

Reduction of Reactor Weight by Using Electromagnetic Coupling

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We studied on reduction of reactor weight and current ripple by using electromagnetic coupling of reactor. The study has shown that a selected optimal coefficient of electromagnetic coupling reduces both each phase current ripple and total phase combined current ripple. We verified the result by the experiment with newly manufactured reactors which implement an optimal electromagnetic coefficient. The weight of manufactured reactor is lighter by 44% than that of conventional three phase reactors.