Grit particles which are smaller than the aperture of the screen will pass through and cause abrasive problems on pipes, pumps and sludge handling equipment. The grit particles can settle in channels, aeration tank floors and sludge digestors which can create maintenance problems. Therefore, a grit removal system is required for most sewage treatment plants.

Removal of grit is achieved by differential sedimentation, in which the flow velocity is so controlled that grit may settle but most of the organics are retained in suspension. Velocity control may be achieved hydraulically (as in constant velocity chambers), by air-induced helical rolling motion (as in aerated chambers), or by mechanically induced vortex chamber.

Aquatec Maxcon can provide equipment for three different types of grit removal systems.

1. Constant Velocity Channel- Travelling bridge grit collector.
2. Aerated Grit Chamber - Air lift of pumped grit removal system. Course bubble diffusers with baffles for aeration.
3. Vortex Grit Chamber - AquaSwirl water mixer.

The grit collected is transferred by recess impeller grit pump or air lift pump to dewatering devices to reduce the water content. Screw type grit classifiers or sieve bends are used for dewatering. Excess water will return back to the inlet channel.