



WATERCARE INNOVATIONS

## Solid/Liquid Separation **HIGH-RATE CLARIFIER**

**High-suspended solids in a clarifier overflow stream threaten the sustainable and effective operation of downstream equipment or processes.**

This contaminated water could result in a series of problems:

- Replacement of costly hydro-power equipment and pumping infrastructure in the mining environment.
- Silting of storage/ intermediate dams and tanks.
- Environmental strain when water is discharged into nearby streams.
- Cost-intensive repairs of downstream infrastructure and processes when blockages occur.
- Flooding of underground operations due to infrastructure failure.

Watercare Innovations (Wi) have harnessed years of combined experience in clarifier operations to develop a unique modular system, which is revolutionizing the way clarifying is done in the mining & process plant industry.

The Wi High-rate clarifier has achieved the most compact footprint per water volume treated in the industry. This brings about potential in the mining environment for major savings in underground excavations for new installations, and also accommodates the upgrade of most existing clarifier systems.

Each module consists of a feed launder arrangement, clear water overflow launder, sludge underflow discharge and a maintenance/ operational staircase and platform.

### **Applications:**

- Underground/surface mining operations
- Process- and industrial plants
- Waste water
- Drinking water
- Pre-treatment to membrane plants
- Softening
- Removal of industrial precipitated metals

HRS-100 HIGH RATE CLARIFIER

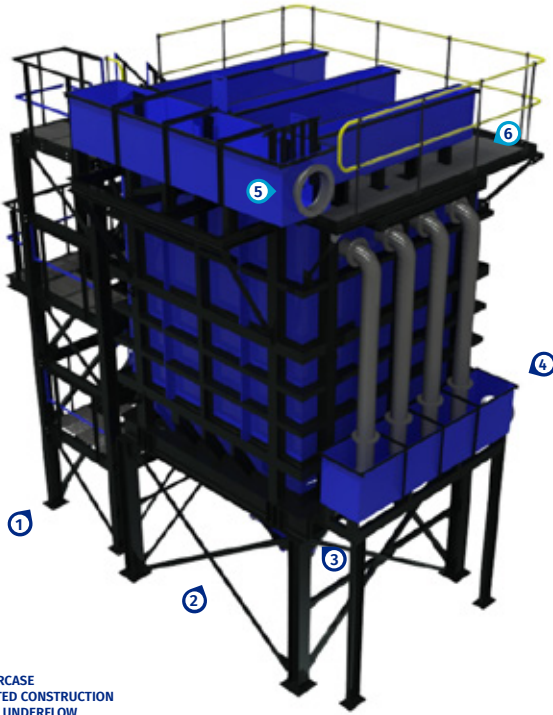




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# Solid/Liquid Separation HIGH-RATE CLARIFIER

## PROCESS DESCRIPTION



- 1. STAIRCASE
- 2. BOLTED CONSTRUCTION
- 3. MUD UNDERFLOW
- 4. CLEAR WATER LAUNDER
- 5. FEED LAUNDERS
- 6. MAINTENANCE & OPERATION PLATFORM

### A wide range of benefits, include:

- Single level, compact excavation required in underground mining applications.
- Rapid stabilization of system, assisted by flow-controlled feed launders.
- No moving parts.
- Maintenance can be done via the access platform while the system is on-line.
- Modular design.
- Drastically reduced installation costs due to rapid assembly of bolted components.
- Minimal civil construction required.
- Semi- or fully automatic control available.
- Minimal operator intervention.

### Specifications:

- Rise Rate (Maximum): 40 m/ hour or 132 ft./ hour
- Construction Material: Low-carbon Steel
- Corrosion Protection: Hot Dip Galvanized.
- Solids Content (Feed): 0.1 – 2.0 %.
- Solid Content (Overflow): Less than 30 ppm.
- Specific gravity (Underflow): 1.05 to 1.3

### PROCESS AND PHYSICAL PARAMETERS:

Module Type	Module Type		Approximate size including access cat-ladder/staircase		Approximate Dry Weight
	l/s	GPM	M	ft	Metric ton
HRS-10	10	158	7.5 H x 3 W x 3 L	24.6 H x 9.8 W x 9.9 L	4.5
HRS-20	20	316	7.5 H x 3 W x 3 L	24.6 H x 9.8 W x 9.9 L	4.8
HRS-30	30	474	7.8 H x 3.5 W x 3.5 L	25.6 H x 11.5 W x 11.5 L	5
HRS-100	100	1580	8.2 H x 7 W x 5 L	26.9 H x 23 W x 16.4 L	25