For a continuous map $f$ on a compact metric space we study the geometry of the generalized rotation set $\text{Rot}(\Phi)$. Here $\Phi = (\phi_1, ..., \phi_m)$ is a $m$-dimensional continuous potential and $\text{Rot}(\Phi)$ is the set of all integrals of $\Phi$ with respect to $f$-invariant probability measures. It is easy to see that the rotation set is a compact and convex subset of $\mathbb{R}^m$. We study the question if every compact and convex set is attained as a rotation set of a particular set of potentials within a particular class of dynamical systems. We give a positive answer in the case of subshifts of finite type by constructing for every compact and convex set $K$ in $\mathbb{R}^m$ a potential $\Phi = \Phi(K)$ with $\text{Rot}(\Phi) = K$. (Received February 18, 2013)