

OR-TEC *xpress* BELT PRESS

xpress 700, 1200 & 1700 Series

The OR-TEC *xpress* Belt Press System is the perfect belt press for the small and medium size WWTP. It is an affordable system that is easy to install, operate and maintain. The all stainless steel belt press can be provided as a stand alone unit or as a complete turnkey system with all equipment required for dewatering factory mounted, piped and wired on a stainless steel skid



The OR-TEC *xpress* features:

- Two or Three belt configuration
- Gravity Zone with plows and dewatering roller
- Variable Wedge or low pressure zone
- High Pressure multi roller squeezing zone
- Auto start-up, run and shutdown
- Automatic Belt Tracking
- Sludge Cake Monitoring System
- No Hydraulics

**Don't just dewater it...
xpress it**



The OR-TEC *xpress* offers a completely operational, skid mounted and self-contained system which can include:

- Belt Press
- Controls
- Sludge Pumps
- Belt Wash Pump
- Flocculation System
- Polymer Dosing Unit
- Sludge Cake Auger

14500 Industrial Ave. South
Cleveland, OH 44137
p: 216-475-5225
f: 216-475-5229
info@or-tec.com

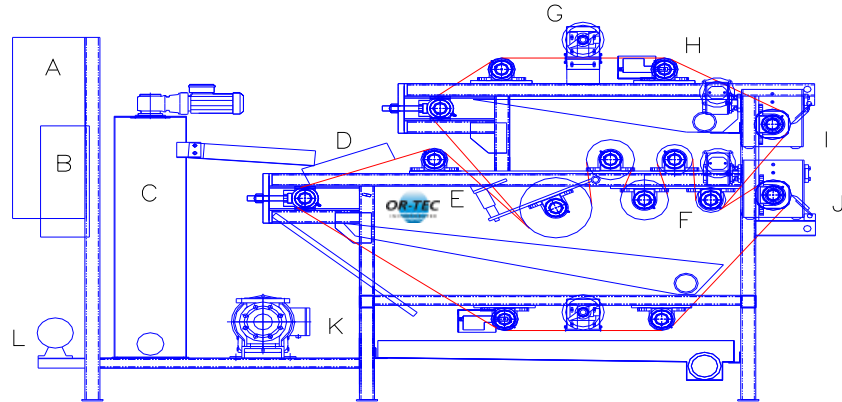
or-tec.com



OR-TEC *xpress* BELT PRESS

Legend (two belt shown)

- A. Control Panel
- B. Polymer Dosing
- C. Flocculation Tank
- D. Gravity Zone
- E. Wedge/Low Pressure Zone
- F. Squeezing/High Pressure Zone
- G. Belt Wash Station
- H. Tracking Roller
- I. Drive Rollers
- J. Sludge Cake Discharge
- K. Sludge Pump
- L. Washwater Pump



Some typical results.... (two belt system results shown)

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	1598 (0.5m)	200 (0.5m)	0.25	8-10	18 plus
		3197 (1.0m)	400 (1.0m)			
		4796 (1.5m)	600 (1.5m)			
Activated Sludge from Anaerobic WWTP	3.6	865 (0.5m)	260 (0.5m)	0.25	8-12	21 plus
		1748 (1.0m)	525 (1.0m)			
		2597 (1.5m)	780 (1.5m)			
Primary and Secondary Activated Sludge from Municipal WWTP	3.25	1106 (0.5m)	300 (0.5m)	0.25	8-10	25
		2213 (1.0m)	600 (1.0m)			
		3357 (1.5m)	910 (1.5m)			
Tannery Sludge	2.4	749 (0.5m)	150 (0.5m)	0.17	4-8	20
		1148 (1.0m)	290 (1.0m)			
		2198 (1.5m)	440 (1.5m)			
Flotation Skimmings	8.2	570 (0.5m)	390 (0.5m)	0.20	10-12	33
		1155 (1.0m)	790 (1.0m)			
		1725 (1.5m)	1180 (1.5m)			
Oil and Grease Sludge	3.0	1878 (0.5m)	470 (0.5m)	0.20	8-10	37
		3756 (1.0m)	940 (1.0m)			
		5635 (1.5m)	1410 (1.5m)			

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

Thorough mixing occurs here, aided by a variable speed flocculator fitted in the stainless steel flocculation tank.

GRAVITY DRAINAGE AREA

The gravity drainage area allows for free water to drain from the sludge. Plows and a dewatering roller aid the gravity dewatering process.

WEDGE / LOW PRESSURE DEWATERING ZONE

The variable wedge zone slowly brings the two belts together incrementally increasing belt pressure on the sludge

SQUEEZING / HIGH PRESSURE DEWATERING ZONE

Further liquid removal is achieved as the belts with the sludge between travel through a 5 roller squeezing zone. The rollers in this zone decrease in size thereby increasing the pressure on the sludge.

SLUDGE DISCHARGE

Dewatered sludge is continuously removed by a fixed scraper blade acting against the final roller.

FILTER BELT WASHING

The filter belt is continually washed by pump generated high pressure water sprayed through fine nozzles.

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.