newterra offers the **Iron Removal System**, as an innovative, efficient and cost-effective solution for removing iron from ground water/wastewater/process water.

**newterra Iron Removal System** combines “DEFERUM™” Iron removal technology with automated controls and separation units, allowing for the removal of all types of iron (ferrous, ferric, and bacterial) to below 0.3 ppm.

The system can accommodate iron concentrations from 5 to 100 ppm (on a non-reagent basis), in addition to other pollutants (hydrogen sulfide, odour, manganese, organic substances).

**Applications:**
newterra Iron Removal System has a broad range of applications, including:
- Ground, surface and sea water
- Industrial and potable water treatment
- Cooling tower water filtration
- Iron removal from well water
- Wastewater purification

**newterra Iron Removal System Markets**

<table>
<thead>
<tr>
<th>Mining</th>
<th>Oil, Gas &amp; Biofuels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipal (Drinking Water Utilities)</td>
<td>Commercial &amp; Industrial</td>
</tr>
<tr>
<td>Agriculture (Including Irrigation)</td>
<td>Sustainable Developments</td>
</tr>
</tbody>
</table>

The newterra Iron Removal System can be used for all water treatment technologies, such as RO, UV, Desalination, and Membrane.

**Operational Principles:**
The newterra Iron Removal System is based on the process that can be classified as intensive aeration / degasification followed by filtration.

The system consists of the following components:
- Aeration/degasification - for dissolved gas removal, and oxidization of bivalent iron to a form, that can be readily filtered out.
- Filtration by floating media for contaminant removal
- Hydro-robot device for self backflushing
- Backflush water treatment unit including coagulant/flocculant treatment device and automatic particulate filter (SIF)

The core of the system is Polymer Floating Filtering Media which does not need to be regenerated or replaced. A unique system design allows the media to be used for 25 years.
Iron Removal System

Significant features:
- Exceptionally high quality of treated water (iron content below 0.3 ppm)
- Handles all types of iron in concentration up to 100 ppm
- Unique aerator/degasifier removes dissolved gasses and dissolved iron in single pass
- Unique Polymer Floating Filter Media has 40% porosity and size from 0.7 to 10 mm, and exceptional easy to backwash (approximately once a day for 2-16 minutes)
- Lw backflush water volume - below 1% of daily flow

Flow rate ranges for newterra Iron Removal System standard systems are from 24 to 500 m³/day. The systems are fully scalable, can be configured in multiples to treat any required water volume. newterra supplies skid mounted and containerized Iron Removal Systems.

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions</th>
<th>Flow rate, max</th>
</tr>
</thead>
<tbody>
<tr>
<td>newterra - DEFERUM 24</td>
<td>Diameter - 0.75m; Height – 4.0 m</td>
<td>24 m³ / day</td>
</tr>
<tr>
<td>newterra - DEFERUM 100</td>
<td>Diameter – 1.6m; Height – 4.0 m</td>
<td>100 m³ /day</td>
</tr>
<tr>
<td>newterra - DEFERUM 200</td>
<td>Diameter – 1.6m; Height – 4.0 m</td>
<td>200 m³ /day</td>
</tr>
<tr>
<td>newterra - DEFERUM 500</td>
<td>Diameter – 2.5m; Height – 4.0 m</td>
<td>500 m³ /day</td>
</tr>
<tr>
<td>newterra - DEFERUM 1200</td>
<td>Diameter – 3.65m; Height – 4.0 m</td>
<td>1200 m³ /day</td>
</tr>
</tbody>
</table>

For large flow rates – custom design newterra Iron Removal System.

Turnkey newterra - DEFERUM 24
Containerized unit

Trailer mounted newterra - DEFERUM 100

Permanent on site newterra - DEFERUM 500