


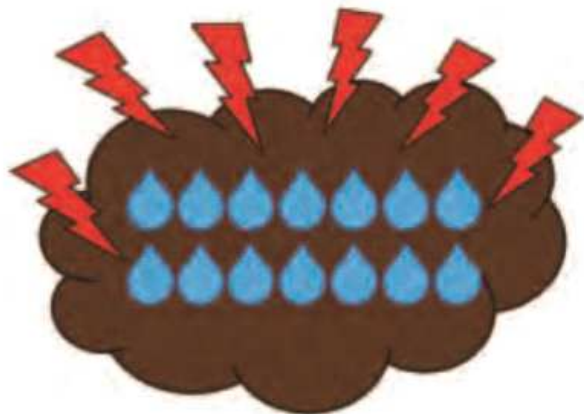
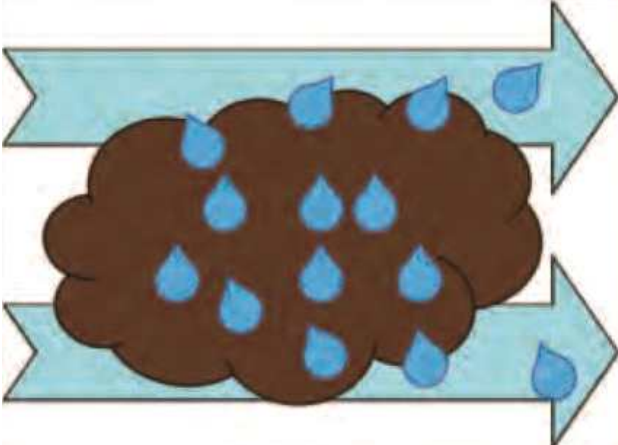
ELODE + NVD Process & Specification

1. 개요 / SUMMARY

NVD는 순수 자연 바람과 전자시스템으로만 건조하는 방식으로 최저의 에너지 사용량으로 건조를 극대화 시킬 수 있는 ELODE의 결합 제품입니다. ELODE에서 최종적으로 박리되는 Cake에는 여전히 약 60~80°C(140~176°F)도의 열원이 남아 있는데, 방출되는 Cake을 NVD에서 바로 받아서 순수 자연풍과 전자건조 방식으로 약 1시간의 Loading Time을 거치게 되면 모든 수분은 증발하고 최종 박리되는 Cake는 평균 30%의 함수율(건조율 70%)를 달성할 수 있습니다.

NVD(Natural Ventilation Dryer) is a combination of ELODE that can maximize drying with lowest energy usage by drying only with pure natural wind and electronic system. Cake, which is finally stripped from the ELODE, still has about 60~80°C(140~176°F) of heat source, When the discharged Cake of ELODE is taken directly from the NVD, and NVD takes about 1 hour of Loading Time by pure natural wind and electronic drying method, All moisture evaporates and the final Out-Cake can achieve an average moisture content 30% (70% Dry Solid).

2. PRINCIPLE OF NVD-ELECTRONIC DRYER (전자 건조기의 원리)

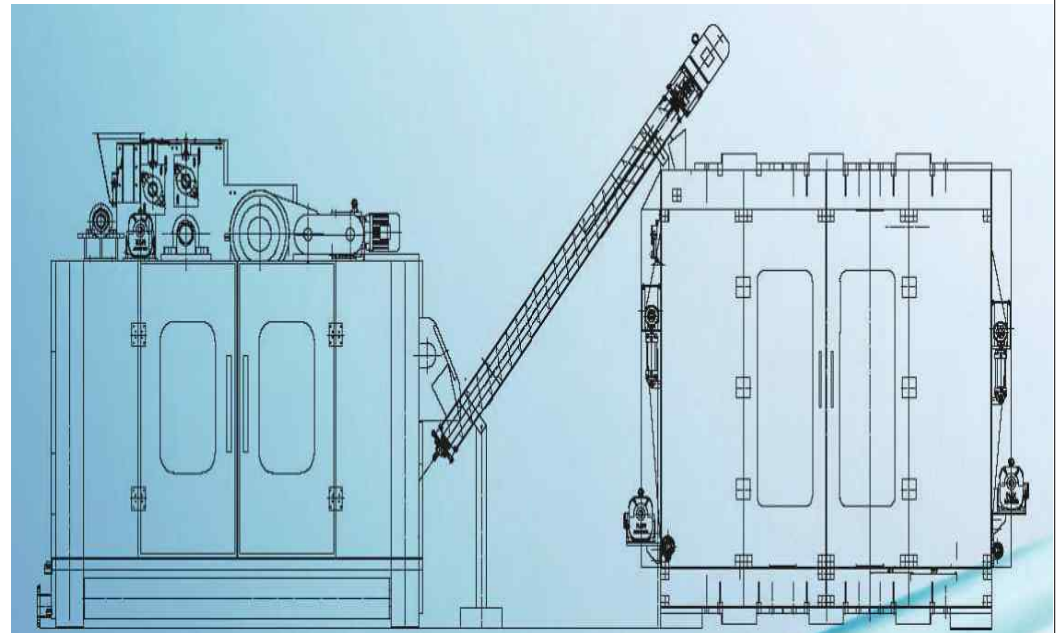
		
<p>슬러지내 물분자는 극성분자로 이루어진다. The water molecules in the sludge consist of polar molecules.</p>	<p>전기장에 의한 물분자들이 재 정렬 된다. The water molecules by the electric field are rearranged.</p>	<p>자연풍의 대류현상에 의한 수분의 증발. Evaporation of moisture by natural convection</p>
<p>수소원자-양전자. Hydrogen atom-positron 산소원자-음전자. Oxygen atom-negative electron</p>	<p>회전하는 물분자간의 충돌로 열이 발생한다. Heat is generated by collision between rotating water molecules.</p>	<p>추가 에너지 없는 수분증발이 극대화 된다. Water evaporation is maximized without additional energy.</p>

3. 프로세스 흐름도 / PROCESS FLOW SHEET

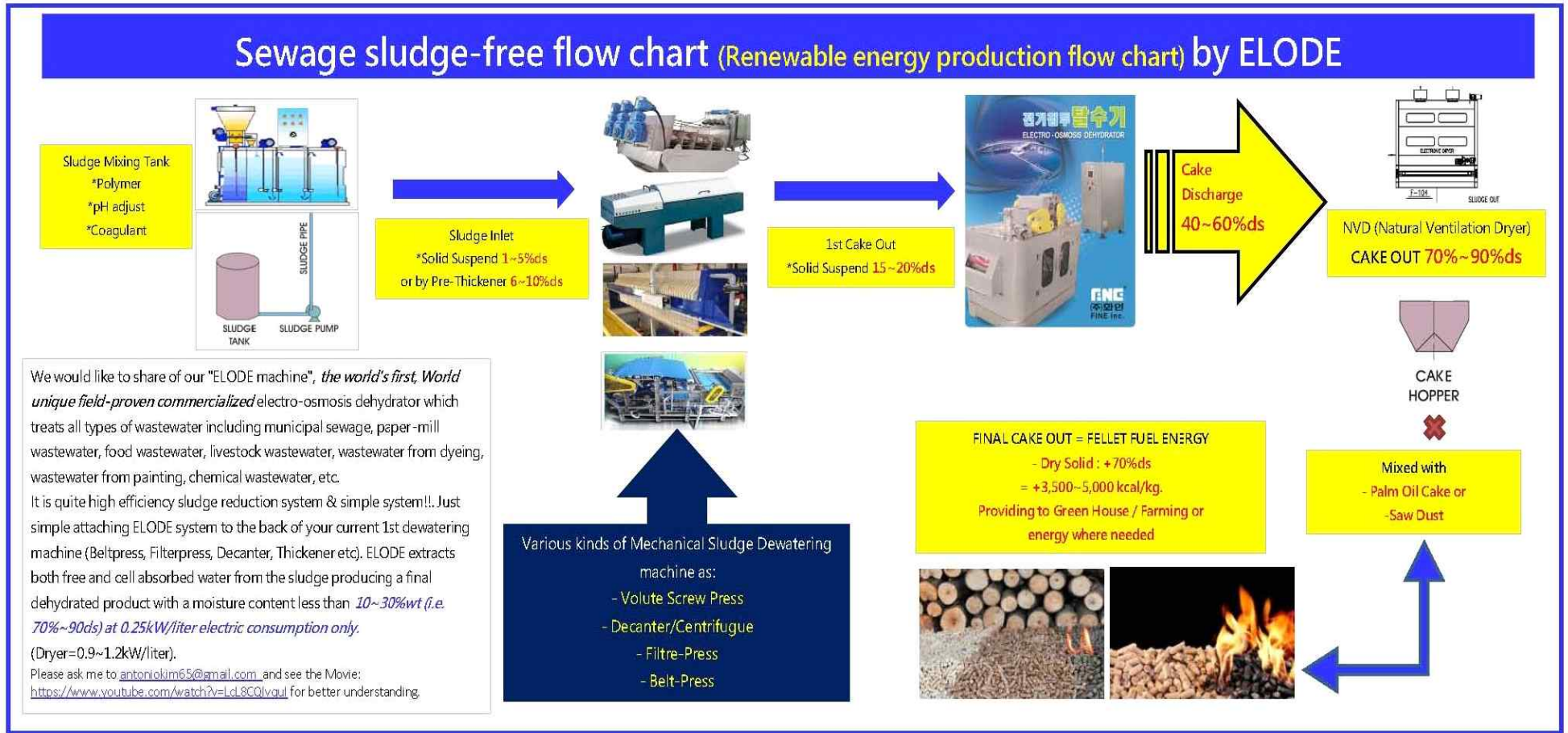
■ Full Photos



■ Full Diagram



4. RENEWABLE ENERGY FLOW SHEET BY ELODE+NVD



5. 기본 사양서 / BASIC SPECIFICATION

MODEL	UNIT	NVD-500	NVD-1000	NVD-2000	NVD-3000	REMARKS
COMBINED ELODE MODEL		EODS-500 DEMO Only	EODS-1000	EODS-2000	EODS-3000	
THROUGHPUT (INPUT OUT-CAKE@ 50-60%wt)	kg/h	100~120	200~300	400~500	600~800	
CAKE THICKNESS OF INPUT OUT-CAKE	mmT	12~20				
OUT CAKE DRY SOLID	%ds	70~80				
OUT CAKE WEIGHT	kg/h	55~60	110~150	220~250	340~400	+40% Reduced
CONVEYOR BELT WIDTH	mm	500	1000	2000	3000	STS304/STS316
CONVEYOR BELT SPEED	meter/min	0.3~1				adjustable
BELT LENGTH & QUANTITY	-	45meter & 2sets				
AIR REQUIREMENT	kgf/cm2	2liter/min at 5kgf/cm2				
ELECTRONIC POWER CONSUMPTION	kW/h	30	50	95	120	Heating line
BLOWER	kW/h	15	30	50	80	Air Line
DIMENSION	CBM	4.75cbm	7.40cbm	15.6cbm	36.72cbm	
	Length(mm)	2400	2400	2700	3000	
	Width (mm)	900	1400	2500	3600	
	Height (mm)	2200	2200	2300	2400	
WEIGHT	kg/set	1200	2000	3500	5000	

3. Out-Cake Photos

		
<p>1st by Mechanical Dewatering Machine as: Decanter, Beltpress, Filterpress, Screwpress, Thickener etc..</p>	<p>2nd by ELODE System</p>	<p>3rd by NVD</p>
<p>75-80%wt (20-25%ds)</p>	<p>50-60%wt (40-50%ds)</p>	<p>10-20%wt (80-90%ds)</p>

-The End-