

NR-Coarse Screens

Manual and Mechanical Coarse Screens



▲
**NR- Mechanically Cleaned Arc
Screen Installation**– Al-Wafra
Kuwait
Design Flow: 4000 m³ per day



▶
**NR- Mechanically Cleaned Arc
Screen** – Dragon Head Textiles WWTP
Comayagua, Honduras, Central America
Design Flow: 2500 m³ per day

Napier-Reid fabricates a wide range of mechanically or manually cleaned coarse screens, openings range from 6 to 150 mm. Each system is custom designed and fabricated according to the specific wastewater treatment plant and customer's requirements.

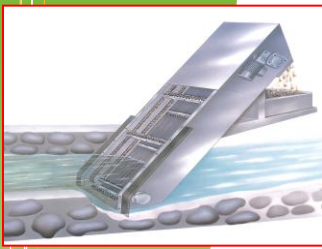
N-R Screens



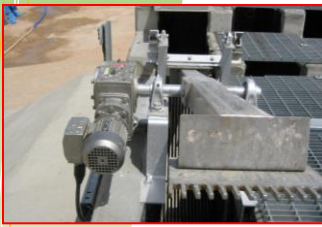
NR- Manual Screens
Georgian Downs Racetrack,
Barrie, ON
Design Flow: 82.6 m³ per day



NR- Arc Screens
Al Wafra WWTP, Kuwait
Design Flow: 4000 m³ per day



NR-Climber Screen
General Schematic Diagram



NR- Arc Screens
Military Base, Kuwait
Design Flow: 461m³ per day

Coarse screens are defined as screens with openings between 6 to 150 mm. They are typically used in wastewater treatment applications in order to remove large solids from the influent in order to protect pumps, piping, instruments, valves and other downstream equipment. Coarse screening as a physical unit operation in wastewater treatment applications is effectively used in order to remove rags, clothes, logs, debris or any other large objects that could clog, damage or alter the process pumps and piping downstream. Depending upon the size of the wastewater treatment plant and the requirements the coarse screens can be manually or mechanically cleaned.

An installation with two or more screen channels is usually preferred as one unit can be taken out of service for maintenance without interrupting the screening operation. If only one screen is used, a by-pass channel with a manually cleaned bar screen is essential.

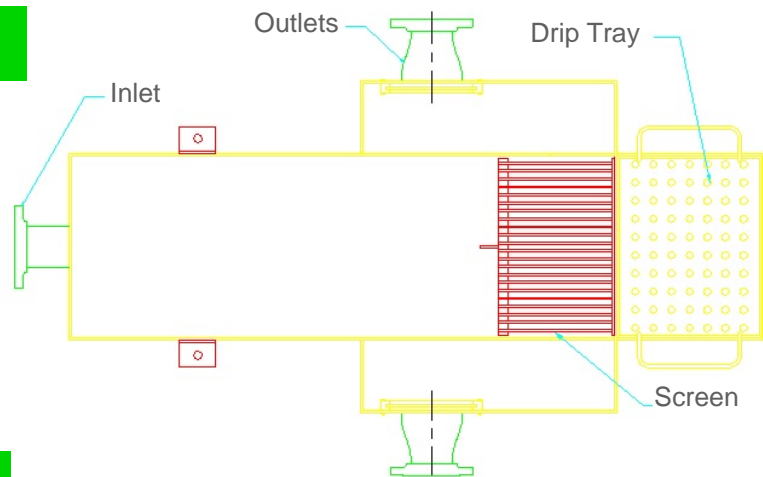
For small wastewater treatment applications, a manually cleaned bar screen in a box is sometimes preferred due to its simplicity. Napier-Reid designs and fabricates manual screens with a large box in order to reduce the cleaning frequency by the operator. This box can also be designed as a flow splitter box in order to evenly distribute the flow in two aeration tanks continuously if a conventional activated sludge process is used or in an interrupted alternating on-off sequence if a Sequence Batch Reactor (SBR) is selected. In SBR applications, control valves usually follow the outlets of the splitter box in order to regulate the flow into the tanks.

For large plants a mechanical cleaning system is used, Napier-Reid fabricates mechanically cleaned arc screens or mechanically cleaned climber screens that do not have any underwater moving parts except the cleaning rake during its operating cycle. A PLC control panel is optionally supplied in order to provide any required degree of automation for the system.



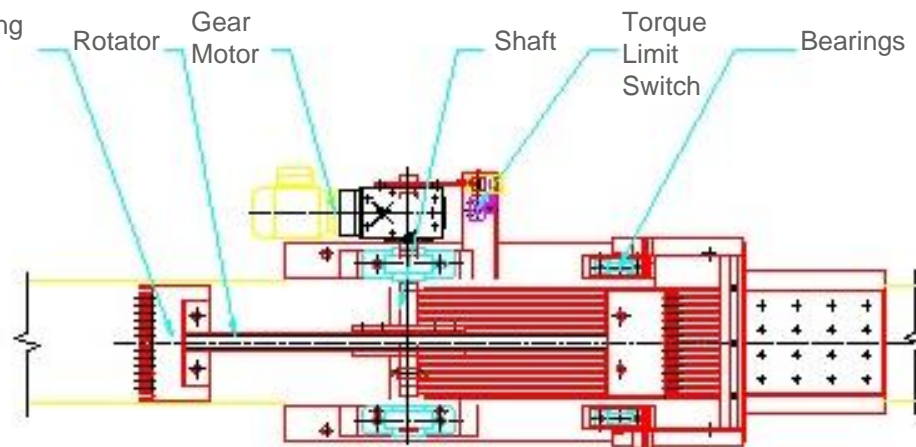
Manual Screens

- Simple design with no moving parts.
- High quality workmanship and aesthetic finish.
- Well suitable for small municipal wastewater treatment plant applications.



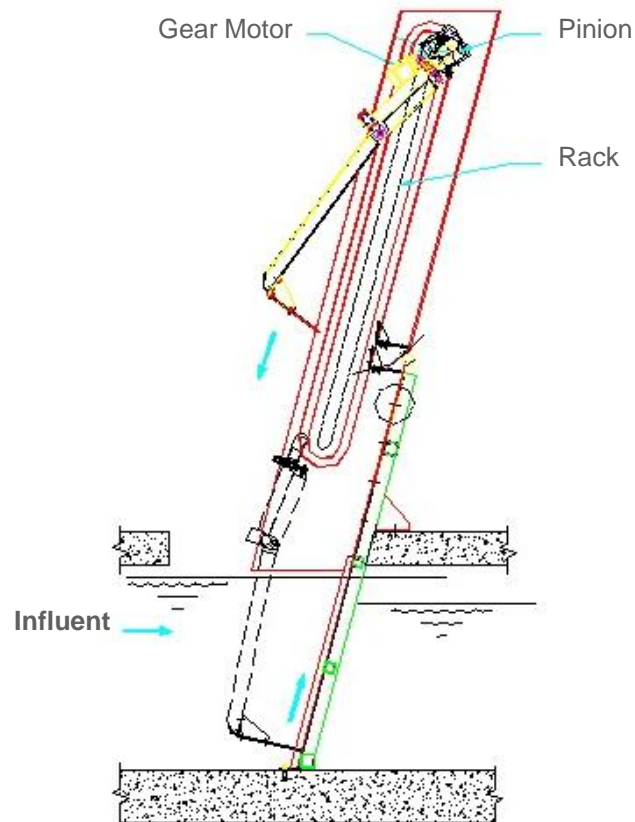
Mechanical Arc Screens

- Outstanding mechanical design is virtually maintenance-free.
- Simple and effective semi-automatic design.
- Contains no submerged moving parts.
- Fatigue and corrosion-resistant machine design for a long operating life.
- Openings range from 6mm to 150 mm.



Mechanical Climber Screens

- Solid pinion and rack machine design.
- Robust design and built with high quality components.
- Fabricated in stainless steel or any other acceptable corrosion-resistant material.
- Designed for easy installation, operation and maintenance.
- Low profile for a reduced footprint.
- Openings range from 6 mm to 150 mm.



Advantages of

Napier-Reid's Screens

- Fabricated in stainless steel or any other acceptable corrosion-resistant material.
- Low profile design.
- Low head loss even with small screen openings.
- High hydraulic loading capacity.
- Outstanding structural, mechanical and hydraulic design.
- Application-oriented engineering design.

Screens – Recent Installation List

OWNER / LOCATION	TYPE	START-UP DATE	AVG. FLOW	SIZE.
Toronto, ON	Mech. Climber Screen	1995	817,200 m ³ /day	2420 mm W x 3660 mm D (Five Units, Vulcan)
Duke Point, BC	Mech. Arc Screen	1997	920 m ³ /day	450 mm W x 1000 mm D (One Unit)
Georgian Downs Racetrack, Barrie ON	Manual Bar Screen	2001	82.6 m ³ /day	1500 mm L x 900 mm W x 600 MM D(One Unit c/w Splitter Box)
Dragon Head Textiles, Honduras	Mech. Arc Screen	2001	1900 m ³ /day	350 mm W x 780 mm D (One Unit)
Ministry of Public Works, Al Wafra, Kuwait	Mech. Arc Screen	2002	4000 m ³ /day	380 mm W x 1200 mm D (Two Units)
Ministry of Defense, Kuwait	Mech. Arc Screen	2005	1200 m ³ /day	300 mm W x 780 mm D (One Unit)

Why Napier-Reid?

Napier-Reid has been providing engineered solutions for the water and wastewater treatment industry since 1950. All systems are custom designed for each individual application. Some of the screens **Napier-Reid** has provided are part of a complete package wastewater treatment plant where each individual component of the package has been designed as per our customer's requirements. **Let Napier-Reid be your single solution for all your water and wastewater treatment requirements!**

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 institutes. 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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