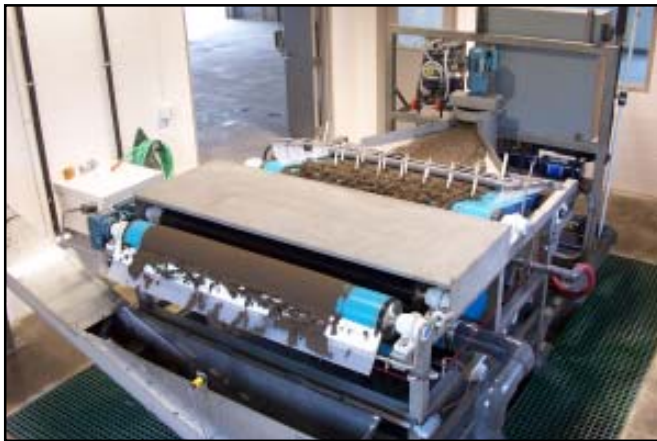


# OR-TEC Mark II BELT PRESS

*500, 1000 & 1500 Series*



If you're looking for an economical and simple solution to your sludge dewatering needs, you'll find an answer in the **OR-TEC MARK II Belt Press System**. Designed with ease of operation, low maintenance, cost effectiveness and dewatering efficiency in mind, the **MARK II** is proving to be an emerging leader in the municipal, industrial, food processing and agricultural realms. Its compact frame is constructed of wear resistant stainless steel and can be trailer mounted for multiple site operation. Available in 0.5, 1.0 and 1.5 meter capacities.



The **OR-TEC MARK II** offers a completely operational and self-contained system which includes:

- Belt Press
- Controls
- Conveyor
- Pumps
- Flocculation System
- Chemical Dosing Unit



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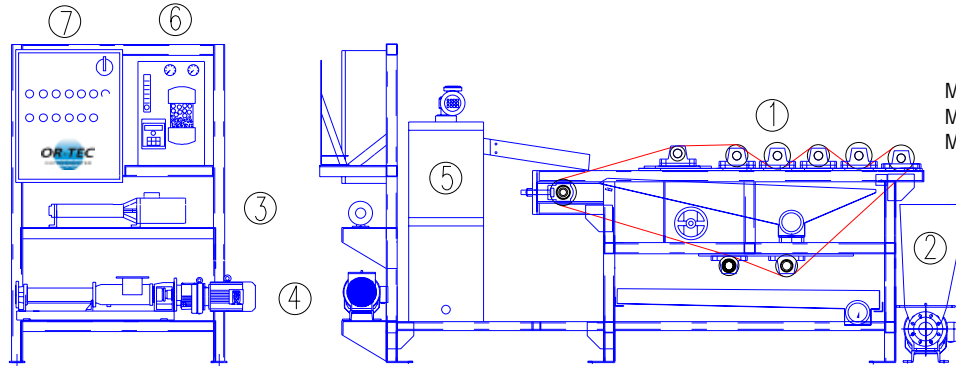
[or-tec.com](http://or-tec.com)



# OR-TEC MK II SERIES BELT PRESS

## Legend

1. Belt Press
2. Conveyor/Auger/  
Dry Cake Pump
3. Wash Water Pump
4. Sludge Pump
5. Flocculator
6. Polymer Dosing System
7. Control Panel



## Dimensions:

- Max Height 7'6"
  - Max Length 14'
  - Max Width 7'5" (1.5 m)
  - Max Width 5'8" (1.0 m)
  - Max Width 5'5" (0.5m)
- (Mk II System shown as turnkey, skid mounted)

## Some typical results....

| Type of sludge   | Feed Sludge Conc % | Sludge Feed Rate (gph)                   | Dry Solids Feed Rate (1 lb./hr)        | Poly Conc % | Poly Feed Rate (lbs/ton d.s.) | Final Cake % |
|--|--------------------|--|--|-------------|-------------------------------|--------------|
| Activated Sludge from Municipal WWTP                       | 1.5                | 844 (0.5m)<br>1687 (1.0m)<br>2530 (1.5m) | 105 (0.5m)<br>210 (1.0m)<br>315 (1.5m) | 0.25        | 8-10                          | 14.5 plus    |
| Activated Sludge from Anaerobic WWTP                       | 3.6                | 462 (0.5m)<br>923 (1.0m)<br>1385 (1.5m)  | 138 (0.5m)<br>276 (1.0m)<br>414 (1.5m) | 0.25        | 8-12                          | 19 plus      |
| Primary and Secondary Activated Sludge from Municipal WWTP | 3.25               | 595 (0.5m)<br>1189 (1.0m)<br>1783 (1.5m) | 161 (0.5m)<br>321 (1.0m)<br>481 (1.5m) | 0.25        | 8-10                          | 22.5         |
| Tannery Sludge   | 2.4                | 396 (0.5m)<br>792 (1.0m)<br>1190 (1.5m)  | 79 (0.5m)<br>158 (1.0m)<br>237 (1.5m)  | 0.17        | 4-8                           | 18           |
| Flotation Skimmings  | 8.2                | 306 (0.5m)<br>613 (1.0m)<br>921 (1.5m)   | 209 (0.5m)<br>418 (1.0m)<br>627 (1.5m) | 0.20        | 10-12                         | 30           |
| Oil and Grease Sludge                                      | 3.0                | 999 (0.5m)<br>1997 (1.0m)<br>3000 (1.5m) | 249 (0.5m)<br>498 (1.0m)<br>747 (1.5m) | 0.20        | 8-10                          | 36           |

## Process Description....

### CHEMICAL DOSING

An OR-TEC Blend polymer feed system automatically makes up and delivers the polymer and water solution to the injection site.

### FLOCCULATION

Sludge is pumped to a stainless steel flocculation tank by a variable capacity pump. Prepared polymer is simultaneously injected into the inlet of the flocculation tank by the polymer dosing system. Here thorough mixing occurs, aided by a variable speed flocculator fitted in the tank.

### GRAVITY DRAINAGE AREA

Flocculated sludge flows from the flocculator down a sludge feed chute. This chute provides a gentle, even distribution of sludge over the gravity drainage section and a uniform thickness on the dewatering belt. The drainage area allows for the separation of the free water contained within the sludge and its consequent discharge into the drainage tray. Capillary action takes place as the dewatering belt moves across tracking and pressure rollers. The drainage area is sealed by polypropylene skirting that is bolted to the top trays and rests on the filter cloth.

### ROLLER PRESSURE DEWATERING ZONE

Further liquid removal is achieved as the belt and sludge are pressed between a series of rubber covered rollers. Gradually the sludge is squeezed by adjustable rollers that have been preset during commissioning.

### SLUDGE DISCHARGE

Dewatered sludge is continuously removed by a fixed scraper blade acting against the final roller and allowed to fall into a horizontal stainless steel conveyor. Sludge cake can also be elevated with a stainless steel inclined screw auger or conveyor for discharge to a waste hauling vehicle for removal off site. A dry cake pump can be used as an alternative to the conveyor or auger.

### FILTER BELT WASHING

The filter belt is continually washed by pump generated high pressure water sprayed through fine nozzles. Belt wash water and filtrate are collected in a stainless steel drainage tray. This runoff is funneled to the customer's drainage system via the supplied 4" diameter flanged outlet in the tray. In most cases, the filtrate is acceptable as reuse for wash water, as is the final effluent of the W.W.T.P.

### CONTROLS

The system can be operated in automatic or manual modes. Start-up is simple and requires a minimum of time. A PLC monitors the system at all times during operation. Automatic Belt Tracking, a Sludge Cake monitoring system and Emergency systems help to ensure trouble free, easy operation.