MCA

Automatic Capacitor Bank

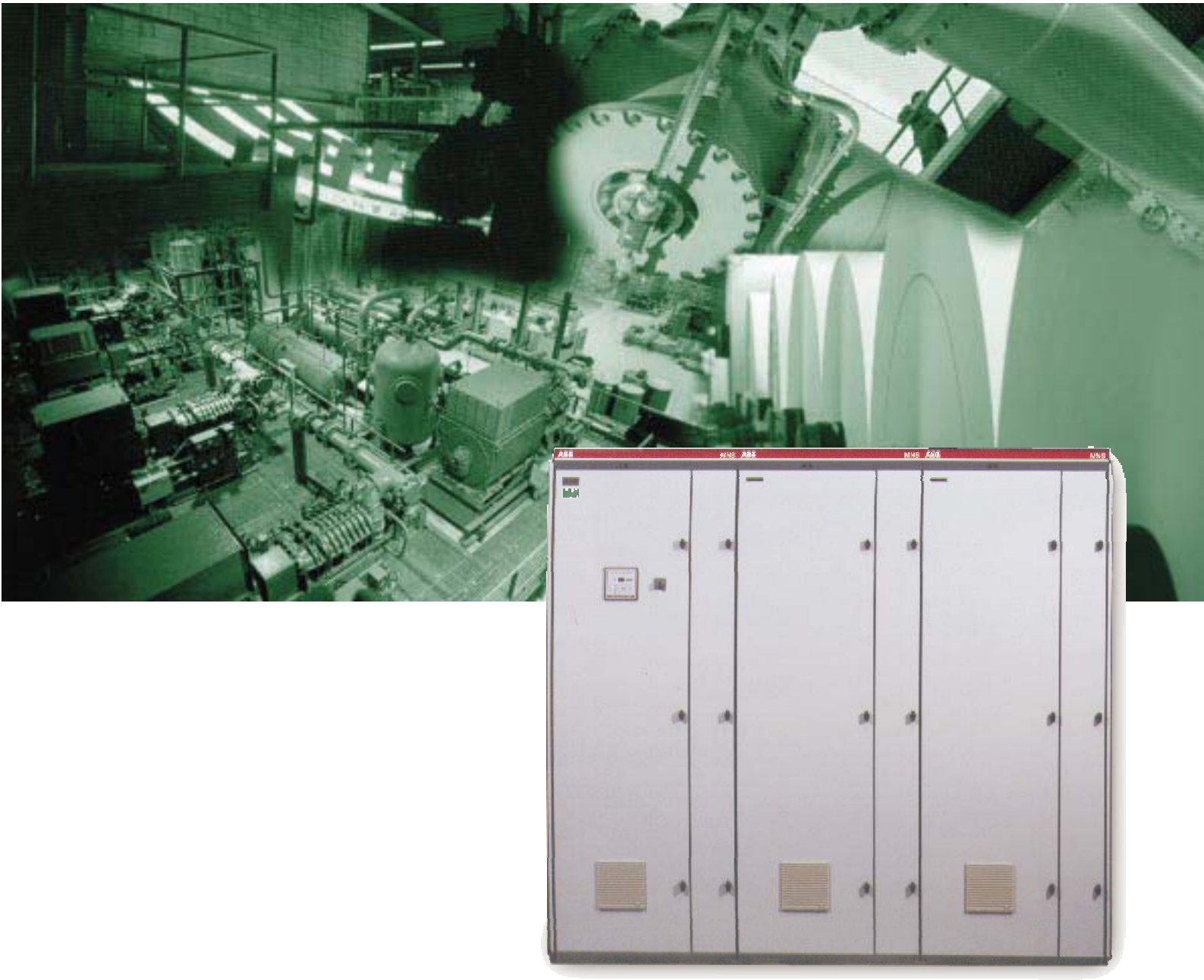


ABB Control Oy

Decrease load and avoid penalties

Certain loads in the electrical power system demand not only active power (kW) but also reactive power (kvar). Typical such loads are asynchronous motors and various types of fluorescent lamps.

The customer can purchase the reactive power from the utility or produce it by means of power factor correction capacitors. In the present day the most common solution for power factor correction is automatic capacitor bank installed on the main distribution board. The reactive power controller in the bank switches on and off the capacitor steps in a way that the right degree of power factor correction is achieved in every load situation.

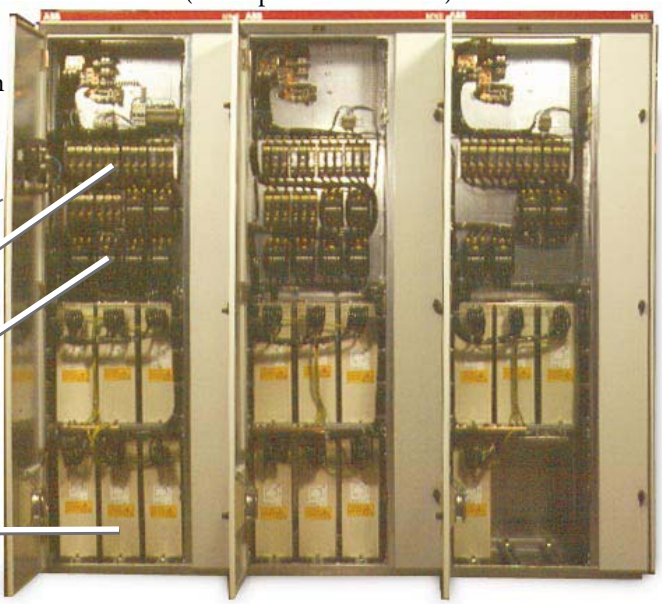
Typical pay-back-period for power factor correction equipment is 1...3 years.

With power factor correction the customer avoids the power factor penalties required by the tariffs. In addition to that the capacity of the network increases, losses decrease and voltage drop is reduced.

Automatic capacitor banks consist of capacitor steps which are governed by means of reactice power controller. One step consists of capacitor unit, contactor and step fuses. The most common step sizes are 50 and 25 kvar. It is possible to combine several steps into larger stages by connectiong them in cascade by auxiliary contacts of the contactors.

The components of the capacitor bank are installed in ABB's MNS switchgear cubicles which can be used as a part of the switchgear or as free-standing cubicles. In the latter case, the cubicles require cabling and feeders on the main distribution board. It is possible to govern several banks with one reactice power controller as main bank and several sub-banks.

Note. If over 15...20 % of the total load is non-linear i.e. generates harmonics, it is advisable to use detuned capacitor banks or tuned harmonic filters for power factor correction. (See separate brochures)



TECHNICAL DATA

System voltage:	400, 525, 690 V
Power / cubicle:	50 ... 300 kvar
Step sizes:	400 V: 25 and 50 kvar
	525 V: 50 kvar
	690 V: 50 and 75 kvar
Protection class:	IP 20

Dimensions: w x d x h (mm)
Free-standing cubicle:
600 x 600 x 2240 (max 6 steps)
Switchgear integrated
600 x 600 x 2240 (max 4 steps)
800 x 600 x 2240 (max 6 steps)
Other configrations on request.

ABB Control Oy
P.O. Box 600
FIN-65101 VAASA
Tel. +358 10 22 4000
Fax +358 10 22 41097

MCA 1 GB 98-08