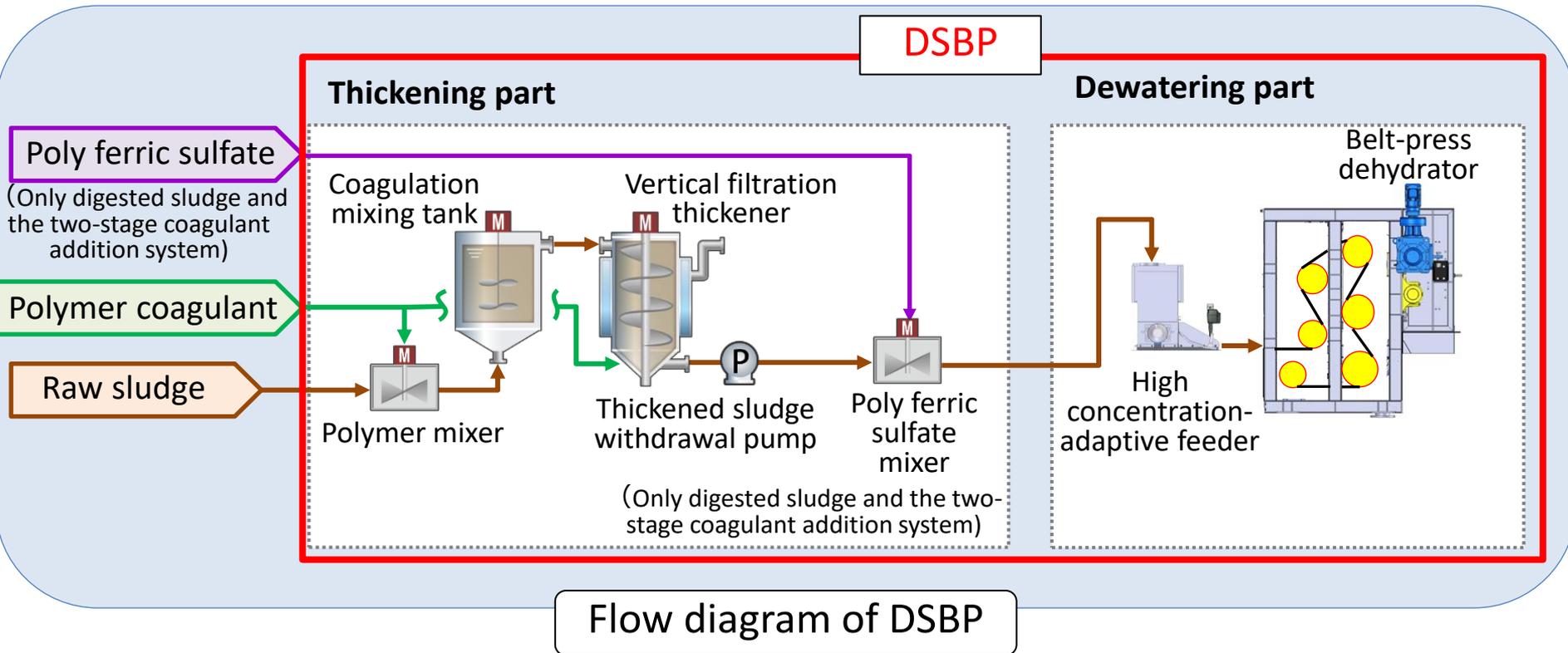


Downsized Belt-press Dehydrator (DSBP)

Summary

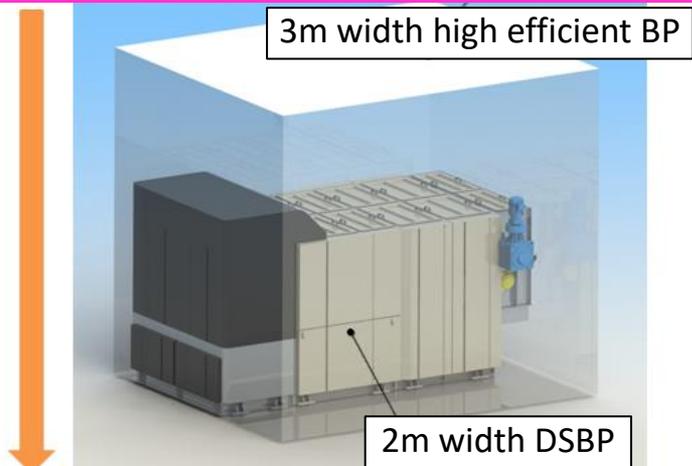
- Downsized belt-press dehydrator, DSBP, has a thickening part combined with a high concentration-adaptive feeder. The mechanism that optimizes both thickening and dehydration improves the filtration rate by 1.5 times while keeping dewaterability.
- DSBP is applicable to the two-stage coagulant addition system. The system that later injects poly ferric sulfate into thickened sludge can minimize the runoff of poly ferric sulfate into the water and work effectively. So the system enables reducing the water content rate of dewatered sludge with less consumption of poly ferric sulfate.



Benefits

- Can substitute 2m width DSBP for 3m width high efficient belt press
- The downsized machine reduces footprint and dynamic load

2m width DSBP has the equivalent treatment capability with 3m width high efficient BP



Adoption of 2m width DSBP instead of 3m width BP can reduce capacity by 50% and area by 25%

Conditions enjoying benefits

- Having limitations for footprint and dynamic load
- The existing dehydrator is a belt press with a good treatment condition
- Sludge to be treated has a hard-to-dewatered property with high VTS

Scope of application and standard performance of DSBP

Treatment process			CAS		CAS		
Kind of sludge			Anaerobic digested sludge		Mixed raw sludge		
Sludge property	Ignition loss (VTS)		(%)	81-77		88 - 85	
	TS	mechanical	(%)	About 1.3		About 3.1	
	SS rate of raw and excess sludge		(-)			1: 0.6 - 0.8	
	Fibrous material (100mesh)		(%)	5	10	10	20
One coagulant	Water content rate of dewatered sludge		(%)	—	84	—	79
	Filtration rate[kg-DS/m·h]			—	90	—	210
	SS Recovery rate		(%)	—	90 and over	—	93 and over
	Chemical dosing rate (TS : polymer)		(%)	—	2.2 or less	—	0.8 or less
Two-coagulant addition	Water content rate of dewatered sludge		(%)	—	81	Reference: JS standard specification: examples: dewatering capability of high efficient BP ■ Anaerobic digestion sludge (one coagulant) Water content rate of dewatered sludge:83% Filtration rate : 60 [kg-DS/m·h] ■ Mixed raw sludge (one coagulant) Water content rate of dewatered sludge :79% Filtration rate: 140 [kg-DS/m·h]	
	Filtration rate[kg-DS/m·h]			—	90		
	SS Recovery rate		(%)	—	95 and over		
	Chemical dosing rate (TS : inorganic)		(%)	—	2.2 or less		
		(%)	—	2.2 or less			