

# Circular Clarifier

## Product and Application Summary

**Overview:** Flow is introduced to the clarifier at its center. High velocity is maintained in the feed line to prevent the accumulation of settled solids. A feedwell or energy dissipating inlet are employed to contain the localized high velocity currents within the center area of the clarifier. The flow then propagates radially outward, through the settling and clarification zones and eventually exiting the clarifier over a peripheral weir and launder arrangement. Settled solids are removed from a centralized hopper.

**Applications:**

- Water sedimentation
- Filter backwash
- Primary clarifiers
- Final clarifiers
- Polishing clarifiers
- Tertiary clarifiers

**Application Range:** Basin diameters can range from 10 feet to 200 feet. Square or rectangular basins can also be used with either filleted corners or corner sweeps installed on the rake arms.

**Misapplications:**

- Odd shaped basins
- Basins with obstructions on the floor

**Advantages:**

- Simple design
- Positive means of removing heavier solids
- Low mechanism costs
- Radial flow provides lower velocities, and thus greater clarity as the flow approaches the effluent weir
- Solids settle uniformly around the clarifier

**Installations:** Over 1,700 Installations consisting of over 1,850 mechanisms.

**Configurations:**

- Shaft or cage drive
- Bridge or column supported
- Center or side feed
- Suction header or blades (spiral or segmented)
- Flocculating mixers available

**FAQ's: What maintenance is required?**

The biggest maintenance item is the drive unit. It will require regular lubrication with grease and/or oil. Also the unit should be dewatered and inspected for loose bolts and paint damage annually.

**How much torque is required?**

The amount of torque required will vary with application, but for clarifiers a good rule of thumb is the diameter squared times five. So for a 50 foot clarifier we would recommend a torque value of 12,500 foot-pounds.

**How much flow can a clarifier handle?**

This will also depend on the specific application, but on average you want to design for a rise rate of about 0.5 gallons per minute/square foot.

**Images:**

