

Status of the RF Power Couplers for Superconducting Cavities at CERN, E. HAEBEL, H.P. KINDERMANN, CERN; M. STIRBET, V. VESHCHEREVICH - For LEP2 fixed RF power couplers of the open-ended coaxial line type with d.c. bias are used. The nominal power under matched conditions is 120 kW at 352 MHz. However, to avoid ponderomotive instabilities, the cavities may not be detuned, i.e. the reactive beam loading cannot be compensated. The coupler will therefore be exposed to standing waves with an equivalent power (travelling-wave power producing the same field as the peak field on the coupler line) of more than 200 kW. The final design of these couplers, their conditioning sequence and their present performance will be presented. Design work on the LHC input coupler has also started. For LHC a motor-driven mobile coupler is required. Forward power levels at 400 MHz are about 100 kW during storage and 150 kW during injection. Since practically all this power is reflected, the equivalent travelling-wave power is approximately 400 kW and 600 kW, respectively. These couplers will also be provided with d.c. bias to suppress multipacting and "deconditioning". The main technical features of the design will be described.