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DRIESCHER Medium voltage power factor correction and filter equipment • Indoor and outdoor • Rated voltage up to 38.5 kV



Development and effect of reactive power

Energy is transported from the generator to consumers. Alongside active power, which is converted into mechanical work and can thus actually be used, these energy consumers also require so-called reactive power in order to create the electromagnetic field (inductive consumers such as transformers, asynchronous motors or choke coils) or electrostatic field (capacitive consumers such as underground cables or motor capacitors) that they require.

This reactive power cannot be converted into another form of energy for use, but instead continuously travels back and forth between the generator and consumer in time with the alternating frequency. This leads to higher loads on the energy supply grid and generator systems, which means that these must be designed to higher specifications. This leads in turn to higher costs for the energy generators, and these costs are passed on to customers.

Special reactive power meters are necessary, as conventional energy meters can only measure active energy; large commercial customers that require a lot of reactive power are charged for the supply of this reactive power.



 Active power P Reactive power Q
Phase displacement φ

Apparent power S

Solution: Power factor correction

The additional costs for the supply of reactive power can be avoided if a correction unit is installed. This can significantly or even completely reduce the reactive power component required, as this energy no longer needs to be supplied by the generator.

The effectiveness of power factor correction is greatest when it is employed close to the consumer and in a timely manner.



Fig 3: Power factor correction



Fig 4: Schematic diagram power factor correction inductive load



Fig 2: Schematic diagram reactive power inductive load



Advantages p.f. correction

- Economic advantages of generators, transformers, linesschal and switching equipment
- Lower loss and establishment of additional reserves, to transmit more active power
- Lower voltage drop
- Lower energy costs
- Improvement ot the power supply
- Active climate protection

Medium voltage power factor correction and filter equipment





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