

BAR BREAKER APPARATUS - heat expansion

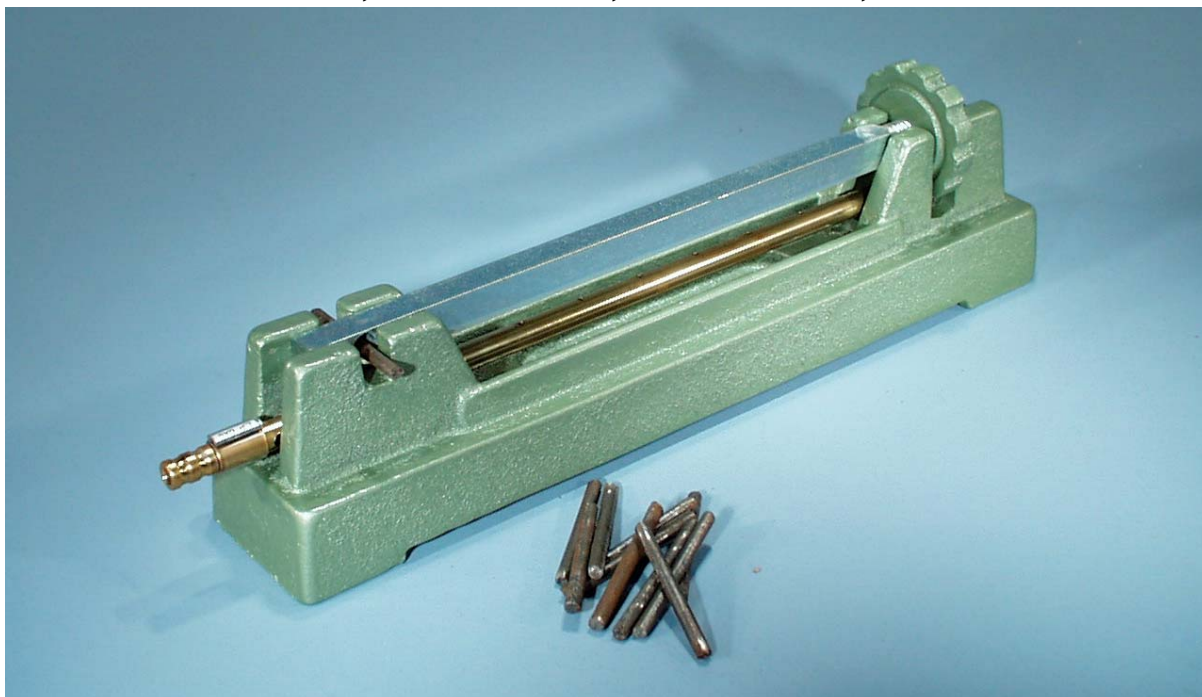
Cat: HL0230-001 (town gas) HL0231-001 (LP gas) HL0232-001 (natural gas)

Supplied complete with set of 10x small cast iron pins used for breaking.

DESCRIPTION:

This instrument permits the fundamental heat expansion and contraction experiment and demonstrates the enormous forces involved. A strong cast iron base is fitted with a gas burner tube. A strong steel bar rests in the base and can be heated by the gas so that it expands. The force of expansion presses against a cast iron pin until it breaks with a loud sound.

HL0230-001, HL0231-001, HL0232-001, PA0230-010



Physical size:

Weight: kg

THE EXPERIMENT:

Take one of the small cast iron pins and pass it through the small cross-hole in the end of the square section steel bar.

Place the steel bar in the groove along the length of the cast iron base so that the large round nut on the thread of the bar slides down into the slot provided in the base. The small cast iron pin should be resting in a shallow slot provided at the opposite end of the cast iron base.

Turn the large nut anti-clockwise so that the cast iron pin moves to press firmly against the far side of its slot.

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Check that the gas type available is the same as the gas type marked on the bar breaker. Then, with a rubber hose, connect the gas supply to the connection tail and turn on the gas. With a match, light the small gas jets along the burner tube under the square bar and allow the bar to heat. The cast iron pin will be pressed with increasing force against the slot and will finally break with a loud sound.

To show the effect of contraction, turn off the gas flame, but while the bar is still very hot, carefully slide another cast iron pin through the hole and turn the large nut clockwise to pull the pin tightly to the near side of its slot. As the steel bar cools down and contracts, it again will break the cast iron pin with a loud sound.

CAUTION:

This instrument can become very hot when being used and will take a long time to cool down. To prevent injury, be careful that a breaking cast iron pin cannot strike an observer. Strictly supervise the lighting of the burner, the insertion of the cast iron pins and any adjustments to the heated steel bar.

Spare set of 10x cast iron pins. Cat: PA0230-010

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