke sample with Dwyer Smoke Gage Pump and filter paper.



Taking over-fire draft reading with Inclined Draft Gage held by Magneclips (included). Not Stack Thermometer secured by holder.

MODELS

| Model Number | Description | Price |
|-------------------|----------------------------------------------------|-------|
| 155-1200-A | Combustion Test Kit w/ No. 171 Inclined Draft Gage | |
| 155-1200-B | Combustion Test Kit w/ Dwyer Magnehelic Dial Gage | |