Normal Conducting QI and QJ Quadrupoles for the HERA Luminosity Upgrade, N. BOGATOV, E. BONDARCHUK, N. DOINIKOV, B. KITAEV, V. KORSHAKOV, N. MAXIMENKOVA, V. MURATOV, A. PETROV, YU. PUZINOVICH, A. SIMAKOV, EFREMOV Institute; B. PARKER, BNL; K. SINRAM, F. WILLEKE, G. WOEBKE, DESY - The EFREMOV Institute and DESY have in collaboration designed high performance normal conducting quadrupole magnets for the HERA luminosity upgrade. The quadrupole magnets QI and QJ are 2 m long, they have a pole radius of 37 mm and 50 mm respectively and must provide a gradient of 28 T/m and 18 T/m. The requirements for the field linearity is in the order of several 1E-4 at a reference radius of 25 mm. The space between the coils must be kept free for a synchrotron radiation beam to pass through. Results of detailed design of these magnets are presented and discussed.