Claims

1. A scum removal system in a sewage treatment plant in which scum is removed from raw water that is treated via a primary sedimentation basin conduit, a primary sedimentation basin group, a reaction tank, a final sedimentation basin conduit, and a final sedimentation basin group, the system comprising:

first scum removal devices that are provided in the primary sedimentation basin conduit and the final sedimentation basin conduit;

second scum removal devices that are respectively provided in primary sedimentation basins of the primary sedimentation basin group; and

third scum removal devices that are respectively provided in final sedimentation basins of the final sedimentation basin group,

wherein each of the first scum removal devices includes

a scum peeling device including a pair of pipes that extends along a direction in which the raw water flows inside both side walls of a conduit body in which the raw water flows, that includes a plurality of opening portions provided at intervals in a length direction, and that is provided to be positioned below the scum and a pressure fluid supply portion through which a pressure fluid from a

pressure fluid supply source is supplied to the pipes, and

a water ejection nozzle for a conduit that moves the scum toward a scum pit provided at a terminal end of the conduit body,

each of the second scum removal devices includes

a pipe skimmer for a primary sedimentation basin that collects the scum,

a scum guide mechanism that concentrates the scum in a direction toward a center in a width direction of the primary sedimentation basin, and

a water ejection nozzle for the primary sedimentation basin that moves the scum toward the pipe skimmer for the primary sedimentation basin,

each of the third scum removal devices includes

a pipe skimmer for a final sedimentation basin that collects the scum, and

a water ejection nozzle for the final sedimentation basin that moves the scum toward the pipe skimmer for the final sedimentation basin, and

an amount of water ejection of the water ejection nozzle for the final sedimentation basin is set to be smaller than an amount of water ejection of the water ejection nozzle for the conduit, and

wherein the scum guide mechanism includes

a front wall plate that is disposed below an opening of the pipe skimmer for the primary sedimentation

basin into which the scum is to be received,

a pair of guide plates that is disposed such that an interval between the guide plates increases from both end portions of the front wall plate toward an upstream side from which the raw water flows, and

a fluid jetting pipe that jets a pressure fluid that rises from lower end portions of the front wall plate and the guide plates along surfaces of the front wall plate and the guide plates that are on a side from which the raw water flows is provided near the front wall plate and the guide plates.

2. The scum removal system in a sewage treatment plant according to Claim 1,

wherein the pipe skimmer for the final sedimentation basin includes a scum guide plate that is disposed below a surface of water ahead of an opening into which the scum is to be received and that guides the scum while causing the scum to flow.

3. The scum removal system in a sewage treatment plant according to Claim 1,

wherein the pipe skimmer for the final sedimentation basin includes

a pipe material that is disposed along a width direction of the final sedimentation basin, and

a rotational movement mechanism that rotationally moves the pipe material around an axis,

the pipe material includes an upstream-side scum intake port formed on an upstream side and a downstream-side scum intake port formed on a downstream side, the intake ports being formed at an interval in a circumferential direction, and

the rotational movement mechanism rotationally moves the pipe material in one direction so that the upstream-side scum intake port is disposed on a surface of water and rotationally moves the pipe material in a direction opposite to the one direction so that the downstream-side scum intake port is disposed on the surface of water.

4. The scum removal system in a sewage treatment plant according to Claim 1,

wherein a plurality of the pressure fluid supply portions are provided and are respectively connected to a plurality of portions of the pipes.