

Ny utgave 2010

Vg2 elektro

Teori med
praktiske
øvinger

Kunnskaps-
løftet

Svein Johnsen

Elektriske anlegg

Vg2 elenergi

ELFORLAGET

Illustrasjoner til Elektriske anlegg Vg2 elenergi

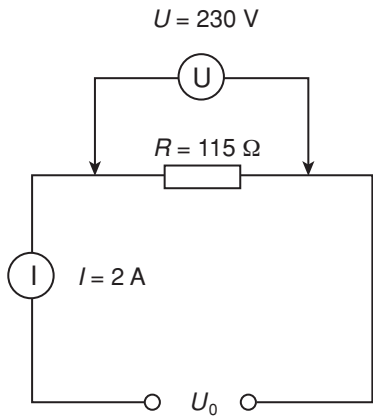
Kapittel 1

Illustrasjonene kan brukes fritt i undervisningen

© Elforlaget 2010



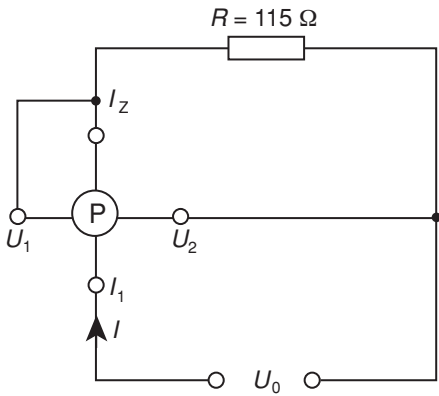
Fig 1.1 Opplyst bro



Effekt $P = U \cdot I$

Eksempel:

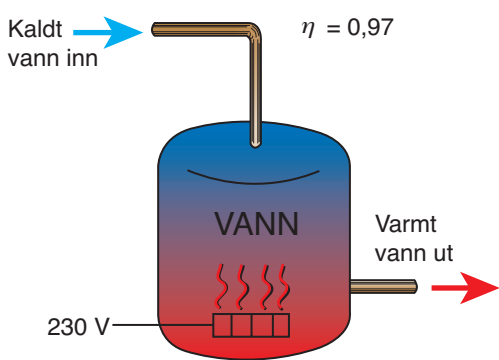
Effekt $P = 230 \text{ V} \cdot 2 \text{ A} = 460 \text{ W}$



Måling med
wattmeter

Figur 1.2

Varmtvannstank



$$Q = \frac{c \cdot m \cdot (\theta_2 - \theta_1)}{\eta}$$

m er masse (kg)

c er spesifikk varmekapasitet

$(\theta_2 - \theta_1)$ er temperaturendring ($^{\circ}\text{C}$)

η er virkningsgrad

Q er varmeenergi (kJ)

Spesifikk varmekapasitet for vann

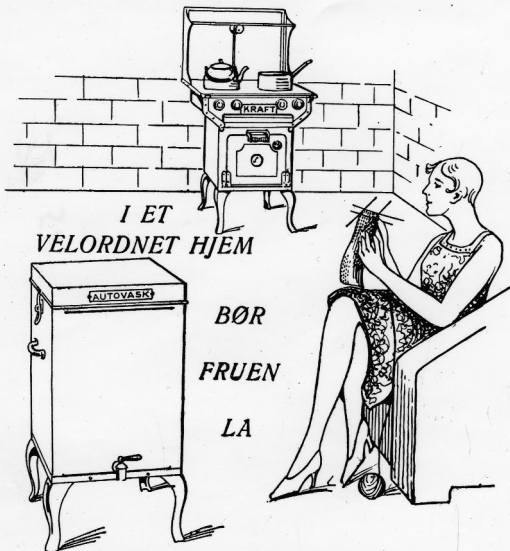
$$c = 4,186 \frac{\text{kJ}}{\text{kg} \cdot \text{K}}$$

Figur 1.3

KRAFT

ELEKTRISKE KOMFYRER NORSK FABRIKAT

Soliditet - Vakkert utseende - Effektiv utnyttelse av strømmen.



*I ET
VELORDNET HJEM*

*BØR
FRUEN
LA*

KRAFT-komfyren

Koke og steke maten

Approbert av elektrisitetsverkene

Rimelige avbetalingsvilkår

Forlang demonstrasjon

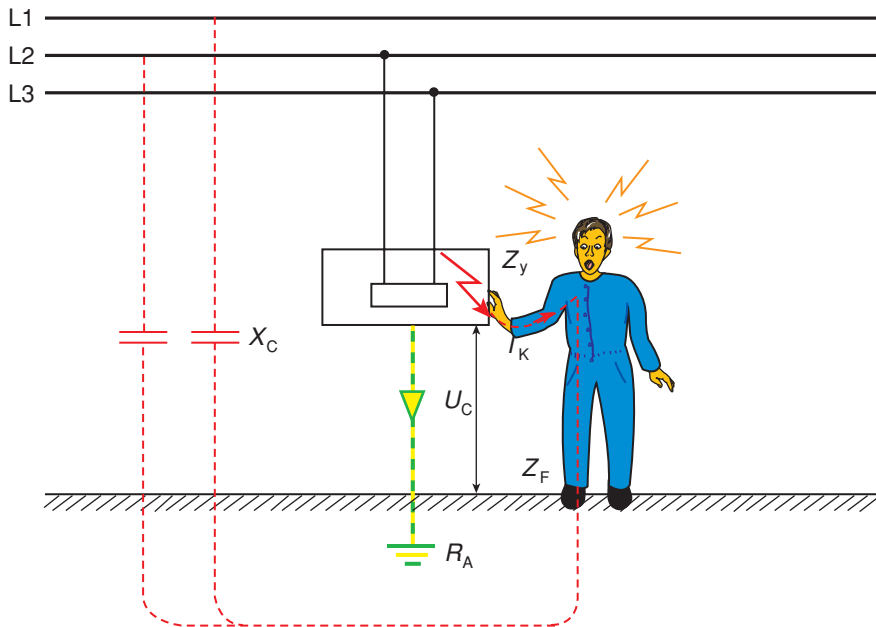
FABRIKANT:

J. KRAFT A/S

Telefon 10879

Tordenskjolds gate 3, Oslo

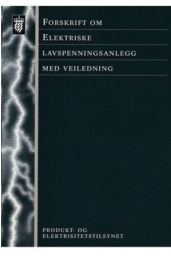
Telegr.adr. „Sterk“



Berøringsspenning: $U_C = R_A \cdot I_j$

Strøm gjennom kroppen: $I_K = \frac{U_C}{Z_y + Z_j + Z_F}$

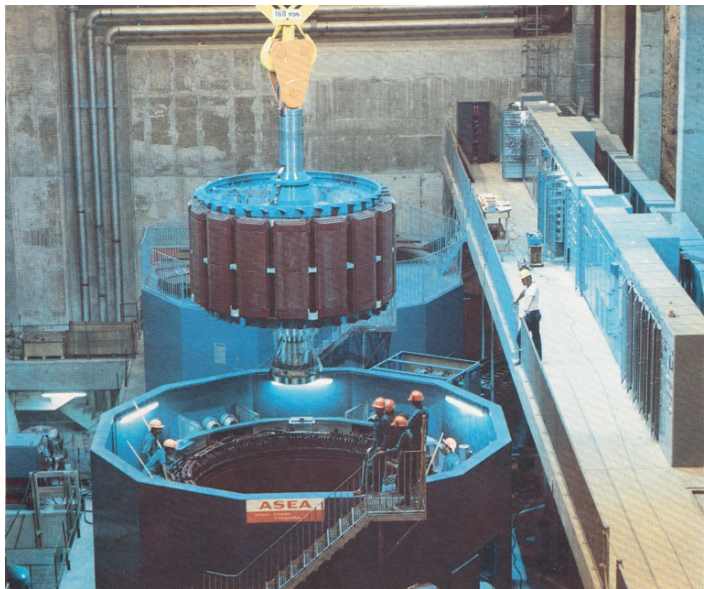
Figur 1.5 Strømgjennomgang ved berøringspenning



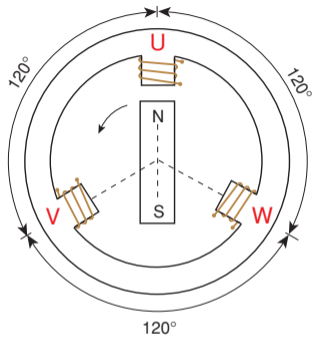
Figur 1.6



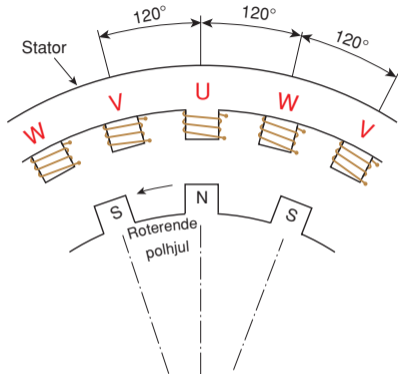
Figur 1.7



Figur 1.8

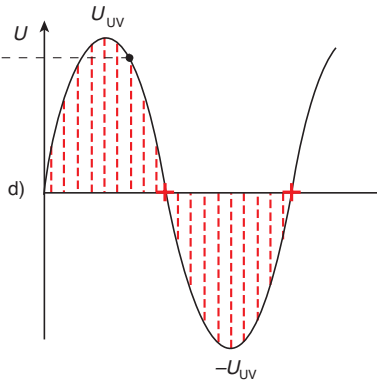
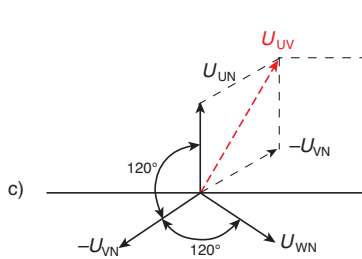
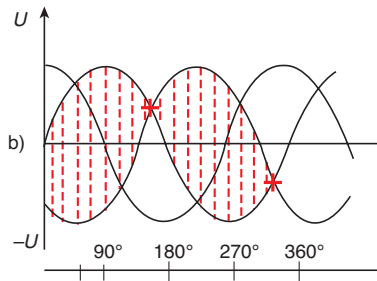
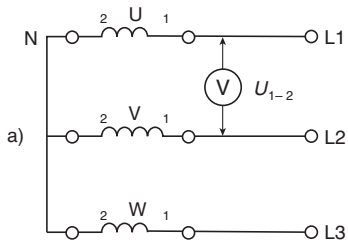


Topolt (1 polpar)

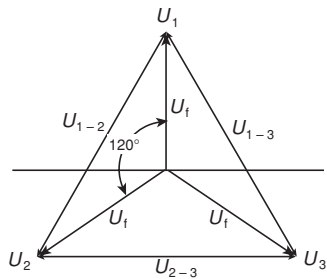
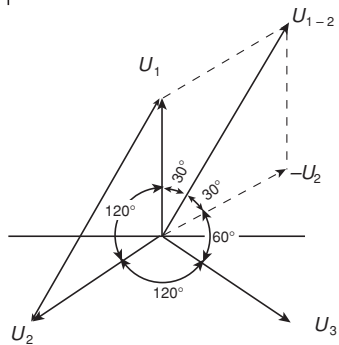
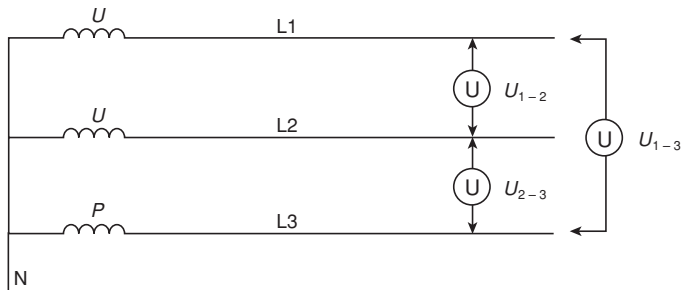


Flere poler

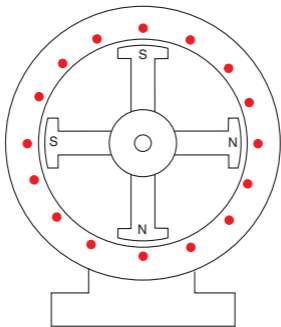
Figur 1.9



Figur 1.10

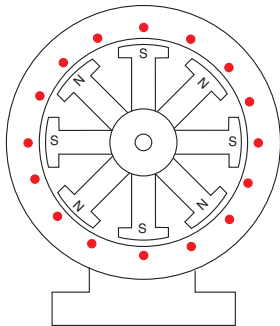


Figur 1. 11



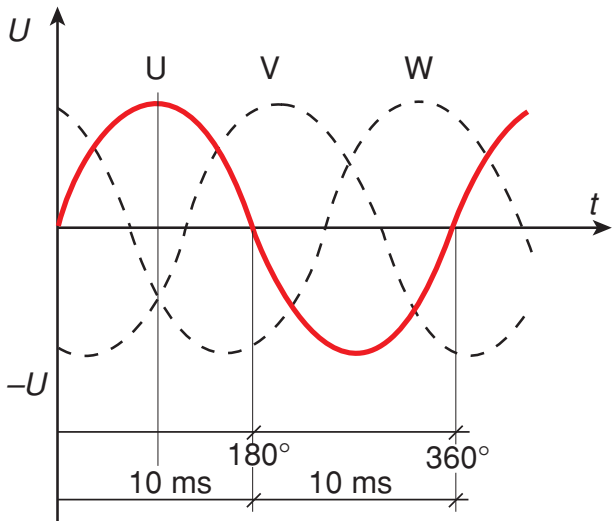
To polpar

Figur 1.12



Fire polpar

Figur 1.13



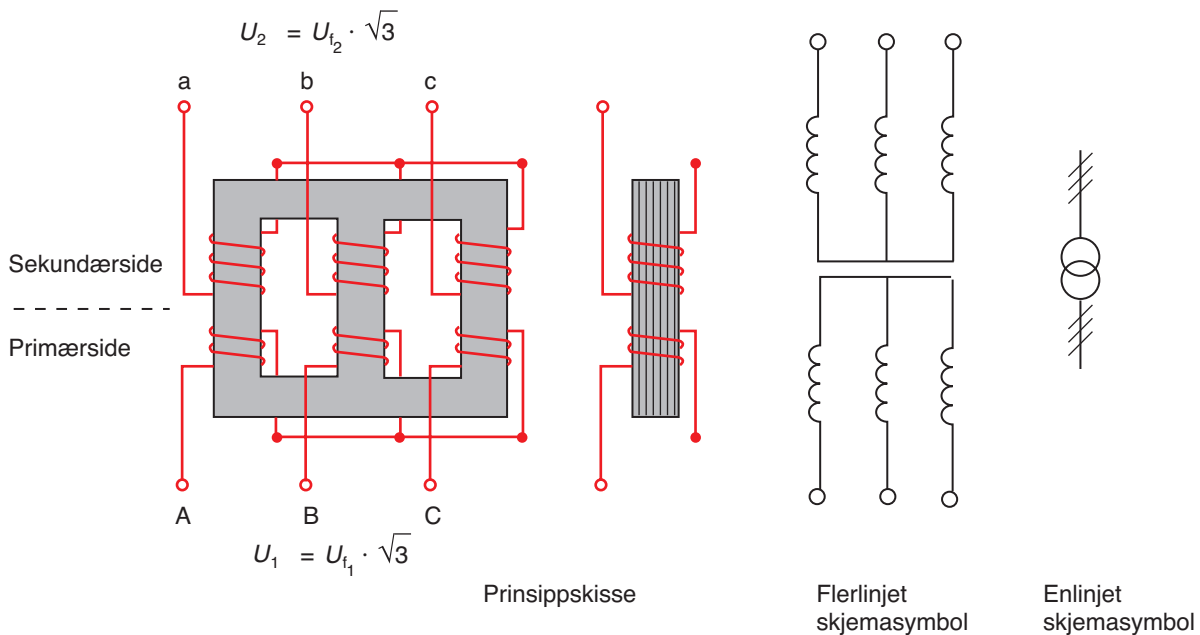
Figur 1.14



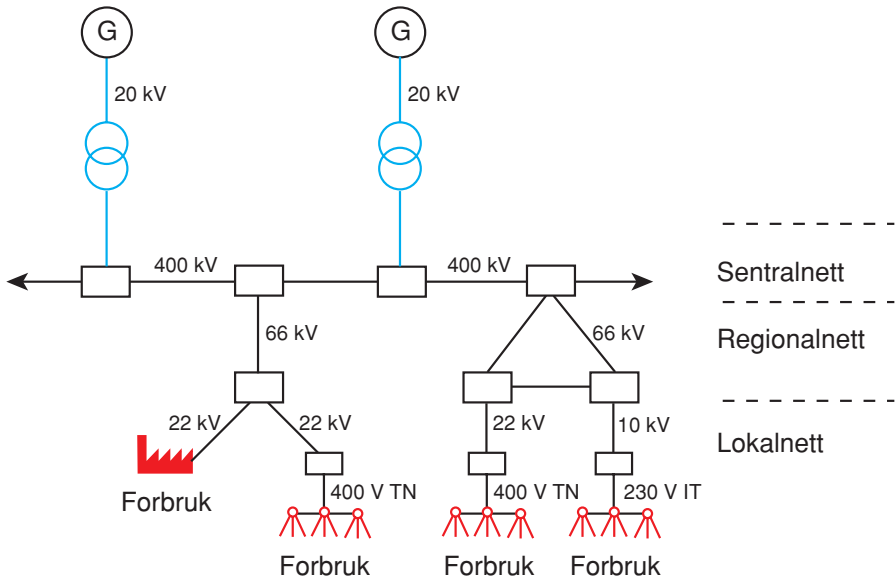
Figur 1.15



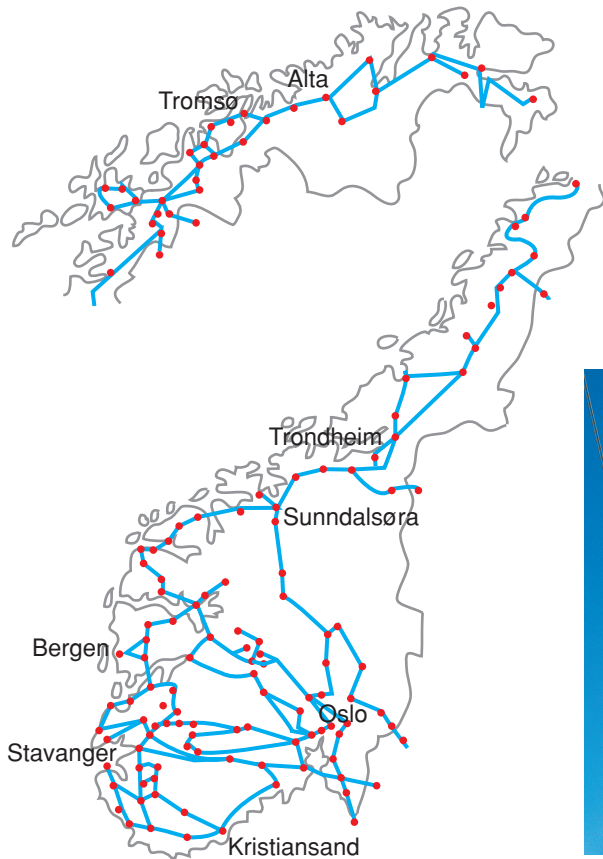
Figur 1.16



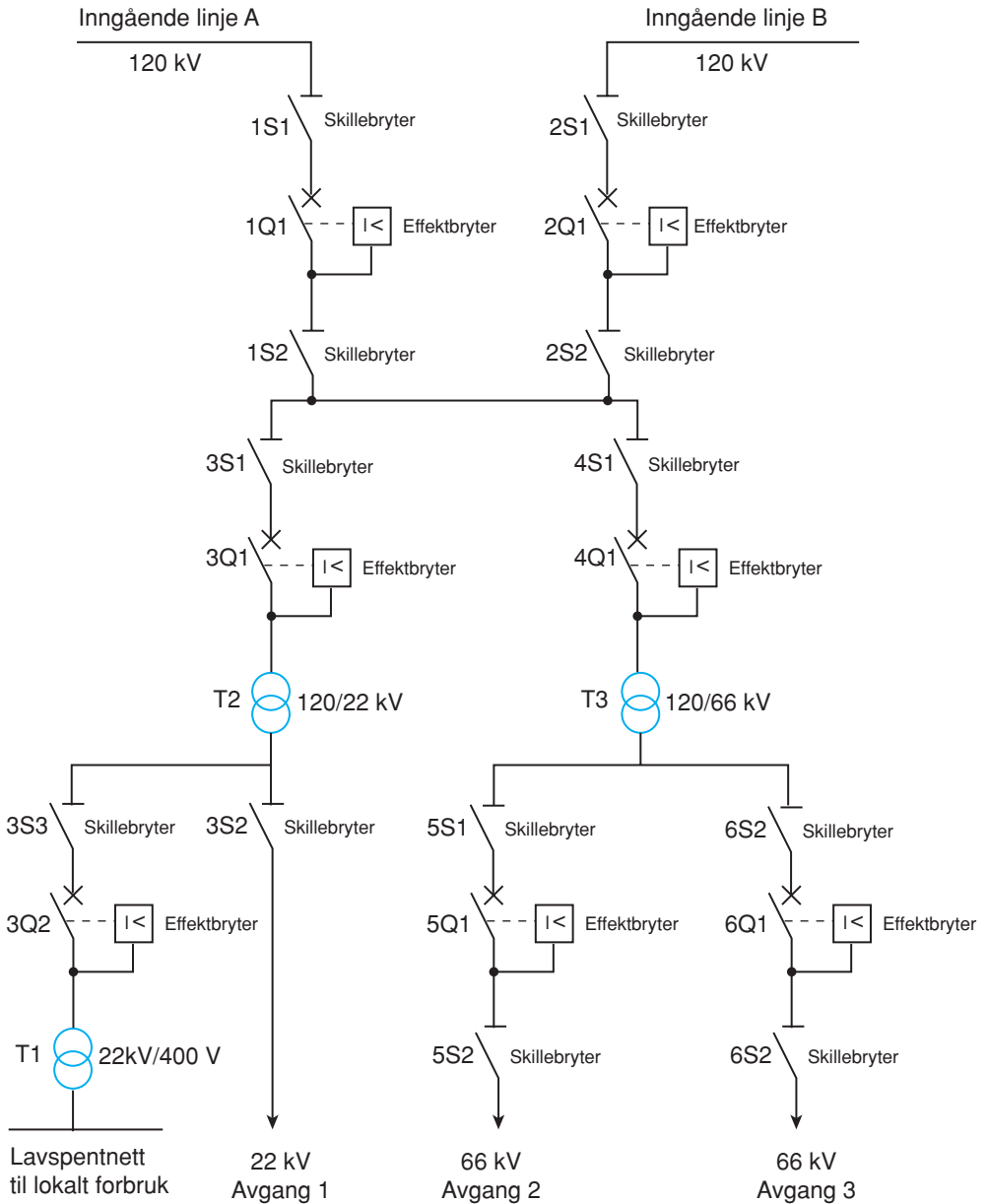
Figur 1.17



Figur 1.18



Figur 1.19



Figur 1.20 Prinsippskjema av koblingsstasjon



Figur 1.21 Utendørs koblingstasjon



Fig 1.22 Effektbryter

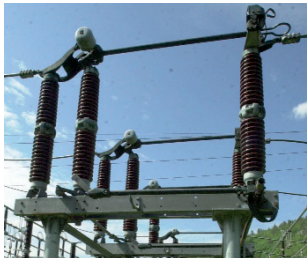
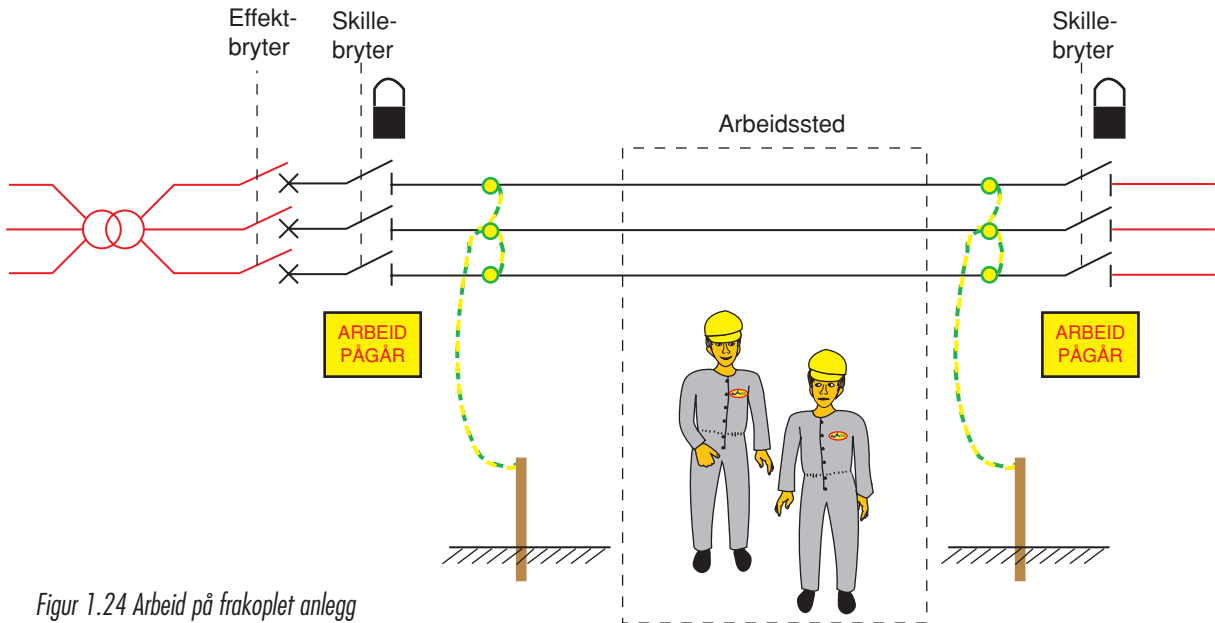


Fig 1.23 Skillebryter



Figur 1.24 Arbeid på frakoplet anlegg