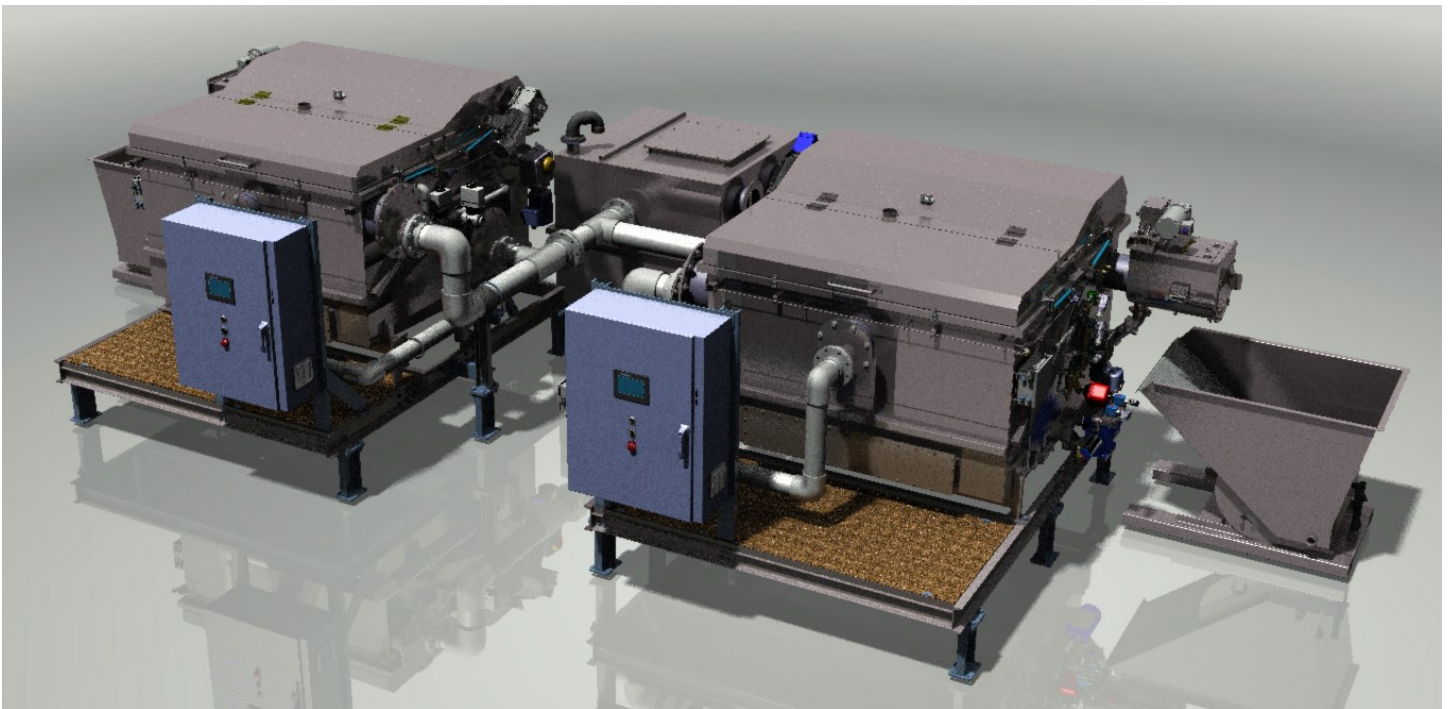


Inclined Rotation Belt Microscreens



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The Total Screen Solutions Rotating Belt Microscreen

A unique solution for a wide array of wastewater challenges.

The Total Screen Solutions Rotating Belt Microscreen (TBM) is an American made unique automated screening solution for many different applications in municipal and industrial wastewater applications. The sieve media allows for continuous microscreening down to 0.004" (105 µm). **The TBM is capable of incredible flow rates in a very small footprint with its continuous cleaning features.** The TBM also has an integral dewatering press that is able to achieve extremely dry pressed cake. **Low maintenance and low energy consumption results in low-cost operation.** The unique operation of the TBM is so different from conventional screening that it nullifies conventional thinking about liquid solid separation.

Applications

TBM can be used in municipal and industrial processing such as meat and food processing, tanning, pulp and paper, canning, beverage and fermentation, breweries, wineries, micro plastic removal, dewatering plants, and numerous other applications.

In typical municipal sewage treatment with medium strength wastewater expect 40-70% removal of total suspended solids (TSS) and 20-40% removal of Biological Oxygen Demand (BOD). For industrial applications, TSS removal will vary over a large range where in some cases 100% removal of TSS can be achieved.

Where should the TBM go in my process?

There are many options. **The TBM will be able to remove a lot of material wherever it is placed.** Consider a typical wastewater treatment scheme with headworks, primary, secondary, tertiary treatment and disinfection. The TBM can be placed after the headworks or it can replace the headworks altogether. The TBM can also replace primary treatment. Even if your system is designed to not require primary treatment, by adding TBM, secondary treatment will become more efficient therefore lowering operating costs. In industrial plants, TBM can be used to lower wastewater solids alone or combined with other solids removal systems to enhance performance.

For example, consider an existing Diffused Air Floatation (DAF) unit. The TBM can replace the DAF or can be placed in front of the DAF to lower the load while lowering chemical consumption. It can also be placed after the DAF as a polishing step. We can help you determine the best way to utilize our equipment in your process.

Belt Microscreen Operation

The TBM operation is fully automated. Raw water with solid contaminants enters the TBM thru the influent connection on the front of the tank housing. An inclined conveyor belt is made of polyester mesh filter media. The conveyor is designed so that the raw water can only flow thru (and not around) the filter belt. Solids are captured by the mesh and build a debris mat which blinds the belt over time. As the belt blinds, the liquid level above the conveyor will rise. A level transmitter detects the level and turns the conveyor on. The conveyor moves the debris to a belt wash section where the debris is washed into a collection trough and carried to a screw press integral with the equipment where solids are dewatered. The belt speed is varied based on the liquid level above the conveyor. The conveyor continuously feeds clean filter media to the tank that runs continuously without clogging. The press filtrate is directed back to a basin section in the tank where the press filtrate is pumped back on top of the belt. Hot water is applied periodically to clean any oils or greases that can accumulate on the filter media.

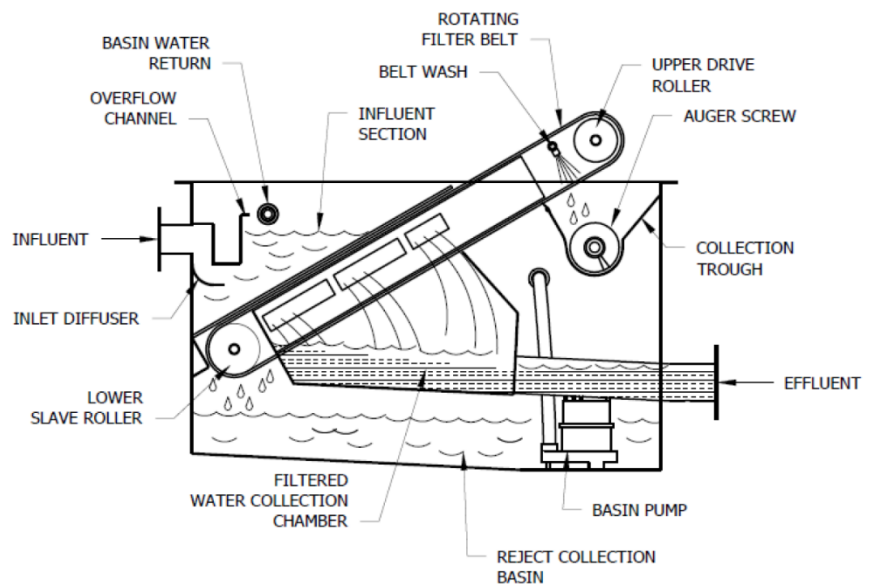




Table 1		-	Total Belt Microscreen DESIGN DATA -			
Performance		TBM-100	TBM-300	TBM-1000	TBM-2000	TBM-4000
Treatment Capacity Range ¹ GPM (LPM)		10 – 60 (38 – 227)	25 – 165 (95 – 625)	90 – 580 (341 – 2,196)	180 - 1,200 (681 – 4,542)	360 - 2,400 (1,363 – 9,085)
Typical Max Daily Capacity ² GPD (LPD)		50,000 (190,000)	140,000 (530,000)	500,000 (1,900,000)	1,040,000 (3,930,000)	2,080,000 (7,870,000)
Belt Width		12"	16"	30"	56"	56" x 2
Model	Weight	Dimension		Inlet / Outlet Connections ³	KWh Rating ⁴	Estimated Power Usage ⁵
TBM-100	1,050 lbs. (476 kg)	65" W x 51" D X 55" H 1.7m W x 1.3m D X 1.4m H		3" / 4"	1.49 kWh (2.00 HP)	25 kWh/day
TBM-300	1,400 lbs. (635 kg)	69" W x 65" D X 51" H 1.8m W x 1.7m D X 1.3m H		3" / 6"	1.74 kWh (2.33 HP)	29 kWh/day
TBM-1000	2,050 lbs. (930 kg)	85" W x 80" D X 59" H 2.2m W x 2.1m D X 1.5m H		6" / 10"	3.42 kWh (4.58 HP)	57 kWh/day
TBM-2000	3,200 lbs. (1,451 kg)	116" W x 86" D X 61" H 3.0m W x 2.2m D X 1.6m H		8" / 12"	3.54 kWh (4.80 HP)	60 kWh/day
TBM-4000	6,415 lbs. (2,910 kg)	211" W x 110" D X 62" H 5.4m W x 2.8m D X 1.6m H		2x12" / 20"	5.41 kWh (7.25 HP)	91 kWh/day
Notes: 1. Throughput capacity is typical and can be dramatically influenced by the concentration and characteristics of the solids being removed. 2. Max daily capacity is based on normal municipal strength raw water or light industrial waste. Values based on 24 hour operation 70% of the time. 3. Connections are sized for maximum flow. For high strength applications with lower flow, flange adapters are provided for smaller piping. 4. Power rating does not include power for pumping raw water to the equipment. 5. Values based on 24 hour operation at max power 70% of the time.						



Press Only Option

Total Screen Solutions offers a stand-alone press without the belt microscreen feature. This offers an automated press for customers who have sludge or larger solids that need to be dewatered prior to transportation or processing. The screw press comes standard with an open top hopper for loading. Optional covers are available if feeding from a pipe or conveyor and a closed environment is necessary. The press has a shafted stainless screw that terminates in a self-cleaning press cage. For sludge applications, send your sludge to our press, then drain the press filtrate to our TBM-100 to get particle free filtrate.

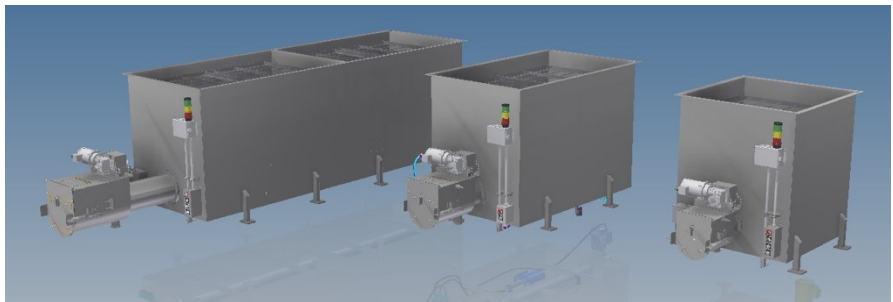


TABLE 2		TSS PO PRESS™ DESIGN DATA		
Model		RC-206	RC-408	RC-810
Hopper Capacity Gallons (Cu.yd.)		200 (1)	400 (2)	800 (4)
%Solids from Dewatering (typical)		15-50 %	15-50 %	15-50 %
Model	Weight (not including support structure)	Dimension of footprint		Screw Size
PO-206	940 lbs. (426 kg)	51" W x 85" D 1.8m W x 1.8m D		6"
PO-408	1,260 lbs. (571 kg)	51" W x 116" D 2.2m W x 2.1m D		8"
PO-810	2,320 lbs. (1,052 kg)	54" W x 210" D 3.1m W x 2.2m D		10"



Integrated Systems

In addition to our advanced microscreening and dewatering technology, we also offer additional bundled products and services. Accessories such as access platforms, solids handling equipment, collection hoppers, wash water collection tanks, and skid mounted systems are available either standard equipment or custom designed and fabricated. Let us know your specific needs and we can help you specify the correct system and assist with an optimum design.

