

BLUEWIN

专业污泥脱水集团
(株) FINE

为人类,
为社会,
为了更好的地球环境...

绿色环保高端技术, ! 勇于挑战!

FINE-ELODE

创新污泥脱水系统

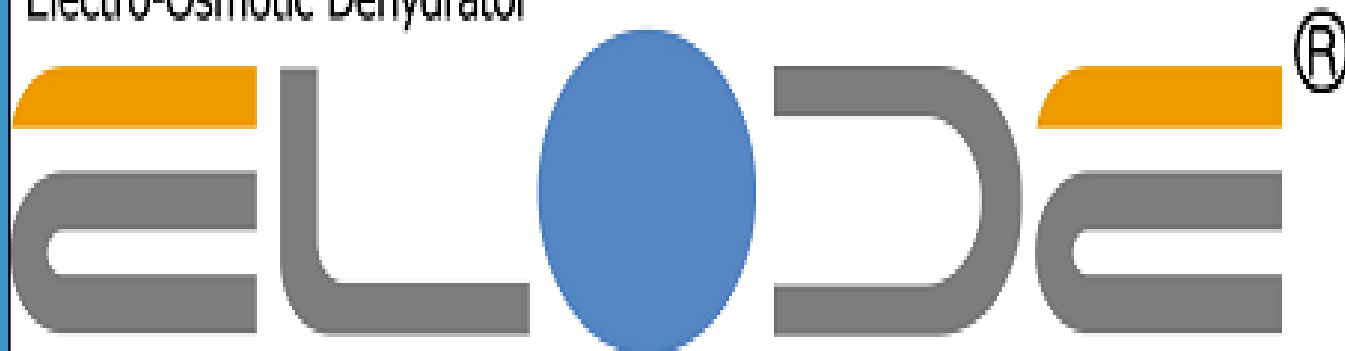
- **全世界没有竞争对手!!**
- **保证含水率 30%wt (托税率70%ds) ! (大部分WWTP Sludge)**
- **创新电能消耗量0.25kWh/1L (世界最低能源)**
- **12月以内装备购买投资次数 (非常快的 ROI)**
- **世界上最有竞争力的运营费!**
- **世界上最有竞争力的投资费用!**

MOVIE

可以点击一下图片，观看视频；
“全视频：压带机和ELODE完美结合”



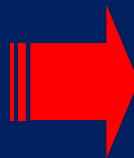
Electro-Osmotic Dehydrator



利用创新脱水系统，污泥产量最大减少70%&
，最终**Cake**可诞生新能源。

有**30**年污泥脱水经验

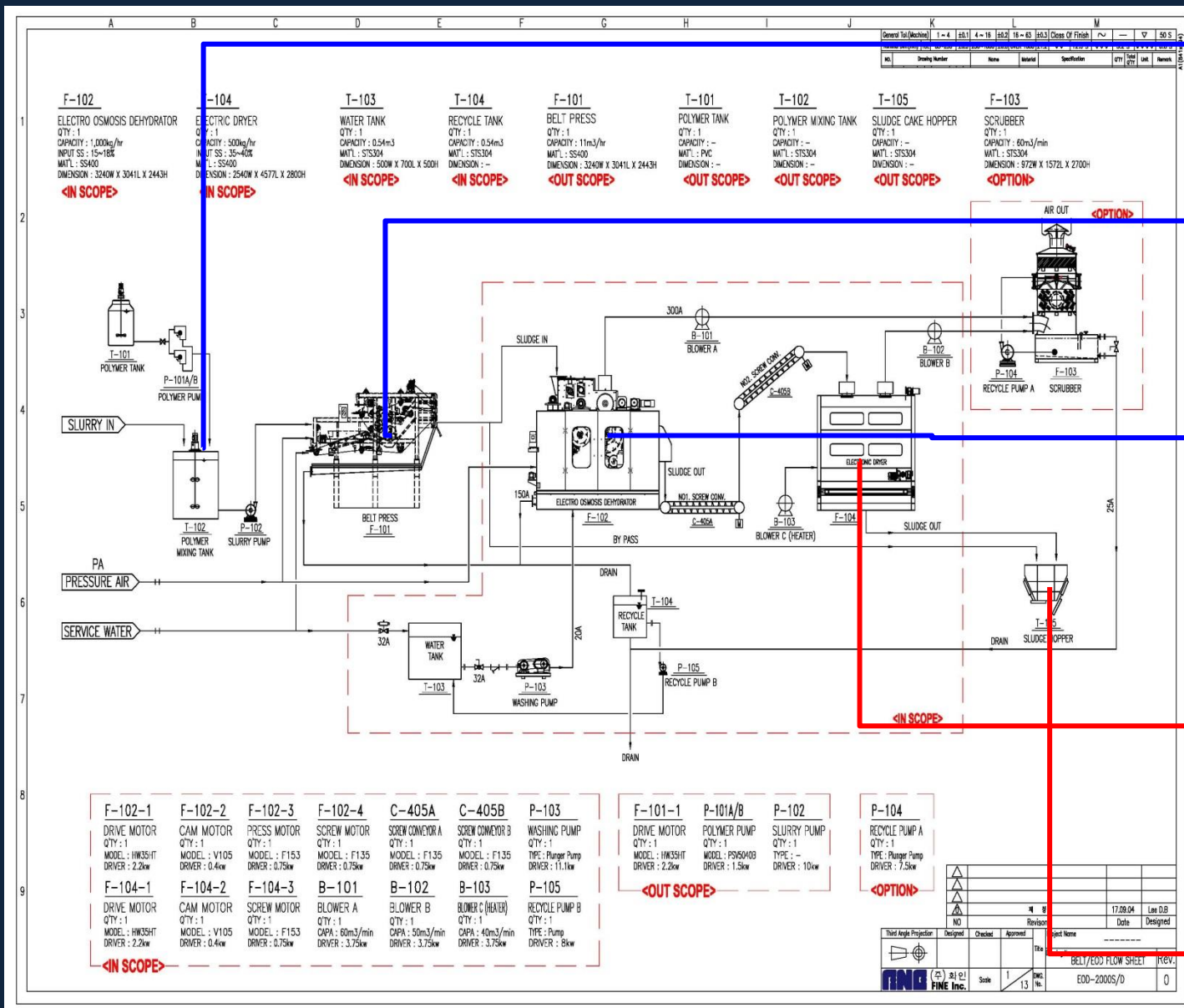
1次 Belt Press



2次 FINE-ELODE+NVD



70%~90%ds的处理流程图



初始 Input 1-5%ds

1次物流脱水机 Beltpress, Decanter, Filterpress, Screwpress

1次脱水的 20%d, 污泥可通过ELODE2次脱水

3次 40~50%ds NVD (Natural Ventilation Dryer) 最终干燥

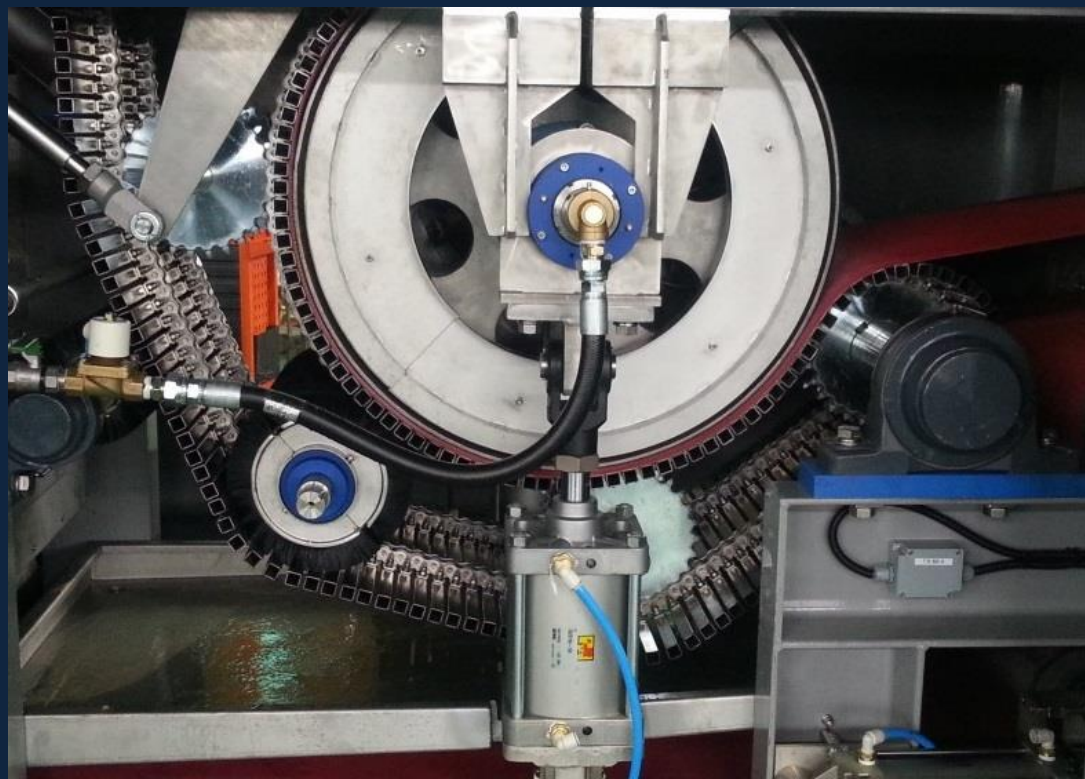
最终 Cake Out 70~90%ds

什么是FINE-ELODE?

FINE-ELODE = 用新技术点渗透方式的脱水系统

以最低的能源，成为世界上最初用在商业化成功的用电渗透方式，废水处理厂的有机污泥降低70%的含水率，可脱水及干燥的新概念脱水方式

- 河水污泥
- 粪尿污泥
- 餐厨垃圾污泥
- 畜产废水污泥
- 屠宰废水污泥
- 颜料.皮革.涂料污泥
- 化学.化工污泥
- 水产物加工污泥
- 其他有机污泥

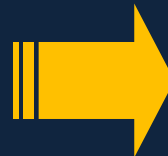


为什么是 FINE-ELOD?

跟所有(Beltpress, Filterpress, Decanter, Screwpress)装备结合的系统

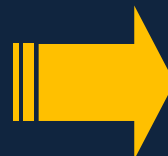
一般物理脱水装备

- ▶ Beltpress, Filterpress, Screw, Decanter 装备的最大脱水率为 ~25%DS 以下
- ▶ 细胞包含的 `细胞水` 和自由水 `是无法脱水



一般干燥机

- ▶ 高价格, 初期费用增加
- ▶ 高能源消耗, 增加运营费



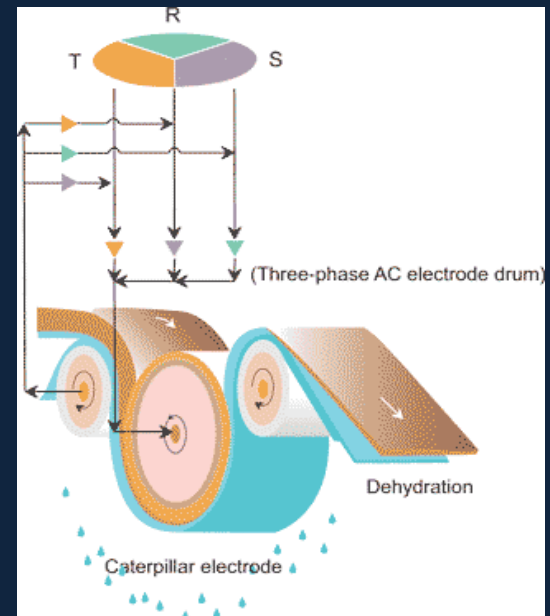
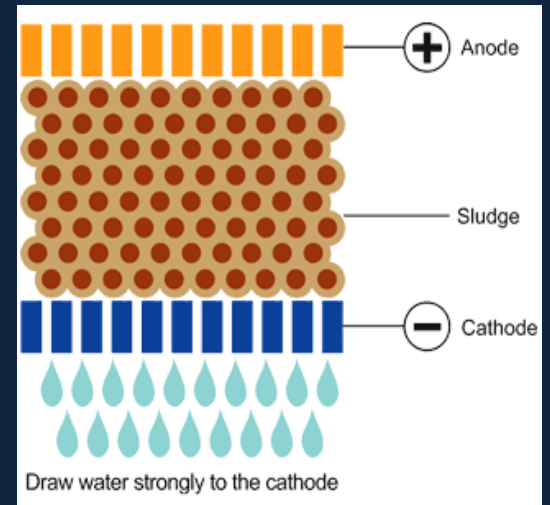
以上两个问题可用 ELODE解决

- ① 细胞水包含的 `自由水和细胞水` 用电渗透方式在短短2小时内2次大量脱水
- ② 最低 50%~最高 70% 减量
- ③ 最终干燥率为 >70~90%ds
- ④ 0.25kWh/liter的最低能源消耗量 (一般干燥机:
0.9~1.2kWh/liter)

FINE-ELODE 原理?

电渗透方式原理

- ▶ 电泳和电渗透相结合的技术
- ▶ 污泥是各自导入阴极的**Carbon**和阳极的**Drum** 一次旋转最大化脱水率
- ▶ 两个电极中间加上 3 相 DC 电压 污泥 颗粒(-)两级方向强推，往阴极方向 将水 (+) 强推。



FINE-ELODE 原理?

电渗透方式原理

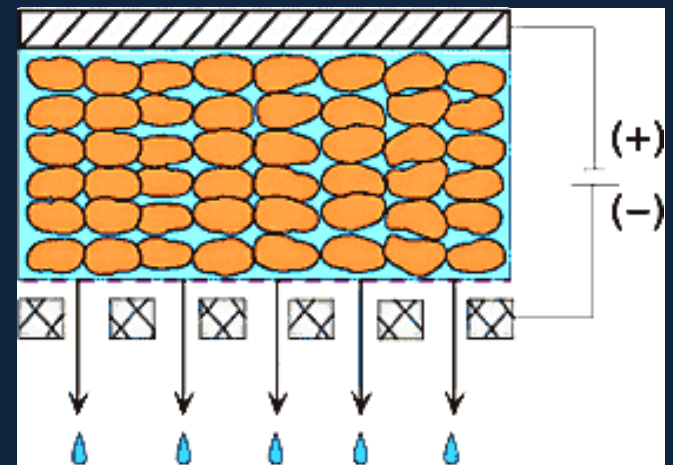
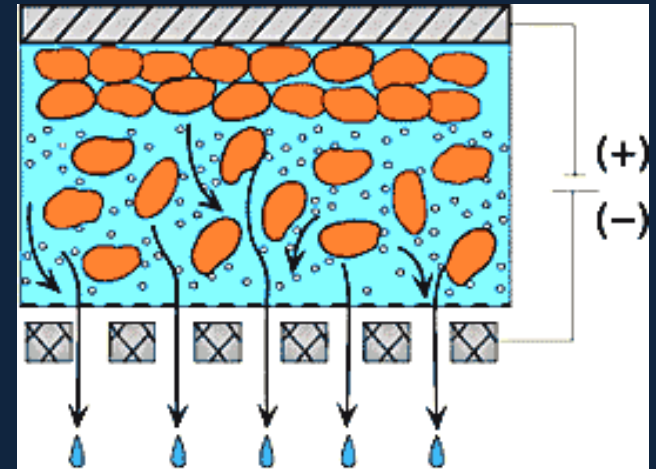
1. 用电渗透和加电泳

- 产生电位差，可将污泥颗粒从阴极 (-) 往 阳极 (+) 强推过去



2. 中间用电渗透，

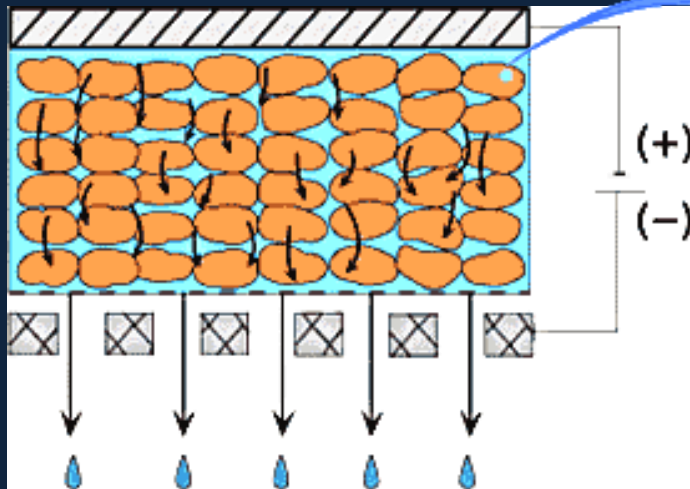
- 将水移动到(+)和 阴极(-)，最大程度上进行脱水



FINE-ELODE 原理?

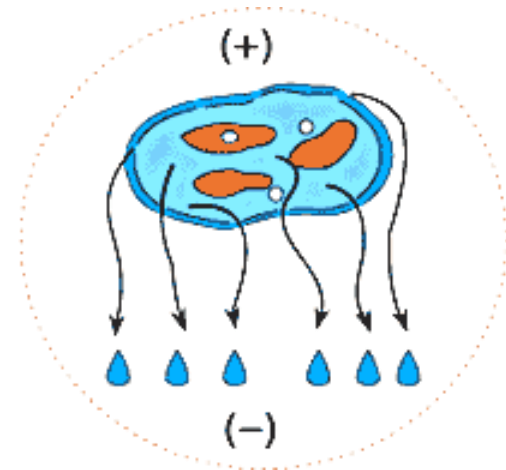
电渗透方式原理

3. 最终用电渗透破坏毛细血管。
破坏自由水和细胞水
- 多孔性固体可通过阴极 (-)，
强制让已经吸收的水脱水



破坏细胞膜. 排出细胞水

- 破坏细胞膜，迅速排出吸收的污泥自由水



FINE-ELODE

装备构成



EODS- SINGLE ELODE

- 连接1次脱水机后端
- 不管什么样的1次脱水机都可以适用
Beltpress, Filterpress, Decanter,
Screwpress, Thickener等等



EODB – BELT-PRESS BUILT-IN ELODE

- 可适用新建工厂
- 结合1次脱水机 Beltpress+ 2次
ELODE
- 1:1处理，电消耗量少

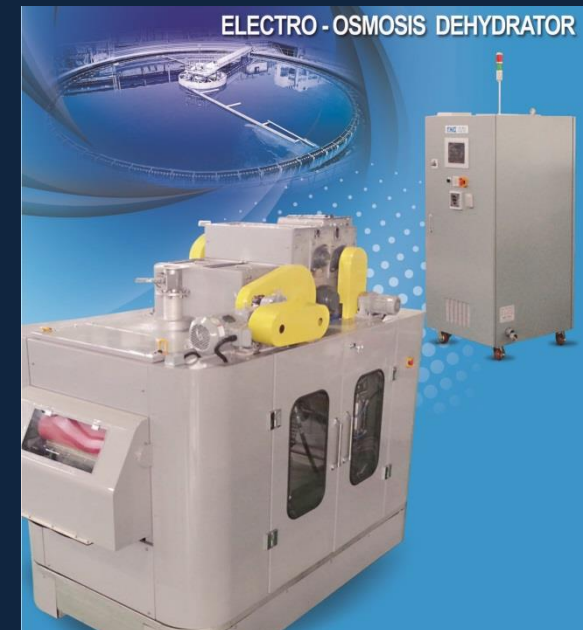
EODS — Single ELODE

规格说明

Dimension (m) L x W x H	Model	Belt With (mm)	Thought put @ 15% DS (kg)	Energy Consumption (kw/h)
2.7 x 0.6 x 1.5	EODS-50	500	250	40~60
2.7 x 1.6 x 1.5	EODS-100	1,000	520	80~120
2.8 x 2.6 x 1.6	EODS-200	2,000	1,040	140 – 160
2.9 x 3.6 x 1.7	EODS-300	3,000	1,560	190 – 220

EODS的平均脱水率

Dryness (% DS)	Wet Ton (Unit)	Improvement (Weight Reduction)
18% ➔ 42%	100 ➔ 43	57%
22% ➔ 45%	100 ➔ 49	51%



ELECTRO - OSMOSIS DEHYDRATOR

参考 : Input sludge > 6% DS
: 最佳的脱水条件是传导度为(Conductivity) 2000 μs – 8000 μs

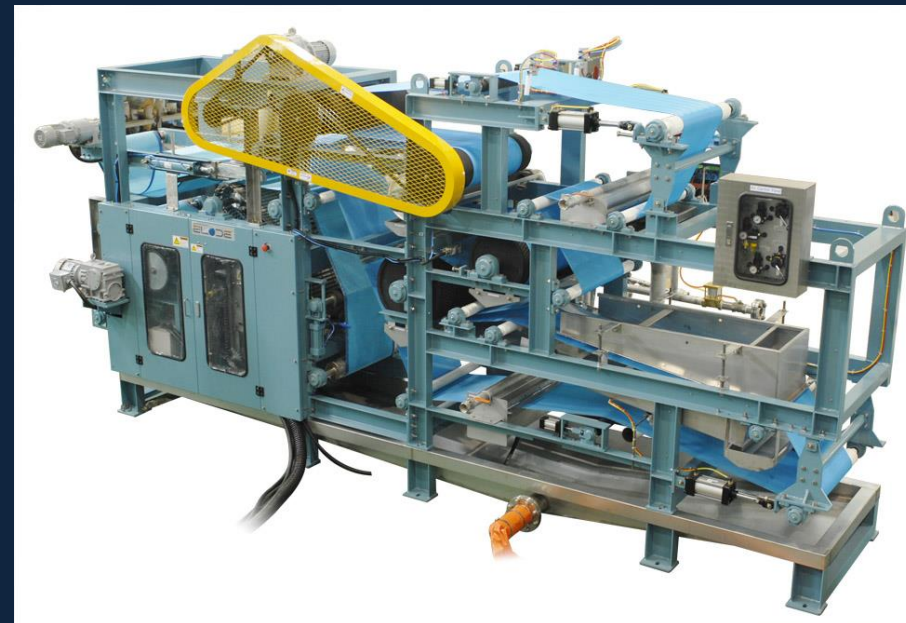
EODB — Belt-Press Built-In ELODE

规格说明

Dimension (m) L x W x H	Model	Belt With (mm)	Thought put @ 1% DS (kg)	Energy Consumption (kw/h)
4.48 x 1.35 x 2.38	EODB-100	1,000	7,800	80 – 120
4.58 x 2.56 x 2.38	EODB-200	2,000	15,600	140 – 160
4.58 x 3.86 x 2.38	EODB-300	3,000	23,000	190 – 220

EODB的平均脱水率

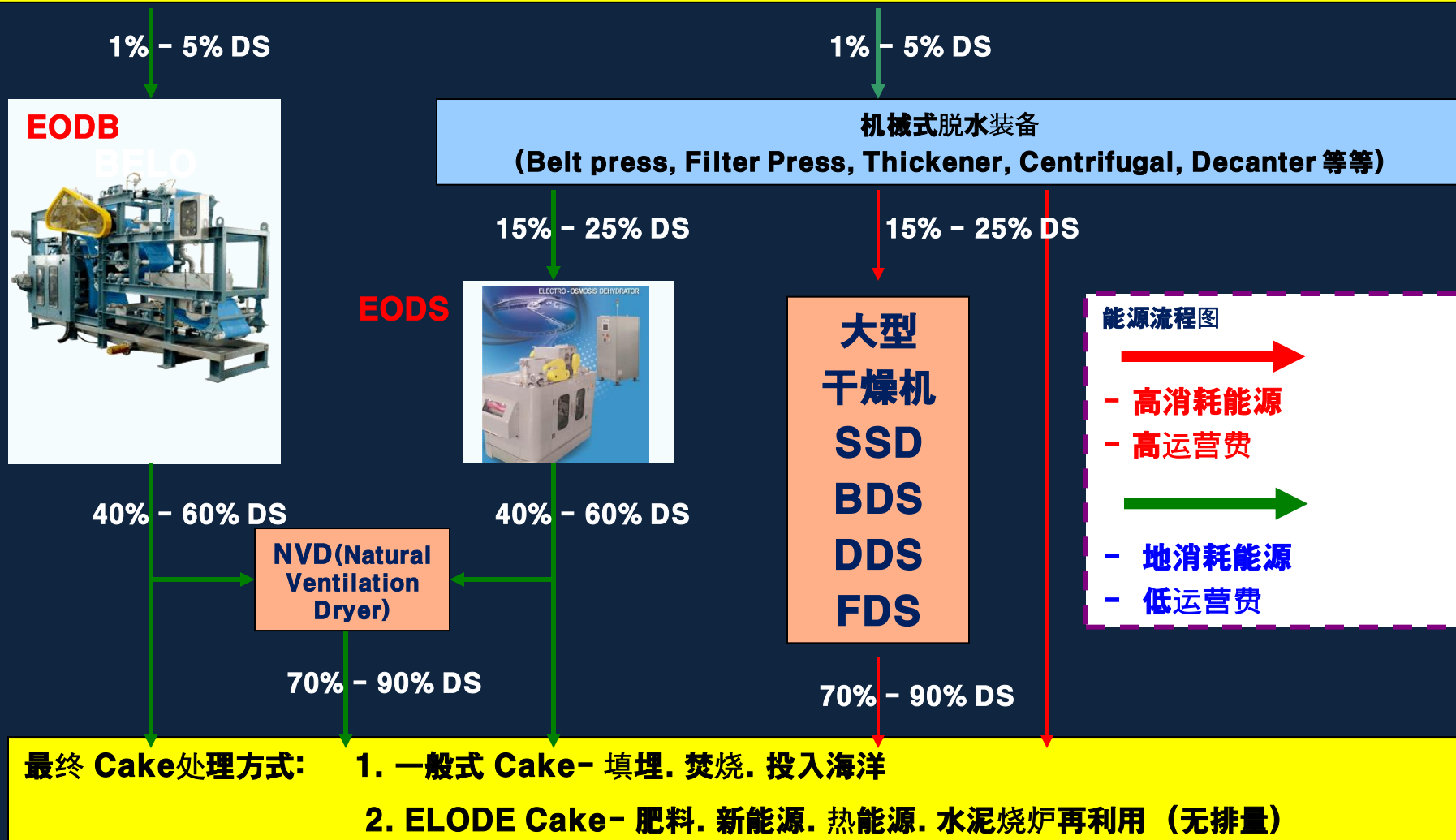
Dryness (% DS)	Wet Ton (Unit)
1% → 45%	100 → 2.22



参考 : Input sludge > 6% DS
: 最佳的脱水条件是传导度为(Conductivity) 2000 μ S – 8000 μ S

ELODE 处理比较过程

Polymer和混合的污泥引入 (流入污泥)



ELODE 费用比较

生物学处理的一般河水污泥

例子

: Sludge 浓缩流入ds

: 1% DS (99% wt)

Sludge 重量

: 1,000 ton /日

1次物理脱水装备

(Belt-Press, Filterpress, Centrifugal, Screwpress, Decanter, Thickener-Dewatering, 等等)

EODS

Sludge 脱水ds

: 70% DS (30% wt)

Sludge 重量

: 14.28 ton

处理费用

: USD 1,142

电能消耗量

: 7,920 kW x USD 0.15
= USD 1,188

总 支出费用

= USD 2,330

Sludge 脱水率 ds

: 18% DS (82% wt)

Sludge 重量

: 55.5 ton

处理费用

: USD 4,440

污泥减量率

= 41.22 ton (74%)

费用减少

= USD 2,110 /日

年减少费用

= USD 633,000

适用标准

Sludge 处理费用

= USD 80 / ton

每日运营时间

= 22 hrs / day

= 25 days / month

电使用量 = USD 0.15 kW.hr

所需装备数量 EODS-3000 x 2 units

最大能源消耗量 = 180 kW / machine

ELODE 能源减量率比较

生物学处理的一般河水污泥

例如：1,000 wet ton @ 1% DS

1次物理脱水的托税率

55.5 wet ton @ 18% DS

EODS

- ▶ 14.27 ton @ 70% DS
- ▶ 能源消耗量
2 EODS-3000x180kWx22 hr
~ 7,920 kW.hr/d

Dryer 2 (S1)

- ▶ 25 wet ton @ 40% DS
- ▶ 30.5 ton 水脱水量
- ▶ 能源消耗量
~ 30,500 kW.hr/d

(S2)

- ▶ 12.5 wet ton @ 80% DS
- ▶ 12.5 ton water evaporated
- ▶ Energy Consumption
~ 12,500 kW.hr/d

Dryer 2 (S1) - EODS
= 7,920 kW/d
82% 减少能源

Total Energy Consumption

ELODE+NVD

= 7,920 kW.hr/d

Total Energy Consumption

Dryer 2

= 43,000 kW.hr/d

适用标准

一般热风干燥机一吨水蒸发两能源 = 1,000 kW.hr
(Ave.0.95-1.1kW.hr/L)

ELODE 的特征和优点

1. 高脱水率
(保证含水率 30%wt)



减少费用

- 减少运费
- 填埋，焚烧费用
减少最终处理费用

2. 最终减量 Cake
(70%+Reduced)



环境改善

- 简单易操作
- 储存，处理装备的小型化
- 改善清洁环境
- 新能源再利用

3. 极少能源消耗
一般干燥剂相比，减少
70% 以上



最低运营费用

- 0.25~0.35kWh/liter (一般干燥机
0.9~1.1kWh/liter)
- 有竞争力的维修费用

ELODE 的特征和优点

4. 易结合体



所有1次脱水机 Beltpress, Decanter, Filterpress, Screwpress, Thickener可以直接安装的设计

5. 结实的大小



最小空间和运作简单
清洁，减少费用

6. 优质品质和耐久性



装备耐久性强，可实现最少费用

- 保证品质
- 驾驶简单
- 维持年U\$10,000以下的维修费用

7. 无人自动运转24小时



确保安全，稳定

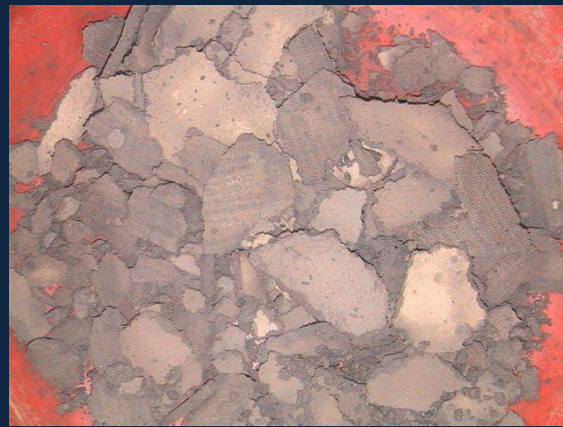
- 自动，无需驾驶员
- 安全且稳定运行简单

PERFORMANCE :

按Sludge性状 最终脱水的Cake (Non NVD)



一般河水污泥



化学污泥



有机污泥

畜产废水污泥



高有机性颜料污泥



河水+粪尿污泥



PERFORMANCE :

按**Sludge** 性状最终脱水的**Cake (Non NVD)**



工业用油污泥



食品豆渣污泥



有机矿物质污泥

制药污泥



牛奶，奶粉污泥



人粪污泥



结果：2次脱水后平均重量减量率 (Non NVD)

适用前: 14%DS (86%WT)

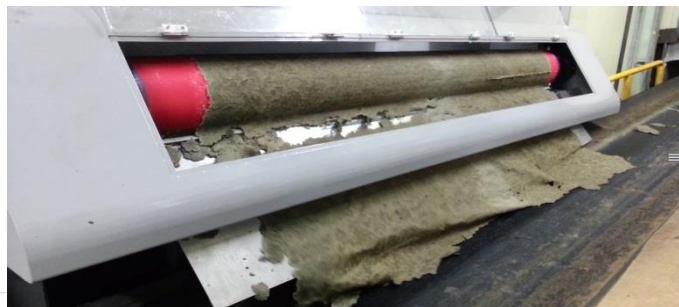


适用后: 52%DS (48%WT)



平均 62% 减量

实际数据资料 (Non NVD)

客户名	DuPont Inc. Korea		Remark
适用模型装备	FINE-ELODE: EODS-150, 1.5meter Belt Width		Main Process machine
安装时间	November, 2013		
运营时间	3.2 years		
安装地点	Ulsan, Korea		
污泥种类	High Organic Chemical Sludge		
污泥性状	Very difficult high organic sludge		Impossible at existing FINE-ELODE
1次脱水装置引入DS%	Beltpress 88%wt ±2%		
日处理量	700kg x 5hours = 3.5ton		
适用前后比较	Before (88%wt)	After (64%wt)	2.34tonx300days=702ton reduced. x\$150 = Yearly U\$105,300 SAVED
	3.5ton/day	1.16ton	
	Reduced 66.85%	Daily 2.34ton Reduced	
Cake放出场景, 参考图片			
每装备电消耗量	Average : 120~140kwh		
一般干燥剂对比点消耗量	Dewatering discharged/hr : 468liter, Max 140kW = 0.299kWh		Dryer 0.9~1.2kW/liter
其他	装有更新的 NEW ELODE는 NVD, 保证含水率保持在30%, 可节省约15% 电能。		

实际数据资料(Non NVD)

客户名	SONGWON INDUSTRIES. Korea		Remark
适用模型装备	FINE-ELODE: EODS-300, 3.0meter Belt Width		Main Process Machine
安装时间	December 2013		
运营时间	3.1years		
安装地点	Ulsan city. KOREA		
污泥种类	High Organic Sludge		
污泥性状	Non-Dewaterable sludge with high conductivity of 15,000 μ S.		impossible at existing FINE-ELODE
1次脱水装置引入DS%	Multiple discs Press 83%wt $\pm$ 3%		
日处理量	1000kg x 20hours = 20ton		
适用前后比较	Before (83%wt)	After (65wt)	10.3tonx300days=3,090ton reducedx\$170 = Yearly U\$525,300 SAVED
	20ton/day	9.7ton	
	Reduced 51.5%	Daily 10.3ton Reduced	
Cake放出场景, 参考图片			
每装备电消耗量	Average : 80kW~120kWh		
一般干燥剂对比点消耗量	Dewatering discharged/hr : 515liter, Max 120kW = 0.27kWh		Dryer 0.9~1.2kW/liter
其他	装有更新的 NEW ELODE는 NVD, 保证含水率保持在30%, 可节省约15% 电能。		

实际数据资料(Non NVD)

客户名	EXPORT TO JAPAN		Remark
适用模型装备	FINE-ELODE: EODS-50, 0.5meter Belt Width		PILOT Machine
安装时间	March, 2014		
运营时间	2.9 years		
安装地点	Japan night soil Treatment Plant		
污泥种类	Organic Municipal Sludge		
污泥性状	90% high organic Night Soil, 10% city sludge		
1次脱水装置引入DS%	DECANTER 80%wt ±5%		
日处理量	200kg/hr x 12 hours = 2.4ton		
适用前后比较	Before (80%wt)	After (57%wt)	1.24tonx300days=372ton reduced x\$180 = Yearly U\$66,960 SAVED
	2.4 ton/day	1.16ton	
	Reduced 53.48%	Daily 1.24ton Reduced	
Cake放出场景，参考图片			
每装备电消耗量	Average : 40kW~60kWh		
一般干燥剂对比点消耗量	Dewatering discharged/hr : 103liter, Max 60kW = 0.58kWh		Dryer 0.9~1.2kW/liter
其他	装有更新的 NEW ELODE는 NVD, 保证含水率保持在30%，可节省约15% 电能。		

MOVIE

公司介绍视频：可点击下面的图

The company emphasizes on people
and the environment to create a better society



MOVIE

污泥脱水场景; 点击下面的图片
“DuPont Korea Plant”



公司介绍

公司概况

公司名	BLUEWIN, FINE INC,		
董事会	Mr. LEE SANG JUN(Korean)/CEO & President Mr. KIM SUN GUK (Korean)-President Mr. ANTONIO KIM (Korean)-CEO & CMO		
成立日期	SEPT, 15, 1989		
主营产品	SLUDGE DEWATERING SYSTEM - ELODE : Electro Osmosis Dehydrator 60%ds Guarantee - DECANter, CENTRIFUGE Mechanical machine - BELT-PRESS, SPECIAL VALVE		
首尔市场部办公室	Baeksan Bldg, 157 street, Jungnung-Dong, Seongbuk-Gu, SEOUL. KOREA.		
注册资本	US\$3.2mil	销售额	US\$68.2mil/2016'
员工人数	181 staffs / 2017' present		
联系方式	Tel: +82.70.7868.8920 / Fax: +82.2.912.4438 E-mail: antoniokim65@gmail.com / www.BLUEWIN.kr		

财务状况及信用等级

评价有效期间:Dec/31/2015~Apr/22/2017

3年内财务状况

- 信用等级: BBB-
- 现金流程 : CF2(B)
- 销售额: 平均每年U\$68.2mil/

银行信息

- Industrial Bank of Korea
- KOREA.

发行公司-信用评级公正机关

NICE평가정보 주식회사
NICE Information Service Co., Ltd.



组织图

Employees 181
2017' Present

BOARD OF MEMBER

CEO & President

Vice president

Audit

Management Innovation Headquarters

R&D Engineers	38 staffs
Sales & Business Management	36 staffs
Products Processing	73 staffs
After sales Service	20 staffs
Education. Training. Human resource etc.	14 staffs

**ELODE
Department**

**DECANTER
Department**

**OTHER
Department**

Administration

Sales Engineering

R & D Center

Production

Sales Engineering

R & D Center

Production

Sales Engineering

R & D Center

Production

Admin

Account

Procurement

专利

SORT	NAME OF PATENT	REGISTERED NO	DATE	ITEM
TRADE MARK	FINE	#40-0701110	2007.03	Trade Mark
TECHNICAL PATENTS	PIN-TUBE MFG-PROCESSING DEVICE	#10-0612624	2006.08	F.A.
	WATER-OIL SEPARATOR	#10-0697688	2007.03	SEPARATOR
	WASTE SLUDGE RECYCLE DEVICE	#10-0947465	2010.01	DECANTER
	SLUDGE PROCESS OF FINE-ELODE	#10-1045151	2011.06	FINE-ELODE
	SCM-SPECIAL RUBBER MFG-PROCESSING	#10-1076740	2011.10	SCM FILM
	CATHODE & ANODE DRUM OF FINE-ELODE	#10-1070296	2011.10	FINE-ELODE
	PERMEABILITY RUBBER SHEET MFG-PROCESSING	#10-1089592	2011.11	SCM FILM
	RUBBER SHEET FOR SHOE MFG-PROCESS	#10-1129702	2012.03	SCM FILM
	SLUDGE PROCESS OF FINE-ELODE	#10-1156498	2012.06	FINE-ELODE
	DIGITAL CONTROLLING CIRCUIT AND SYSTEM OF FINE-ELODE	#10-1172365	2012.07	FINE-ELODE
	APPARATUS FOR INPUTTING VOLTAGE OF FINE-ELODE	#10-1171730	2012.07	FINE-ELODE
UTILITY PATENTS	RUBBER FILM FIBER & OTHERS	3 different kinds	-	SCM FILM

※Yellow text is FINE-ELODE System

CERTIFICATE

ARTICLES	AUTHORIZED BY	REGISTERED NO.
R&D CENTER of FINE INC.	KOREA INDUSTRIAL TECHNOLOGY ASSOCIATION	#20084189
WORLD CLASS PRODUCTS	MINISTRY OF KNOWLEDGE ECONOMY	#2008-310
GREEN TECHNOLOGY	MINISTRY OF ENVIRONMENT	#GT-12-00173
INNOVATIVE S.M.E (INNO-BIZ)	SMBA	#R2021-524
ISO9001 QUALITY MANAGEMENT SYSTEM	SMBA CENTER	D 152-211
ISO14001 ENVIRONMENT MANAGEMENT	CRS	EMS-0080
LEADING COMPANY FOR MACHINERY PARTS & MATERIALS PARTS	MINISTRY OF KNOWLEDGE ECONOMY	#6801
BUSAN-LEADER FOR MACHINERY PARTS & MATERIALS PARTS	BUSAN METORPOLITAN CITY	#2006-2-89
FINANIAL A+ MEMBER CLUB	TECHNICAL ASSURANCE FUND (KOREA GOVERNMENT)	#836
CE	Lloyd's Register	KPA 58161
DESIGNATED AS A DEFENSE COMPANY	MINISTRY OF KNOWLEDGE ECONOMY	#196
DEFENSE QUALITY MARK	DEFENSE TECHNOLOGY and QUALITY AGENCY	DTaQ-CDQ-13

公司发展历史

Year	Contents
1999	Commendation of SMBA
	Commendation of the National Tax Service
2001	Busan Venture Company Excellence Award (Busan Metropolitan city)
2003	Commendation of Ministry of Science and Technology
2004	Commendation of the Prime Minister
2005	Excellence Prize for Busan Excellent Small Business
2007	Awarded U\$3mil export and commendation of KITA
2008	Presidential Citation
	Awarded U\$5mil export
2009	Worker-company win-win concession negotiation practice enterprise certification (Ministry of Labor)
2011	Selected as a good company to work in our region (Ministry of Knowledge Economy)
	Busan Employment Grand Prize (Busan Metropolitan city)
	Certified as world-class product of SCM film (Ministry of Knowledge Economy)
2012	Selected as proud Small and Medium Businessman(SMBA)
	Acquired Green Technology Certificate (Ministry of Environment)
	Awarded U\$10mil Export
	Awarded Excellence Prize for Busan Export Award (Busan Metropolitan city)
2013	Received the Bronze Tower Order of Industrial Service Merit
	Selected as Excellent Employment Company in Busan
2015	Selected as World Class 300 company
	Awarded Busan Industrial Grand Prize

第一1工厂全景.釜山.韩国

- **ELODE** 生产线和水处理装备生产工厂



工厂面积: 8,910sqm

联系方式

BLUEWIN

e-mail	antoniokim65@gmail.com	www.bluewin.kr
Person in charge	Antonio KIM CEO	Mobile Phone +82.10.5231.8920
SNS: KAKAO ID: bluesky1965 WeChat ID: antoniokim65 WhatsApp ID: 010-9140-9967		
We are always ready to reply within 24hours & Serve for you		

THANK YOU

BLUEWIN

污泥脱水专业

株式会社 *Royal*精工

为人类,
为社会,
为了更好的地球环境...

绿色环保高端技术, ! 勇于挑战!

ROYAL-DECANTER, THICKENER, BELTPRESS

ROYAL-DECANTER



(주)로알精工
ROYAL PRECISION IND.CO.,LTD.



ROYAL-VALVE

我们哪
里与众
不同?

ROYAL-DECANTER ROYAL-VALVE

30年累积的DECANTER及特殊VALVE 制造经验

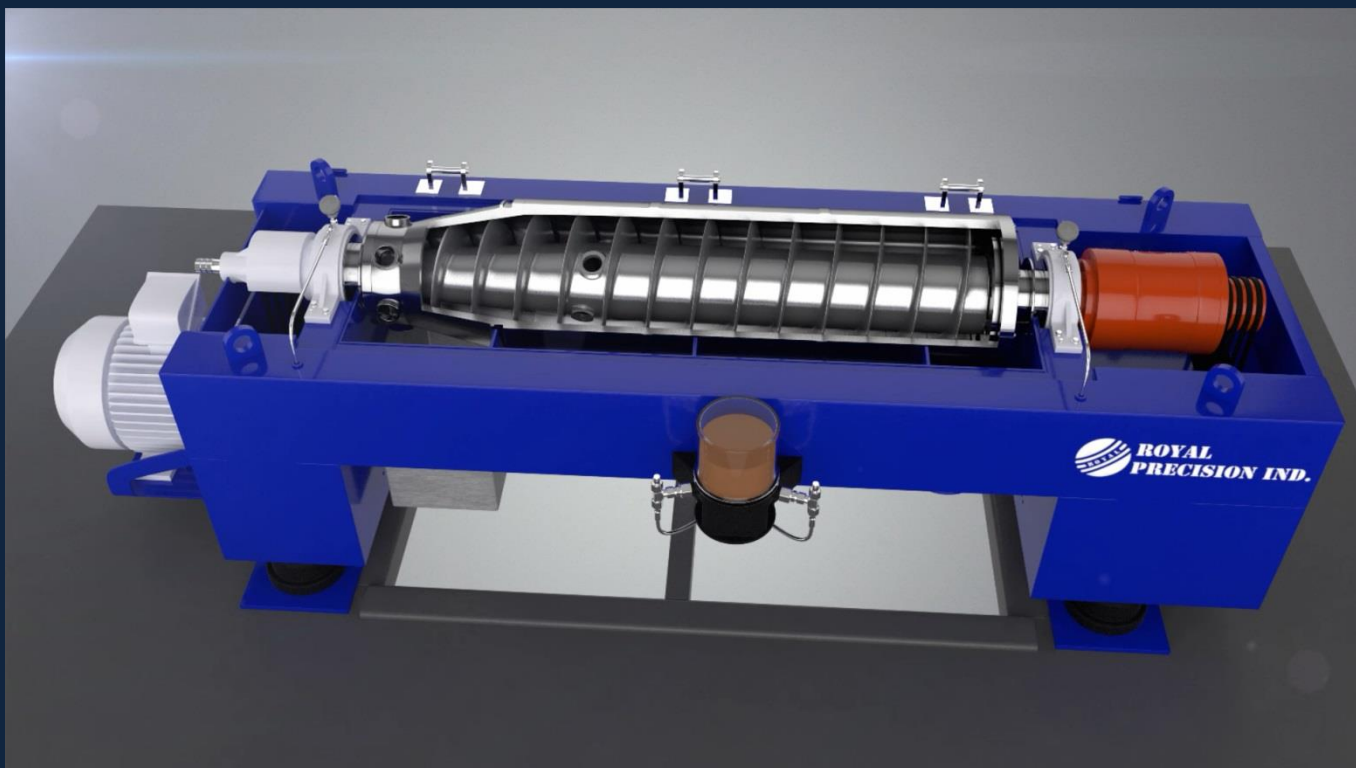
3,000套以上的供货业绩，1,000余以上的运营
业绩及多样的经验价值

秉承迅速售后服务和客户至上理念

www.korearoyal.com
Sustainable growth enterprise

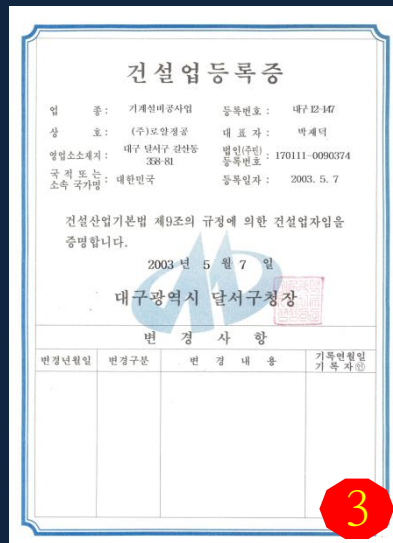
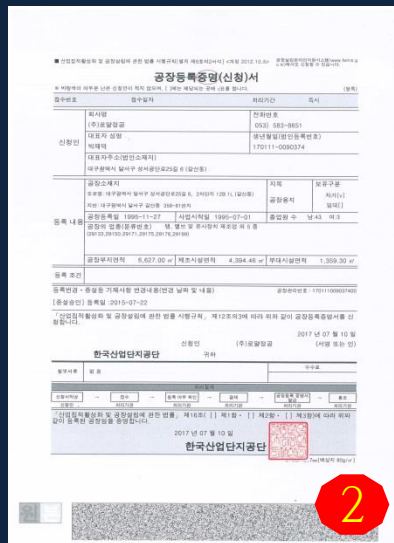
MOVIE

如果您想看视频，请点击下面的图片 “ROYAL”

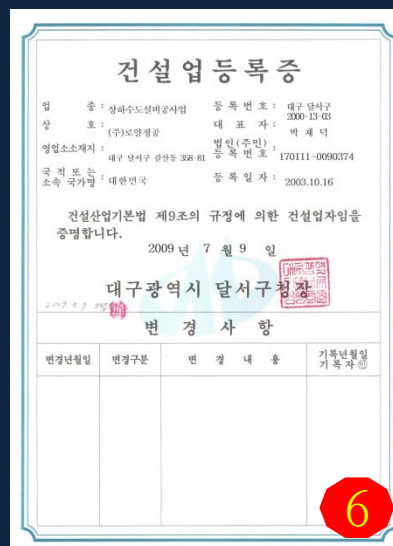
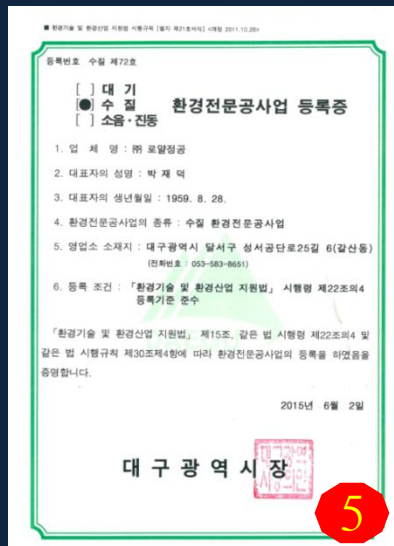
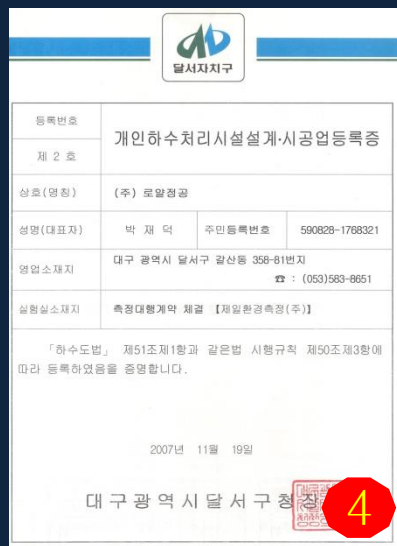


SORT	NAME OF PATENT	REGISTERED NO.
TECHNICAL PATENTS	Screw conveyor for screw decanter type centrifuge with detachable screw wings	#10-1081751
	Centrifuge with multistage controller dam plate	#10-1068577
	With a two-stage accelerated discharge cover formed in a screw conveyor Screw Decanter Type Centrifuge	#10-0977196
	A concentrate having a rotation angle or a cake outlet Screw Decanter Type Centrifuge	#10-0953671
	A screw decanter type centrifugal separator equipped with a plate for noise prevention on the rotating body of the outer shell bolt	#10-0920493
	Centrifuges for industrial, sewage and wastewater treatment Wing end surface hardening method of screw conveyor	#10-0857057
	Horizontal centrifuge for sludge concentration and dehydration	#0407896
	Acceleration / deceleration gearbox unit for two-stage accelerating centrifuge	#0340190
	Automobile decelerators for centrifugal concentrators and dehydrators	#0302832
UTILITY PATENTS	Mechanical concentration and dehydrator by centrifugal force	#0251596
	Screw conveyor of decanter type centrifuge consisting of injection nozzle with directional spray angle	#20-0459173

사 업 자 등 록 증 (법인사업자)	
등록번호 : 503-81-28637	
법인명(단체명) : (주) 로얄점프	
대표자 : 박석원	
제정년월일 : 1995년 07월 01일 법인등록번호 : 170111-0090374	
사업장소재지 : 대구광역시 달서구 성서공단로25길 6 (갈산동)	
본점소재지 : 대구광역시 달서구 성서공단로25길 6 (갈산동)	
사업의종류 :	[영문] 제호 상위분류 : 서비스업 중위분류 : 숙박·음식점업 하위분류 : 음식점업 세출코드 : 551110 세출명칭 : 음식점업
	[한글] 제호 상위분류 : 일반서비스업 중위분류 : 숙박·음식점업 하위분류 : 음식점업 세출코드 : 551110 세출명칭 : 음식점업
고무사유 : 세무처부	
사업장단위과세 적용여부 : 예 () 부 (v) 전자세금계산서 전용매입주소 : roya1583@bill36524.com	
담당자	: 김현식과장(1053-583-8651.F053-583-8655)
2013년 08월 27일	
서대구 세무서장	



⑥ 环境建设登陆证



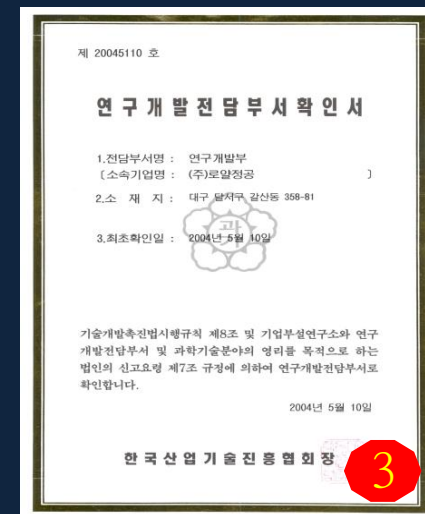
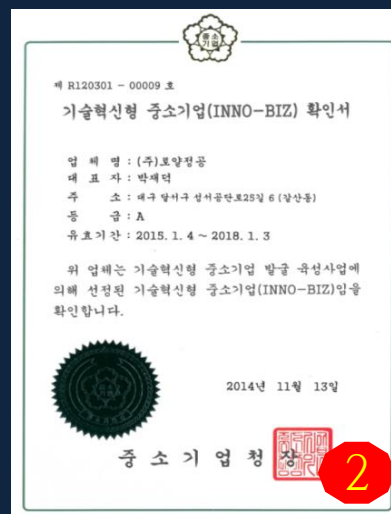
获得MARK



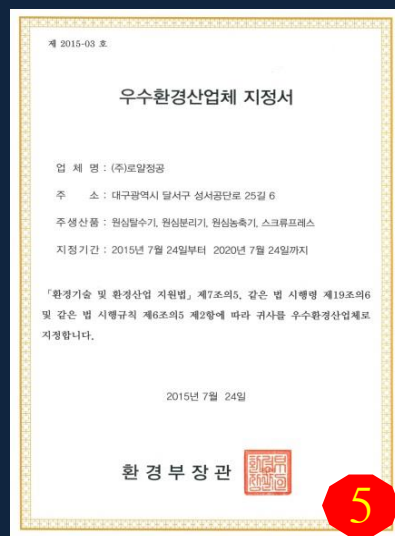
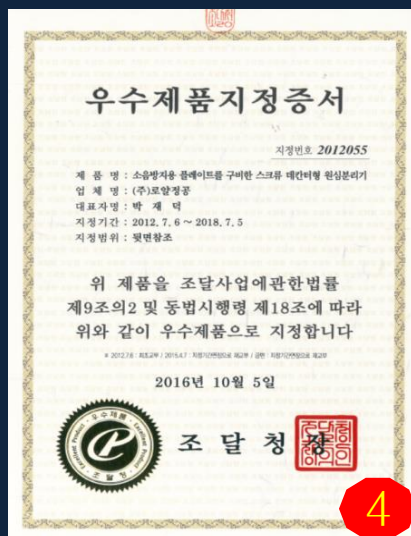
各种优秀认证书



- ① 国际 API 认证书
- ② 技术革新中小企业认证书
- ③ 研究开发专业企业认证书



- ④ 优秀产品指定书
- ⑤ 优秀环境产业企业指定书
- ⑥ ISO9001
- ⑦ ISO14001



奖状情况

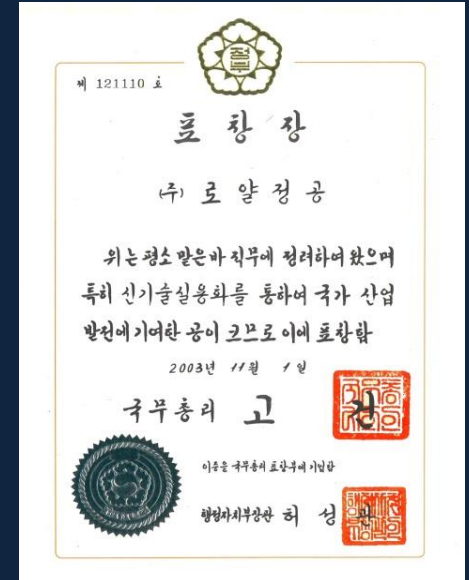
东塔产业勋章 18代总统表彰



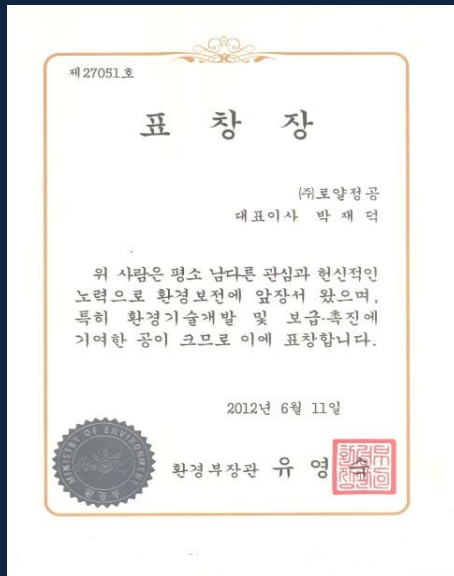
19代总统表彰



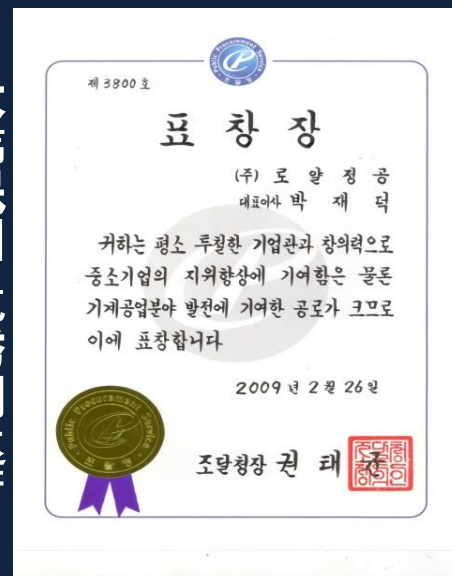
35代 国务总理表彰

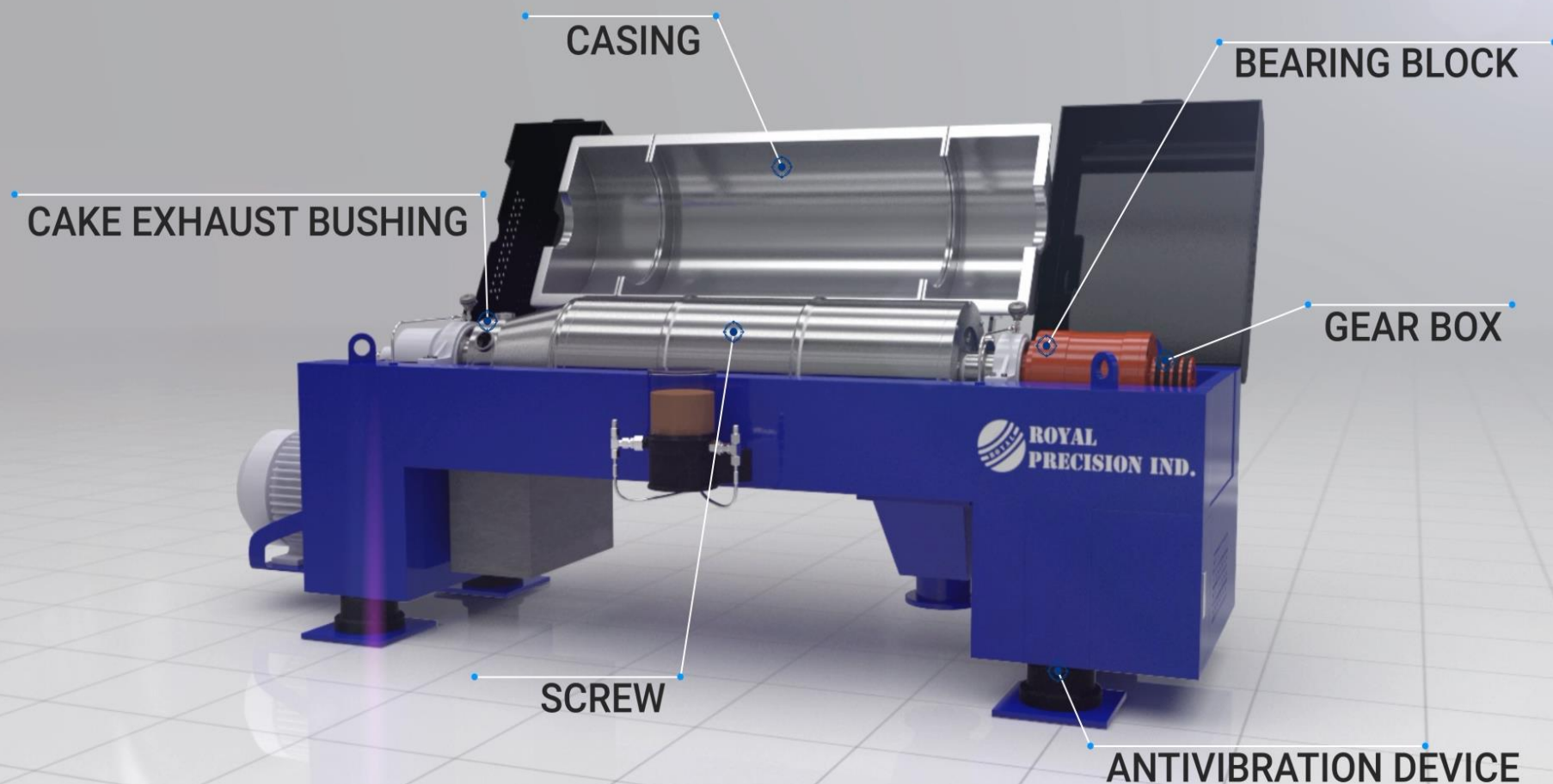


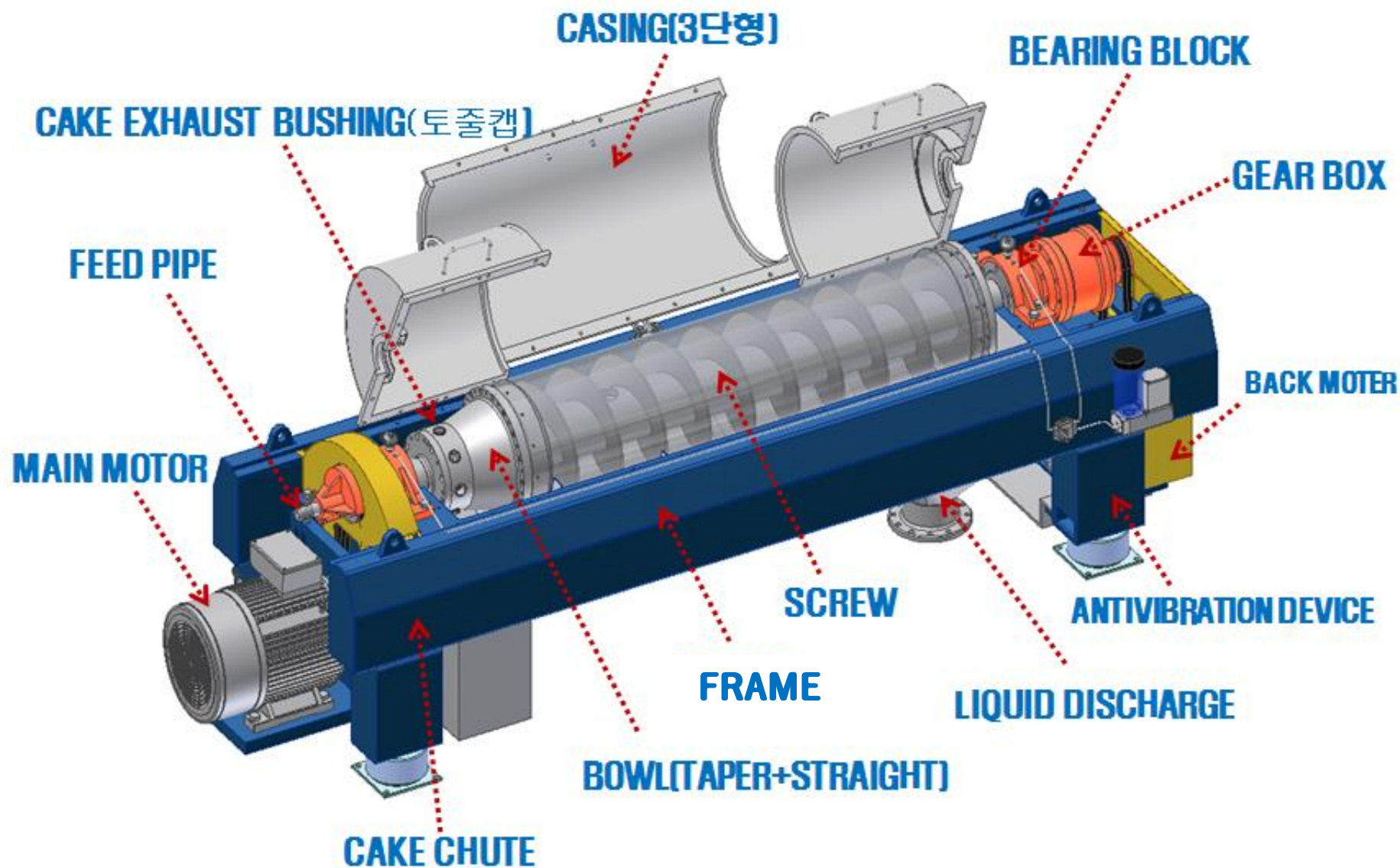
行政自治理长官奖



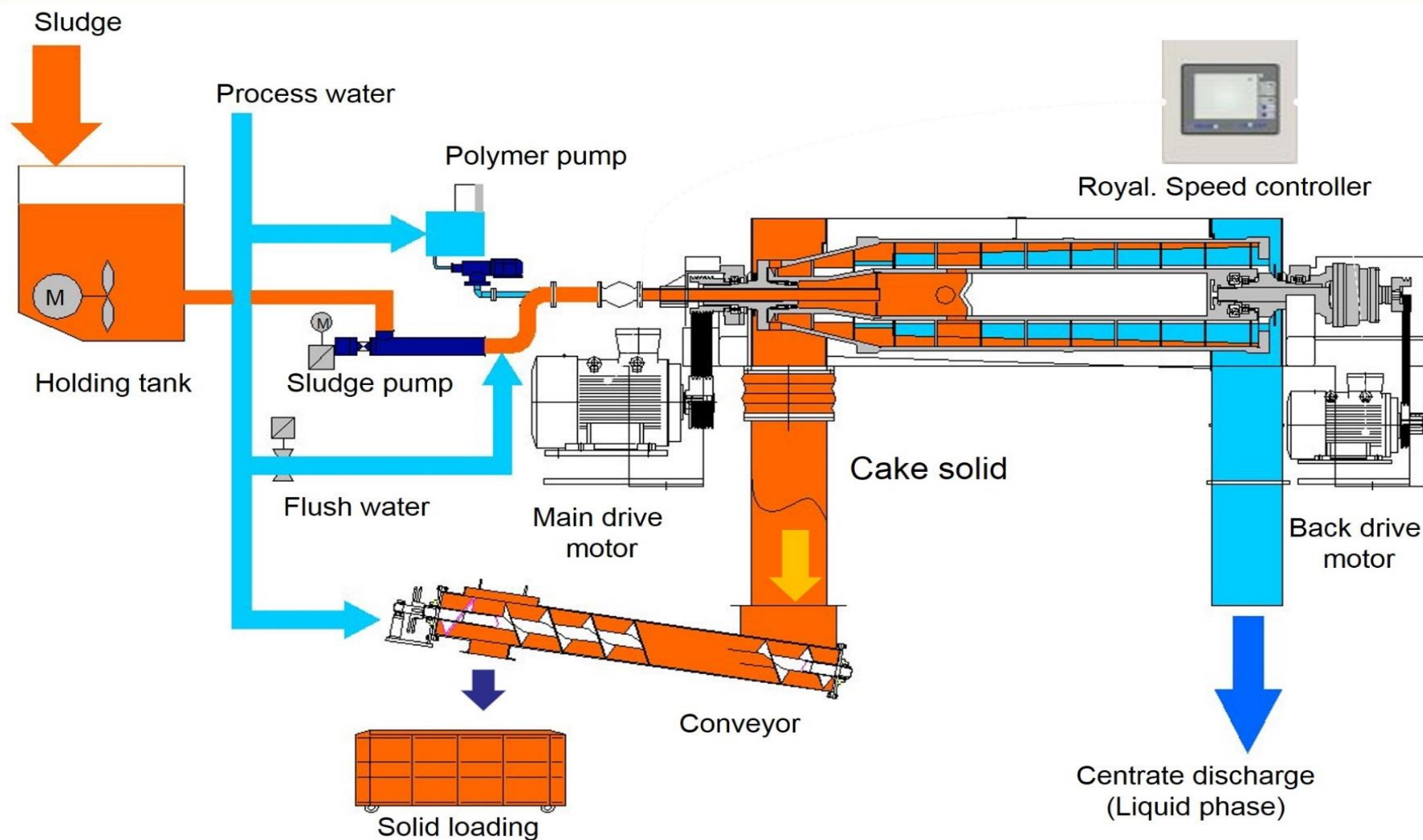
大韩民国 优秀调达厅 优秀器材表彰







Centrifuge installation for dewatering of sewage sludge (Royal precision ind. Co.Ltd.)



污泥性状脱水率

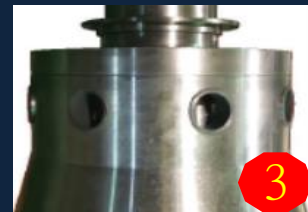
污泥性状

	Primary	Thickening	Excess biological	Centrifuge thickening	Digested	Mixed
TS (mg/L)	18,775	22,852	4,936	46,707	31,215	33,391
VS (mg/L)	10,796	13,918	3,403	33,614	14,920	18,647
VS/TS (%)	57.3	60.6	68.9	72	47.8	56.2
Moisture content(%)	74 ~ 77	75 ~ 80	77 ~ 83	77 ~ 83	71 ~ 75	74 ~ 77

VS/TS 比例和含水率

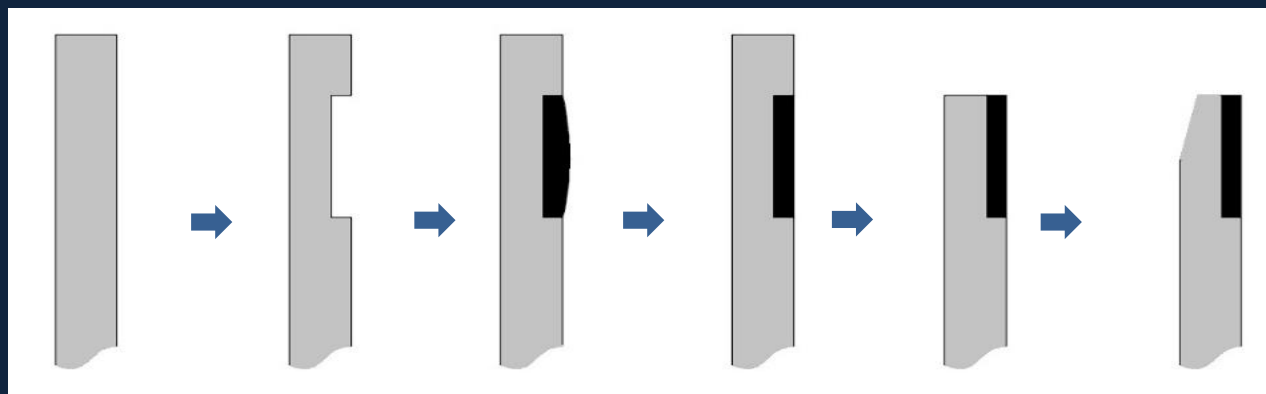
	Primary	Excess biological	Digested
VS/TS (%)	50 ~ 60	68 ~ 70	40 ~ 50
Moisture content(%)	74 ~ 80	77 ~ 83	71 ~ 77

核心零部件取得专利特征和品质保证内容



1. 专利 第 10-0857507: Wing 高强度技术核心是在高密度污泥也是耐久性非常高。
2. 专利第10-0920493: 噪音板在噪音防止方面功能优秀。
3. 专利第10-0953671: 污泥浓缩时间快，增加脱水率，Screw-Decanter-Centrifuge 阶段类型。
4. 专利第10-0977196: 2 加速防电装置可以缩短浓缩时间，可以加速CAKE剥离的速度。
5. 专利第0340190: 脱水速度在最大程度上提高2端加速齿轮箱
6. 专利 第 0407896: 减少排气能源，重量最小化，体积最大化的效果

1. Screw Wing的坚固技术



- 维持表面柔和
- 维持一定的间隔
- 维持在高速上也不会晃的低暖流
- 滚定效率提升
- 滚动扭转力最小化
- 增加能量减量效率

2. 防噪音板

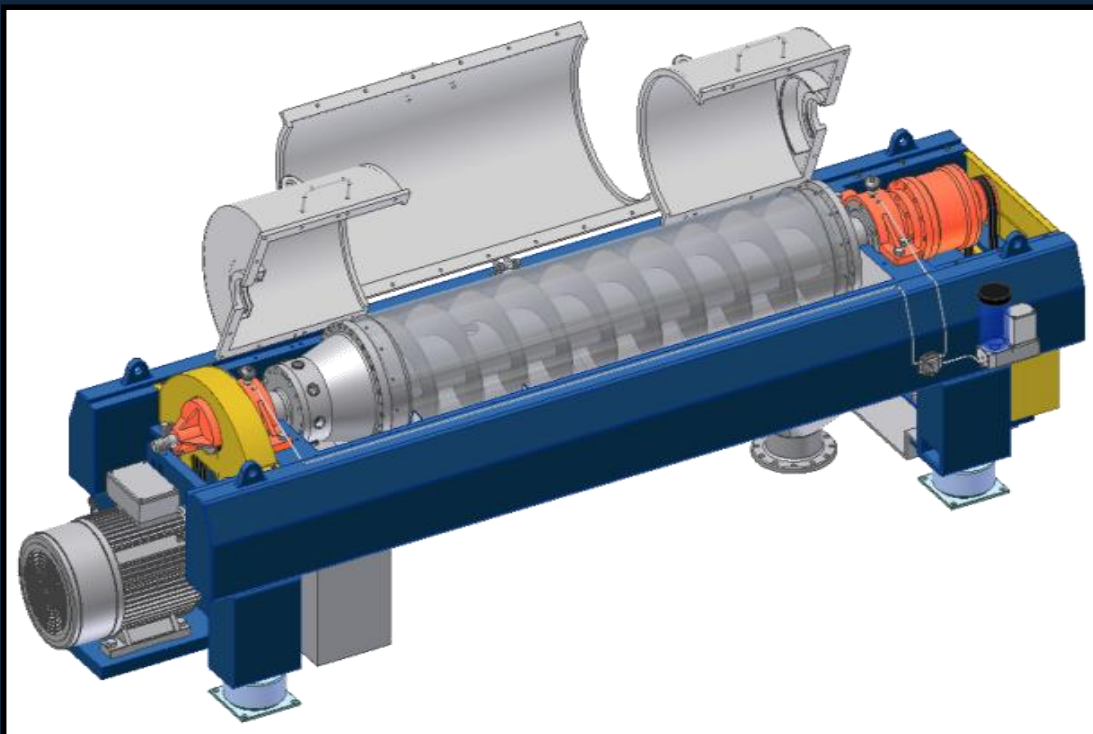


噪音达到 60dB

- 减少Decanter的机器噪音
- 涡流/ 暖流噪音的螺栓孔。
- 防止噪音控制板设计为噪音低的光谱部分发出噪音。

- ✓ 噪音空时 plate装在 wrench bolt
- ✓ Round head bolt可减少噪音

3. 多段casing cover



又快有方便的维修
缩短维修时间!

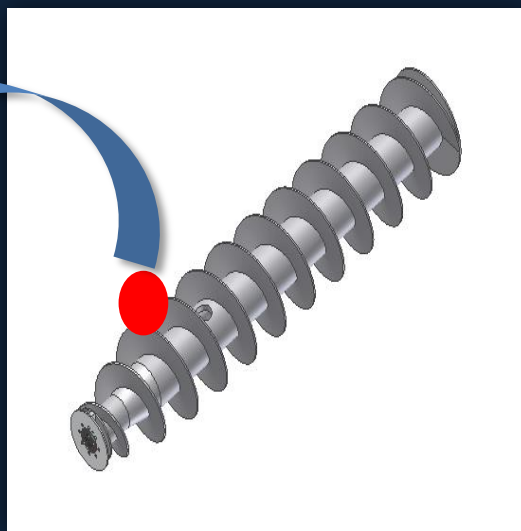
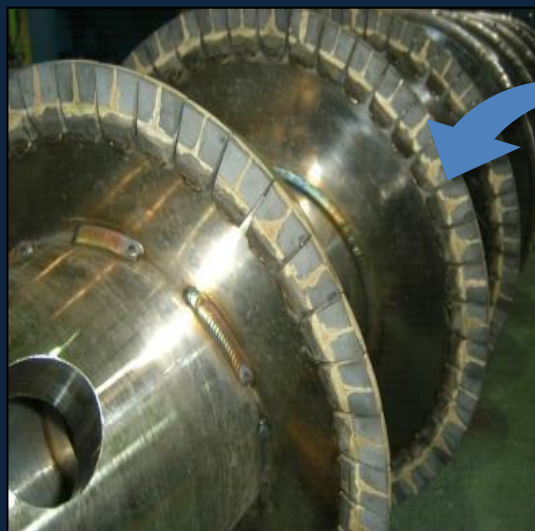
- 多段 casing
- 必要的部分，小型 casing 开放后修理
- 噪音和振动最小化
- 增加的非常强的材质，确保耐久性
- 缩短维修时间

4. Screw conveyor 表面处理技术



Heavy Solid 强耐久性

Flame sprayed 和 WC Tile Ceramic , tungsten carbide 和特殊表面涂层耐蚀性，腐蚀性强。材质是 Duplex, hastelloy fusion。



5. 高密度污泥排放时，抗磨技术

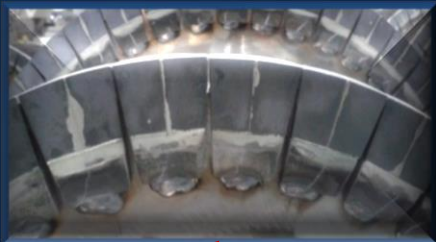


WC Bush: 永久的耐久性，零维修

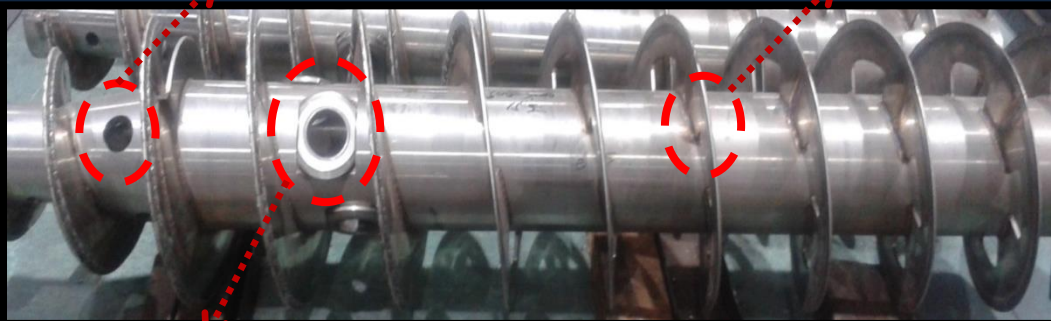
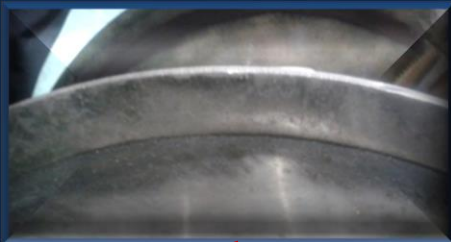
- 原来的 DECANTER是 Brittle Ceramic容易破损诱发 Port 需要多次维修
- 耐久性短，复杂的构造在高速转动的时候危险系数上升，
- 新素材放电Cap可以永久实用，在高真空回转情况下，也会保持耐久性，几乎不用维修。

6.防止磨耗及耐腐蚀

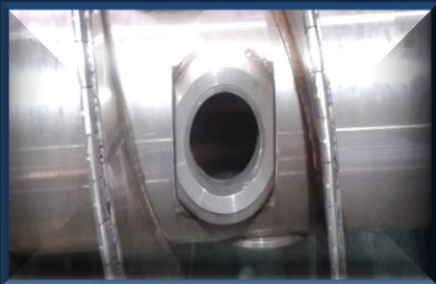
WC Carbide Tile



WC Alloy Eutalloy



Sludge Exhaust Bushing



Cake Exhaust Bushing



优秀的耐久性和信赖感

对所有零部件使用了高级不锈钢.

高强型螺丝设计

WC Tile 及 Hastelloy,

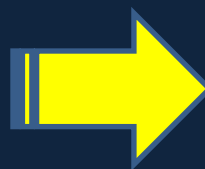
陶瓷 – 硬质合金涂层 .

特殊热处理Kolsterizing.

主要特征和核心技术

7. Power Transmission 部分

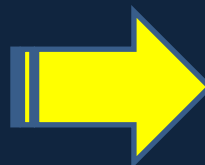
Planetary
reducer



Assembled



Cyclo
+
Planetary
reducer



广泛适用

- 提供DECANTER使用的多种齿轮箱
- 设计为所有应用适用
- 30年的现场经验把不必要的维修费用减少，并且给客户长期可以节省费用的方案

8. HMI完全自动化



方便操作

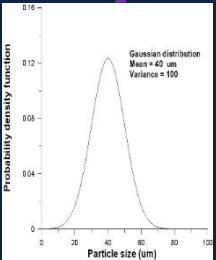
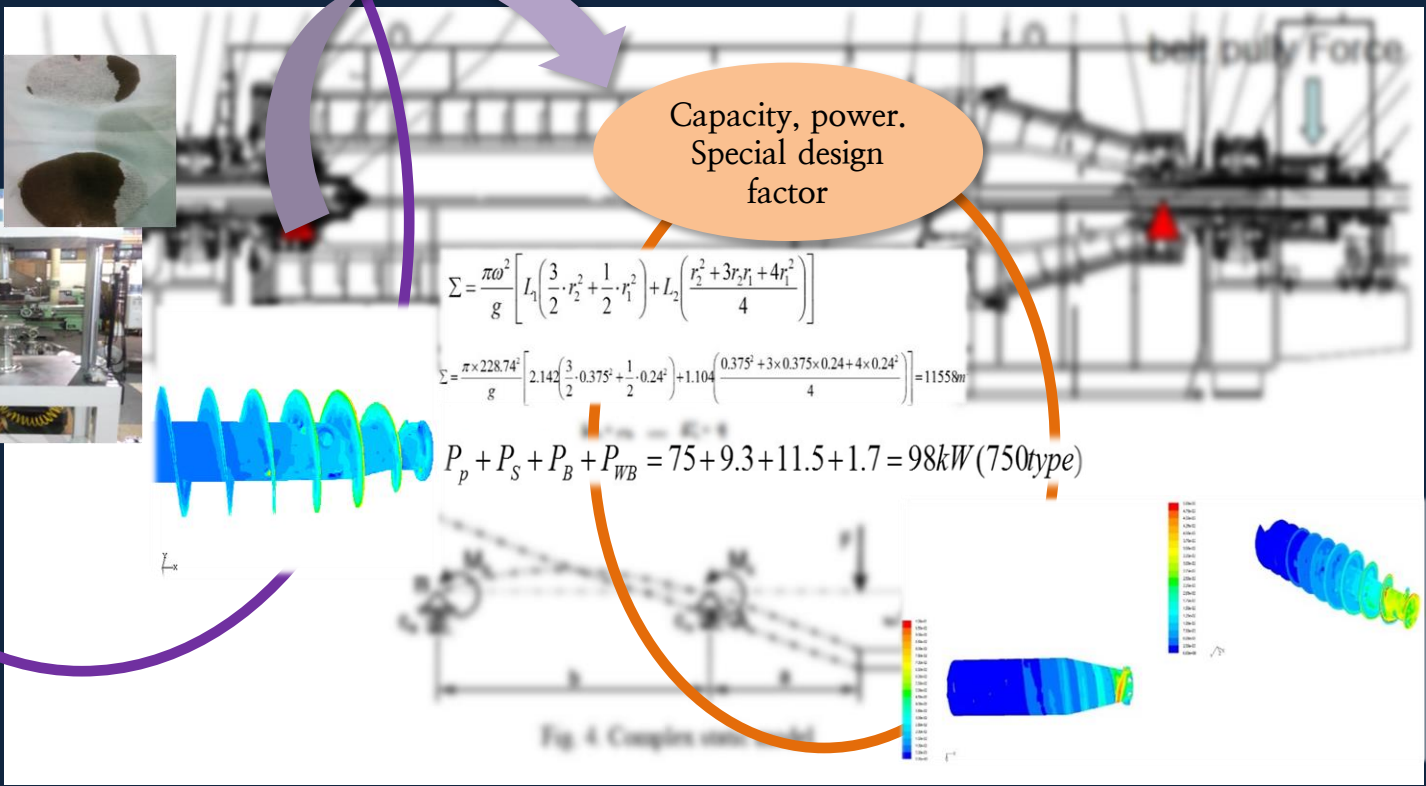
- 基本的 HMI操作台更加优秀的运营更方便
- Siemens PLC 程序 + Yasakawa 变频器在中央集中式控制方法，在所有的界面中都可以作业
- 触屏离装备很近，方便维修
- 有必要时候，作业者可以迅速观察一下机器作业的状态并做出判断

9. 优化设计, CFD 模拟

1,000 site 以上的运营经验和3,000台 以上的供货业绩。在各种污泥成分不一样的情况，顺利的去处理 并且积累丰富的现场安装经验，给您最优化的设计。.



Partical size, viscosity, density etc..
Parameter considering



事业领域

“BALL VALVE”

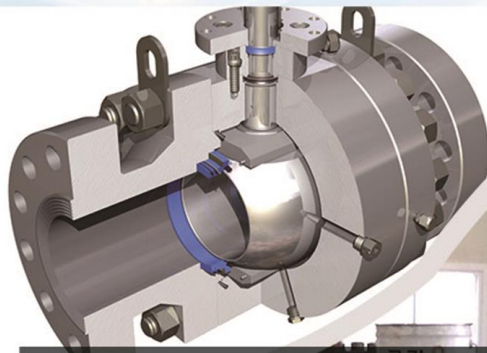


RVC

www.korearoyal.com

ROYAL BALL VALVES

ROYAL Ball Valve, since foundation year 1986, develop Manual, Special, and Order Made Valve with excellent quality based on the various experience and advanced technologies and supply to the various industrial field including Oil, Gas, the food, chemistry, Alcohol, steel, fiber, environment, and etc.

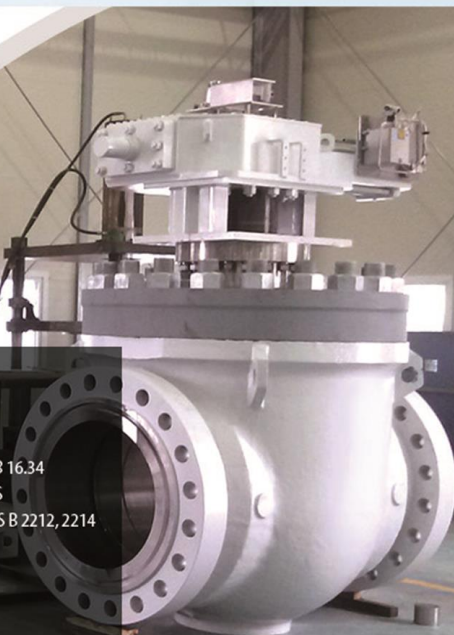


Main Products

- CASTING BALL VALVE
- FORGED BALL VALVE
- 2WAY BALL VALVE(SOFT & METAL SEAT)
- 3WAY BALL VALVE(METAL SEAT)
- DIVERT 3WAY BALL VALVE(Y-TYPE / T-TYPE)
- DIVERT 4WAY BALL VALVE
- TANK BOTTOM BALL VALVE
- ECCENTRIC HALF BALL VALVE
- POCKETLESS BALL VALVE

Specification

- CLASS : 150# ~ 1,500#
- SIZE : 1/2" ~ 60"
- INSPECTION & TEST : API598, ANSI B 16.34
- FACETO FACE : ANSI B 16.10, OTHERS
- FLANGE DIMENSION : ANSI B 16.5 JIS B 2212, 2214
- FULL BORE & REDUCED BORE



Royal Valve 30 years
With the quality of the Royal,
With Royal's reputation,
Reward you with the Royal

1

RFB-FLG' D BALL V/V



Standard Design

- Design Press' : 0.1~79kgf/cm²
- Test Press' : API598, ANSI B16.34
- Face to Face : ANSI B16.10
- Flange Dimension : ANSI B16.5, JIS B2214



2

RJB-JACKETED BALL V/V

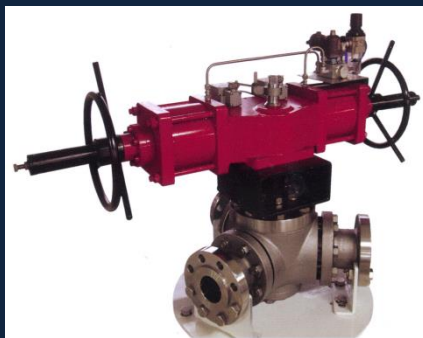


Standard Design

- Design Press' : 0.1~24kgf/cm²
- Design Temp' : -20~230°C
- Pneumatic Operated & Electric Operated



3 R3B-DIVERT 3WAY Y-TYPE



Standard Design

- Max Design Press' : 24kgf/cm²
- Max Design Temp' : 220°C
- Service Name : Nylon Chip, Polyester Chip, Power
- Pneumatic Operated Air Press' : 4~6kgf/cm²



4 R3B-DIVERT 3WAY T-TYPE



Standard Design

- Design Press' : 0.1~24kgf/cm²
- Design Temp' : -20~220°C
- Service Name : Water, Oil, Gas, Chemical, etc



5 R4B-DIVERT 4WAY BALL V/V



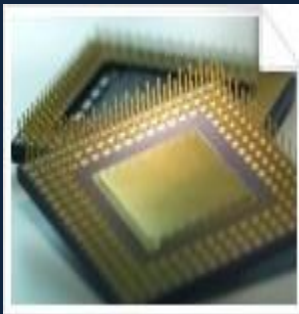
Standard Design

Design Press' : 0.1~24kgf/cm²

Design Temp' : -20~220°C

Face to Face : Maker Std

Flange Dimension: ANSI B16.5, JIS B2214



6 RTB-TANK BOTTOM BALL V/V



Standard Design

Design Press' : 0.1~24kgf/cm²

Design Temp' : -20~220°C

Pneumatic Operated Press : 4~6kgf/cm²



7 REB-ECCENTRIC HALF BALL V/V



Standard Design

- Design Press' : 0.1~24kgf/cm²
- Test Press' : API598, ANSI B16.34
- Face to Face : Maker Std
- Flange Dimension: ANSI B16.5, JIS B2214



8 RVB-VACCUUM BALL V/V

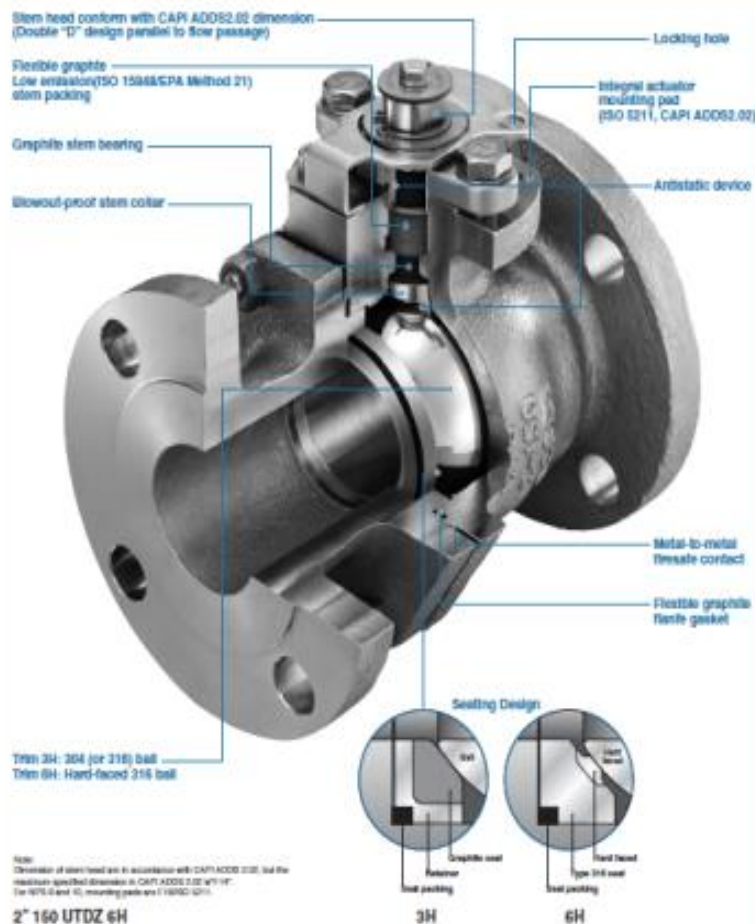


Standard Design

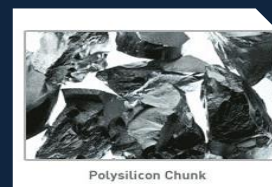
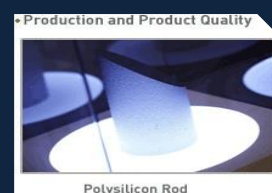
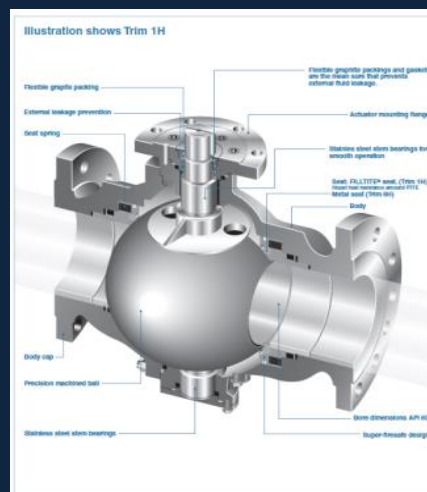
- Wall Thickness : ANSI B16.34
- Face to Face : ANSI B16.10
- Test Specification : API598



9 METAL SEAT BALL V/V FLG' D RF



Valve Design		Floating Ball Valve		Trunnion Mounting Ball Valve
Trim symbol		5H	6H	6H
Temp.		300°C	500°C	450°C
		572°F	932°F	842°F
Seat leakage*1		ANSI FCI 70-2 Class VI		
Parts	Ball	ASTM A276 Type 316 or ASTM A351 CF8M + Cr plated	ASTM A276 Type 316 or A351 Gr.CF8M + SFNi *2	ASTM A276 Type 304 + SFNi *2
	Ball Seat	ASTM A276 Type 316 + SFNi *2	ASTM A276 Type 316 + SFNi *2	ASTM A276 Type 304 + SFNi *2
	Stem	A 564 Type 630	A 564 Type 630	ASTM A276 Type 304 + SFNi *2



ROYAL-BELTPRESS

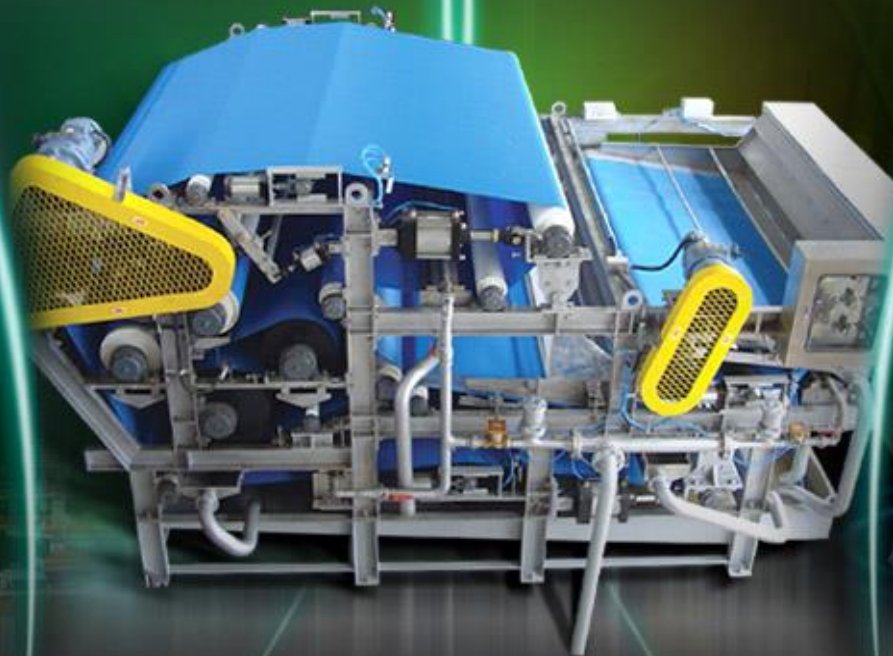
REMARKABLE SLUDGE DEWATERING

EFFICIENT SLUDGE DEWATERING

LOW INVESTMENT AND OPERATING COSTS

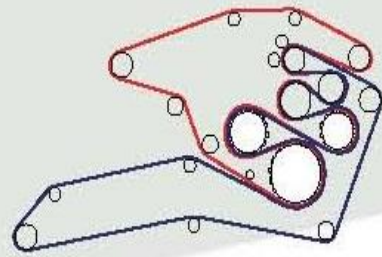
CAKE SOLID UP TO 50% DEPENDS ON
SLUDGE CONDITIONS

AUTO WASHING AND CLEANING
NOZZLE SYSTEM

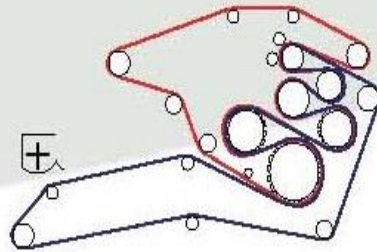


ROYAL BELTPRESS的差别

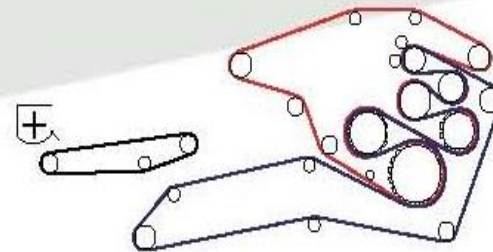
前端部和力学的高效率
6 端滚动 Main部 , 后端



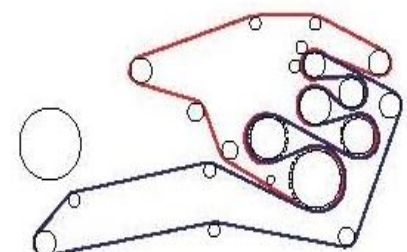
Standard Type(A Type)



(A)⁺
Auto Feeder attached(B Type)
- option -



(B)⁺
Belt Thickener attached(C Type)
- option -



(A)⁺
Drum Thickener attached(D Type)
- option -

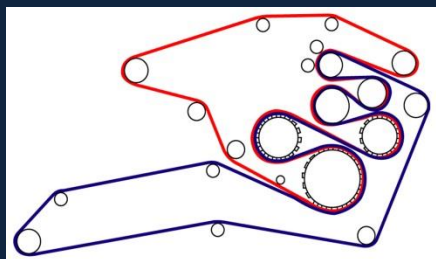
前端部的 Drum Screen, Auto-Feeder, Belt Thickener和力学设计的Work Frame, 垂直性多层构造的 S-Shape Roller 多端排列的Main Body, 后端部的高压脱水Zone是多样设计污泥性结构设计, 逐渐实现最大限度的高脱水率。

基本模型

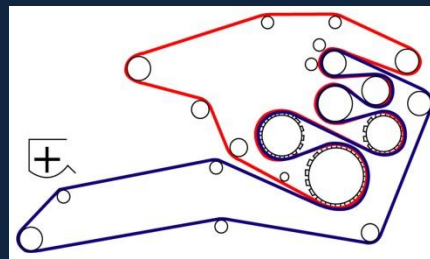


6端 MEDIUM PRESSURE

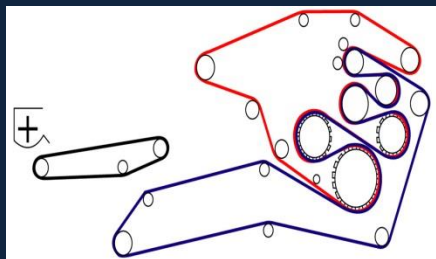
- 6端 Roller
- DRUM/BELT Thickener, AUTO-Feeder 等污泥性状，装着在比一般 Belt press 达到15%以上的 DS。



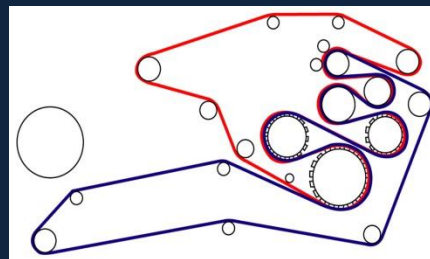
标准(A) TYPE
6端 Medium pressure
Roller和重力脱水部



AUTO-FEEDER
装着的 +A (B)



Auto-Feeder+Belt
Thickener装着的+A (C)



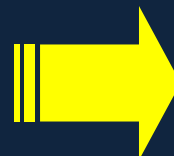
DRUM SCREEN
装着的 +A (D)

为什么要选择 **Royal-Beltpress** ?

优秀的力学力设计脱水装置

传统的脱水装置

- ▶ 力学的 Frame Work
- ▶ 高脱水率. 排水率 Zone
- ▶ 楔Zone
- ▶ 榨Zone
- ▶ 额外高压力Zone



油机性 solid和共存的‘自由水’和力学Roller和多端的 Device , 更加快速的脱水 , 保~20%DS以上的效率。

ROYAL-BELTPRESS

更加快速脱水‘自由水’

与其装备相比脱水率高, 可以减量 **Cake**

>20% 以上的 **dry solid**

低效率消耗量, 长期耐久性, 高脱水率

耐久性？

长期耐久性, 力学 *FRAME WORK* 设计

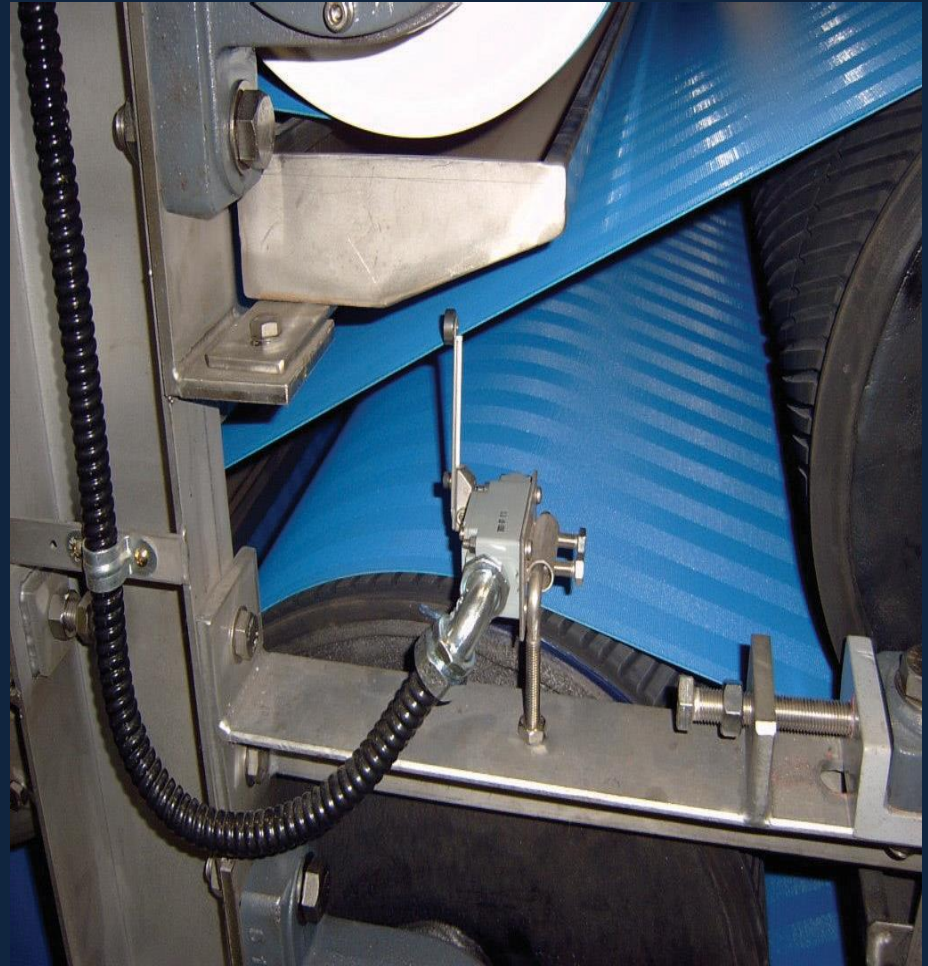
- ① 均匀的污泥供给装置 – Auto Feeder.
- ② 动态框架(Dynamic Frame),
- ③ 正确整齐滚筒(Good arrangement Rollers)和有机的Utility.
- ④ Belt Thickener, Drum Screen, Auto-Feeder 等必要的装置减少



主要特征和品质

全部用 手操作制作的RUBBER ROLLER

- 特殊制作Flute Helical Roller可达到快速的脱水率和高排水率
- 脱水后也不会让余液浸湿
- 力学的 S-Shape roller 安排支持高脱水率



主要特征和品质

学构造和滚筒配置

- Polyamide涂层的 Roller在 没有黏着的‘拧’来提高脱水率。
- Belts和力学的设计的rollers 根据直径提高脱水率提高。
- 重力-高压-加压-楔-拧的顺序来保证脱水。



主要特征和品质

全自动洗涤喷嘴系统

- 没必要做洗涤作业
- Timer, Sensor是全自作业, 自动清晰。
- 耐久性高的Nozzle Tip
- 高压洗涤方式但是消耗量极少,
- 洗涤后洗涤水循环。



主要特征和品质

THICKENER (OPTION)

Auto Feeder, Drum Screen等装置是根据污泥性状达到最优化利用。为了高脱水率可达到最大程度的‘FLOC free-water’脱水。竞争力的费用，装在重力脱水部进入前端，保证高脱水率。



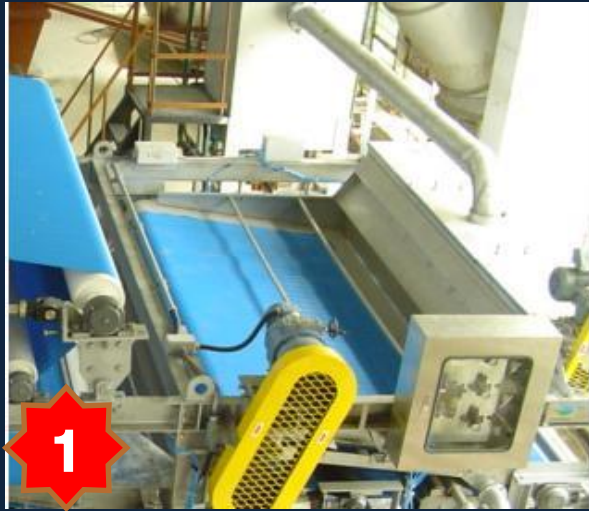
AUTO-FEEDER



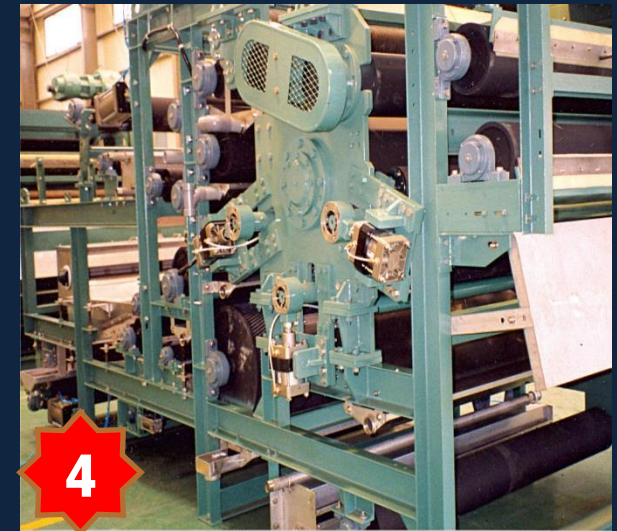
DRUM SCREEN

主要特征和品质

30年的 *KNOW-HOW*, 300 sets 以上的供货业绩和处理多种污泥性状
在现场累积的运营经验



1. BELT-THICKENER,
2. LOW PRESSURE ROLLER,
3. MEDIUM PRESSURE ROLLER,
4. HIGH PRESSURE ROLLER



主要特征和品质

多种适用装置



AIR CONTROL PANEL

污泥的厚度和脱水率，速度，活动综合去判断，以最优好的压力提高最高的脱水率。



AUTO-FEEDER DEVICE

Auto Feeder 是 FLOC 形成的污泥包含的‘自由水’快速脱水。重力脱水部前端装着，破坏 FLOC.



BELT THICKENER

重力脱水部前端装着Belt-Thickener和其他班机屏幕相比长度短，但是Auto-Feeder结合，支持很高的脱水率。

主要特征和品质

多种适用装置



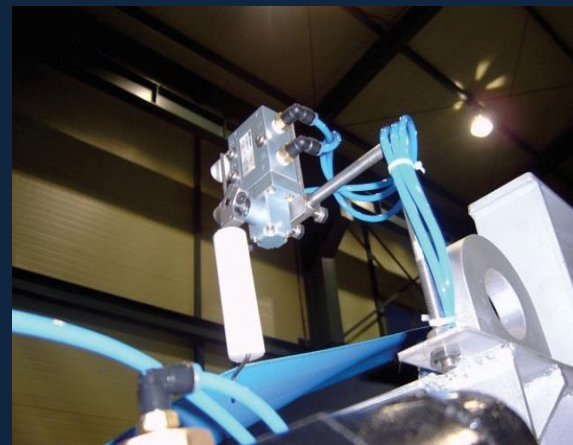
ADD-PRESSURE
ROLLER

最后部位装的加压滚筒是根据污泥性状，为了提高无机性高的污泥边缘脱水率。(Option)



AIR-CYLINDER
TENSION
DEVICE

Air Cylinder (Bellows)和 Limit Switch 是各自 Beltpress的左右，传送带定速运行和维持适合的紧张度，确保脱水率并且施加均匀的压力让各个滚动给予合适的压力。尤其提前确保传送带偏离轨道，确保安全 and 稳定性。



LIMIT SWITCH

主要特征和品质

多种适用装置



BELT JIG

*Belt Jig 是可以很方便地去
换传送带而制作的
Tool. 我们给客户无偿
提供。*



AUTO SELF- CLEANING WASHING NOZZLE SYSTEM

自动洗涤喷嘴系统是了解污泥粒子和形状，根据他们的性状在任何恶劣条件也可以完全自动洗涤传送带的系统。不需要洗涤的作业，用这一个系统可以极大化脱水率。其他装备会有洗涤喷嘴堵塞或者传送带洗涤不良导致脱水率低。导致能量消耗大和增加运营费用。

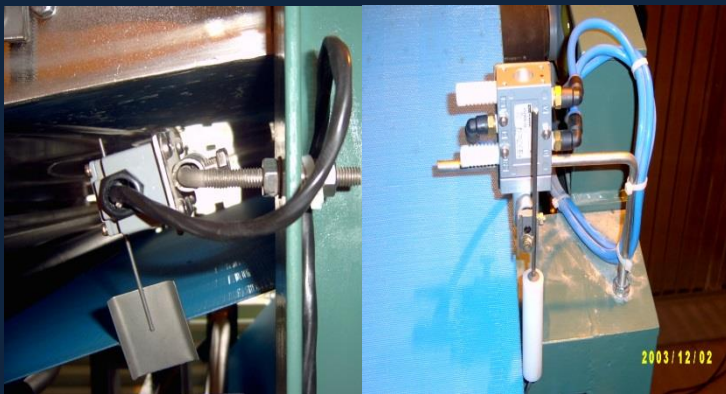


INDIVIDUAL SLUDGE MIXING SYSTEM

*Polymer和Slurry 在完全混合
后可形成FLOC而设计
的 Mixing 装置*

主要特征和品质

多种适用装置



UPPER & LOWER BELT
MEANDERING S/W

Upper and lower BELT 装置 (Meandering adjustment Switch) 是支持传送带定速运行的系统。防止传送带翻转，匀速运行持续脱水率。事前阻断滚筒的脱离和传送带的脱离，确保稳定性和安全性。

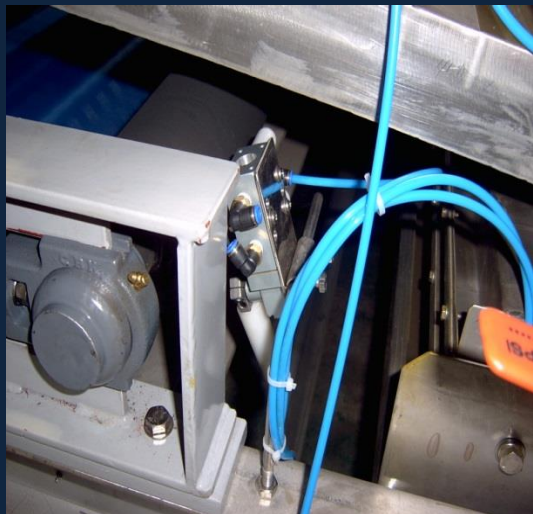


PLC CONTROL PANEL

可提供用Siemens Program设计的 PLC是中央控制板连接或者个别去连接的界面.维修方便, 并且快速准确诊断装备运营。

主要特征及品质

多样适用装置



ROLLER
ALIGNMENT

防止传送带的翻转，帮助
滚动定速运行的装置



AUTO POLYMER
MIXING SYSTEM

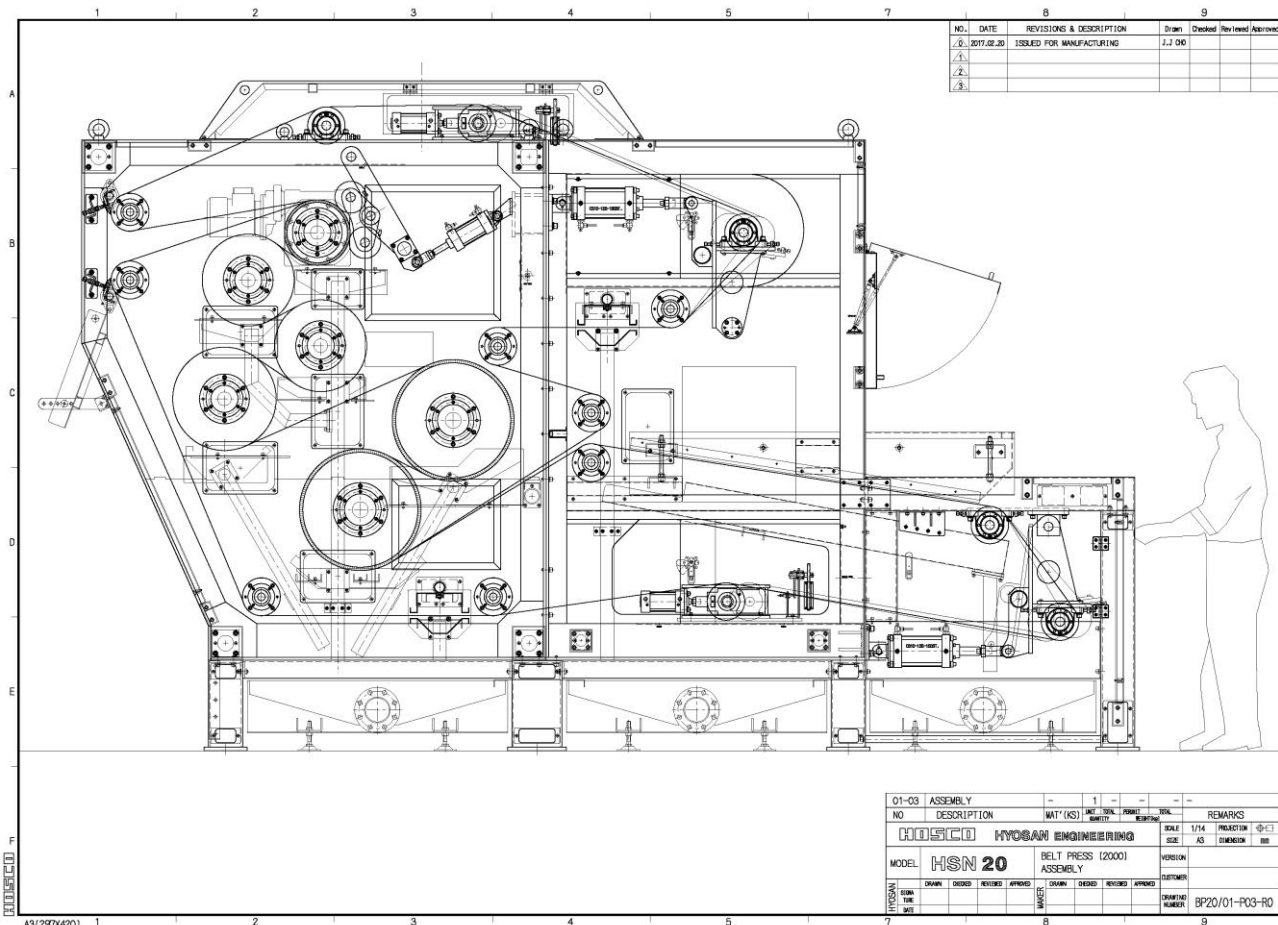
自动供应聚合物装置是根据污
泥性状算出聚合物小哈两。分
发部分和丁玲供应的法门确保
定量，减少聚合物的量达到节
省运营费用。



CAKE CHUTE

最终剥离的Cake在传送带完全剥
离并且不让有划痕或者有损伤。
我们用的优质材质。

主要特征及品质



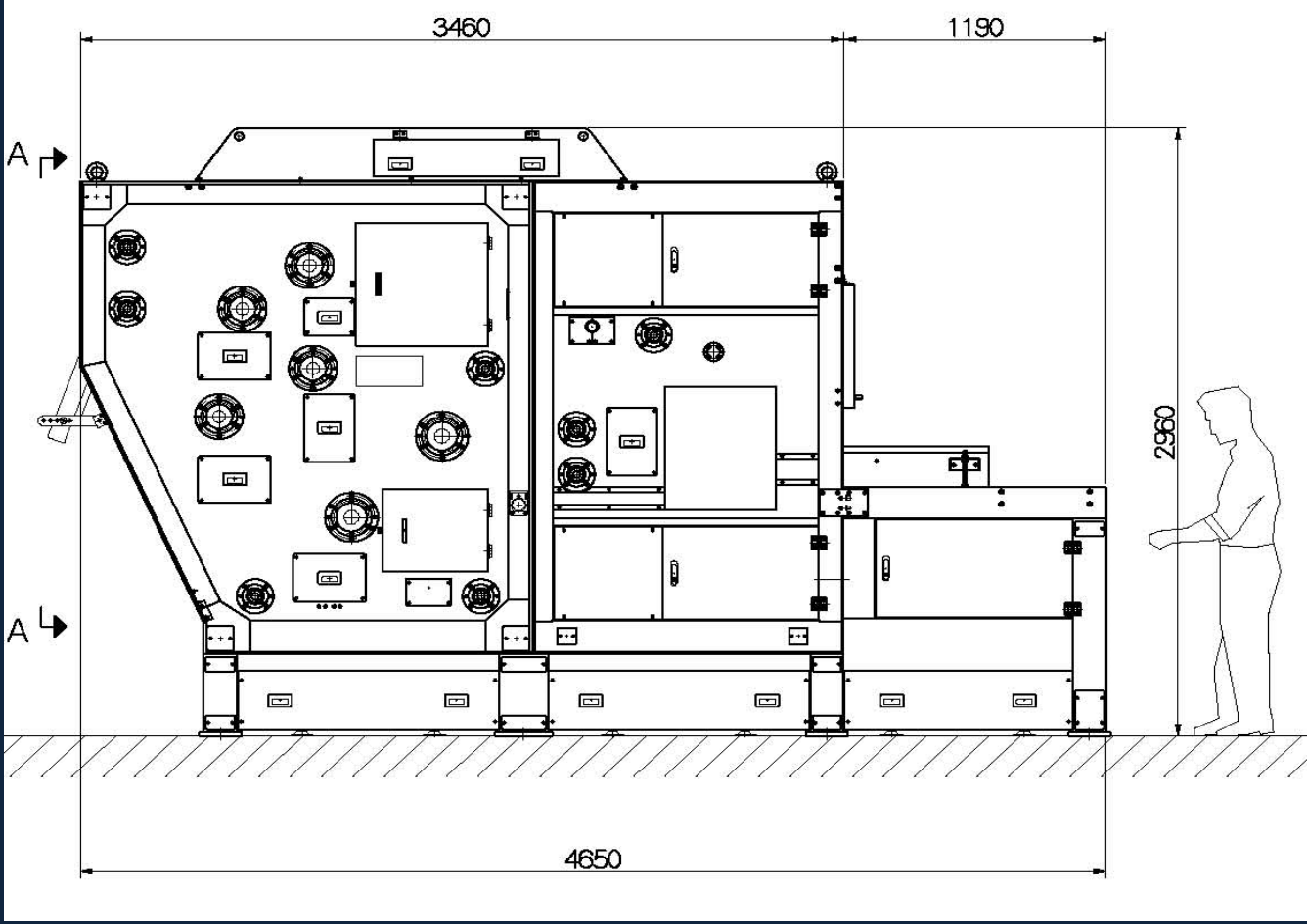
主要规格的
MEDIUM
PRESSURE
BELTPRESS

“外部没有盖子的 NAKED OPEN TYPE”

Specification

Dimension (mtr)LxWxH	Model	Belt With (mm)	Weight (kg)	Energy Consumption (kw/h)
4.2 x 1.6 x 2.3	HSN-100W	1,000	2,900	0.75
4.6 x 2.8 x 2.5	HSN-200W	2,000	5,300	1.5
4.6 x 3.8 x 2.6	HSN-300W	3,000	10,000	2.6

主要特征及品质



主要规格
*MEDIUM
PRESSURE
BELTPRESS*

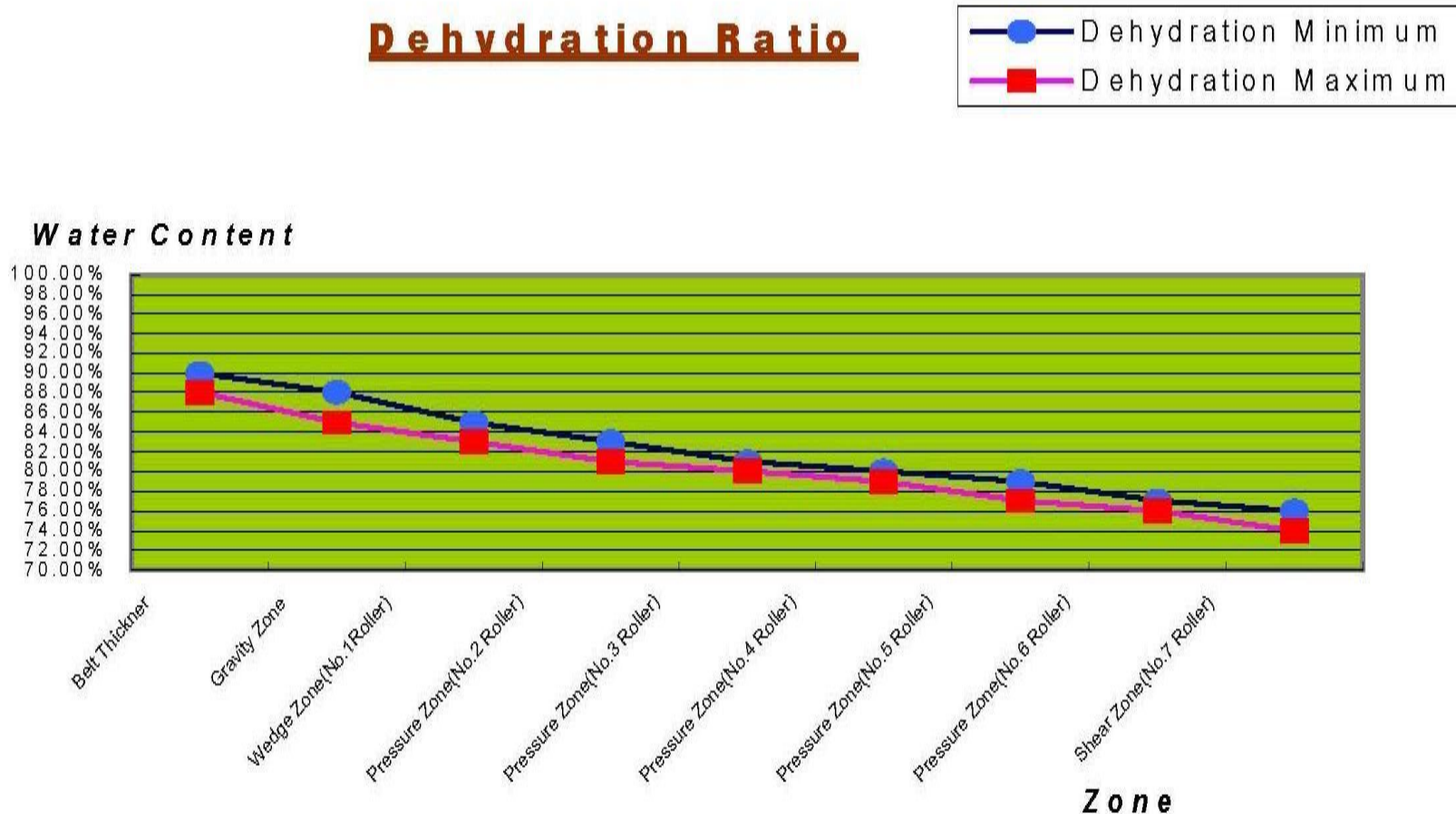
“阻断恶臭，确保稳定性
密闭性 *TYPE*”
(option)

Specification

Dimension (mtr)LxWxH	Model	Belt With (mm)	Weight (kg)	Energy Consumption (kw/h)
4.2 x 1.6 x 2.3	HSN-100W	1,000	2,900	0.75
4.6 x 2.8 x 2.5	HSN-200W	2,000	5,300	1.5
4.6 x 3.8 x 2.6	HSN-300W	3,000	10,000	2.6

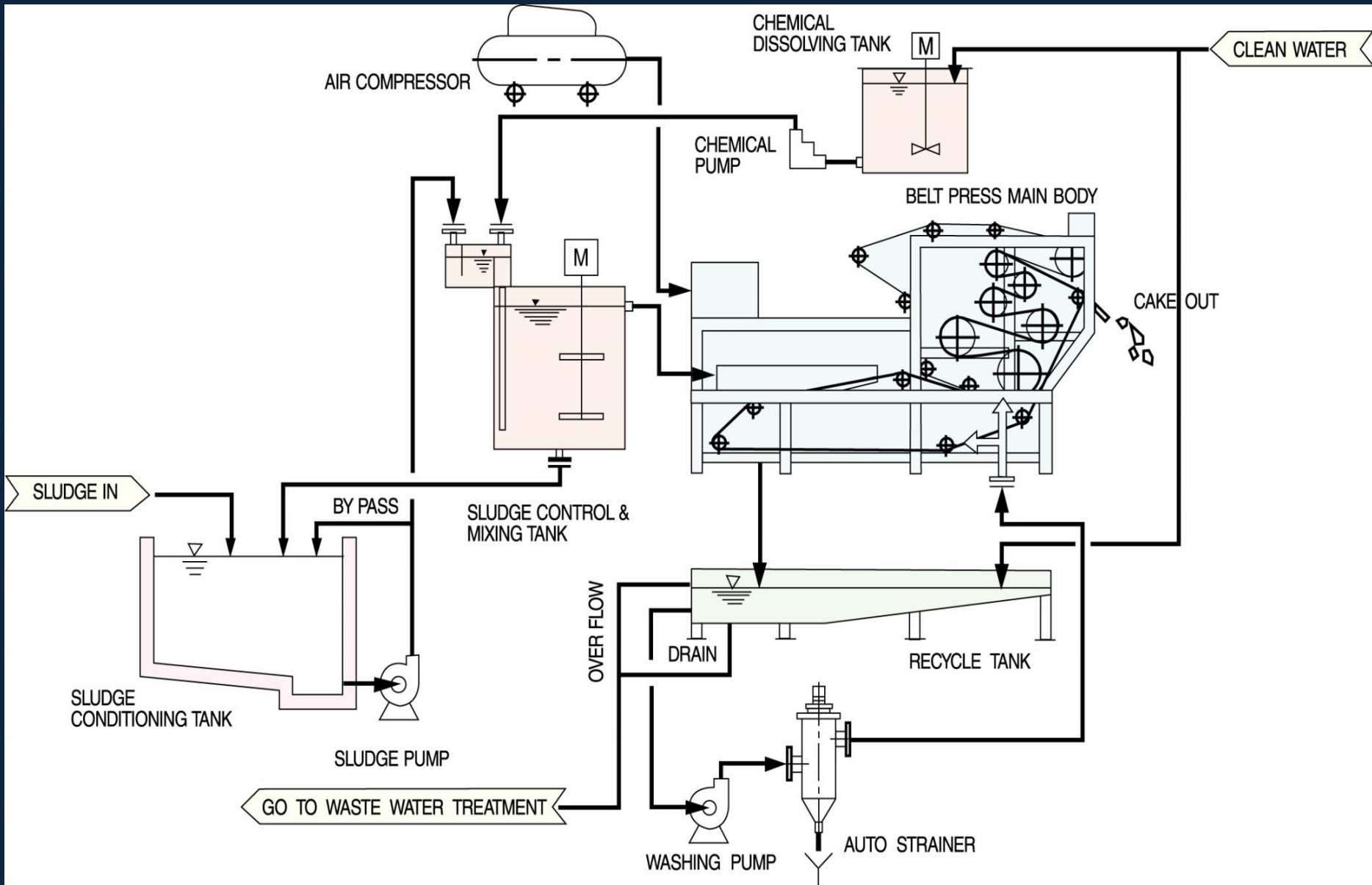
6端 Medium Pressure Beltpress 各个区间脱水率比较

Dehydration Ratio



● Note: Dehydration Ratio depends on Circumstance of Sludge condition

流程图及供货范围



REFERENCES

OVERVIEW

MANUFACTURING LINE-UP



Core Part Processing



Assembly Processing



Quality Testing Processing

4 way



Outbound Standby

More than 3,000 units are Operating in the World

*Please Click here to see
more detail references list*

REFERENCES BETWEEN
2011' ~ 2016
For 6 years

NO	Installed	Clients	Products	Model	Throughput (m ³ /hr)	Quantity (Unit)	Sludge Characteristic	Remarks
1	2016. 1	생곡WWTP	Decanter	NRD-420	20	1	Municipal Sludge	
2	2016. 1	안양박달WWTP	Decanter	NRD-550	25	2	Municipal Sludge	
3	2016. 1	안양박달WWTP	Decanter	NRD-720	60	3	Municipal Sludge	
4	2016. 1	성주WWTP	Decanter	NRD-450	25	1	Municipal Sludge	
5	2016. 2	남양주 진건WWTP	Decanter	NRD-650	49	1	Municipal Sludge	
6	2016. 2	안양박달WWTP	Decanter	NRD-720	60	3	Municipal Sludge	
7	2016. 2	나주신도폐수처리시설	Decanter	NRD-270	3	1	Sewage Sludge	
8	2016. 3	용산정수장	Decanter	NRD-420	6~11	2	Inorganic Sludge	
9	2016. 3	전주WWTP	Decanter	NRD-650	60	2	Municipal Sludge	

代表国内SITES



主要客户

- ✓ Over 1,000 regular customers
- ✓ 2,000 end-user consumers
- ✓ More than 3,000 units are operating in Local & Overseas at WTP, WWTP, and Industrial Sites.
- ✓ Top Rank References, The Best performance in Korea
- ✓ Has more than 3,000 sludge experiences.

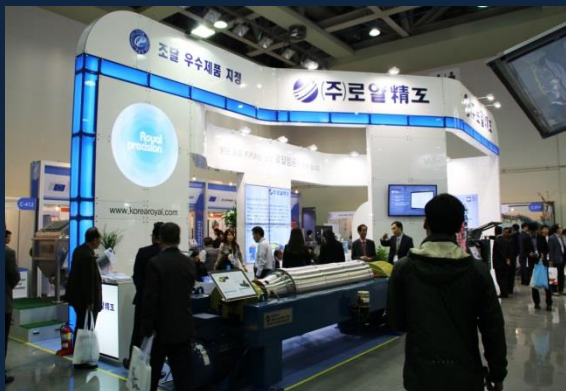


Ministry of
Environment



OVERVIEW

- PRESIDENTIAL PRIZE,
- MINISTRY OF ENVIRONMENT VISITING,
- EXHIBITION PARTICIPATING,
- GOVERNMENT WWTTP MOU SIGNNING



公司介绍

PROFILE

SUMMARY

Group Company Name	BLUEWIN, ROYAL PRECISION IND. CO., LTD.		
BOM	Mr. PARK JAE DUCK(Korean)/CEO & President Mr. KIM SUN GUK (Korean)-President Mr. ANTONIO KIM (Korean)-CEO & CMO		
Established	SEPT, 15, 1989		
Main Item & Business Fields	■ SLUDGE DEWATERING SYSTEM - DECANTER, CENTRIFUGE Mechanical machine - BELT-PRESS, SPECIAL VALVE		
Marketing Headquarters	Baeksan Bldg, 157 street, Jungnung-Dong, Seongbuk-Gu, SEOUL. KOREA.		
Capital Fund	US\$3.2mil	Turnover	US\$68.2mil/2016'
Employee	181 staffs / 2017' present		
Official line	Tel: +82.70.7868.8920 / Fax: +82.2.912.4438 E-mail: antoniokim65@gmail.com / www.BLUEWIN.kr		

FINANCIAL STATE

Setting day-Validity Period :Dec/31/2015~Apr/22/2017

Financial standing for past 3years

- Credit standing: BBB-
- Cash Flow : CF2(B)
- Turnover: U\$68.2mil/year ave.

Bank Information

- Industrial Bank of Korea
- KOREA.

Credit Rating Authorized Agency

NICE평가정보 주식회사
NICE Information Service Co., Ltd.



组织图

Employees 181
2017' Present

BOARD OF MEMBER

CEO & President

Vice president

Audit

Management Innovation Headquarters

R&D Engineers	38 staffs
Sales & Business Management	36 staffs
Products Processing	73 staffs
After sales Service	20 staffs
Education. Training. Human resource etc.	14 staffs

**ELODE
Department**

**DECANTER
Department**

**OTHER
Department**

Administration

Sales Engineering

R & D Center

Production

Sales Engineering

R & D Center

Production

Sales Engineering

R & D Center

Production

Admin

Account

Procurement

工厂全景. 大邱市. 韩国



GROUND FLOOR: 6,627sqm

联系方式

BLUEWIN

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Person in charge	Antonio KIM(김영조/ 金榮祚) CEO	Mobile Phone +82.10.5231.8920
SNS: KAKAO ID: bluesky1965 WeChat ID: antoniokim65 WhatsApp ID: 010-9140-9967 We are always ready to reply within 24hours & Serve for you		

THANK YOU