

Screw Press

ISHIGAKI Oceania Pty. Ltd.
Filtration & Separation

- Screw Press SP



- Fully Automatic
- Huge Capacities
- High Dry Solids
- Low Carbon Footprint

Sludge Dewatering

Screw Press Technology although new to Australia, has been use in Japan for 25 and Europe for 15 years on waste water.

In Australia the first installation of Ishigaki's Screw Press for dewatering waste water sludge was Clarence Valley Council in 2012.

Screw Press offers several advantages over traditional dewatering technologies

Operating philosophy SP

-
- High performance
 - Light weight
 - Compact
 - Fully enclosed (no odours, no mists)
 - Low speed operation 0.2 to 2.0 RPM
 - Very low noise levels and no vibration
 - Low Carbon Footprint
 - energy consumption
 - Low water usage
 - Low maintenance costs
 - Simple operation & installation
 - Adaptable to varying flow rates and feed characteristics
 - Automatic and thorough washing system



Experts in Filtration & Separation

CONTINUOUS SLUDGE DEWATERING



Turn this.... into this



...and this



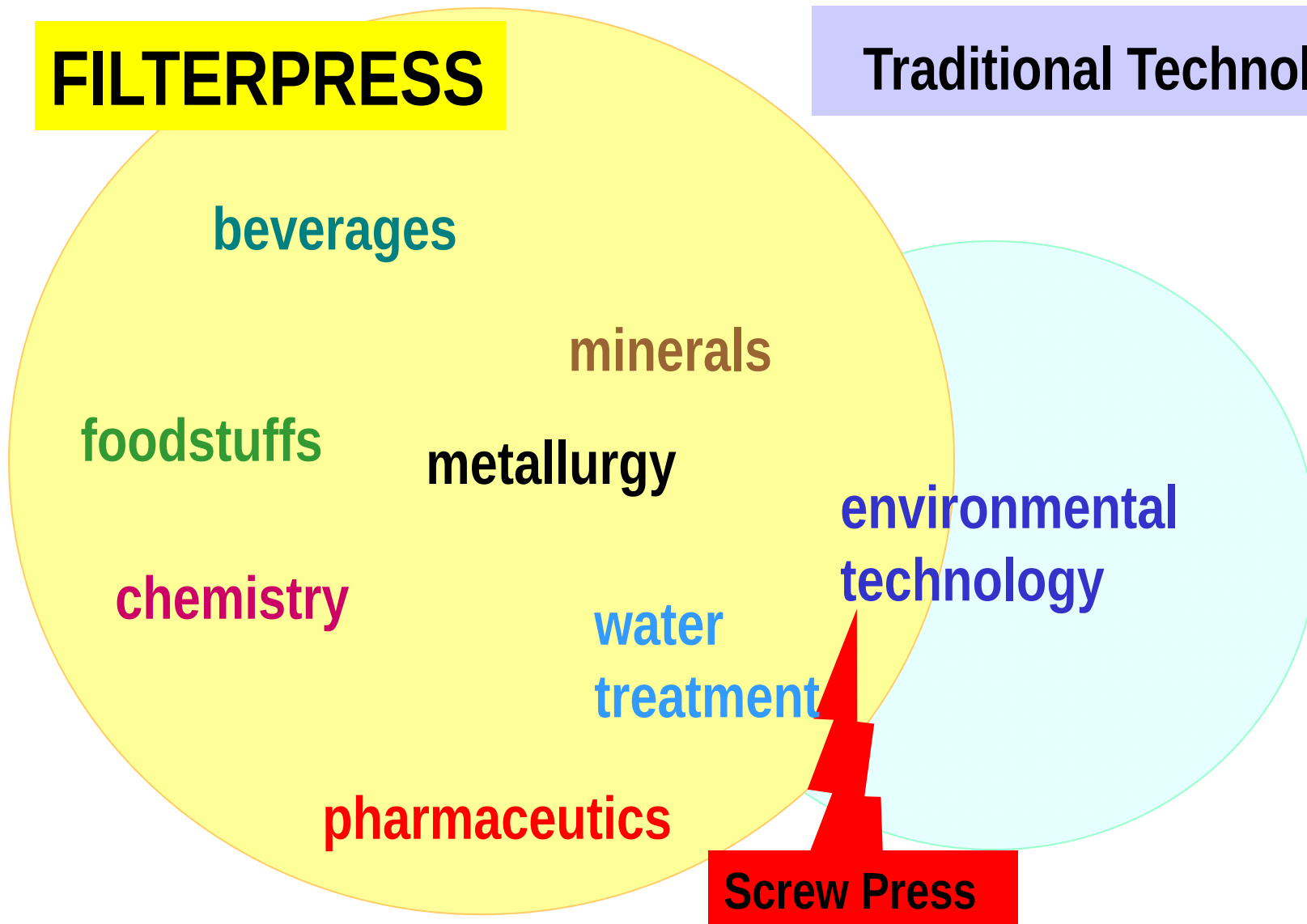
With the Ishigaki Oceania Screw Press!

Fields of application

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FILTERPRESS

Traditional Technology

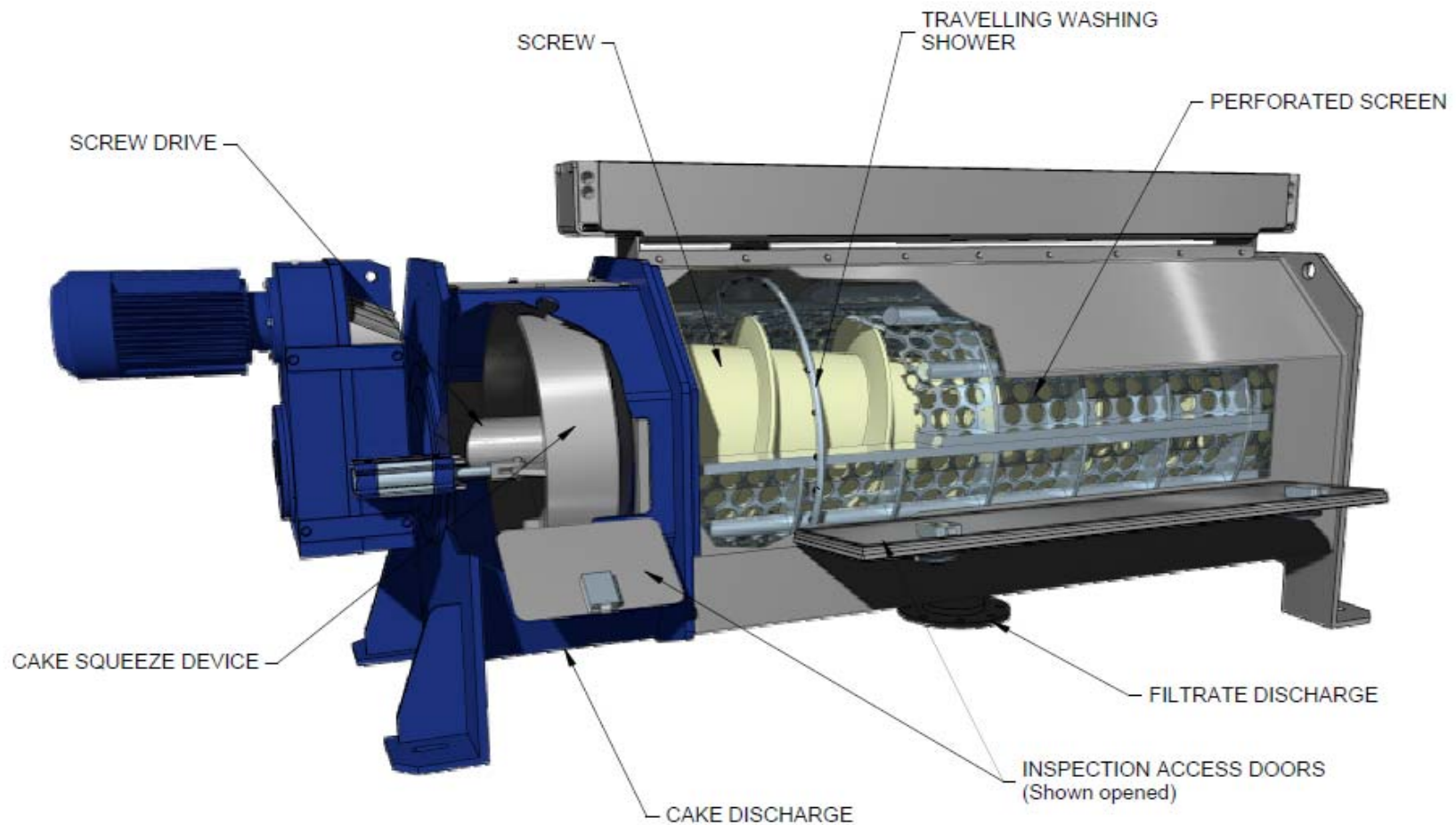


Screw Press Applications:

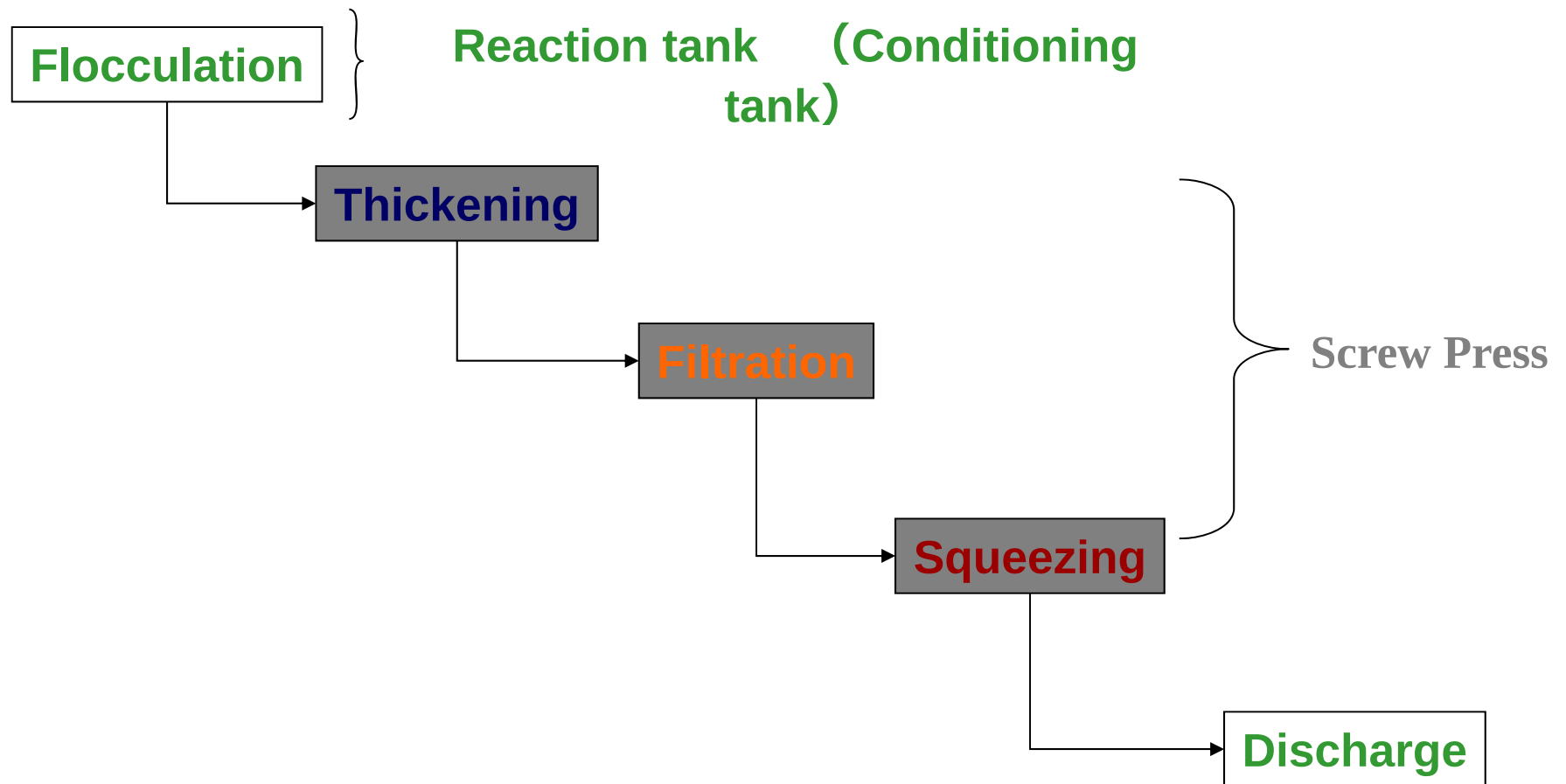
- Municipal waste water
- Industrial waste water
- Water treatment plant waste water
- Mining applications - tailings

Mechanical Design

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Continuous process

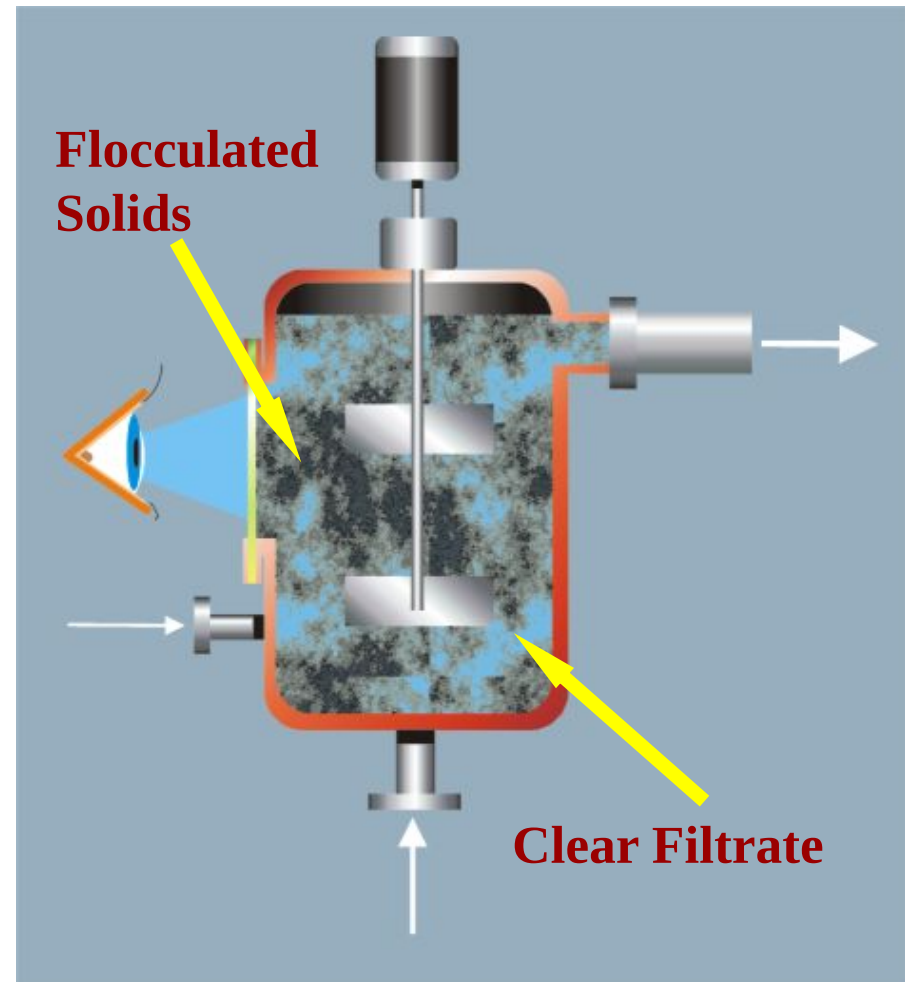


Flocculation

Ideal dewatering
conditions

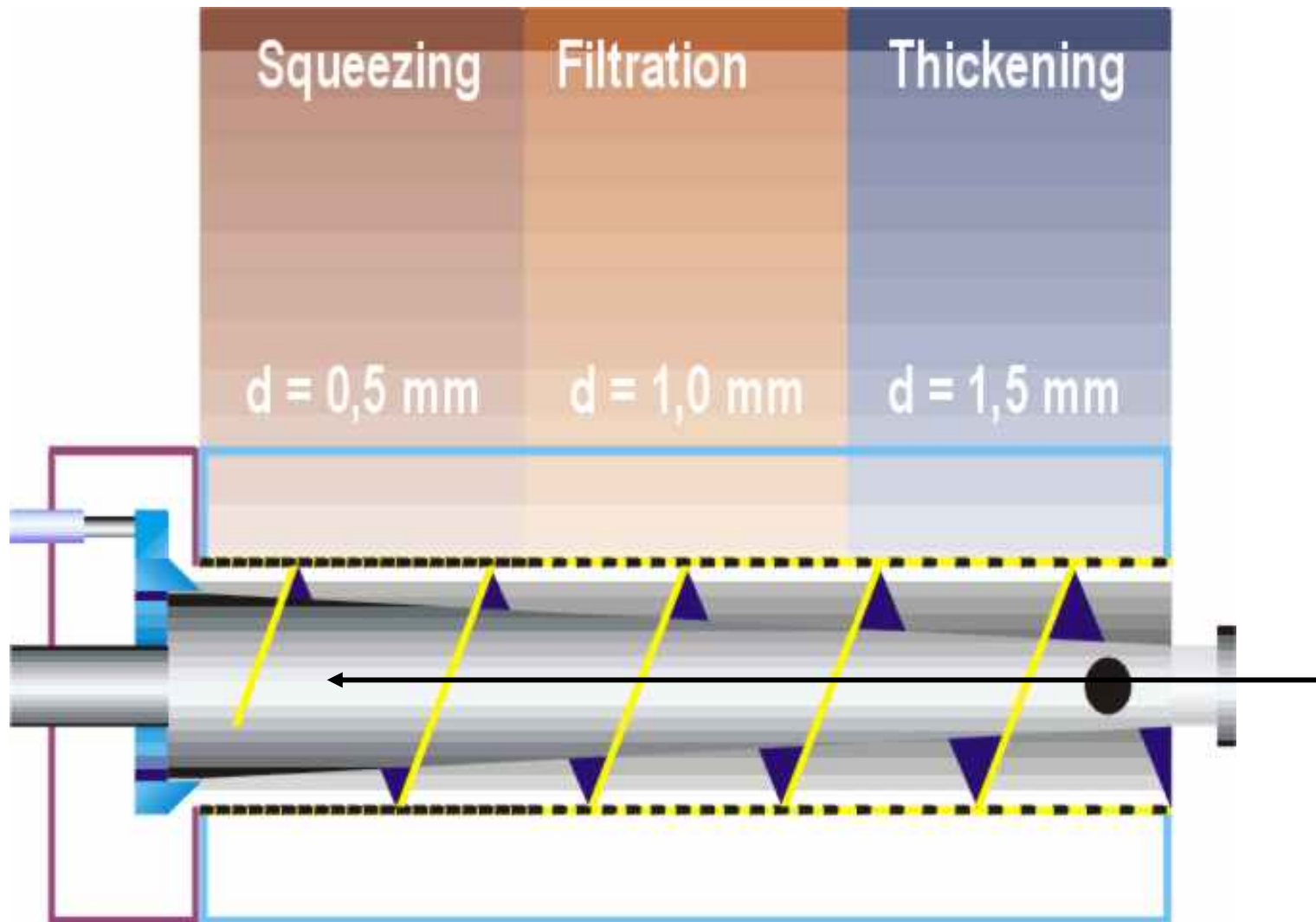
- Easy control of
flocculation
- Effective geometry

Reaction Tank



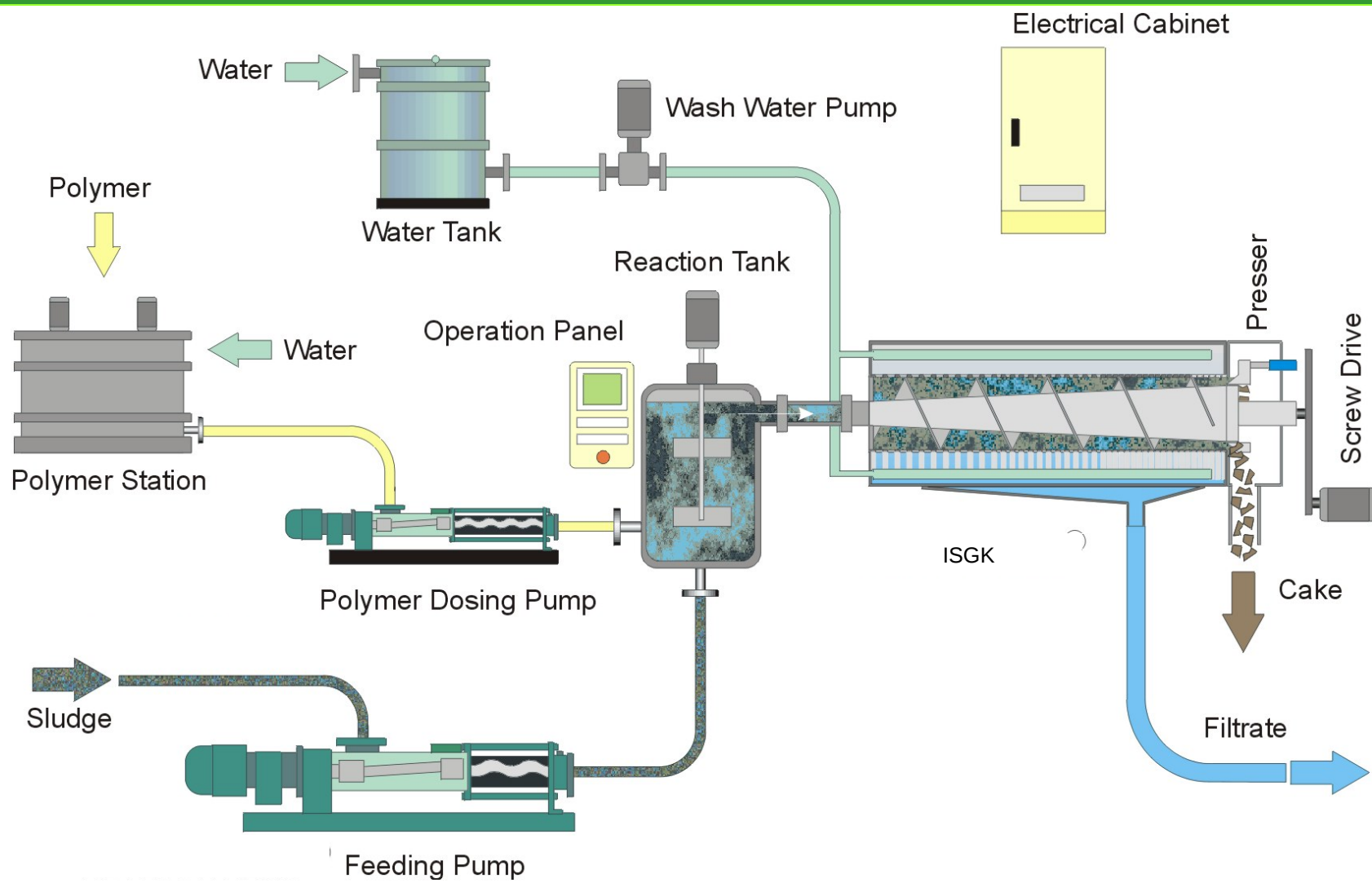
Set up of the perforated screen

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Process flow sheet

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Comparison with Conventional Dewatering Equipment

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Comparison	Screw Press	Centrifuge	Belt Filter
Noise	Very Low	High	Moderate
Vibration	Nil	Yes	Nil
Maintenance cost	Low	High	High
Power consumption	Very Low	High	High
Operation	Simple	Complex	Intricate
Installation	Assembled	Required	Required

Case Study CVC

Tender fixed (Yamba) and mobile dewatering units.

- requested traditional technologies, 15% DS in the cake

- ❖ **Ishigaki Oceania lodged a variation tender; new technology**

- CVC requested Ishigaki trial unit for evaluation

- Test results exceeded client's expectations

- Ishigaki granted permission to tender

- ❖ **Ishigaki awarded tender in a very competitive environment**

- ❖ **Project came in on budget and substantially within required completion date.**

Yamba NSW

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CVC Mobile Unit Results

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RESULTS OF BIOSOLID ANALYSIS (Page 1 of 1)

9 samples supplied by Clarence Valley Council on the 9th November, 2012 - Lab Job No. C3101

Analysis requested by Steve Bray.

(Locked Bag 23, ORAFTON NSW 2460).

SAMPLE CODE	METHODS REFERENCE	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Sample 7	Sample 8	Sample 9
		Sludge Pond 1-1 (refer note 5)	Sludge Pond 1-2 (refer note 5)	Sludge Pond 1-3 (refer note 5)	Sludge Pond 2-1 (refer note 5)	Sludge Pond 2-2 (refer note 5)	Sludge Pond 2-3 (refer note 5)	Sludge Pond 3-1 (refer note 5)	Sludge Pond 3-2 (refer note 5)	Sludge Pond 3-3 (refer note 5)
		C3101/1	C3101/2	C3101/3	C3101/4	C3101/5	C3101/6	C3101/7	C3101/8	C3101/9
Moisture Content (%)	APHA 2540G	77.3	72.5	70.1	80.0	80.8	81.1	70.8	74.4	71.6

[illegible]

CVC Mobile Unit

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Skid Mounted SP 0305 North Queensland

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Ishigaki Screw Tests

On Site Supplier Testing

Flow Speeds													
Sample	Date	Time	Feed		Poly		Screw Speed		Cone Pressur e (bar)	Polymer	Moistur e Content (%)	Solids (%)	Average Solids (%)
			Hz	m3/hr	Hz	m3/hr	Hz	Rev/min					
1	17/04/2012	8:50	70	1.64	20		20		0.1	71306	85.97	14.03%	17.05%
2	17/04/2012	10:10	75	1.77	25	0.10	25		0.1	71306	81.33	18.67%	
3	17/04/2012	11:00	85	2.00	35	0.15	35		0.1	71306	85.63	14.37%	
4	17/04/2012	11:45	42	1.00	18		20		0.1	71306	82.60	17.40%	
5	17/04/2012	13:40	42	1.00	18		10		0.1	71300	81.40	18.60%	
6	17/04/2012	14:00	70	1.64	25	0.10	25		0.1	71300	83.70	16.30%	
7	18/04/2012	10:30	70	1.64	22		15		0.1	71306	84.63	15.37%	
8	18/04/2012	12:50	50	2.00	22		20		0.1	71306	82.60	17.40%	
9	18/04/2012	14:00	70	3.00	40		35		0.1	71306	84.39	15.61%	
Belt Press	17/04/2012	9:00									87.23	12.77%	
Belt Press	18/04/2012	9:00									87.24	12.76%	

Mt Cotton Results

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Mt Cotton Results

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Reference List Screw Press

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Year	Model/type	Application	Location
2012	905 (Mobile unit)	Sewage Sludge, NSW	Australia
2012	605	Sewage Sludge, NSW	Australia
2012	305 (Skid mounted)	Sewage Sludge, QLD	Australia
2012	405	Sewage Sludge, QLD	Australia
2012	505	Sewage Sludge, QLD	Australia

Other Ishigaki Technologies

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Filter Presses

LASTA ISDG Model



Polishing Filters



Polishing Filter

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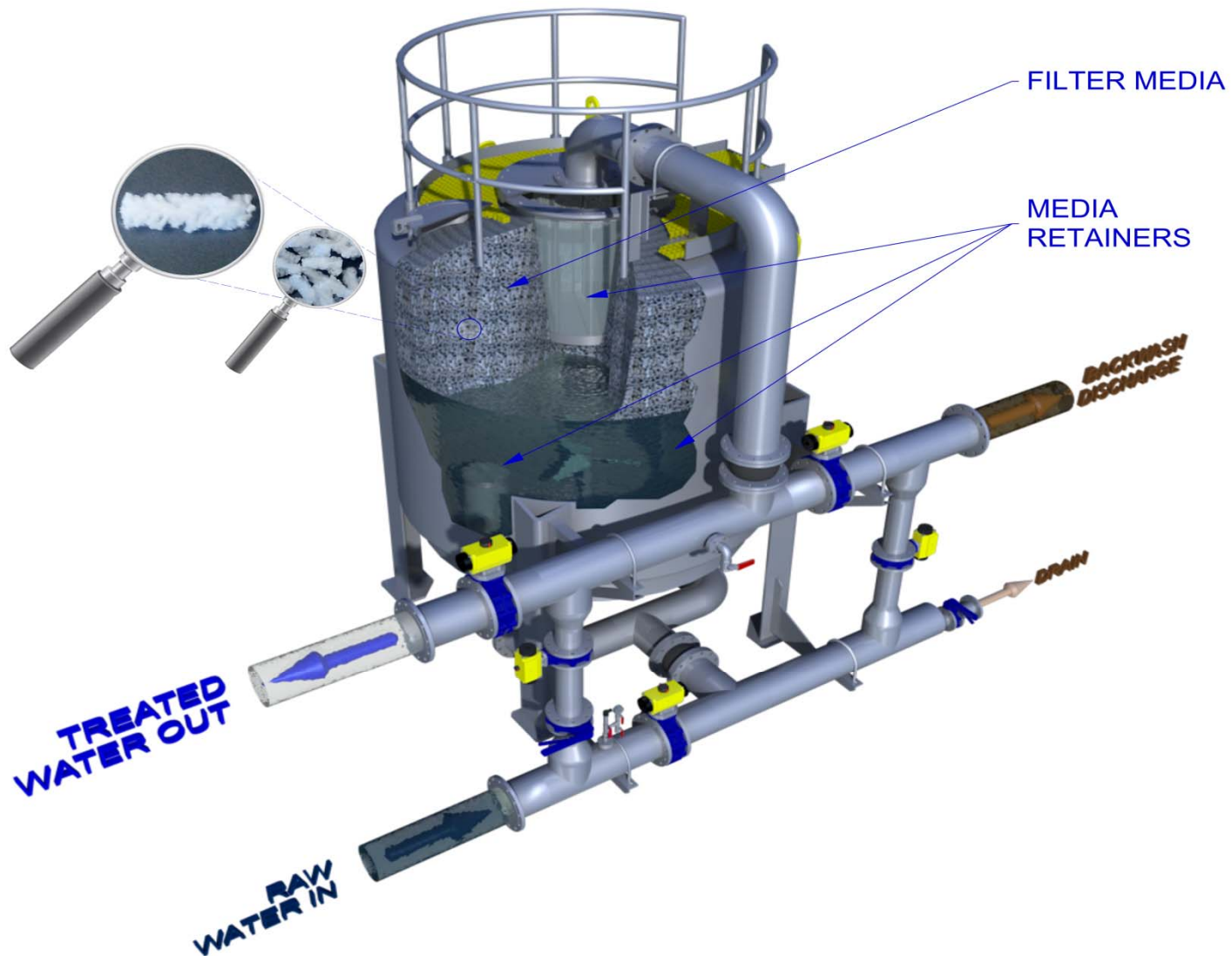


With the
Ishigaki Oceania
**Polishing
Filter!**

- Fully Automatic
- Huge Capacities
- High Solids Retention
- Australian Made

CONSTRUCTION

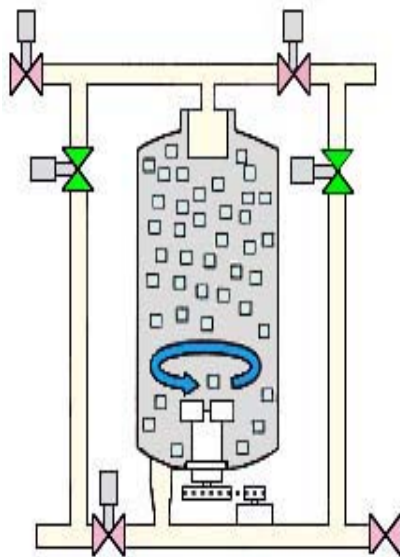
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OPERATION SEQUENCE WASHING

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AGITATION

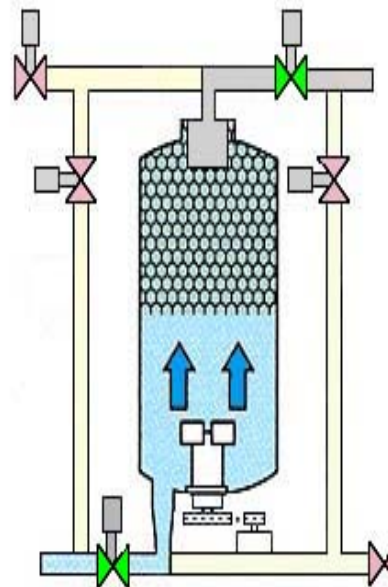
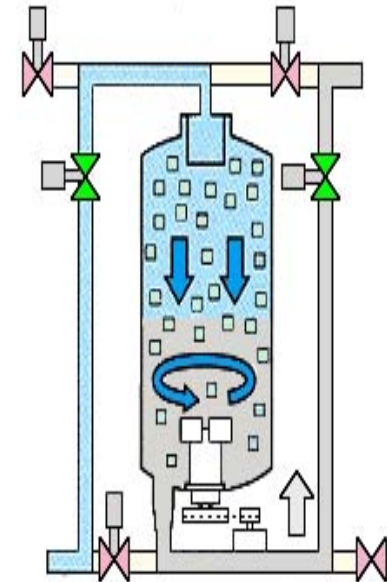


When FW detects the parameters of washing times via the pressure gauge, the agitator begins to wash the media

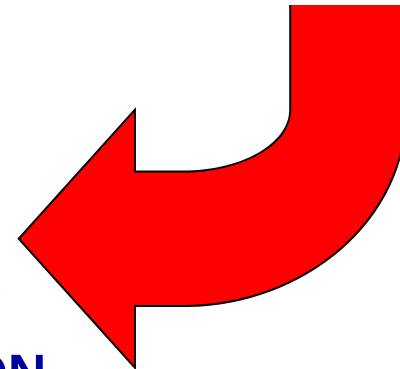
After the washing filter media process ends, the feed slurry purges all the solids that remain suspended in the main body and the water then re-circulates.

WASHING FILTER MEDIA

After the agitator begins operating the washing filter media process follows, in which slurry is fed from the main body outlet



RECIRCULATION



PHYSICAL RESULTS

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FEED



FILTRATE



BACKWASH

Installations:

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Iron Ore WA



QLDs Coal



FOOTPRINT COMPARISON

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Treating Capacity : 2500 m³/d
Model : FW 120 Filtration Area 3.1 m²

Sand
Filter
20 m²

Polishing Filter



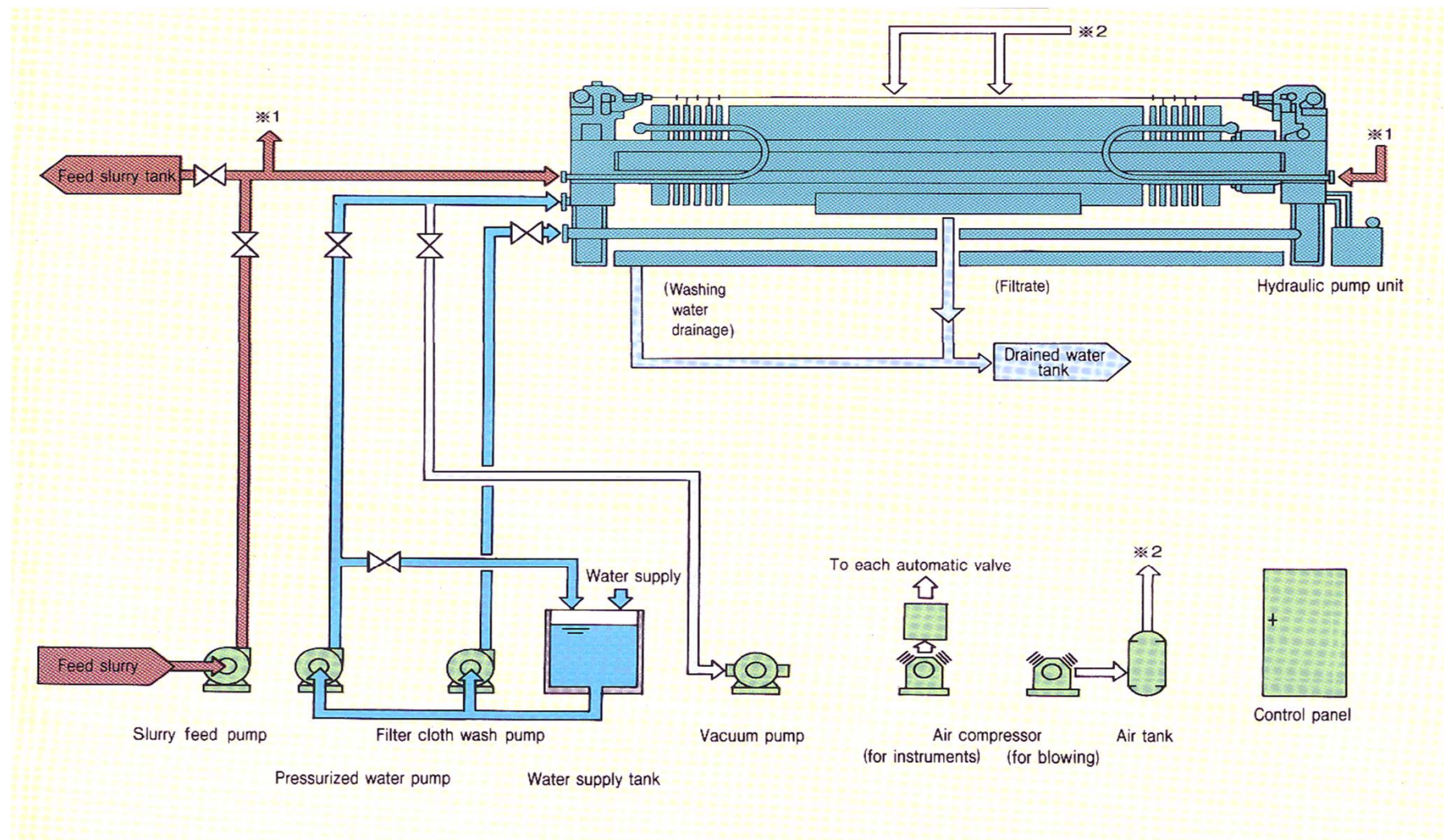
Reference List Polishing Filter

Year	Model/Type	Application	Location
2012	200	Thickener Overflow, QLD	Australia
2012	200	Thickener Overflow, QLD	Australia
2012	120	Thickener Overflow, QLD	Australia
2011	120	Thickener Overflow, WA	Australia
2011	120	Thickener Overflow, WA	Australia

- Ishigaki Polishing Filters now:
Made in Western Australia

◆ Typical Flow Sheet LASTA Giant Press

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Filter Press

The Ishigaki Filter Press is fully automatic, requiring no operator interaction, while returning high total solid in the cake.

2013, Ishigaki awarded contact to install Filter Press into Auckland for dewatering water treatment sludge.

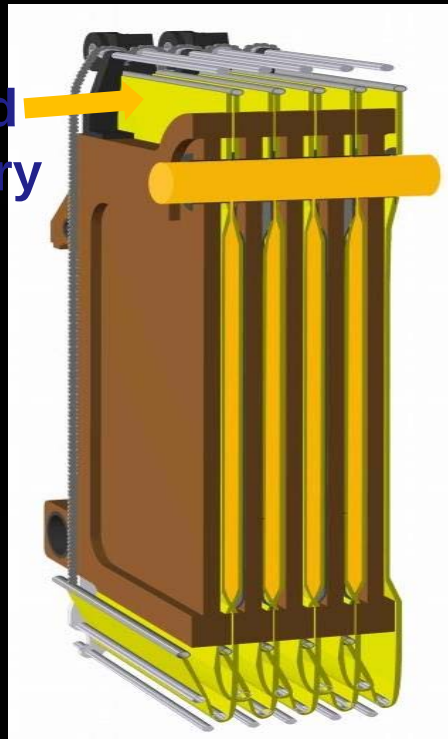
LASTA Filter Dewatering System

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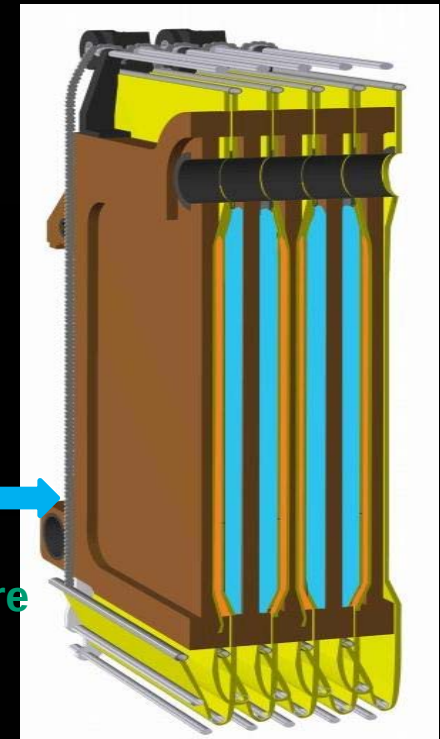
Filtration & Compressing Process



Feed
slurry



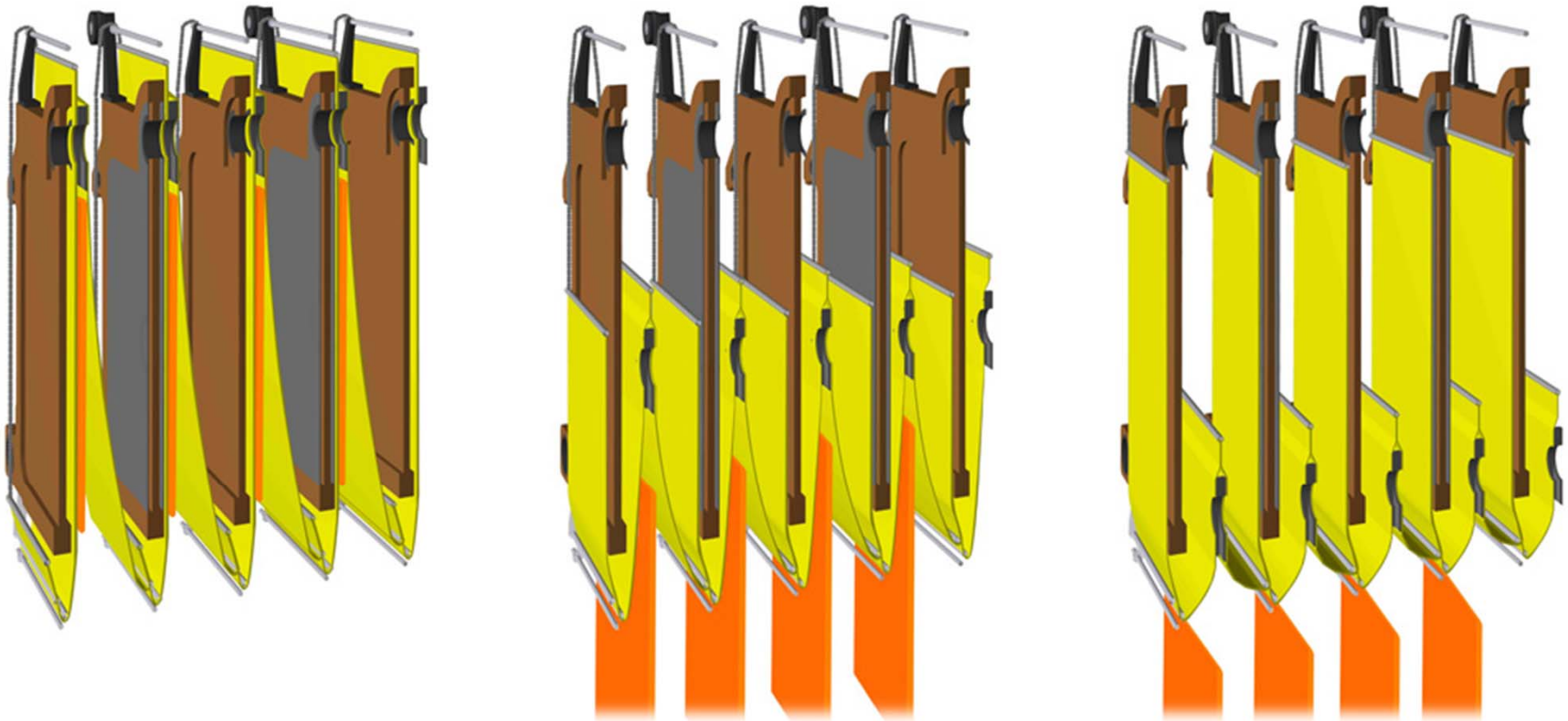
High-
pressure
water



LASTA Filter Dewatering System

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Cake Discharge Process with Cloth Traveling



LASTA Filter Dewatering System

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Cloth Washing process with Cloth Traveling

