

# Napier-Reid

## Belt Filter Press

# BELT PRESS



# STAINLESS STEEL BODY

## EIGHT ADVANTAGES



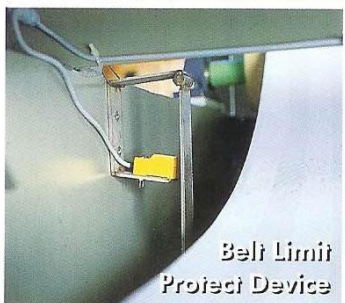
### 1) AUTOMATIC OPERATION

Timer control to allow continuous operation for present period. No operator required during the operation except for preparation of a polymer solution.



### 2) WIDE APPLICATION

Suitable for all types of sludge irrespective of whether the sludge is organic or inorganic in nature.



### 3) ROTARY THICKENER

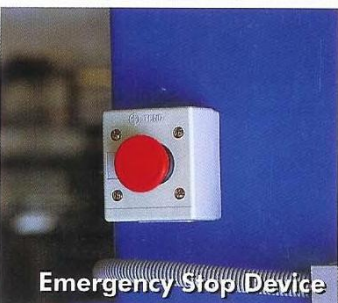
Patented thickener effectively concentrates the incoming conditioned slurry by removing excess water. Our thickener exhibits a dewatering capacity of more than 35-40% compared to conventional belt press.

### 4) AUTO TENSIONER AND ALIGNMENT

The belt press is equipped with built-in automatic tension adjustment system and also the alignment setting system.

### 5) SELF-CLEANING MECHANISM

The belt will be automatically sprayed with water so as to maintain the belt clean all the time. Minimum water is required. When the spray nozzles are clogged, just turn the red button to clean out the obstruction.



### 6) LOW POLYMER CONSUMPTION

Minimum polymer is required to condition the sludge before dewatering.

### 7) LOW OPERATION AND MAINTENANCE COST

The belt press is constructed with a stainless steel structure and rollers. Low power is required to run the belt press.



### 8) SAFETY DEVICE

The belt press is equipped with emergency stop device and a safety alarm system

# PROCESS DESCRIPTION




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## SLUDGE THICKNER

Normally the sludge is further concentrated by the gravity thickener to about 3% solid content before it is pumped to the belt press for dewatering

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## SLUDGE CONDITIONING

Polymer is injected into the thickened sludge in order to make larger flocks of sludge. The type of polymer to be used depends on the nature of the sludge.

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## ROTARY THICKENER

The conditioned sludge is first fed to the rotary thickener of the belt press. The purpose of the rotary thickener is to remove the excessive free water quickly to facilitate the further thickening of the sludge.

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## GRAVITY DEWATERING

When the thickened sludge leaves the rotary thickener, it reaches the first part of the roller which allows for further dewatering by gravity.

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## ROLLER PRESSES

The sludge is then feed through a series of rollers which will press the remaining free water from the sludge. In this zone, the sludge is allowed to build up to a certain thickness before it enters the multi station S-type pressure roller. The sludge is subject to high shear pressure to form the cake.

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## PRESS DEWATERING

After the gravity dewatering section, the sludge is gradually carried into press dewatering sections and pressed wedge-shapely. Then a certain thick sludge pass is the shear dewatering section.

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## SHEAR DEWATERING

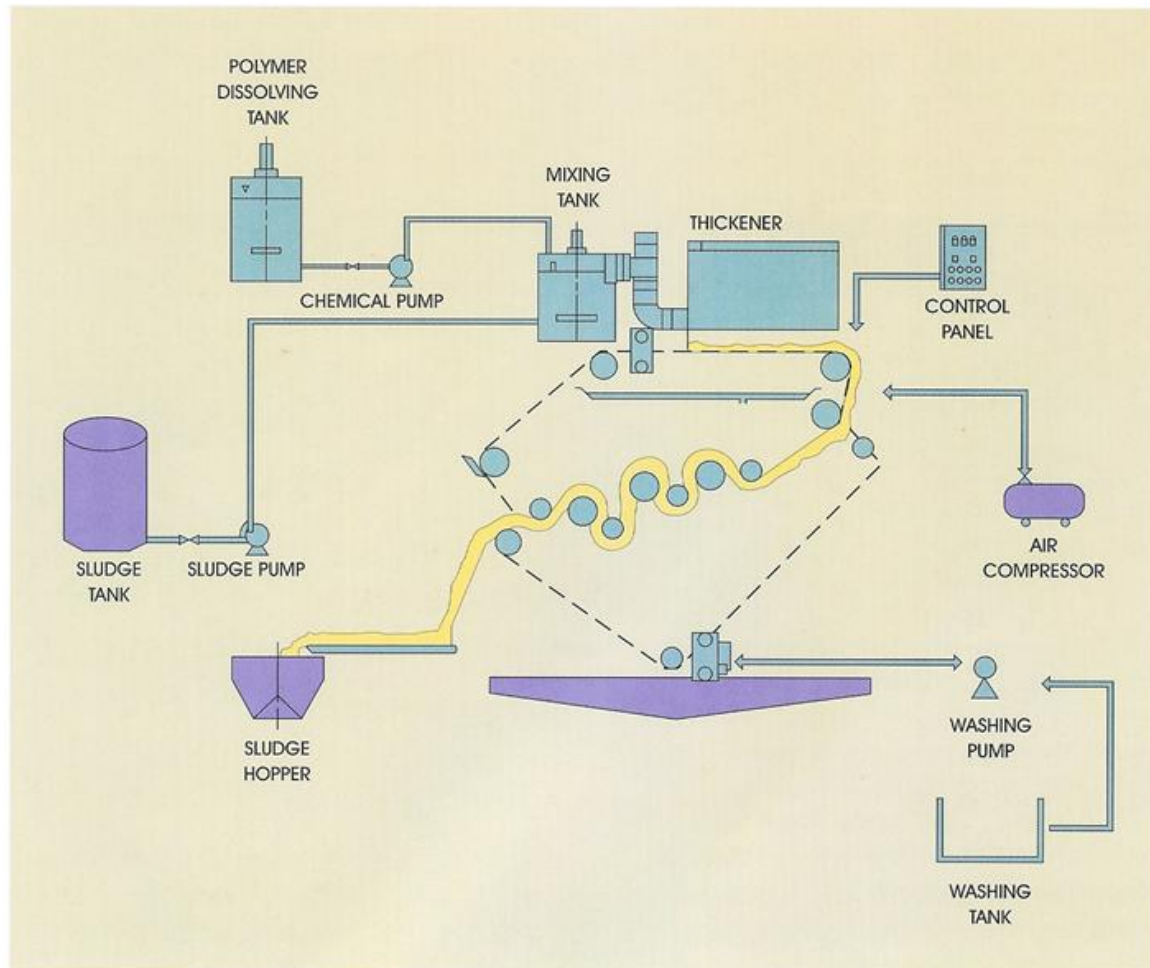
When sludge enters the shear dewatering section, there are a number of S-type rollers to form the sludge cake by the sheer force.

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## SLUDGE CAKE

The dewatered sludge normally has a water content of between 68-83%, depending on the type and nature of the sludge.

# FLOW CHART

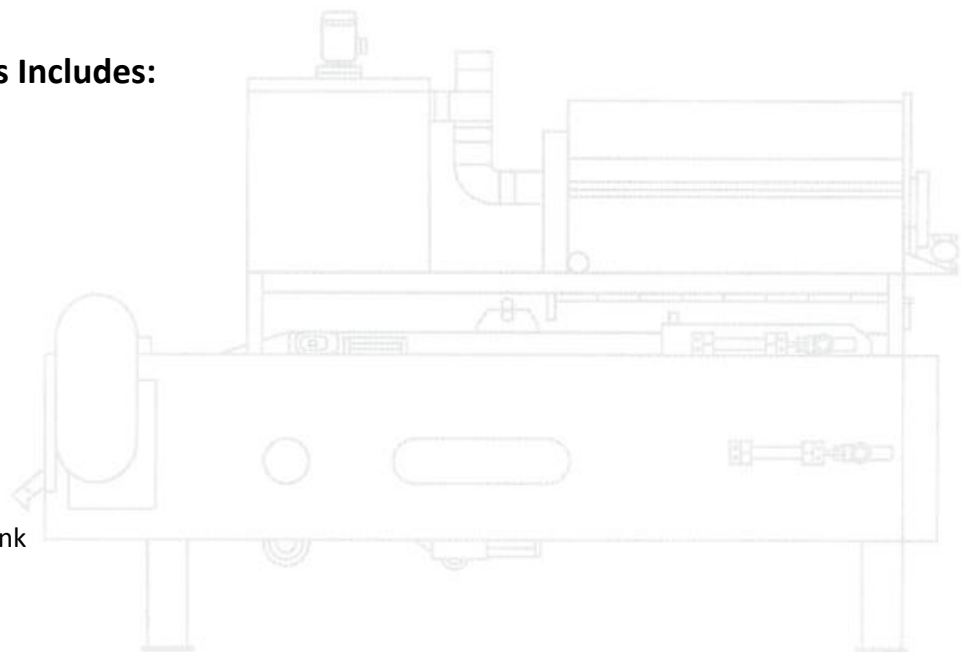


## The Standard Belt Press Includes:

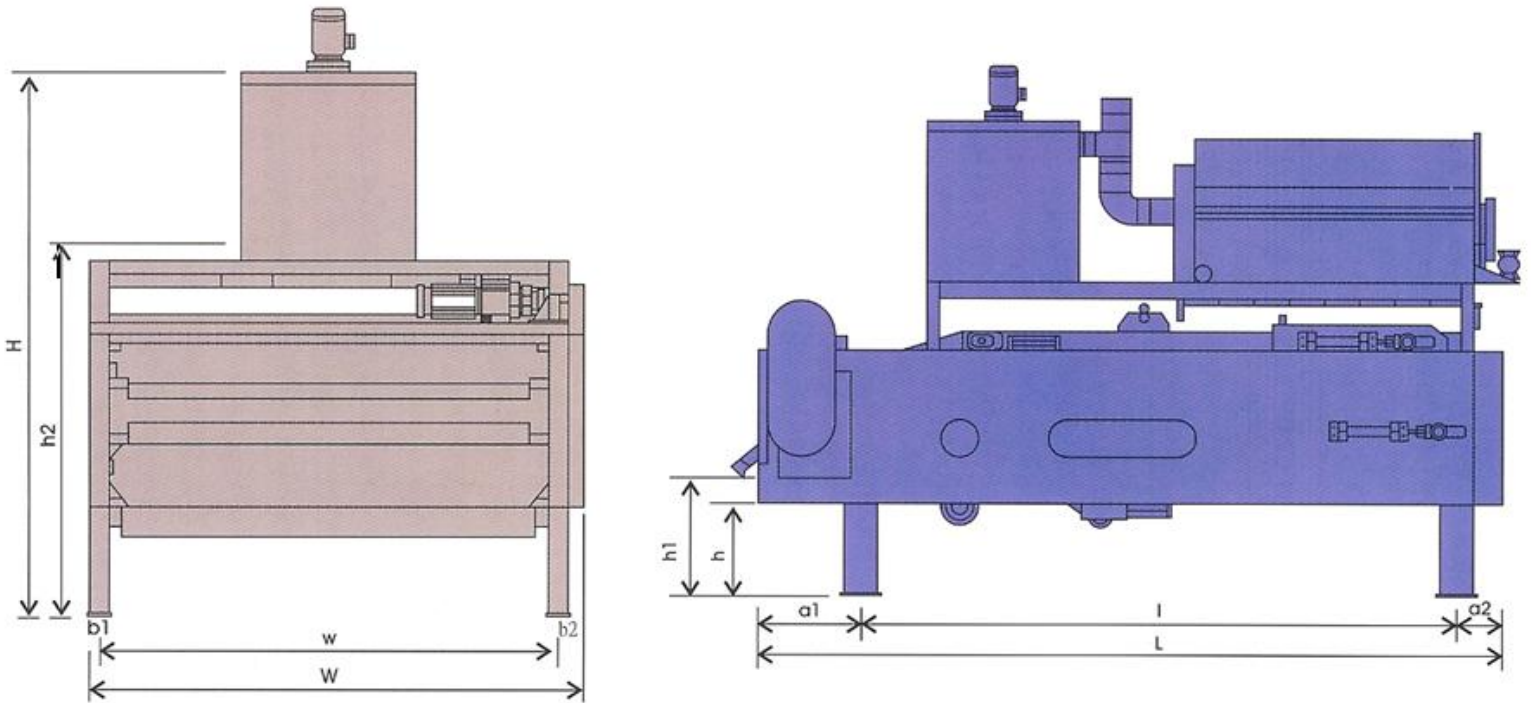
- Control Panel
- Air Compressor
- Mixing Tank
- Sludge Stirrer
- Rotary Thickener

## Optional Equipment:

- Sludge Pump
- Washing Pump
- Chemical Pump
- Polymer Dissolving Tank
- Polymer Mixer



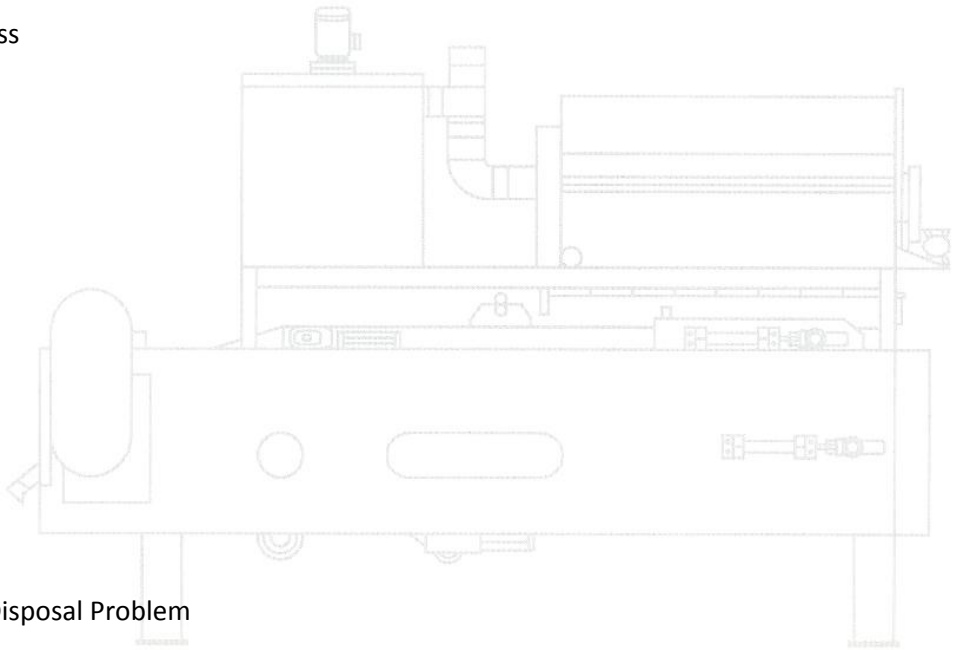
# BASIC SPECIFICATIONS



MODEL	Through-put m <sup>3</sup> /hr (ss:2%)	Belt Width m/m	Wash Water m <sup>3</sup> /hr	Power Consumption HP				Belt Tensioning Adjustment	Overall Dimen- sions m/m	Base Dimen- sions m/m	Weight kg
				Air Com- pressor	Main Drive Motor	Mixing Tank	Rotary Thickener				
YC-80K	1.5-2.5	800	3.0	1/4	1/4	1/4	1/4	Screw	L2250 W1270 H1900	11900 W960	1030
YC-110K	2.5-4	1100	3.7	1/4	1/4	1/4	1/4	Screw	L2250 W1570 H1910	11900 W1260	1110
YC-125P	4.5-6	1250	5	1/4	1/2	1/4	1/4	Air	L3300 W1730 H2400	12780 W1410	1910
YC-150P	6-8	1500	7	1/4	1/2	1/4	1/4	Air	L3300 W1980 H2400	12780 W1660	2120
YC-180P	8-13	1800	8.3	1/4	1	1/4	1/4	Air	L3300 W2280 H2400	12780 W1960	2330
YC-200T	14-20	2000	10.2	1	2	1/2	1/2	Air	L4200 W2530 H2800	13390 W2170	3170
YC-250T	20-26	2450	13	1	2	1/2	1	Air	L4200 W2980 H2800	13390 W2620	3510

## APPLICATIONS:

1. Steel & Iron Works
2. Chemical Industry
3. Paper Mill
4. Fiber Mill
5. Solid & Liquid Separation Process
6. Ceramic Industry
7. Food Industry
8. Glass Factory
9. Metal – Finishing Industry
10. Sewage Mud Disposal Industry
11. Electronic Industry
12. Dyeing Mill
13. Paint Factory
14. Automobile Industry
15. Livestock Farming Wastewater
16. Hospital Wastewater
17. Stone Factory
18. City Excess Activated Sludge
19. Other Industries- Having Mud Disposal Problem



## DEWATERING PERFORMANCE OF YC-125P

Type of sludge	Solid Content of sludge %	Polymer for DS%	Capacity Ton/Hr	Water Content of Cake%
Paper Mill sludge	2.0-4.0	0.3-0.5	4.0-6.5	65-75
Dyeing sludge	1.5-2.5	0.2-0.6	3.3-5.8	75-83
Gilding sludge	1.5-2.5	0.2-0.6	3.4-5.8	70-80
Leather sludge	2.5-4.0	0.3-0.9	3.8-6.2	70-82
Metal sludge	2.5-3.5	0.3-0.8	3.4-5.8	72-80
Seone Stone	6.0-20.0	0.2-0.3	3.0-5.0	60-70
Municipal Mixed Raw sludge	2.0-5.8	0.3-0.8	3.8-7.0	72-80
Municipal Activated sludge	1.0-3.1	0.5-1.0	2.0-5.0	76-82
Sewage Digested sludge	3.0-6.1	0.3-0.6	5.0-8.0	65-78
Sewage Activated sludge	1.0-3.5	0.5-1.0	2.5-3.6	75-83

# SLUDGE DEWATERING MACHINE OF DOUBLE BELT FILTER PRESS



## About Napier-Reid

Over 60 years of excellence in water & wastewater treatment

Napier-Reid is located in the greater Toronto area in the Province of Ontario, Canada. We supply engineering services and process equipment for water and wastewater treatment.

We have the technology, resources and experience to design, manufacture and implement innovative water and wastewater treatment solutions worldwide. We have completed over 3000 projects since our inception in 1950. This stands as a testament of our ongoing commitment of providing the highest quality service, products and after sales support in the industry. Our capabilities include engineering, manufacturing, installation and field support. We have in-house personnel for complete mechanical, electrical and instrumentation process and control system design. As a manufacturer, our designs focus on cost-effective solutions, simplicity of installation and ease of maintenance.

Napier-Reid has developed an excellent team with many years of experience. We have a well-deserved reputation for innovation, service and integrity. A significant portion of Napier-Reid's revenue comes from export to areas such as the Caribbean, Central America, South America, Middle East, Eastern Europe, Africa, and Asia. Some of these projects are financed by Canadian government or International financing institutions. As a Canadian manufacturer, we are eligible for Canadian governmental funding and EDC export credit. We have the capability to handle a large range of projects, from engineering, equipment supply, installation, start-up, to turnkey projects. Let Napier-Reid be your solution for water and wastewater treatment.



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