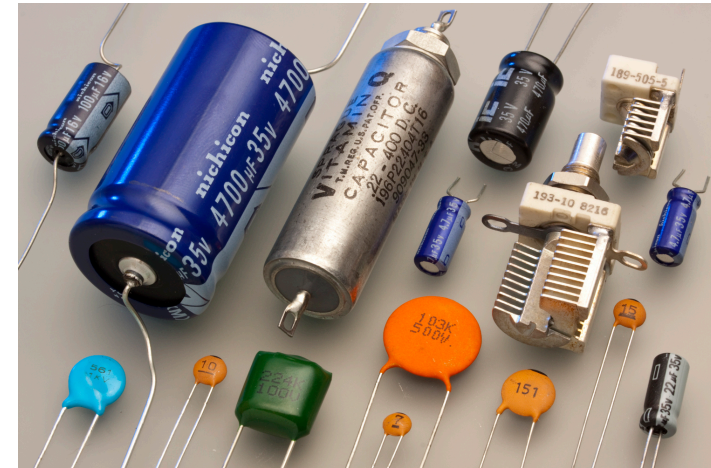


ELETTROTECNICA CIRCUITALE

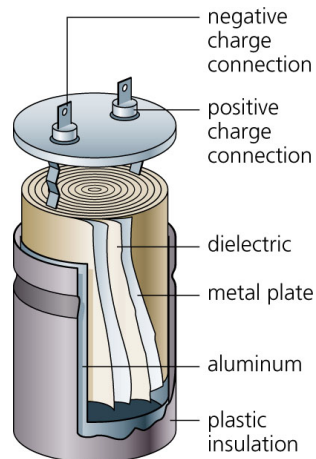
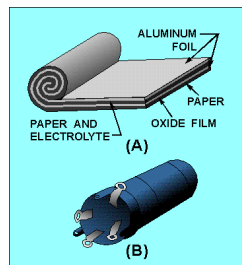
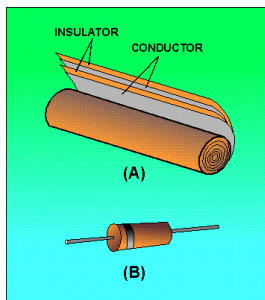
M. GUARNIERI

BIPOLI DINAMICI DOPPI BIPOLI DINAMICI cap. 12-13

CONDENSATORI DIELETTRICI

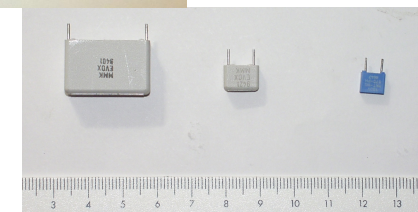
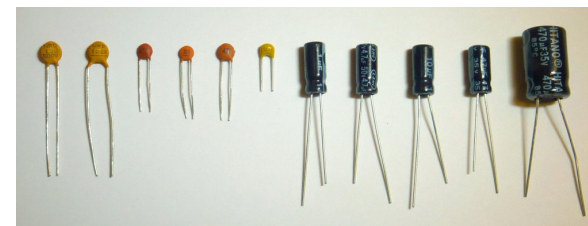


CONDENSATORI DIELETTRICI



CONDENSATORI

Condensatori dielettrici per tensioni di alcuni volt, adatti ad applicazioni di segnale (pF– μ F)



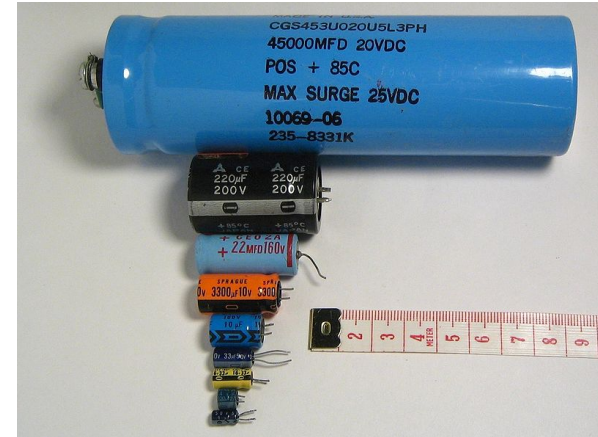
CONDENSATORI

Condensatori dielettrici per condensatori per tensioni di centinaia e migliaia di volt, idonei ad applicazioni di potenza (pF– μ F)



CONDENSATORI

Condensatori elettrolitici 10^0 – 10^2 V. Le capacità sono dell'ordine di 10^{-6} – 10^0 F



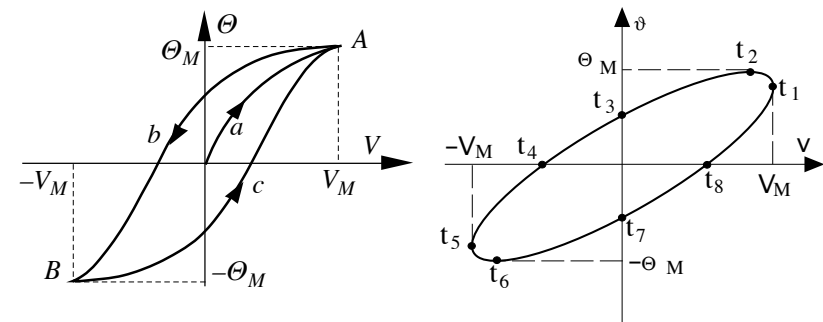
CONDENSATORI

Supercondensatori da 10^0 – 10^1 V. Le capacità sono dell'ordine di 10^2 – 10^3 F

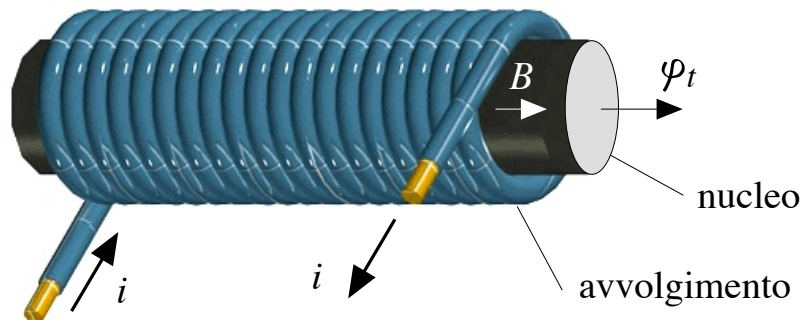


CONDENSATORI

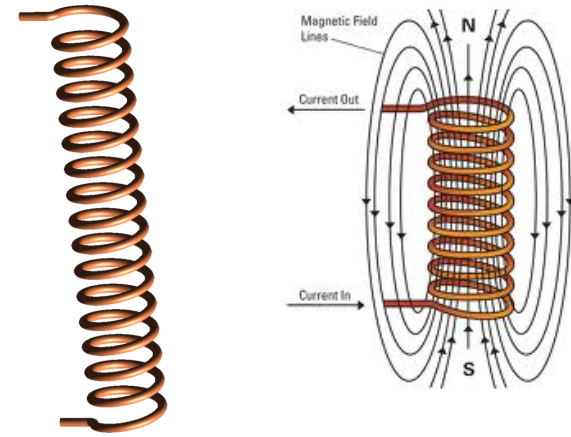
COMPORAMENTI ISTERETICI E DISSIPATIVI



AVVOLGIMENTI INDUTTORI

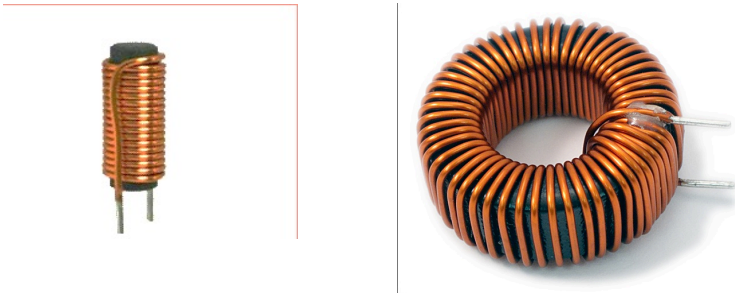


AVVOLGIMENTI INDUTTORI



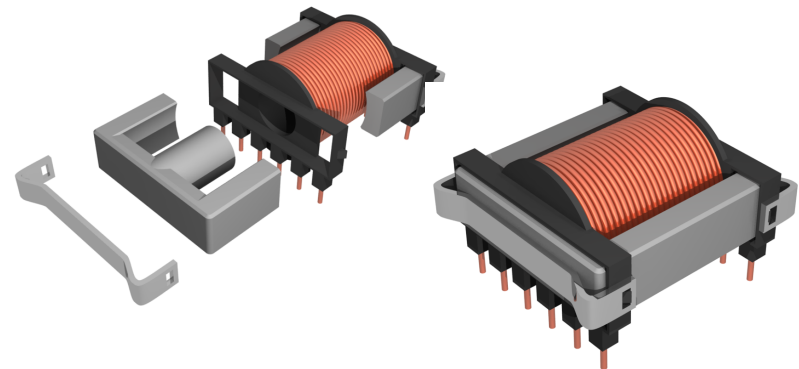
INDUTTORI

Avvolgimenti induttori solenoidale e toroidale per correnti di 10^0-10^1 A ed induttanze di frazioni di mH



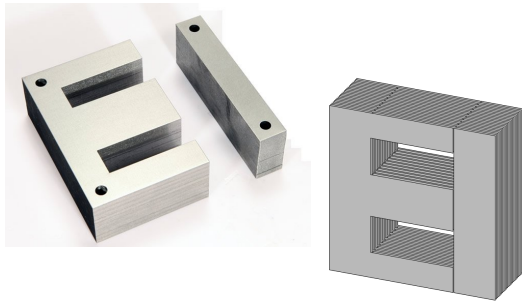
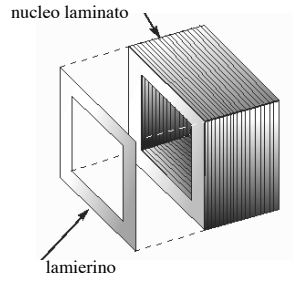
INDUTTORI

Avvolgimenti induttori solenoidali con nucleo a mantello



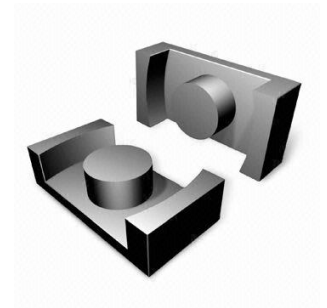
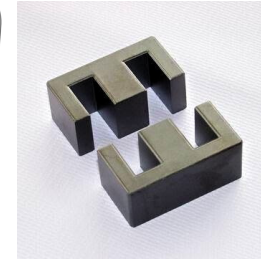
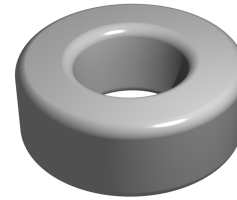
INDUTTORI

Nuclei magnetici



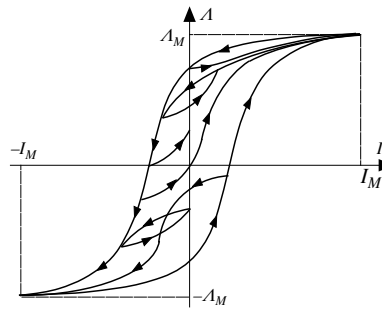
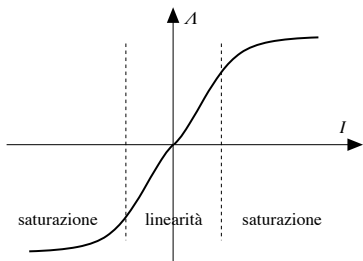
INDUTTORI

Nuclei magnetici



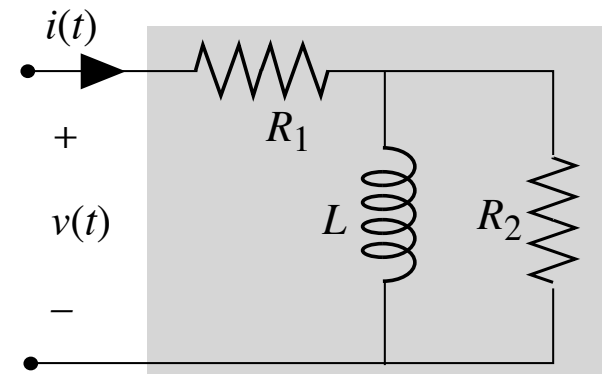
INDUTTORI

Nuclei magnetici



INDUTTORI

Isteresi del nucleo

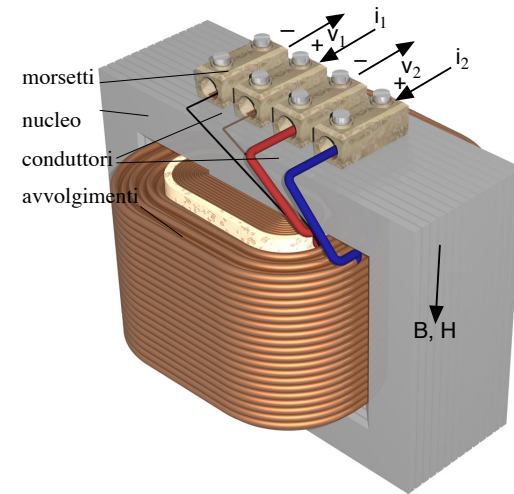


TRASFORMATORE A INDUZIONE

mutuo induttore costruito in modo da approssimare il trasformatore ideale

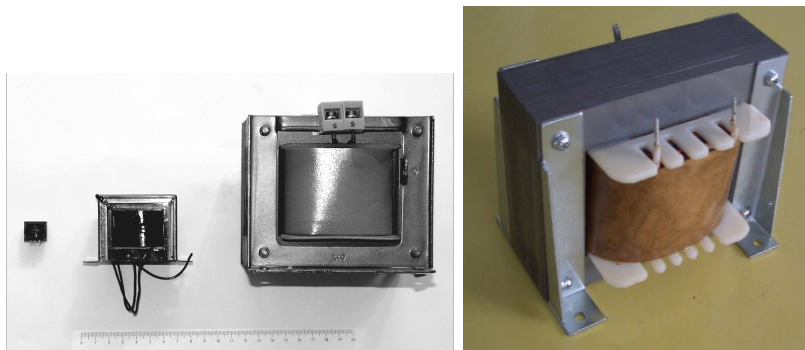


TRASFORMATORE A INDUZIONE



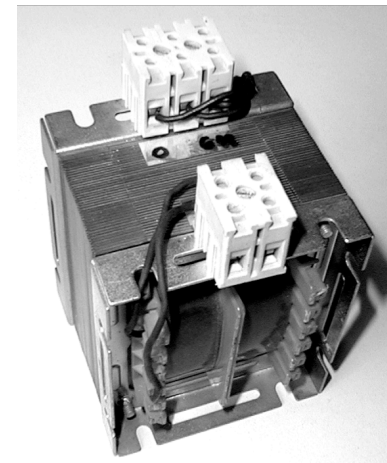
TRASFORMATORE A INDUZIONE

piccola potenza: 10^0 – 10^2 W



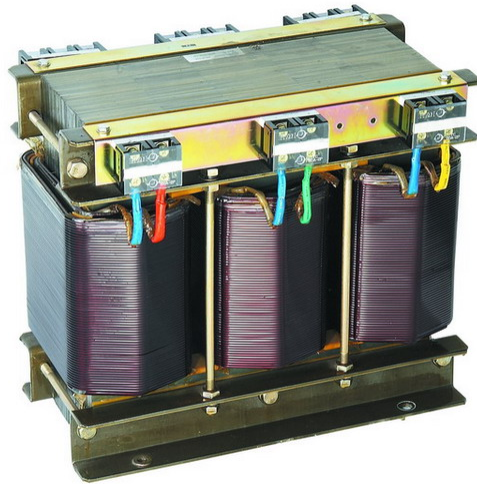
TRASFORMATORE A INDUZIONE

medio-piccola potenza: 10^3 W



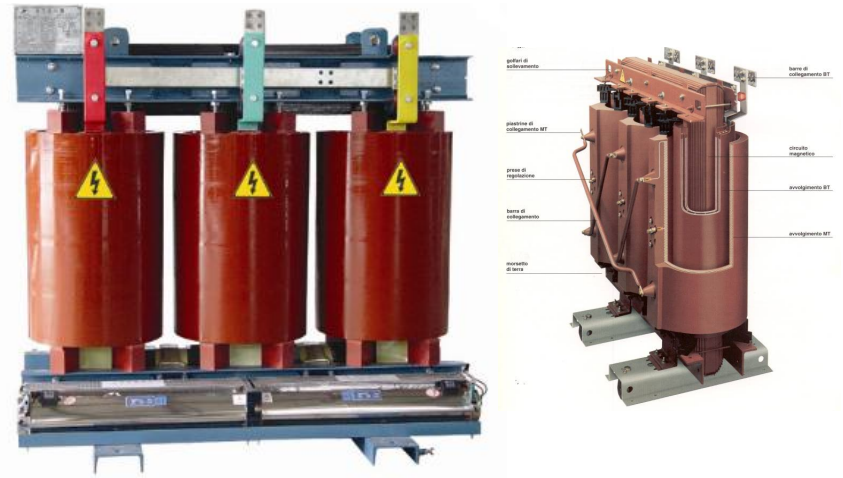
MUTUI INDUTTORI

trifase: 10^3 W



MUTUI INDUTTORI

trifase: 10^4 W



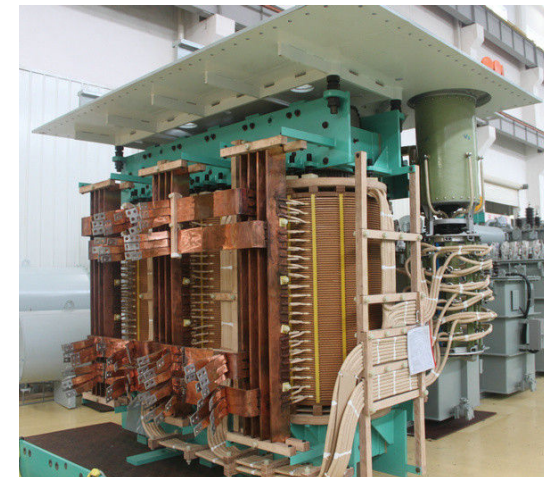
MUTUI INDUTTORI

trifase: 10^5 W



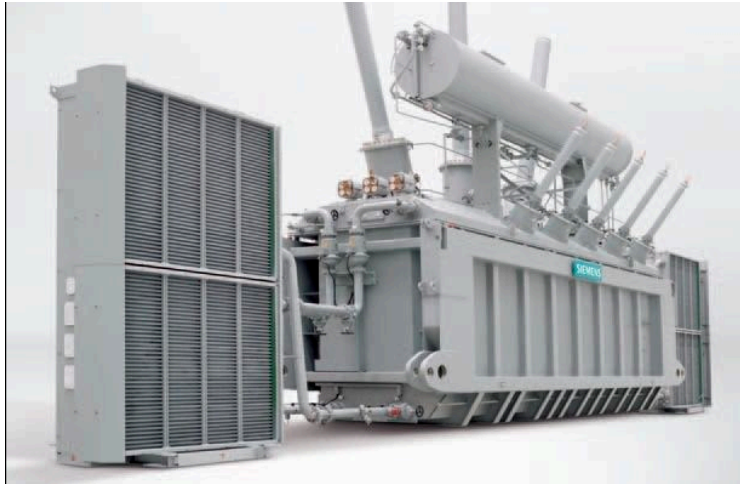
MUTUI INDUTTORI

trifase: 10^6 W



MUTUI INDUTTORI

trifase: 10⁶ W



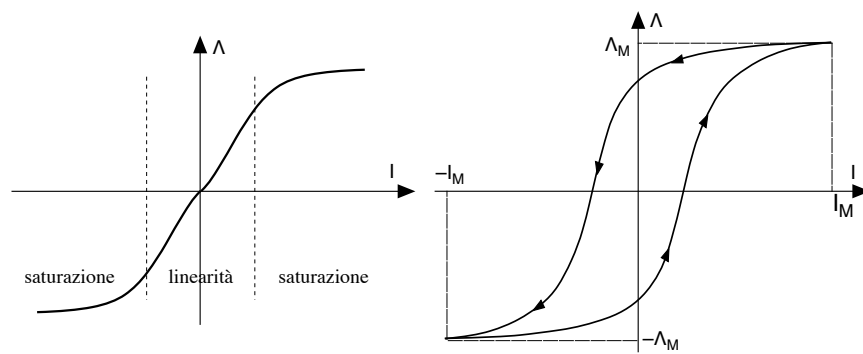
MUTUI INDUTTORI

trifase: 10⁶ W



TRASFORMATORE A INDUZIONE

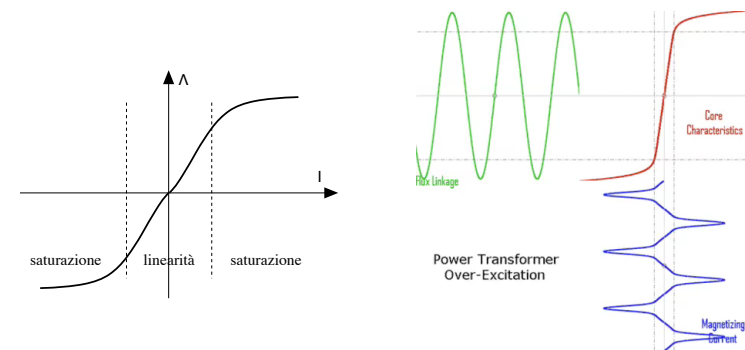
non linearità ed isteresi



$$P_{ist} = \eta f B_M^{1.6-2}$$

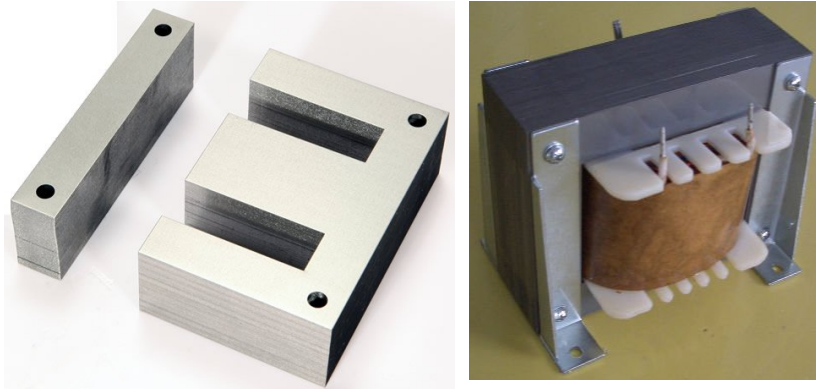
TRASFORMATORE A INDUZIONE

non linearità ed isteresi



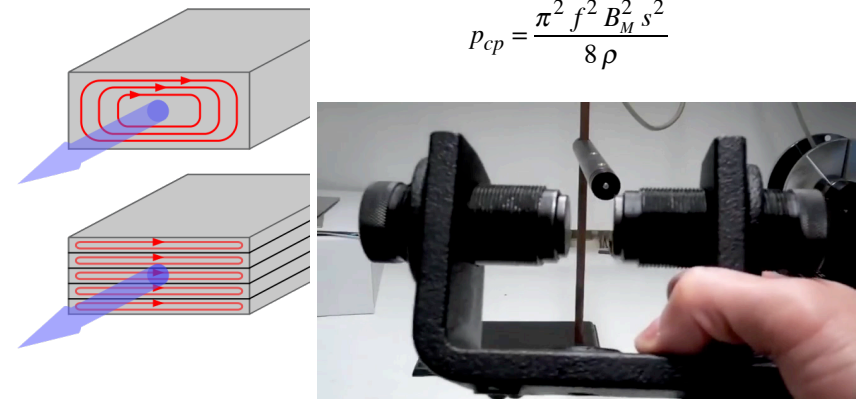
TRASFORMATORE A INDUZIONE

nucleo a lamierini per piccolo trasformatore – correnti parassite



TRASFORMATORE A INDUZIONE

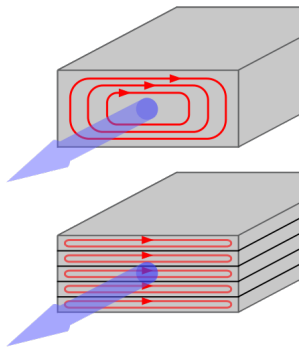
nucleo a lamierini per piccolo trasformatore – correnti parassite



$$P_{cp} = \frac{\pi^2 f^2 B_M^2 s^2}{8 \rho}$$

TRASFORMATORE A INDUZIONE

nucleo a lamierini per piccolo trasformatore – correnti parassite



$$P_{cp} = \frac{\pi^2 f^2 B_M^2 s^2}{8 \rho}$$

+

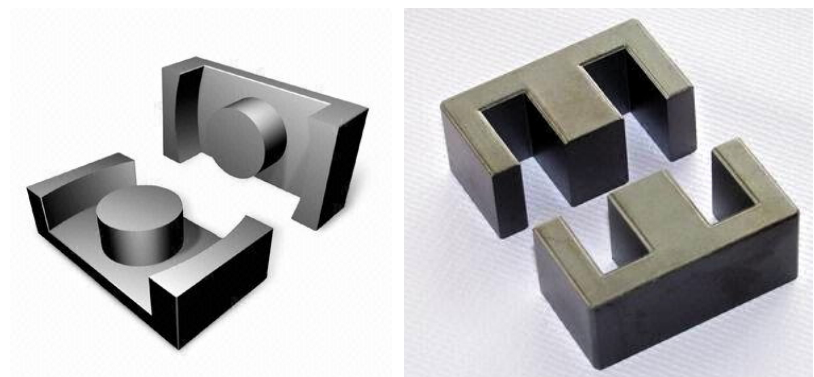
$$P_{ist} = \eta f B_M^{1,6-2}$$

=

$$P_t = \eta f B_M^{1,6+2} + \beta f^2 B_M^2 s^2$$

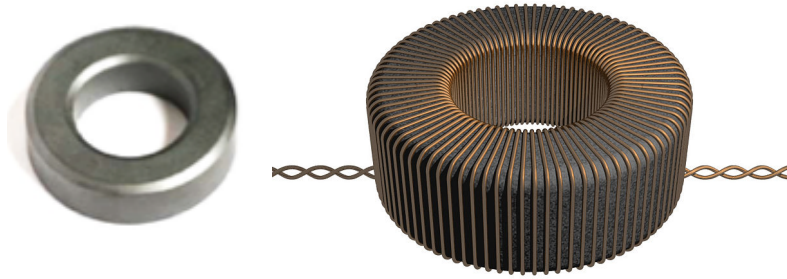
TRASFORMATORE A INDUZIONE

nuclei in ferrite per piccoli trasformatori



TRASFORMATORE A INDUZIONE

trasformatore toroidale (audio)



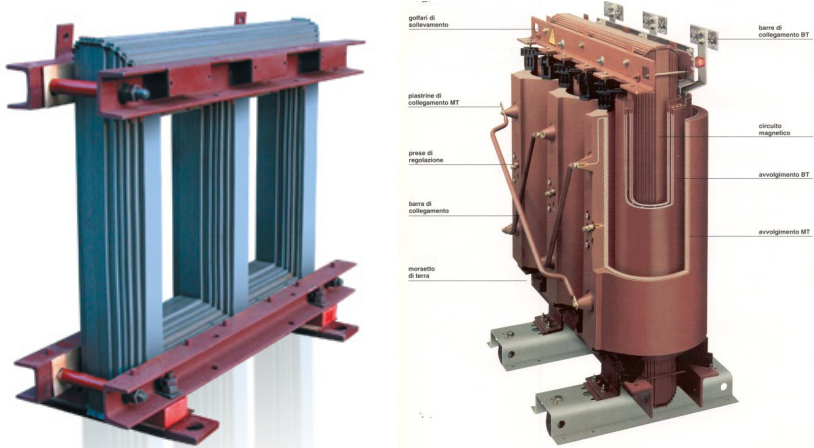
TRASFORMATORE A INDUZIONE

piccoli trasformatori



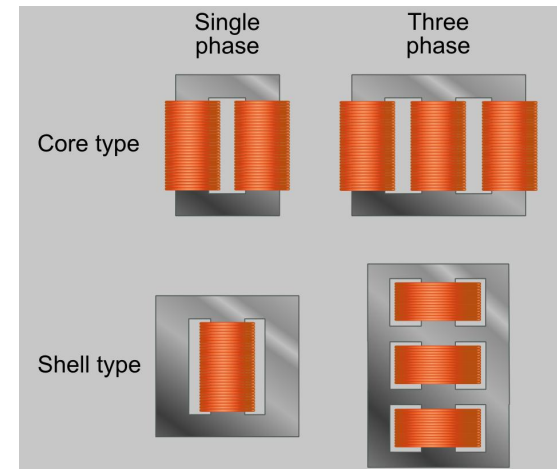
TRASFORMATORE A INDUZIONE

nucleo per trasformatore trifase



TRASFORMATORE A INDUZIONE

nucleo per trasformatore trifase



TRASFORMATORE A INDUZIONE

trasformatore trifase aperto



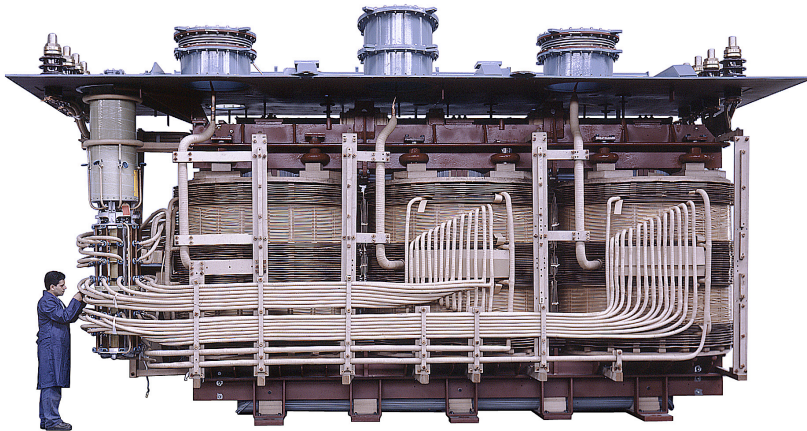
TRASFORMATORE A INDUZIONE

fasi di costruzione



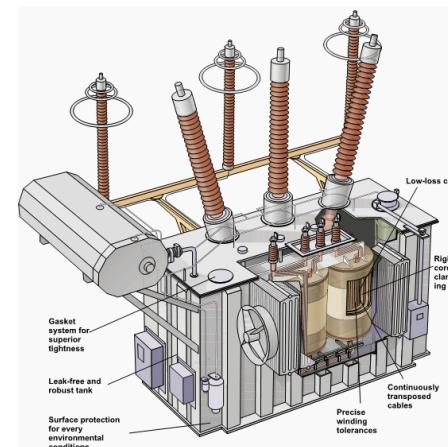
TRASFORMATORE A INDUZIONE

fasi di costruzione



TRASFORMATORE A INDUZIONE

trasformatore trifase sezionato



TRASFORMATORE DI CORRENTE

per misure di corrente



TRASFORMATORI PER SALE PROVE

800 kV



TRASFORMATORI DA LAB. A TENSIONE

SECONDARIA VARIABLE

