TRU-RAKE Self-Cleaning Bar Screen

The ***TRU-RAKE*** self-cleaning bar screen is used in small CSO structures with fixed overflow weirs to prevent coarse debris from entering the receiving stream. At the end of the overflow event this screened debris is transported, with the dry weather flow, to the treatment plant. Using no external energy, the ***TRU-RAKE*** will automatically clean itself after every overflow event. The ***TRU-RAKE*** is designed to swing up and out of the flow path should it be clogged with excessive debris, thereby preventing any negative impact on the upstream water level.

Features:

- Self-cleaning without external energy
- Rugged stainless steel construction
- Opens automatically in case of blockage
- Modular construction allows for installation in virtually any structure
- Low maintenance
- Easy to retrofit into existing structures

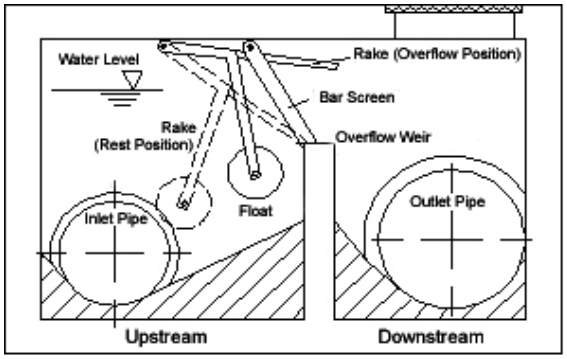


Figure 1 ***TRU-RAKE*** *Operational diagram*

Operation

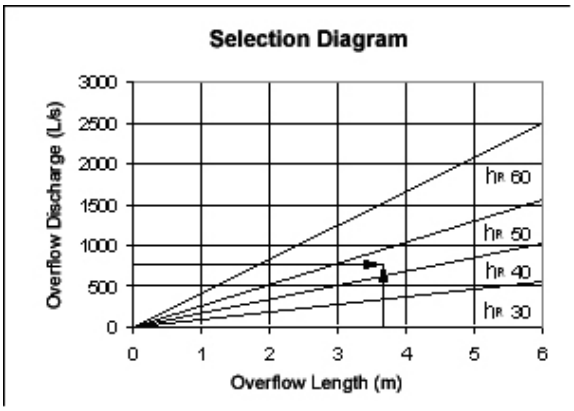
When a storm event occurs and the upstream water level increases, the rising float lifts the rake to its upper position before any water flows over the weir. The rake remains in this position during the entire overflow event. At the end of the overflow event the float drops as the upstream water level decreases. As it drops, the rake is pulled through the bar screen removing the collected debris from the bars. The falling debris is carried to the treatment plant for disposal by the dry weather flow.

Should the clogging of the ***TRU-RAKE*** be such that the water level increases beyond the maximum storage level, the bar screen will swing up due to the increase in hydrostatic pressure and temporarily release the overflow section. When the water level drops, the bar screen will return to its initial position by its own weight. The ***TRU-RAKE*** can also be equipped with an optional pulley system for manual operation and cleaning.

Owing to its modular construction the ***TRU-RAKE*** can be fitted to virtually any structure, even as a retrofit item.

Technical Data:

Bar spacing	:	25 mm
Bar Screen thickness	:	5 mm
Rake thickness	:	15 mm
Maximum rake length	:	modular construction, any length possible



Example:

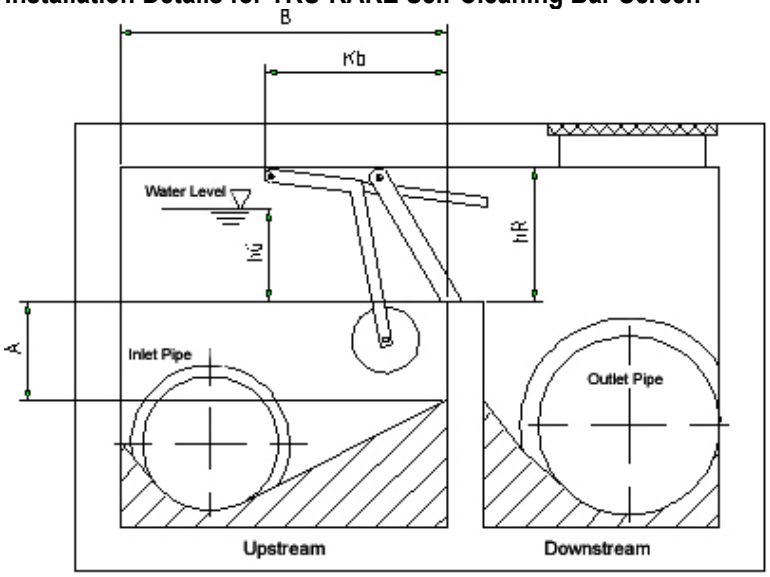
Overflow design discharge of 750 L/s are to be discharged over a 3.7 m long weir using a ***TRU-RAKE*** self-cleaning bar screen for coarse debris removal. Using the Selection Chart we can see that the screen height would be approximately 45 cm. the next available size is 50 cm, therefore the

Selected rake height: h_R = 0.5 m

Grande
Water management systems

Installation Details for TRU-RAKE Self-Cleaning Bar Screen

Detailed installation and approval drawings for the TRU-RAKE will be prepared by Grande-Water Management Systems, free of charge, upon receipt of purchase order.

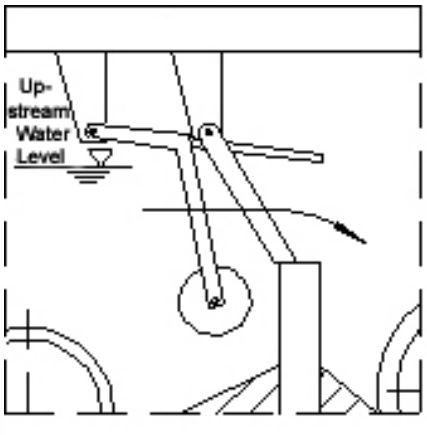


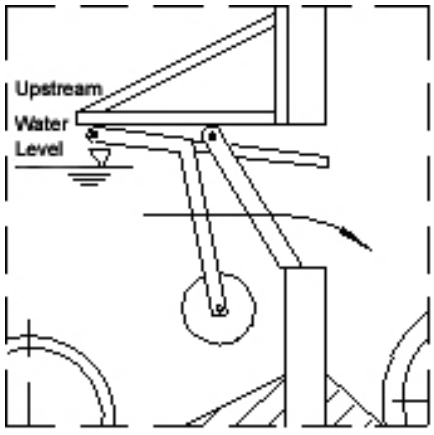
Dimensions:

Rake height "hR" (m)	Overflow height "hü" (m)	Max. Module Length "Lmax" (m)	Clearance "Kb" (m)	Minimum "A" (m)	Minimum "B" (m)
0.30	0.20	4.00	0.45	0.30	1.00
0.40	0.30	3.00	0.55	0.40	1.20
0.50	0.40	2.40	0.70	0.45	1.40
0.60	0.50	2.00	0.80	0.50	1.50
Other dimensions available upon request					

Concrete structure dimensions and *TRU-RAKE* dimensions and installation details will vary depending on specific project structural dimensions and site constraints. Access opening will vary depending on the *TRU-RAKE* model selected.

TRU-RAKE **mounting options**





100 Alexis Nihon Blvd., Suite 540
Montreal, Québec, Canada
H4M 2P1
Tel.: **(514) 904-6580** Toll-free: **1-866-904-6580**
Fax: **(514) 904-6573**
www.grandeinc.com