In this work we have found and analyzed several gyraton solutions on various non-trivial backgrounds in the large Kundt class of spacetimes. Namely, the gyraton solutions on direct product spacetimes, gyraton solutions on Melvin universe and its generalization which includes the cosmological constant. These solutions are of algebraic type II. Also we have investigated type III solutions within the Kundt class and we have found the gyratons on de Sitter spacetime. We have generalized the gyraton solutions on direct product spacetimes to higher dimensions.