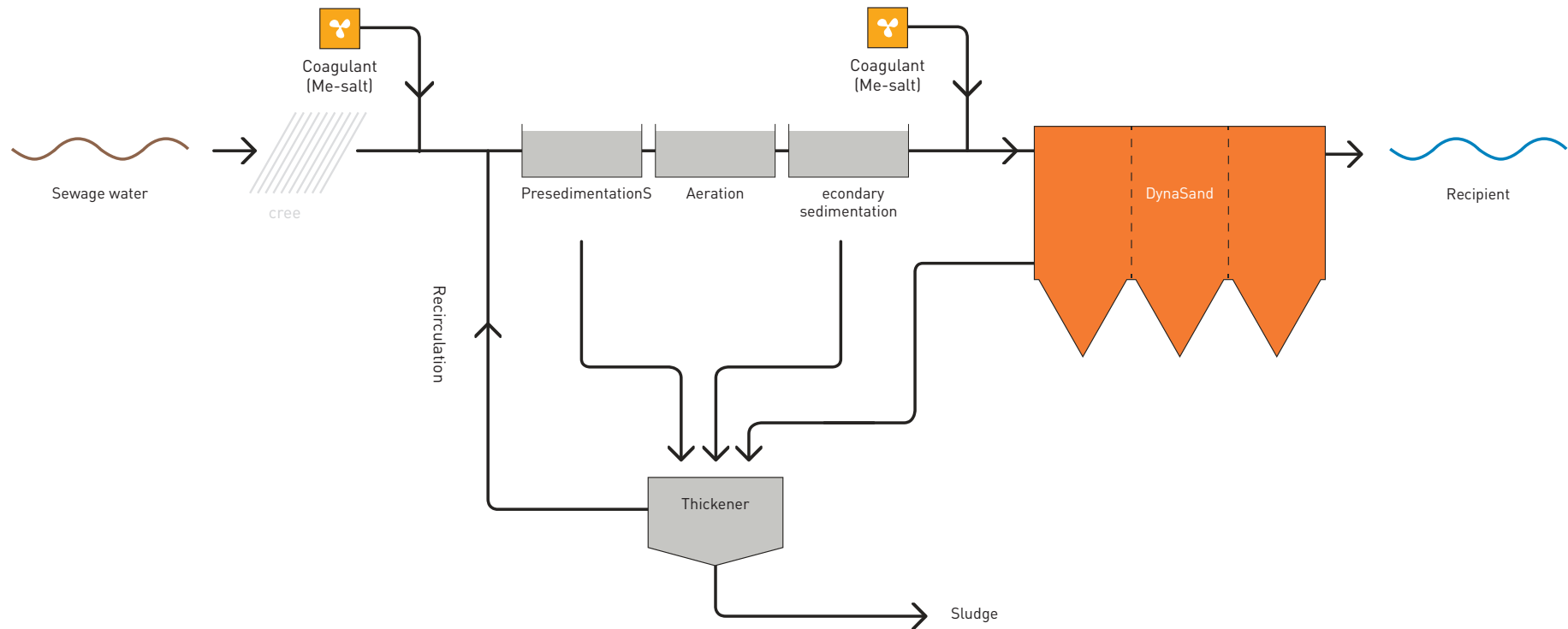


EXTENSIVE PHOSPHATE REMOVAL

DEALING WITH HIGH PARTICLE CONTENT



If you want to keep phosphorus levels really low – at less than 0.1 mg/l – study after study has demonstrated that our final processing stage, which is based on chemical direct precipitation using a DynaSand filter, is the most cost-effective and reliable method available for municipal waste water treatment plants.

Mechanical final processing of outflowing water from the treatment process is a highly effective way of removing any phosphorus bound to particles. To achieve extremely low phosphorus levels, the released phosphorus also needs to be separated off, which is done through a process

of contact filtration using aluminium or iron salts as precipitants. The total phosphorus output levels can then be controlled based on the metal salt dosage. Various municipal plants with requirements for low phosphorus levels often achieve total values of less than 0.05 mg/l with additional dosing. The flush water from the DynaSand filters is either passed on to a thickener or channelled back to settling tanks at an earlier stage within the plant.

Dealing with high particle contents

DynaSand filters offer continuous filtration and

an effective washing process, which is carried out either continuously or intermittently, known as DynaSand WWR (Wash Water Recovery). This enables you to deal with the fluctuations that arise in incoming particle content levels. During brief periods when sludge runs out from upstream sedimentation, DynaSand filters clear away particle contents of up to 400 mg/l SS while maintaining consistent output levels. This would completely ruin the cleaning capacity of many other treatment methods.

Extensive phosphorus treatment with final processing using DynaSand can also be combined

with a final denitrification procedure, carried out at the same stage of treatment. Since the natural carbon content of the water at the last treatment stage is often low, in many cases it is necessary to add an external carbon source, which can be done directly before the water enters the filter. In this case, plant operators often opt for a deeper filter bed to provide better conditions and more space for the denitrifying bacteria.

Input values:

SS: 10-100 mg/l
P-tot: 0.2-5 mg/l

Output values:

> 5 mg/l
> 0.1 mg/l Pt