I will report on a joint work with Giacomo Mezzedimi concerning the moduli spaces of elliptic K3 surfaces of Picard number at least 3, that is $U\oplus \langle -2k \rangle$ -polarized K3 surfaces. We prove that such moduli spaces are of general type for $k\geq$ 220\$. The proof relies on the low-weight cusp form trick developed by Gritsenko, Hulek and Sankaran. Furthermore, explicit geometric constructions of some elliptic K3 surfaces lead to the unirationality of these moduli spaces for k < 11 and for other 19 isolated values up to k=64.