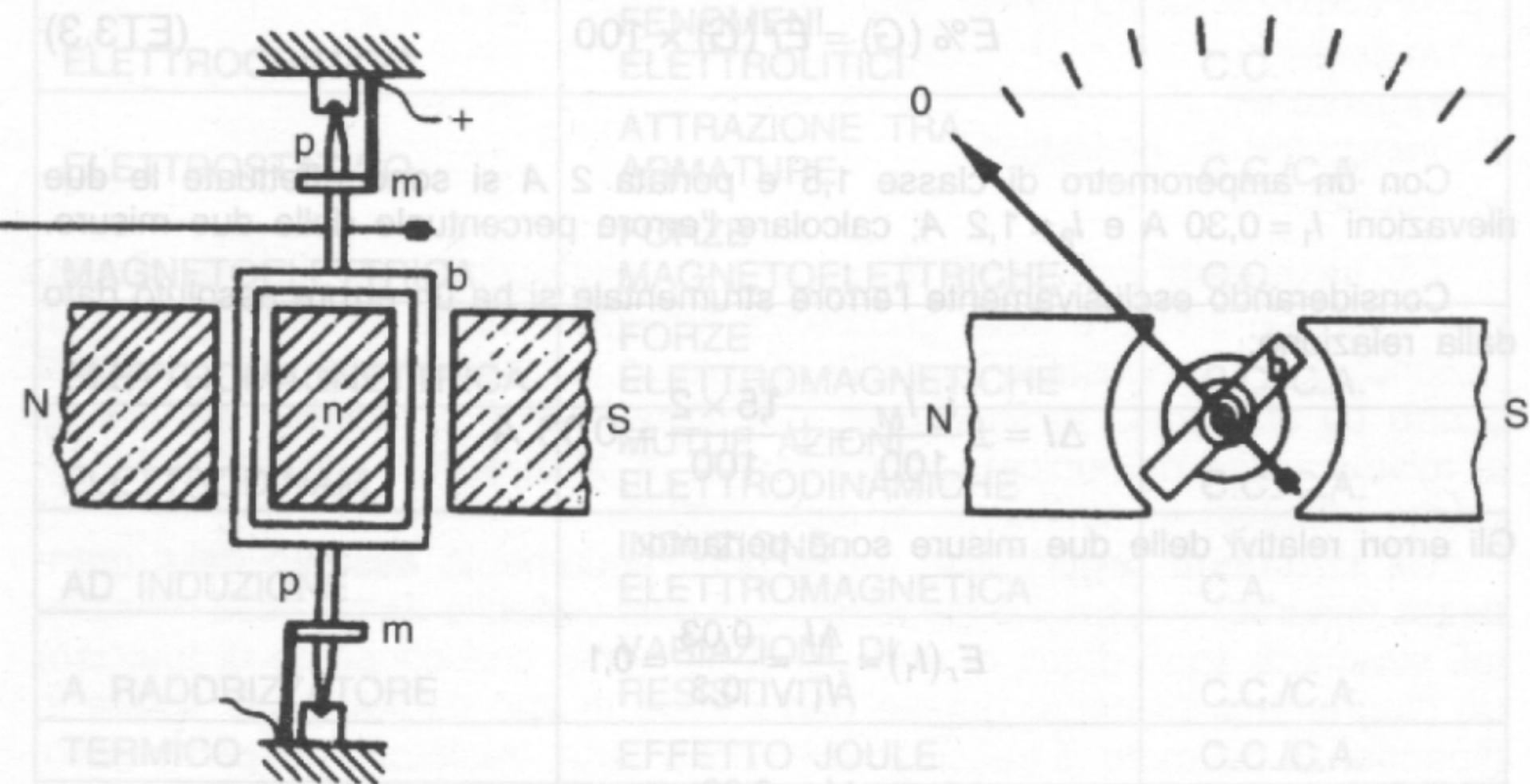


GRANDEZZA MISURABILE	STRUMENTO
INTENSITÀ DI CORRENTE	AMPEROMETRO
D.D.P. (TENSIONE)	VOLTMETRO
RESISTENZA	OHMETRO
POTENZA	WATTMETRO
POTENZA REATTIVA	VARMETRO
FATTORE DI POTENZA	COSFIMETRO
FREQUENZA	FREQUENZIMETRO
ENERGIA	CONTATORE
CAPACITÀ	CAPACIMETRO
INDUTTANZA	INDUTTOMETRO

TIPO DI STRUMENTO	PRINCIPIO DI FUNZIONAMENTO	TIPO DI CORRENTE
ELETTROCHIMICO	FENOMENI ELETROLITICI	C.C.
ELETTROSTATICO	ATTRAZIONE TRA ARMATURE	C.C./C.A.
MAGNETOELETTRICA	FORZE MAGNETOELETTRICHE	C.C.
ELETTROMAGNETTRICA	FORZE ELETTRROMAGNETICHE	C.C./C.A.
ELETTRODINAM.	MUTUE AZIONI ELETTRODINAMICHE	C.C./C.A.
AD INDUZIONE	INDUZIONE ELETTRROMAGNETICA	C.A.
A RADDRIZZATORE	VARIAZIONI DI RESISTIVITÀ	C.C./C.A.
TERMICO	EFFETTO JOULE	C.C./C.A.
A LAMELLE	VIBRAZIONI DI LAMELLE	C.A.
OSCILLOSCOPIO	EFFETTO TERMOIONICO	C.C./C.A.



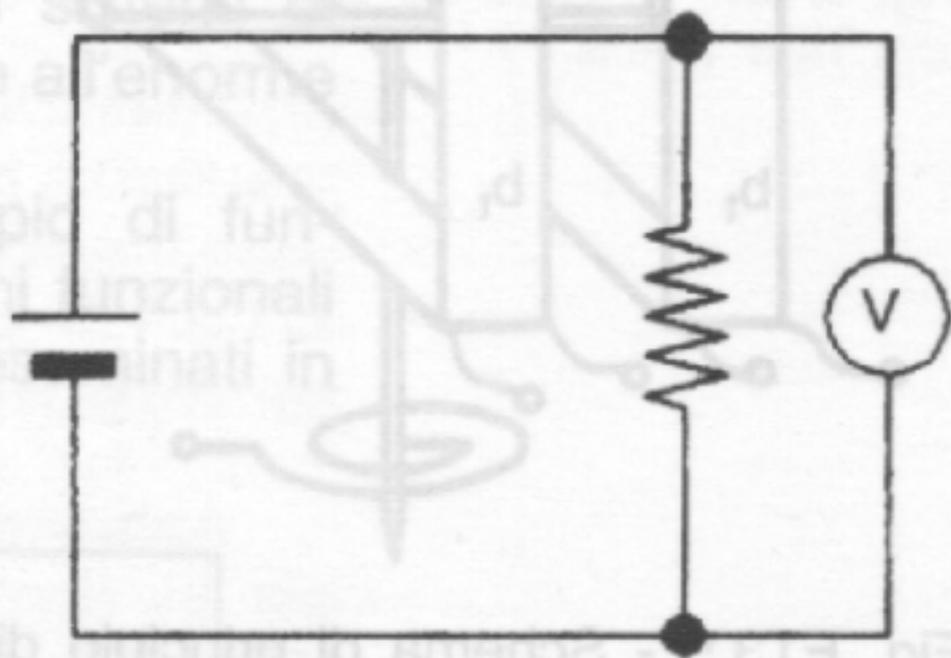
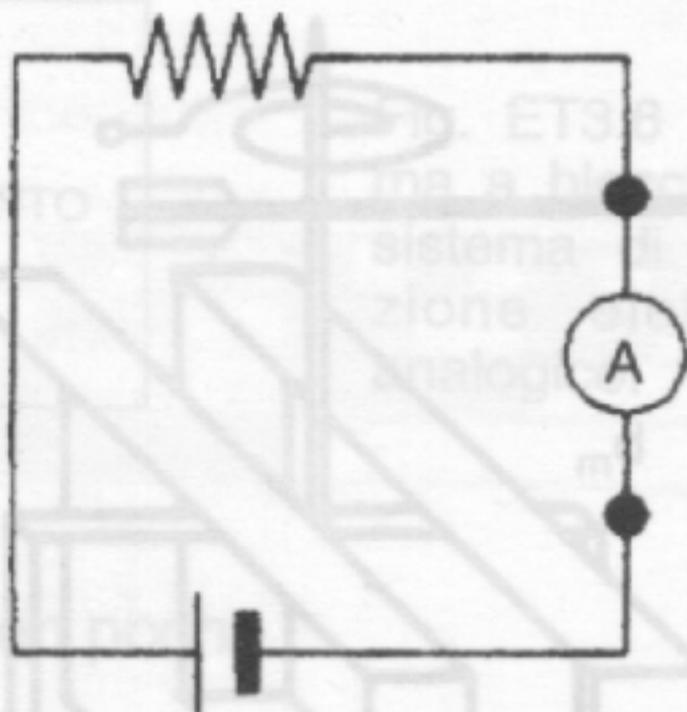
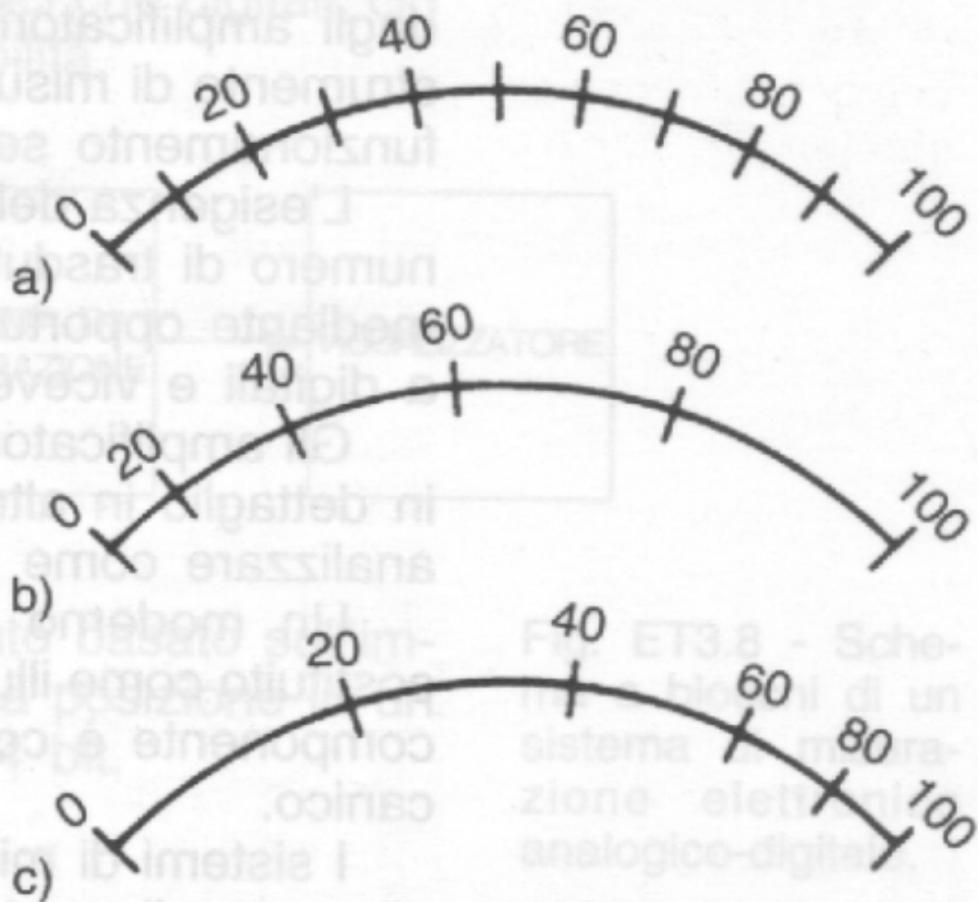
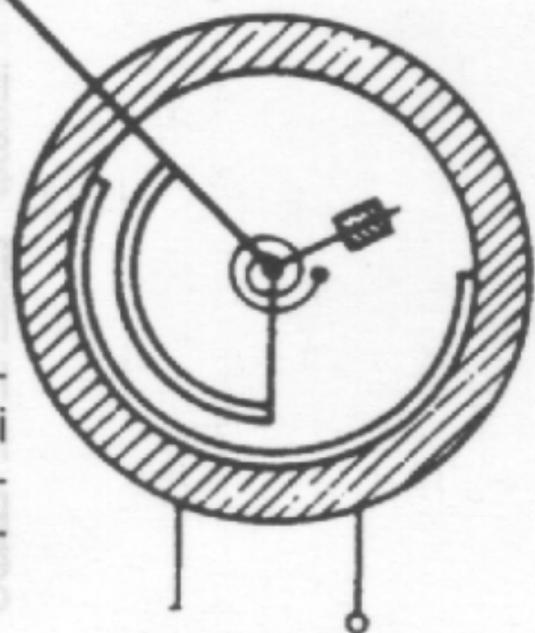
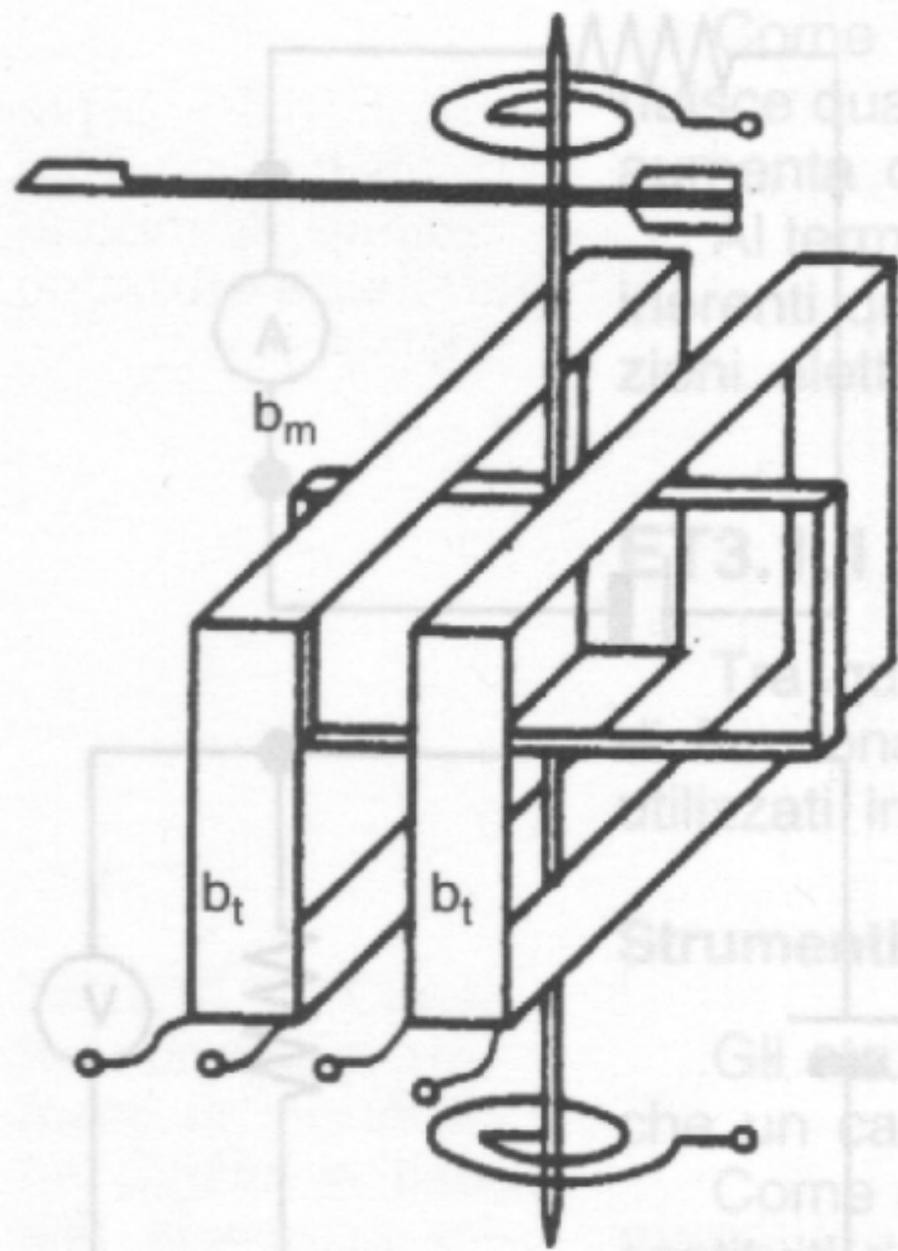


Fig. E1.3.3 - schemi di principio di

Fig. ET3.3 - Schema di principio di uno strumento elettromagnetico a ferro mobile.





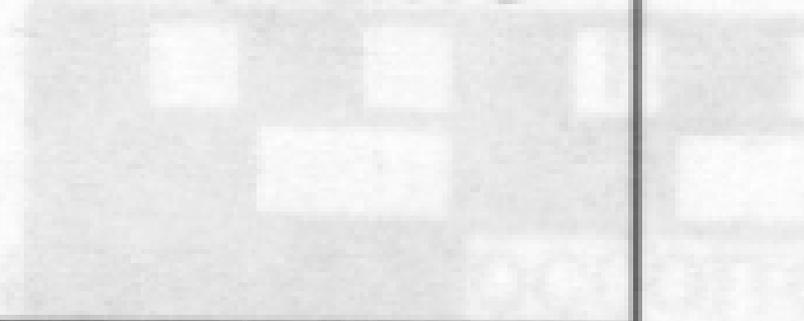
GRANDEZZA

FISICA

TRASDUTTORE

AMPLIFICATORE

STRUMENTO



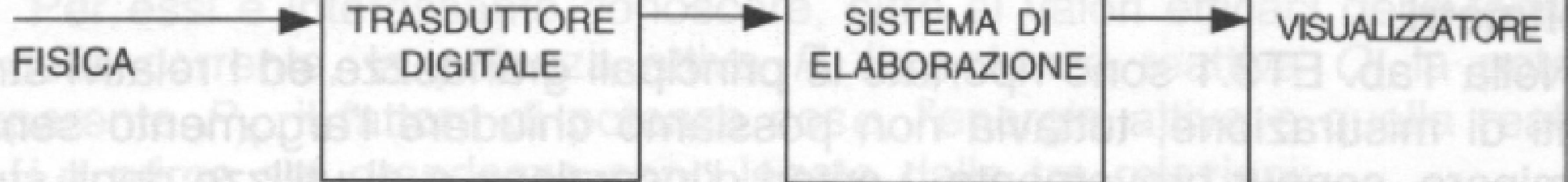
GRANDEZZA

FISICA

**TRASDUTTORE
DIGITALE**

**SISTEMA DI
ELABORAZIONE**

VISUALIZZATORE



GRANDEZZA
FISICA



```
graph LR; A[GRANDEZZA FISICA] --> B[TRASDUTTORE DIGITALE]; B --> C[CONVERTITTORE ANALOGICO DIGITALE]; C --> D[SISTEMA DI ELABORAZIONE]; D --> E[VISUALIZZATORE];
```

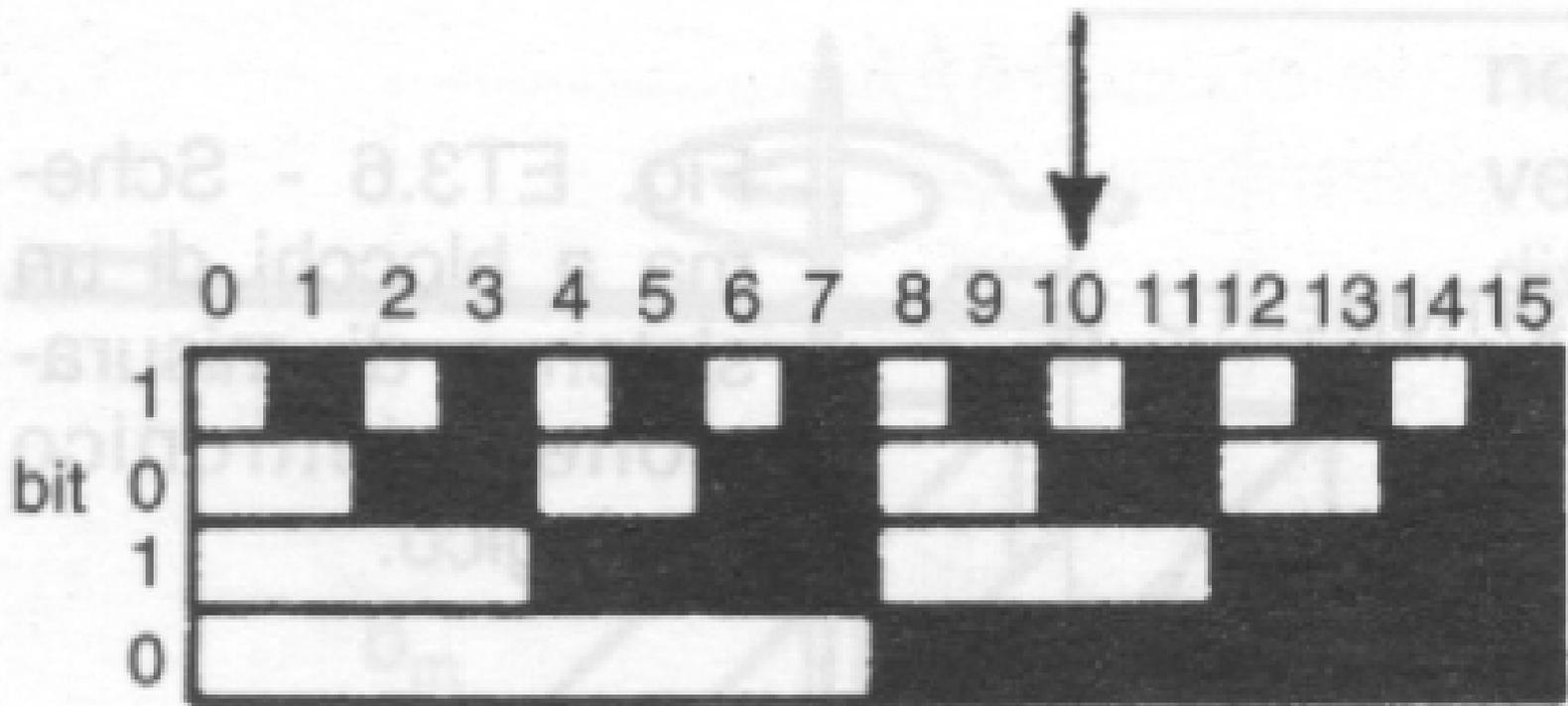
The diagram illustrates a four-stage process for digital measurement. It begins with a physical quantity (GRANDEZZA FISICA) being input into a digital transducer (TRASDUTTORE DIGITALE). This is followed by an analog-to-digital converter (CONVERTITTORE ANALOGICO DIGITALE), which then feeds into a processing system (SISTEMA DI ELABORAZIONE). Finally, the processed data is sent to a display (VISUALIZZATORE). The entire process is shown as a linear sequence of four rectangular blocks connected by arrows pointing from left to right.

**TRASDUTTORE
DIGITALE**

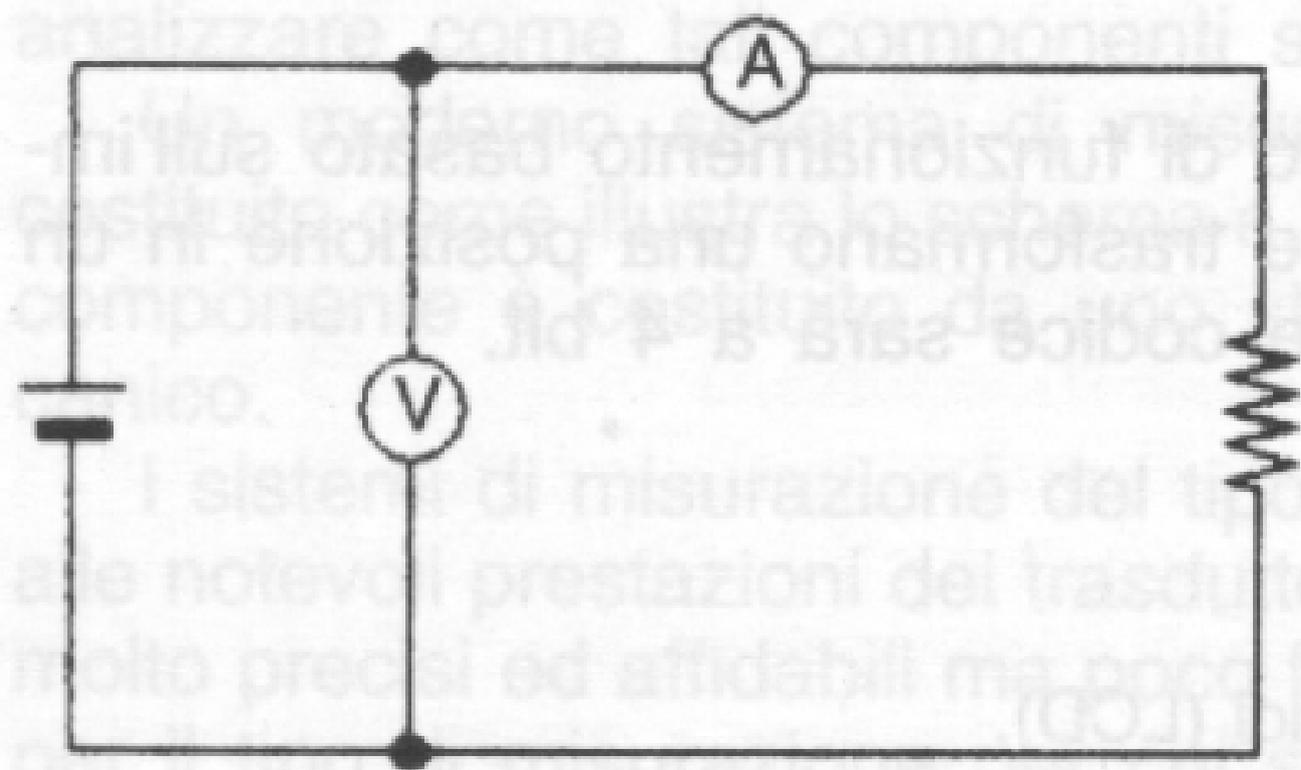
**CONVERTITTORE
ANALOGICO
DIGITALE**

**SISTEMA DI
ELABORAZIONE**

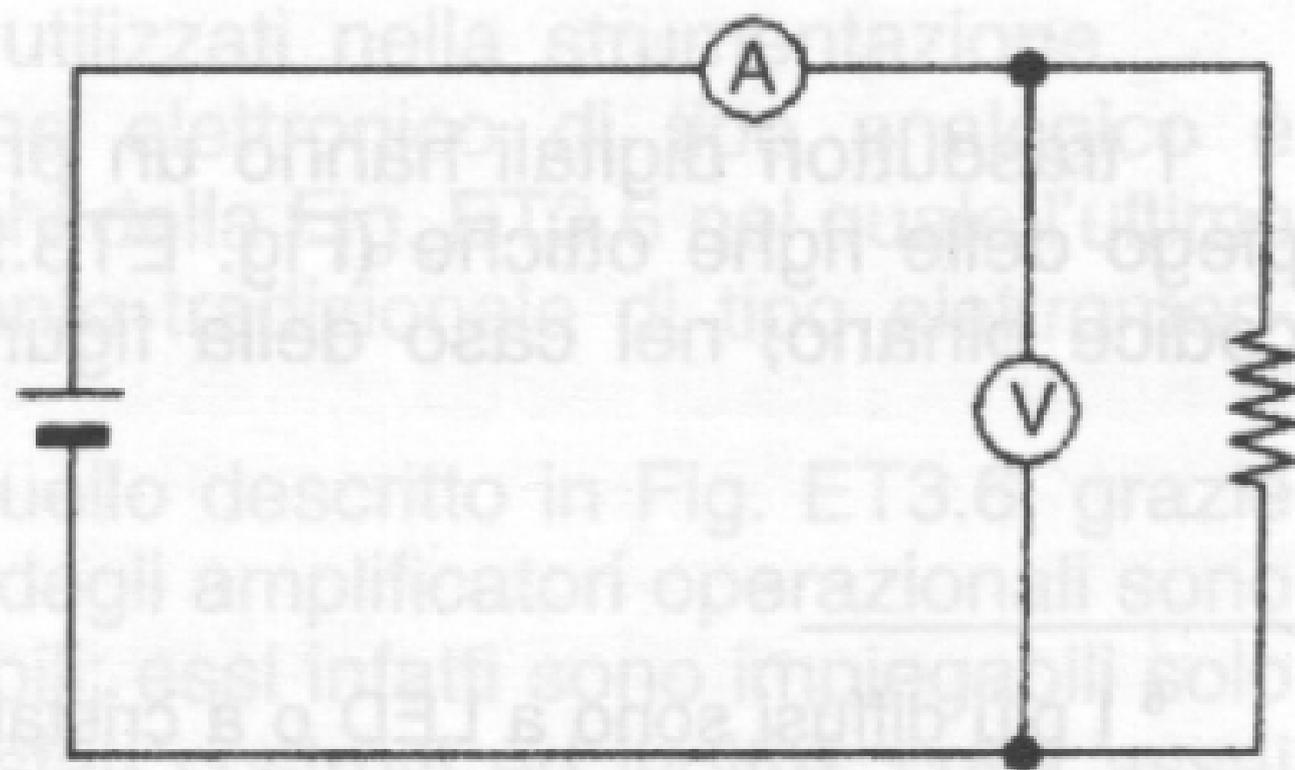
VISUALIZZATORE

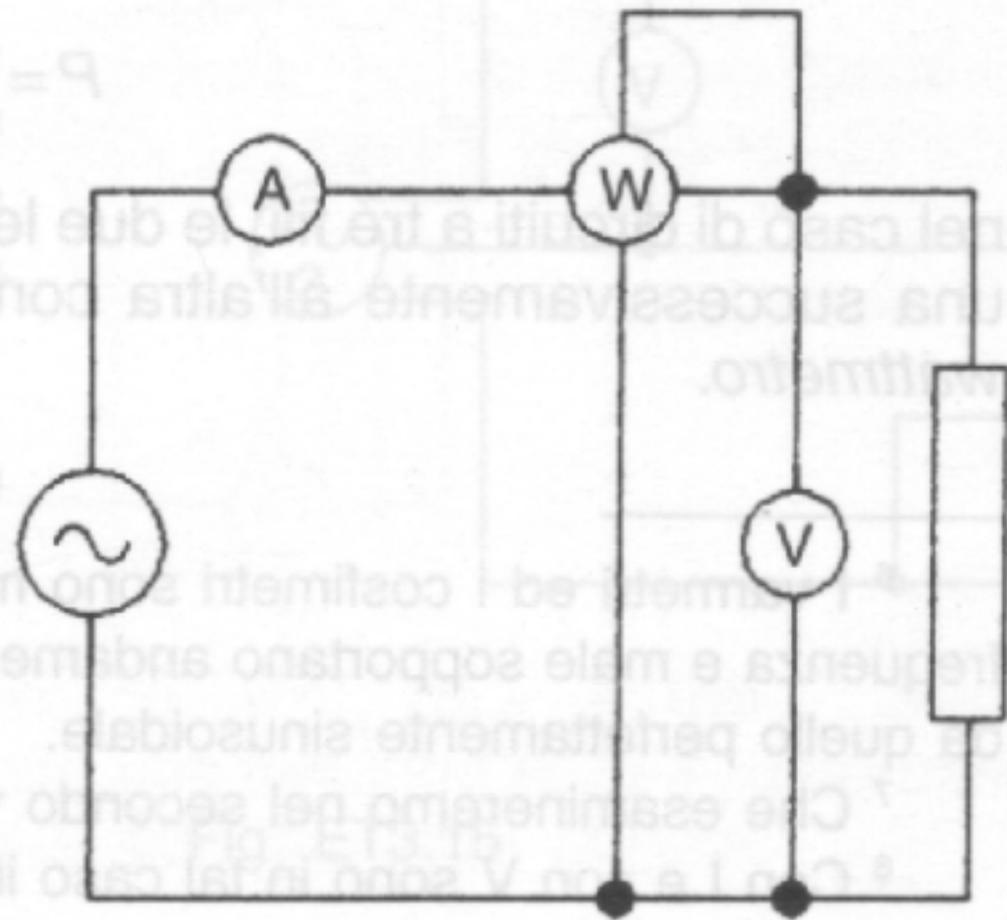
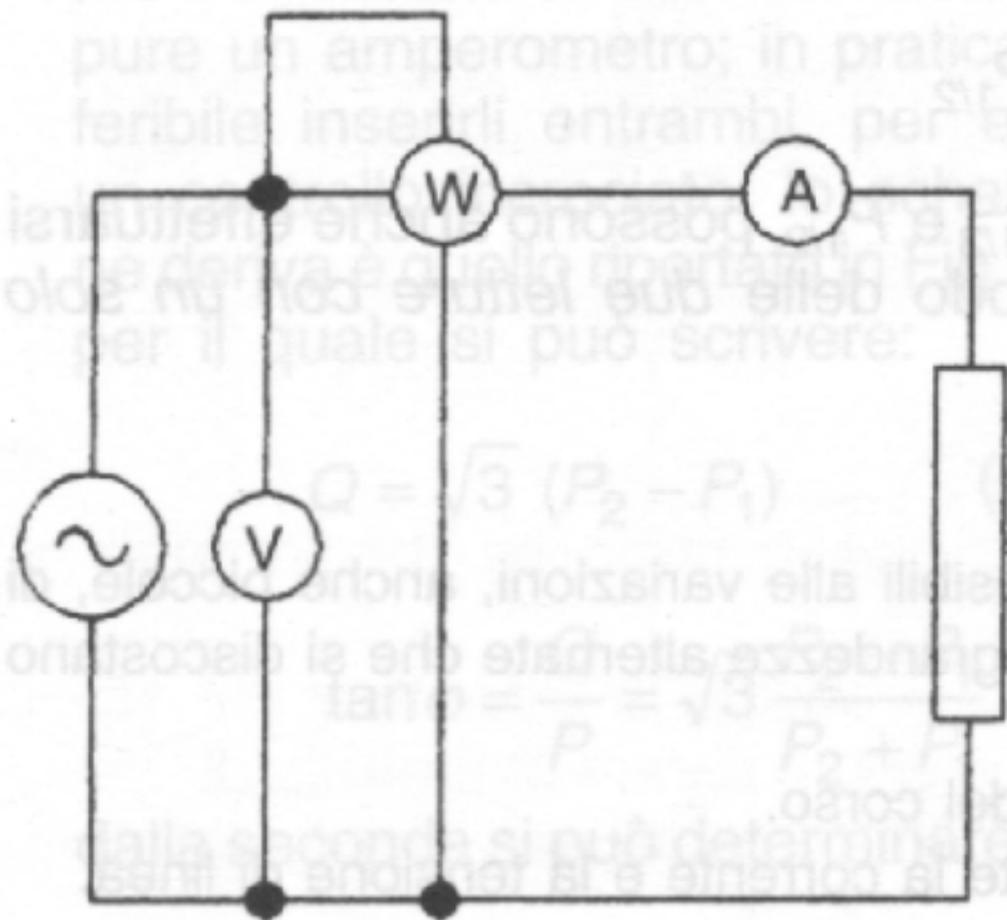


(A)



(B)





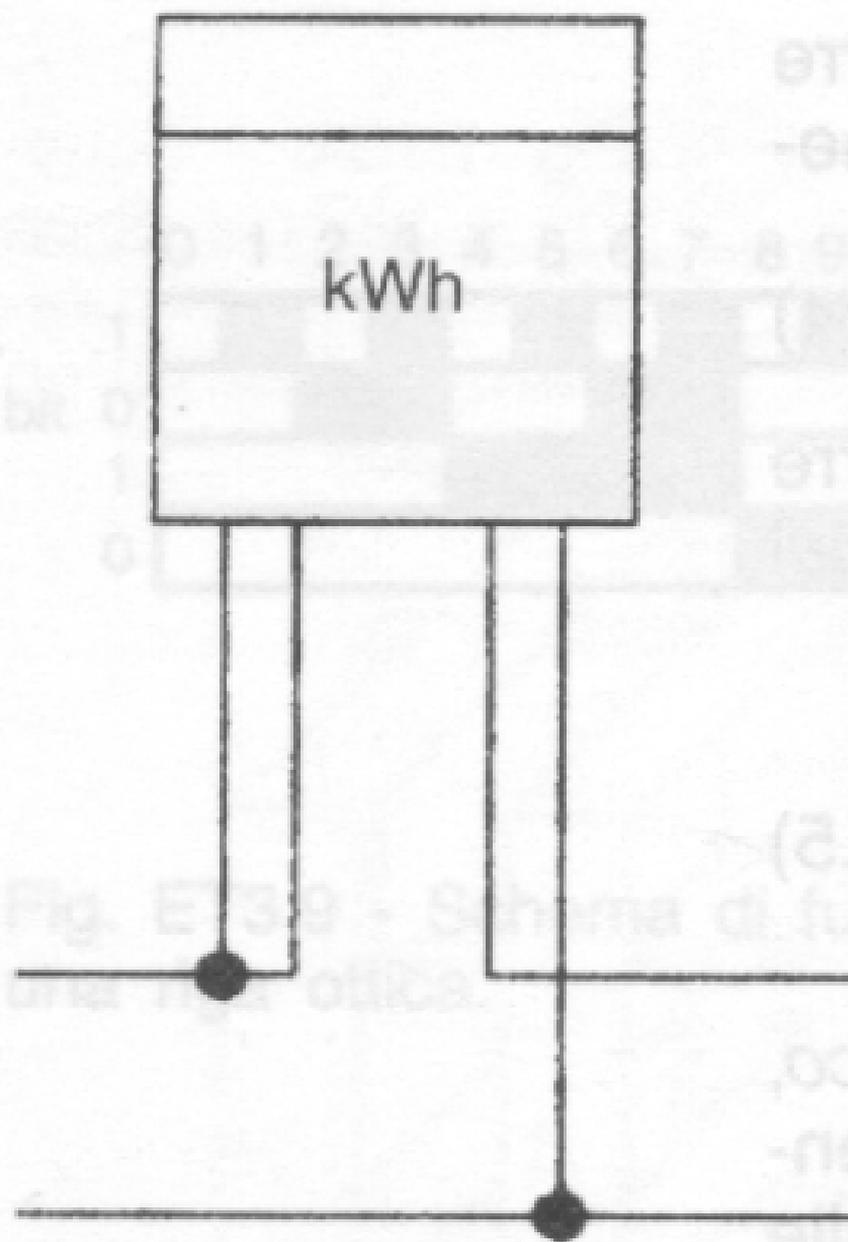
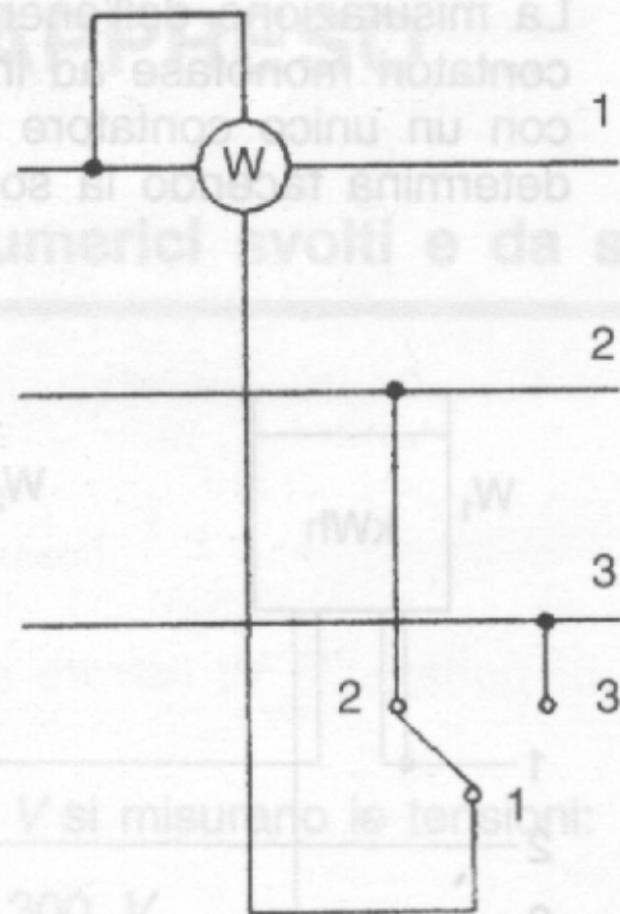
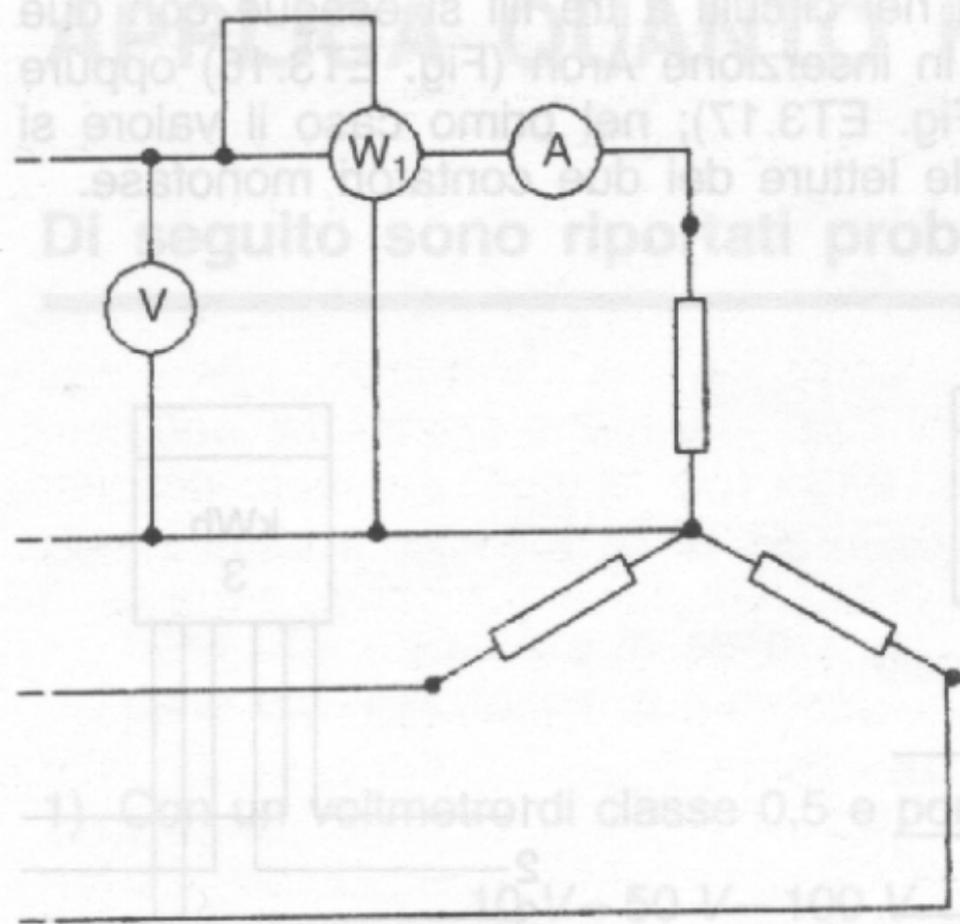


Fig. ET3.12 - Intersezione del contatore ad induzione.



1) Con un voltmetro di classe 0,5 e portata 300 V si misurano le tensioni:

$$U_{12} = 200 \text{ V} \quad U_{23} = 200 \text{ V} \quad U_{31} = 200 \text{ V}$$

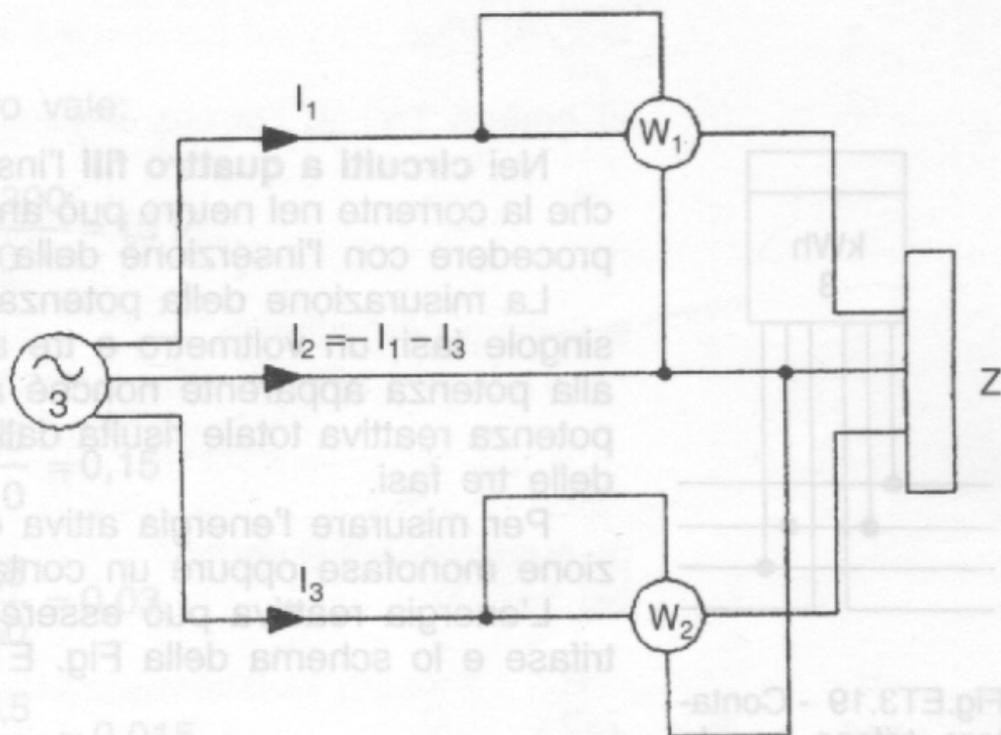
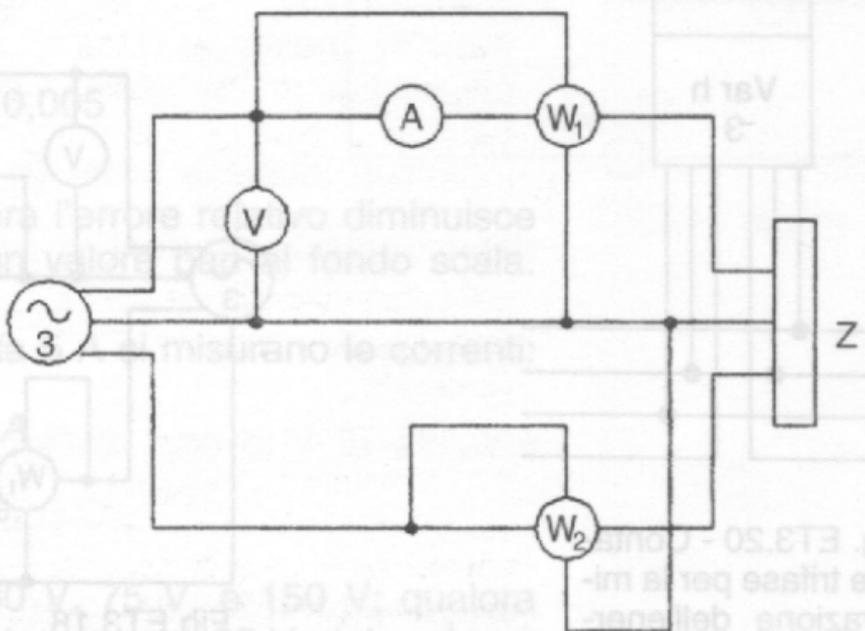


Fig. ET3.14 - Inserzione ARON di due wattmetri.



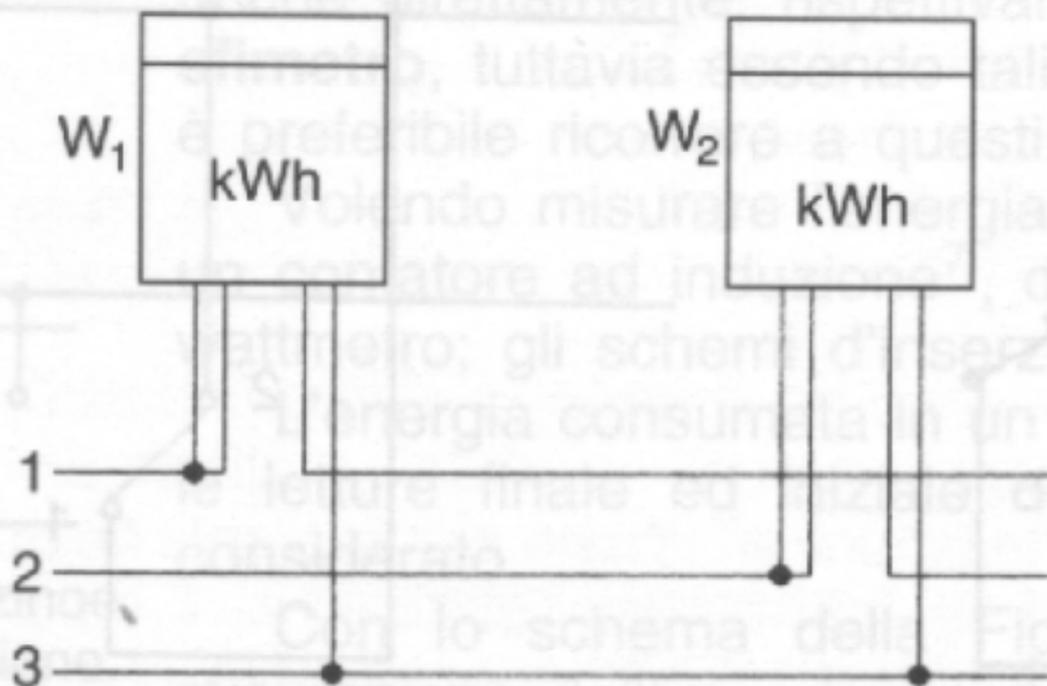


Fig.ET3.16 - Contatori in inserzione ARON.

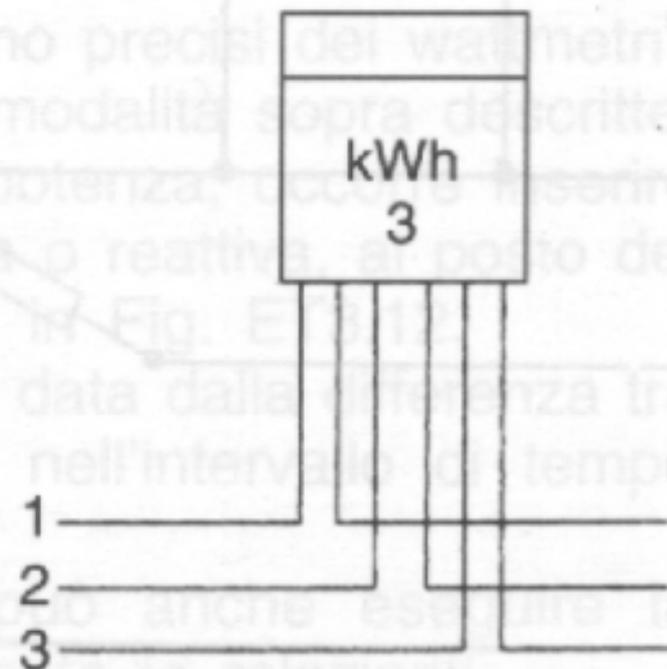


Fig.ET3.17 - Contatore trifase.

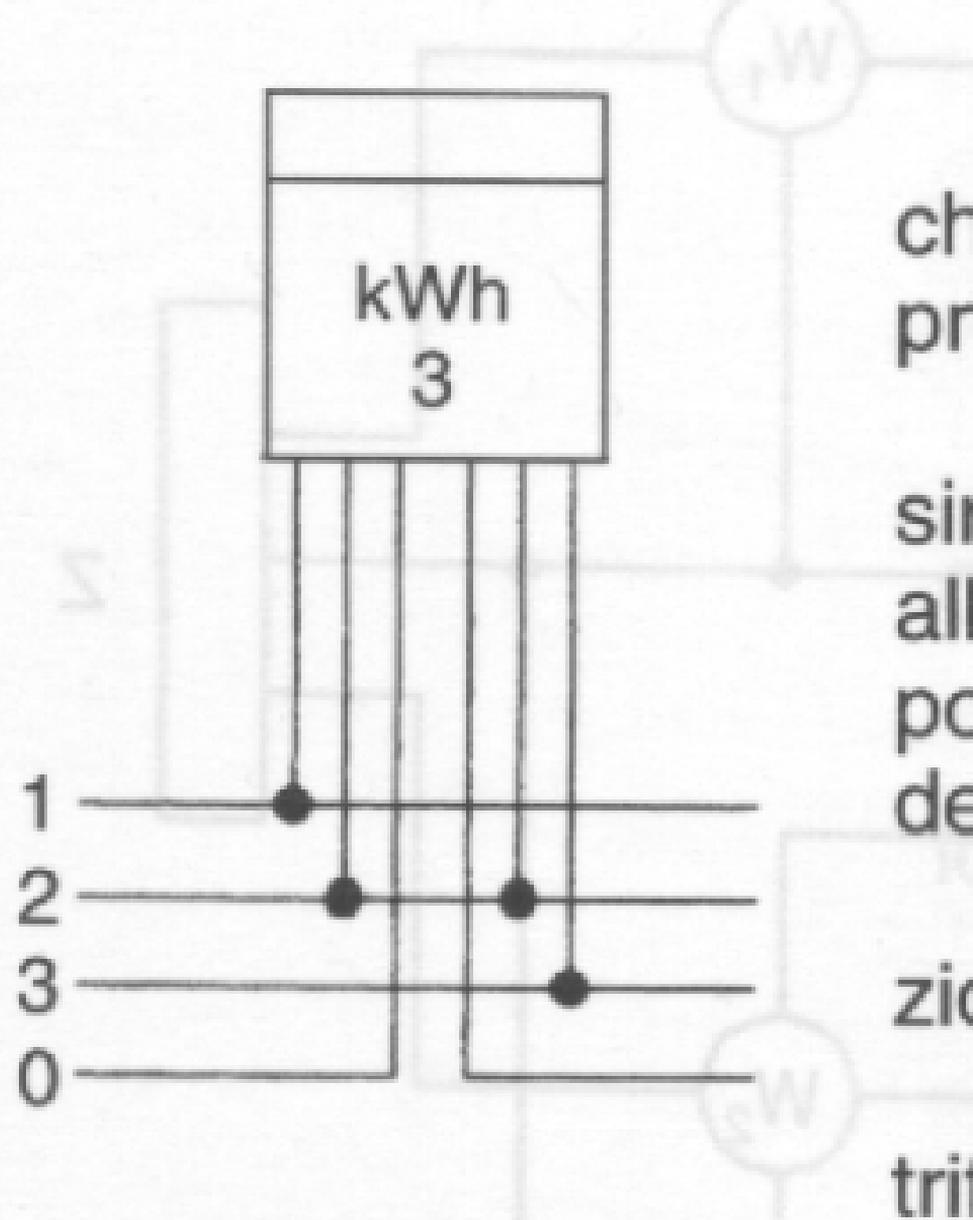


Fig.ET3.19 - Contatore trifase per la misurazione dell'energia attiva.

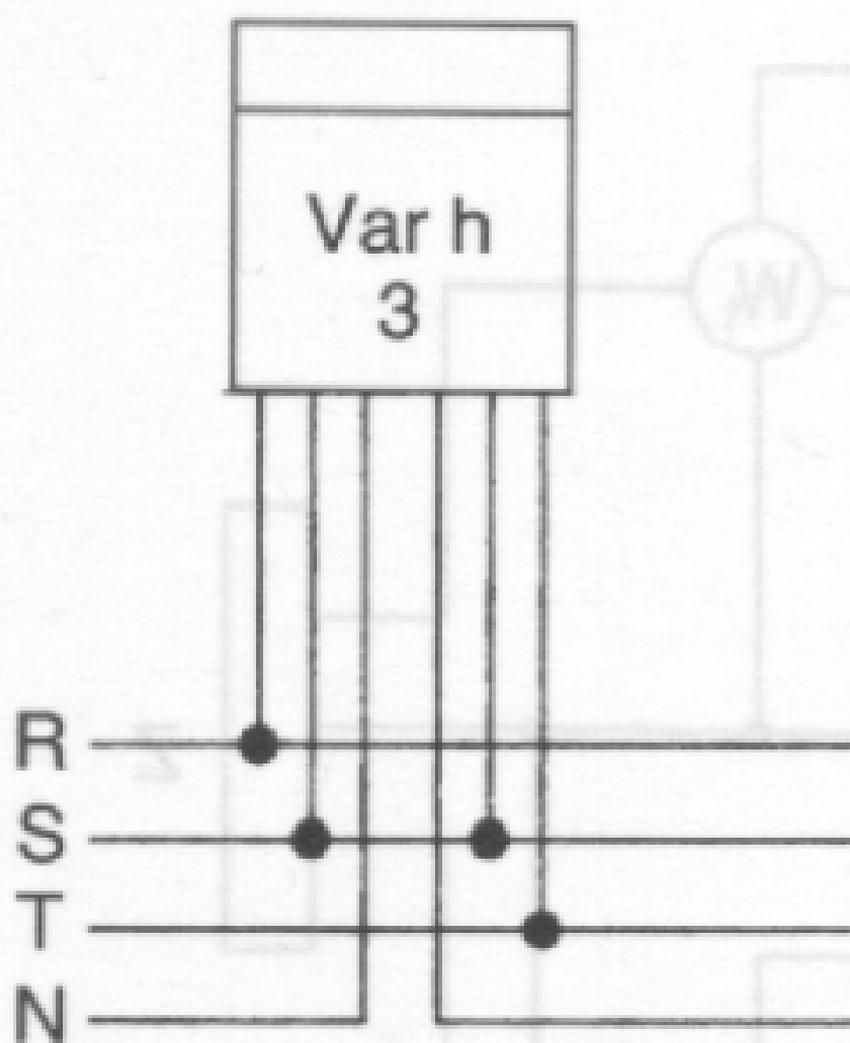


Fig. ET3.20 - Contatore trifase per la misurazione dell'energia reattiva.

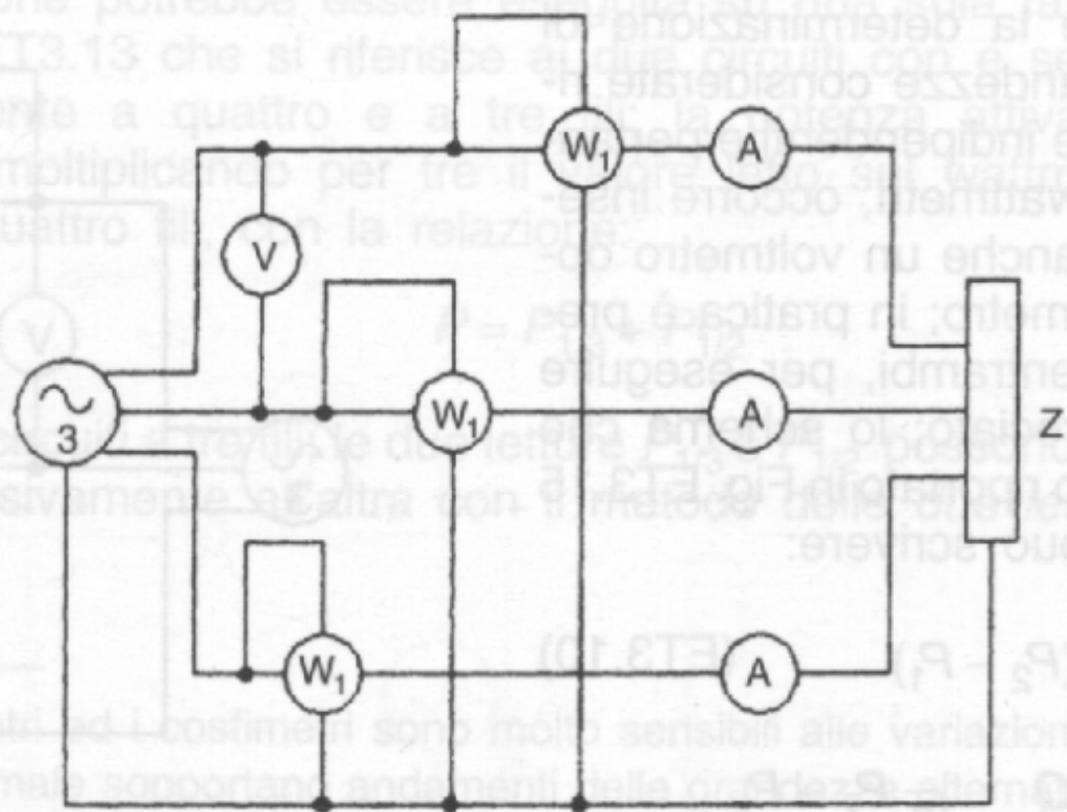


Fig.ET3.18

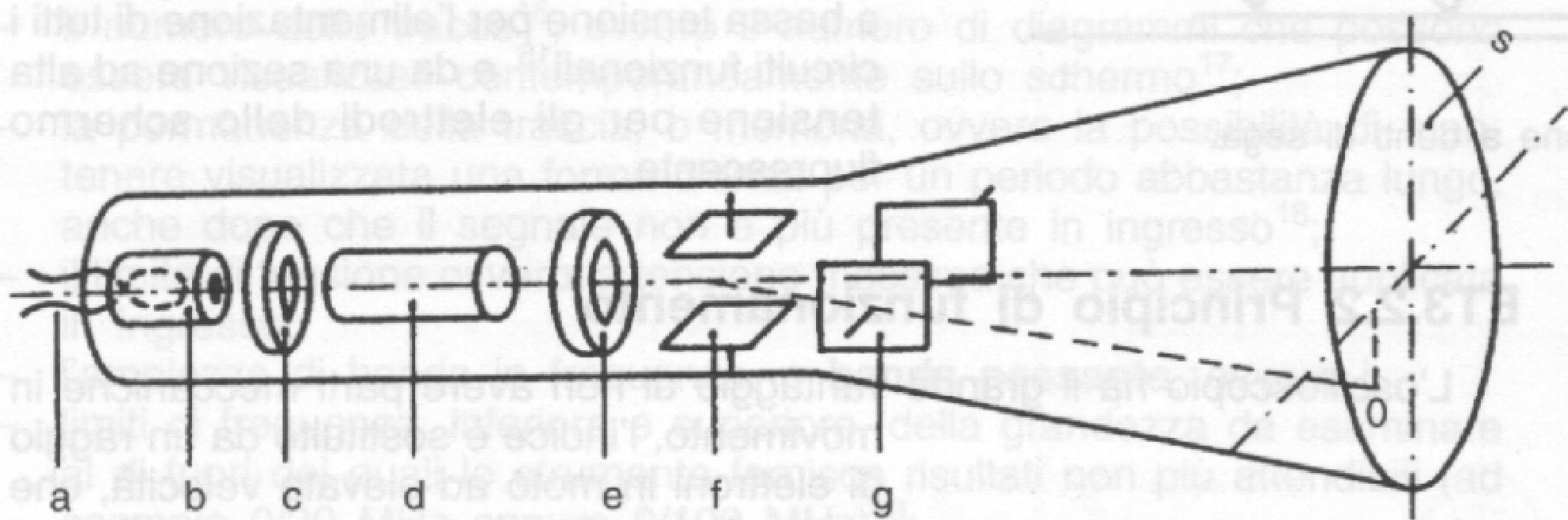
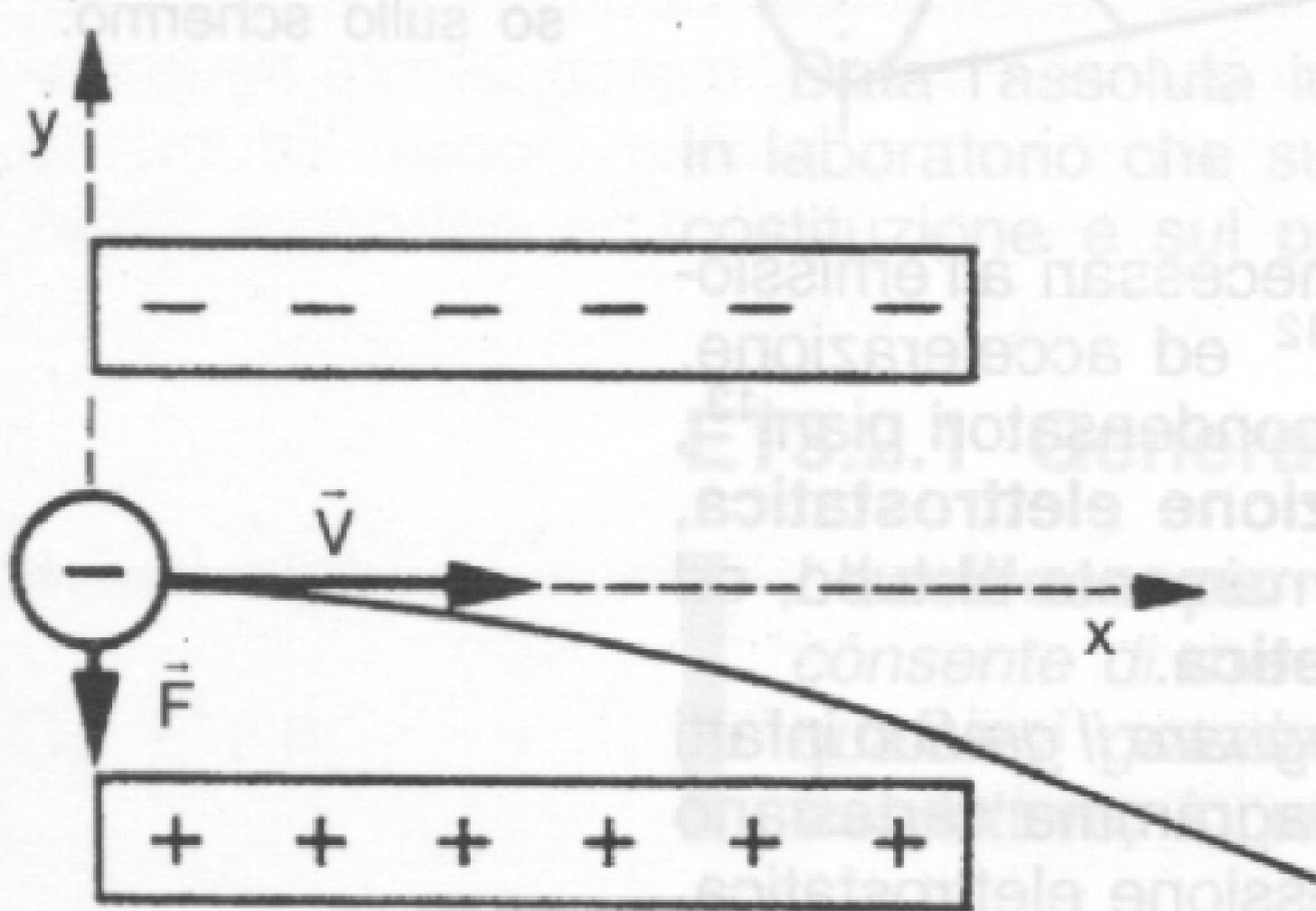




Fig. ET3.22 - Tensione a denti di sega.



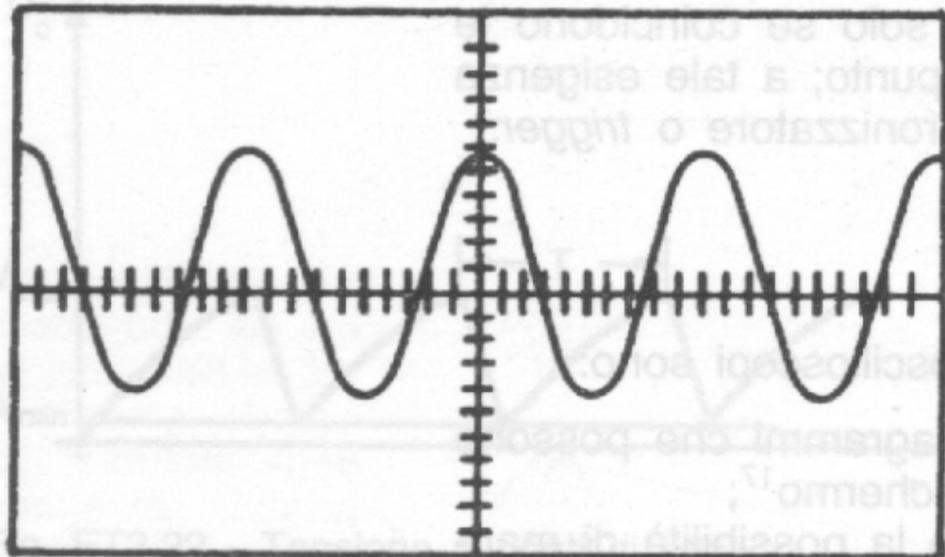


Fig. ET3.24 - Quattro periodi.

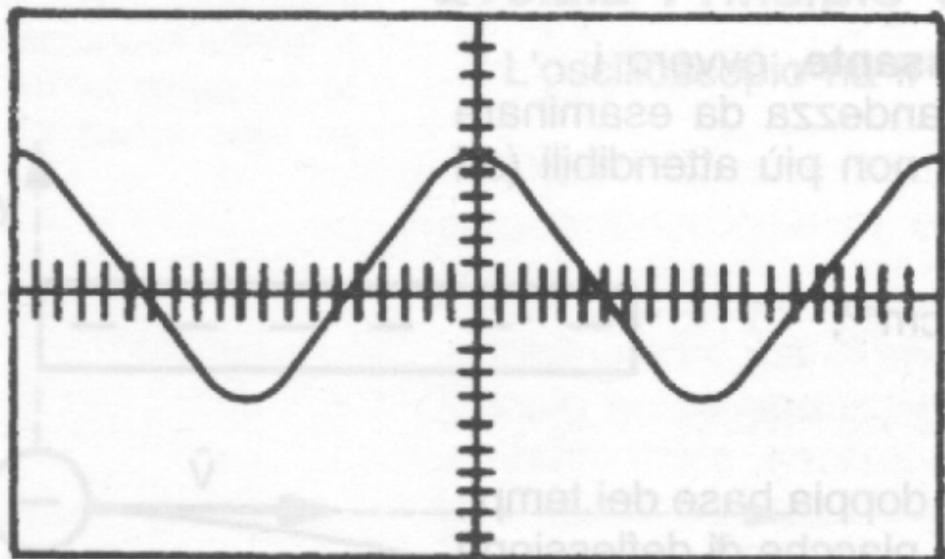


Fig. ET3.25 - Due periodi.

