

Dissectible Transformers

Educational Training Equipment for the 21st Century

Bulletin 211E

Purpose

The Hampden **Model 1290B-6C** Dissectible Transformer is a versatile device for teaching transformer principles. It is also useful in the laboratory or shop when a special transformer, DC choke or AC reactor is needed.

Description

The unit consists of a dissectible, three-legged core and a complement of separate coils. The core consists of silicon steel laminations with an aluminum frame making a strong, lightweight structure. The top portion of the core is removable to enable the various coils to be placed on the core. The interfacing between the two core pieces is carefully machined to minimize magnetic leakage. A stud and wing nut hold the core pieces securely together. A complement of core gap-spacers are also provided for operation as a choke or reactor. Furnished complete with cords.

Typical Applications and Uses

- Study of Electromagnetic Induction
- Study of Magnetic Fields
- Study of AC and DC Electromagnetics
- Magnetization and Demagnetization of Ferrous Materials
- Isolation Transformer - 250 VA
- Autotransformer - 500 VA
- Buck-Boost Transformer (using hand-wound winding - 1/2 volt per turn) - Ratings to several KVA
- DC Choke
- AC Reactor
- Saturable Reactor
- Study of Transformer Theory:
 - Basic Transformer Action
 - Voltage, Current and Impedance Ratios
 - Exciting Current
 - Saturation and Hysteresis
 - Eddy Currents
 - Efficiency
 - Regulation

The **Model HC-1290** has provision for storing the core, coils, and air gap spacers, and has a luggage style handle for convenient portability.

1290B-6C

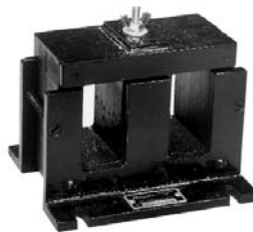
Dissectible Transformer



MODEL HC-1290 Storage and Carrying Case
Box Dimensions: 16" x 16" x 7"
Weight with 1290B-6C: 67 lbs.



MODEL 1290B-6C shown
Weight: 45 lbs.



Core 1291



Coil 1293



Coil 1294



Coil 1295



Coil 1296



Coil 1292



Coil 1297

MODEL 1290B-6C includes Core 1291 plus the following coils

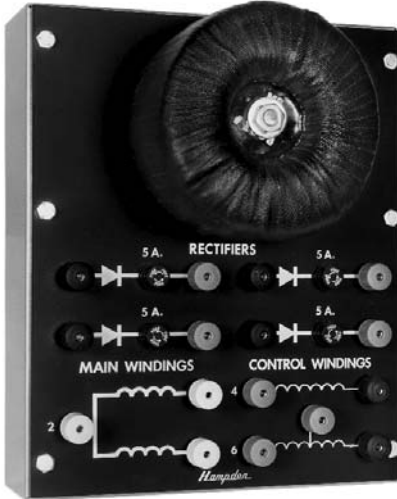
Coil No.	Windings	No. Turns	Wire Size
1292	1-115V	230	#15
1293	2-115V	230 each	#15
1295	1-56V	224	#15
1296	1-56V	224	#15
1297	1-DC	896	#22
1294	1-115V	230	#15
	1-230V	460	#18

All Hampden units are available for operation at any voltage or frequency

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H-TSR-1

Toroidal Saturable Reactor



MODEL H-TSR-1 Toroidal Saturable Reactor
Dimensions: 12½"H x 10¼"W x 8"D
Shipping Weight: 35 lbs.

Purpose

The **Model H-TSR-1** Toroidal Saturable Reactor demonstrates the basic and advanced principles of saturable reactors and magnetic amplifiers.

Features

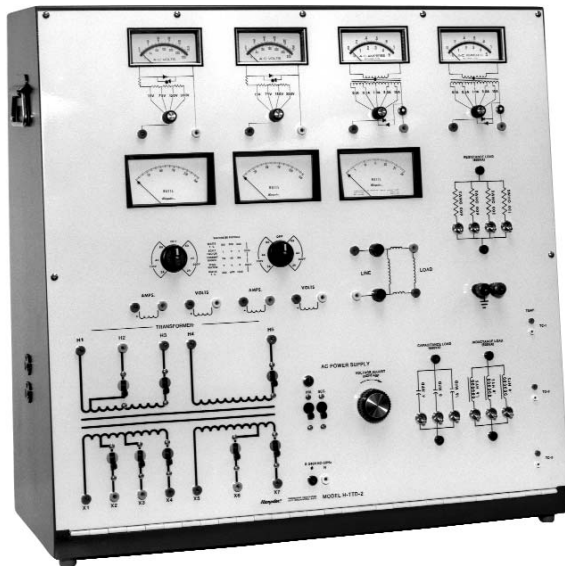
- Attractive Toroidal design
- Phenolic insulating panel with silk screened legends
- Color-coded 5-way binding posts

Includes

- Two interconnected gate windings, each rated 120V 60Hz
- Two control windings, one is center-tapped, each is rated 0.5 amp DC

Complete With

- Four silicon rectifiers with fuses, each rated 5 amps - 200 PIV
- Power cord (6 ft. long, 3 conductor, #14 wire, with a male plug on one end and two HL-2 lugs and one green ground HP-1PR plug on the other)
- Four Hampden PP-1.5 Patch Cords (1.5 ft. long, #18 wire, with stacking banana plugs on both ends)
- Two Hampden PC-2 Patch Cords (2 ft. long, #18 wire, with banana plug on one end and insulated alligator clip on the other)



MODEL H-TTD-2 Transformer Trainer
Dimensions: 24"H x 23"W x 12"D
Shipping Weight: 250 lbs.

Purpose

The Hampden **MODEL H-TTD-2** Transformer Trainer demonstrates the principles of Lenz's first and second laws as applied to transformers. Typical material covered includes efficiency, ratios, vectors, open circuit test and short circuit test.

Description

- Portable enclosure
- Transformer, single-phase
- Instruments
- Resistance, Inductance, Capacitance loads
- Variable AC power supply
- Temperature Measurement
- Cord set
- Instruction material

H-TTD-2

Transformer Trainer

All Hampden units are available for operation at any voltage or frequency

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