Typical Applications
Walker Process Equipment Rotating Biological Contactors have a proven track record in a variety of applications. Many sizes are available making them the ideal choice to meet the requirements of most wastewater treatment applications.

Municipal Applications
The EnviroDisc RBC has gained wide acceptance as the principal secondary treatment process for new facilities. They are also used as polishing systems to upgrade existing treatment plants to conform to existing discharge regulations. RBC’s are particularly suitable to municipal applications due to the high degree of performance they deliver with relatively low energy requirements. Because of the modular configuration of the equipment, more units can be easily added when additional plant capacity is required.

Industrial Applications
The reduction of high BOD and COD levels found in wastewater prior to discharge is essential to the efficient and profitable operation of manufacturers in the processing industries. The EnviroDisc RBC has been used successfully in food processing plants such as dairies, cheese producers, large bakeries, wineries, distilleries and poultry processing. They have also been used in applications treating wastewater from petroleum refining facilities, and chemical plant effluent.

Land Development Applications
The EnviroDisc RBC process is well suited for use in land development applications such as subdivisions, apartment complexes, nursing homes, mobile home parks and campgrounds. The simplicity of operation and high treatment efficiency of RBC’s make them an ideal choice for new installations or for the expansion of existing plants.

Walker Process Equipment
Division of McNish Corporation
840 N. Russell Ave. • Aurora, IL 60506 • 1-800-992-5537
www.walker-process.com
Typical Applications
Walker Process Equipment Rotating Biological Contactors have a proven track record in a variety of applications. Many sizes are available making them the ideal choice to meet the requirements of most wastewater treatment applications.

Municipal Applications
The EnviroDisc RBC has gained wide acceptance as the principal secondary treatment process for new facilities. They are also used as polishing systems to upgrade existing treatment plants to conform to existing discharge regulations. RBC’s are particularly suitable to municipal applications due to the high degree of performance they deliver with relatively low energy requirements. Because of the modular configuration of the equipment, more units can be easily added when additional plant capacity is required.

Industrial Applications
The reduction of high BOD and COD levels found in wastewater prior to discharge is essential to the efficient and profitable operation of manufacturers in the processing industries. The EnviroDisc RBC has been used successfully in food processing plants such as dairies, cheese producers, large bakeries, wineries, distilleries and poultry processing. They have also been used in applications treating wastewater from petroleum refining facilities, and chemical plant effluent.

Land Development Applications
The EnviroDisc RBC process is well suited for use in land development applications such as subdivisions, apartment complexes, nursing homes, mobile home parks and campgrounds. The simplicity of operation and high treatment efficiency of RBC’s make them an ideal choice for new installations or for the expansion of existing plants.

Sedimentation & Thickening
Circular Collectors & Thickeners
Bridge Supported
Pier Supported
Plow Type, Spiral Flights, MultiDraw, SightWell
UniMix Flocculating Clarifiers
Spur Gear Drives (Precision Class 6)
Rectangular Collector Mechanisms
Hel/Thickeners

Grit Removal
RollingGrit
GritWasher
HydroSeparator

Solids Contact Clarifiers
MC ClarFlow

Sludge Digestion
Covers — Fixed, Floating, GasHolder, Combination
Mixer — Anaerobic Digester
Aerobic-Flow Digester Mixer
GasLift Digester-Mixer
HeatX — Heat Exchanger, Boiler, Combination Units
RollMix — For Aerobic Digestion

Skimming
Heliskim
RotoDip Skimmer
Scum Separator
Scum and Grease Concentration System

Water Treatment
Solids Contact Clarifier Type MC
Flocculating Clarifier Type UC
Paddle Flocculators
UniMix Flocculators
InstoMix Flash Mixer

Walker Process Equipment
Division of McNish Corporation
840 N. Russell Ave. • Aurora, IL 60506 • 1-800-992-5537
www.walker-process.com
**EnviroDisc™ Rotating Biological Contactor (RBC)**

Studies by independent consulting engineers conclude that the proven RBC process uses less than half the energy of a suspended growth process for MWWTP carbon reduction.  

### Processes

**BOD & COD Reduction**
Influent soluble BOD can be easily reduced using the RBC process. Levels of soluble BOD can be lowered to 5mg/l. Processes with properly designed basins and staging can achieve 90% or more COD reduction.

**Nitrification**
When the proper influent environmental conditions exist within the wastewater such as alkalinity, temperature, low BOD, and pH, the reduction of ammonia nitrogen can be easily achieved. Ammonia nitrogen values can be reduced to values less than 1.0 mg/l.

### Other Applications

Since the Rotating Biological Contactor process is less susceptible to upset from toxic and hydraulic shock, its applications extend beyond the treatment of typical domestic and industrial wastes. RBC’s can be used for air stripping and biological degradation of materials found in wastewater or contaminated groundwater. RBC’s have been used successfully to remove acetone, cyanide, ammonia, chlorinated compounds, organic solvents, phenols, as well as many other materials from wastewater.

### Design Features of the Walker EnviroDisc™

**Media**
The biomass media bundles are a multitude of thin individual wedge-shaped sheets of high molecular weight polyethylene. The media is vacuum thermoformed with a pattern of truncated pyramids and conical spacers which provide maximum surface and drainage area while contributing to the rigidity of the sheet. The conical spacers allow for a clog free flow path between the sheets of media. This configuration creates an open media system which allows for excellent contact of wastewater and oxygen with the biomass. The media bundles are fully removable from their supporting members without having to raise or remove the entire shaft assembly.

**Shaft Bearing**
The main shaft uses heavy duty, self aligning, pillow-block roller bearings. They are designed for high humidity, slow speed operation with an L-10 life of over twenty years of operating loads and speeds. The drive end of the shaft is equipped with an expansion type bearing to allow for expansion and contraction of the shaft while the free end has a non-expansion type bearing. The bearings are equipped with spring-loaded bearing lip seals which are designed to maintain contact with the shaft if misalignment should occur.

### Optional Equipment

**Fiberglass Enclosures**
The fiberglass enclosures are custom designed for use with RBC assemblies and feature modular interlocking construction for ease of assembly in the field. Because of their design interlocking sections allow for partial ventilation of the RBC shafts. Access doors and inspection ports are included with the enclosures. The enclosures can also be provided with insulation for use in colder climates.

**Bearing Load Cells**
Two types of bearing load cells are available for weighing the RBC shaft while it is operating. Either type monitors the growth of the biomass forming on the shaft assembly. The upper left illustration shows the hydraulic cell type. It is fitted with a quick disconnect for use with a portable hydraulic pump and gauge system for periodic inspection. The lower right illustration shows an electronic load cell system for automatic and continuous monitoring of biomass weight.

**Processes**

**BOD & COD Reduction**
Influent soluble BOD can be easily reduced using the RBC process. Levels of soluble BOD can be lowered to 5mg/l. Processes with properly designed basins and staging can achieve 90% or more COD reduction.

**Nitrification**
When the proper influent environmental conditions exist within the wastewater such as alkalinity, temperature, low BOD, and pH, the reduction of ammonia nitrogen can be easily achieved. Ammonia nitrogen values can be reduced to values less than 1.0 mg/l.

**Other Applications**
Since the Rotating Biological Contactor process is less susceptible to upset from toxic and hydraulic shock, its applications extend beyond the treatment of typical domestic and industrial wastes. RBC’s can be used for air stripping and biological degradation of materials found in wastewater or contaminated groundwater. RBC’s have been used successfully to remove acetone, cyanide, ammonia, chlorinated compounds, organic solvents, phenols, as well as many other materials from wastewater.

**Design Features of the Walker EnviroDisc™**

**Media**
The biomass media bundles are a multitude of thin individual wedge-shaped sheets of high molecular weight polyethylene. The media is vacuum thermoformed with a pattern of truncated pyramids and conical spacers which provide maximum surface and drainage area while contributing to the rigidity of the sheet. The conical spacers allow for a clog free flow path between the sheets of media. This configuration creates an open media system which allows for excellent contact of wastewater and oxygen with the biomass. The media bundles are fully removable from their supporting members without having to raise or remove the entire shaft assembly.

**Shaft Bearing**
The main shaft uses heavy duty, self aligning, pillow-block roller bearings. They are designed for high humidity, slow speed operation with an L-10 life of over twenty years of operating loads and speeds. The drive end of the shaft is equipped with an expansion type bearing to allow for expansion and contraction of the shaft while the free end has a non-expansion type bearing. The bearings are equipped with spring-loaded bearing lip seals which are designed to maintain contact with the shaft if misalignment should occur.

**Optional Equipment**

**Fiberglass Enclosures**
The fiberglass enclosures are custom designed for use with RBC assemblies and feature modular interlocking construction for ease of assembly in the field. Because of their design interlocking sections allow for partial ventilation of the RBC shafts. Access doors and inspection ports are included with the enclosures. The enclosures can also be provided with insulation for use in colder climates.

**Bearing Load Cells**
Two types of bearing load cells are available for weighing the RBC shaft while it is operating. Either type monitors the growth of the biomass forming on the shaft assembly. The upper left illustration shows the hydraulic cell type. It is fitted with a quick disconnect for use with a portable hydraulic pump and gauge system. The lower right illustration shows an electronic load cell system for automatic and continuous monitoring of biomass weight.

---