

## 1413 Series

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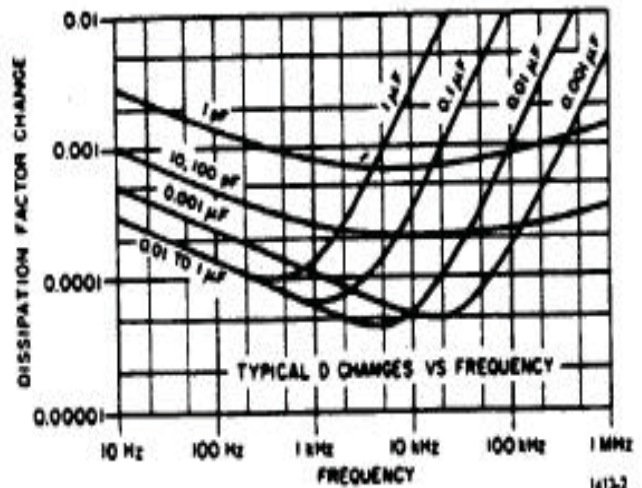
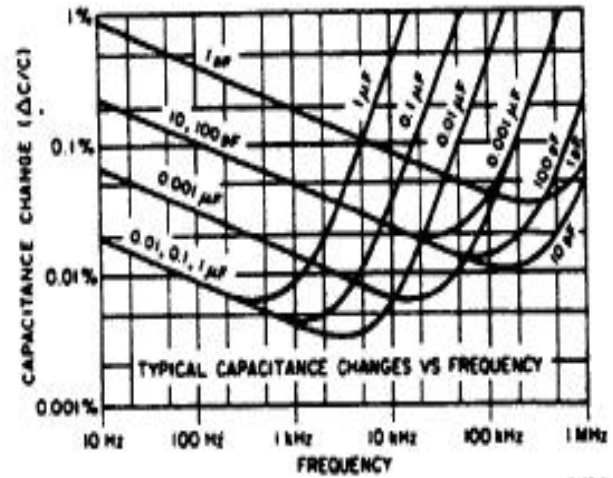
The 1413 is not only a precision standard, it is a systems component as well - connections are made at the rear for this purpose.



Model 1413 Decade Capacitor

- A laboratory standard
- For calibrating working standards
- Standard for dissipation factor
- Verification & calibration of LCR meters
- Working standard
- Capacitance measurement functions
- Verification of calibration of multimeters
- For calibrating instrumentation
- 0 to  $>1\mu\text{F}$
- 0.05% basic accuracy
- 6-digit resolution
- 3-terminal connections

Six precision decades are employed to provide a range of 0 to  $1.11111\mu\text{F}$  in increments as small as  $1\text{ pF}$  and with an accuracy of  $0.05\% + 0.5\text{ pF}$ . Air capacitors are used for the two lower decades and precision silvered-mica capacitors are used for the remainder. The lower four decades contain adjustments that are factory set but accessible for readjustment later if desired.



The shielding is divided into two parts arranged to provide low terminal-to-guard capacitance. When the two shields are connected together, the 1413 becomes a well-shielded three-terminal capacitor with an extremely low zero capacitance, suitable for variety of applications



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### SPECIFICATIONS

Range: 0 to 1.111 11  $\mu$ F, controlled by six in-line-readout dials

Accuracy:  $\pm(0.05\% + 0.5 \text{ pF})$  at 1 kHz

Stability:  $\pm(0.01\% + 0.1 \text{ pF})$  per year.

Frequency: See Figure 1.

Temperature Coefficient: Approx. 20 ppm/ $^{\circ}$ C from 10 to 50 $^{\circ}$ C

Zero Capacitance: <0.1 pF.

Voltage Rating: 500 V pk max up to 10 kHz.

	1 pF to 100 pF	101 pF to 1000 pF	1001 pF to 2000 pF	2001 pF to 0.1 $\mu$ F	0.1 $\mu$ F to 1.11111 $\mu$ F
Dissipation Factor: Max at 1 kHz	0.002	0.001	0.0005	0.0003	0.0004
Insulation Resistance: 3 term., after 2 min at 500V dc	$\geq 5 \times 10^{10} \Omega$				$\geq 5 \times 10^9 \Omega$
Terminal Capacitance: Max high to case	4 pF	8 pF	10 pF	30 pF	60 pF
high to guard	85 pF	110 pF	125 pF	165 pF	200 pF
low to guard	45 pF	70 pF	80 pF	110 pF	120 pF

Interface: Connections: 2 rear-mounted G874 locking connectors.

Mechanical: Convertible-bench cabinet;

Dimensions: 14.2 cm H x 42.3 cm W x 30.4 cm D

(5.59" x 17" x 11.96")

cm W x 27.7 cm D (5.22" x 19" x 10.9")

Rack, 13.3 cm H x 48.3

Weight: Bench, 11 kg (23 lb.) net, 14 kg (29 lb.) shipping

### ORDERING INFORMATION

1413-9700	1413	Precision Decade Capacitor Bench
1413-9701	1413	Precision Decade Capacitor Rack Model

