Introducing:
Canadian technology development company based in Calgary, Canada
We provide innovative systems to the oil and gas industry for greater efficiency and productivity.

GenOil currently owns 12 technologies & intellectual property, that are protected under 22 patents or patents pending.
Key GenOil Technologies

- Oil/Water/Gas/Solids Separation Systems
- Hydrogen Addition Upgrading (Hydrocracking and Hydrotreatment)
  - For Bitumen and Heavy Oil
  - Tar Sands
  - Refinery Residue and Tank Bottoms
- Solids Removal Systems for Hydrocarbon Storage Tanks

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Research Facility

Testing and demonstration units of:

GenOil Crystal Separator

GenOil MAXIS Multiphase Dewatering/De-oiling Systems

GenOil Solids Removal Systems

GenOil Heavy Oil Upgrader Pilot Plant
Conventional separating processes are based on gravity settling and the gravity difference between oil and water.

These processes follow a convention based on Stokes Law, which determines the minimum amount of residence time \( (T_r) \) necessary for liquids to separate from one another.

Result: Typically very large and expensive equipment
The Genoil MAXIS system, by contrast, uses cyclonic separation principles that rely primarily upon centrifugal force to more effectively separate the mixture.
• Combines Gravity, Accelerated Coalescence and Centripetal Vortex Separation in One Unit

• Lower Capital Costs

• Lower Operating Costs

• Oil/Water Separations can normally be accomplished with little or no thermal energy addition.

• No Chemicals
Design Features

- Complete skid mounted system
- Minimal site preparation

- Easily relocated – If required, the skid mounted package can be relocated and moved to alternate sites.

- Expandable – Additional fluid capacity can be designed into the system for future projected increases in production volumes.

- Small Footprint – as compared to conventional Dewatering vessels handling similar volumes.

- Remote Control & Automatic Operation
Design Features

- Innovative Design
- Specialized inlet device
- Simplified oil path
- Removable orifices
- Gas handling capability
- Single or multi stage
- Patented Technology
MAXIS Design Features

- MAXIS can be adapted to suit production changes,
- The compact design and high hydraulic loading capability provide capital and operating savings over conventional processes.

MAXIS is ideal for the following applications:
MAXIS Multiphase Dewatering

- High Throughput Capacity
- Cyclonic Action – Allows separations to complete in seconds NOT minutes or hours
- Continuous Flow
FREE WATER can be treated and removed prior to Group Line shipment or after
MAXIS Multiphase Dewatering

MAXIS Cyclonic Separation has several advantages over gravity based settling systems.

Here are just a few to consider:
MAXIS Multiphase Dewatering

- No Process Heat Required

- Efficient separation can normally be accomplished in a single pass unit at ambient well conditions, offering significant operating savings
MAXIS Multiphase Dewatering

- No Chemicals Required
- Separations can normally be performed without the use of water clarifier or demulsifier chemical additives
MAXIS Multiphase Dewatering

Compact

- Small diameter pressure vessels provide efficient high volume loading with a small footprint

GENOIL MAXIS MAX-0-36

6,300 TO 18,900 BBL/D CAPACITY

(DEWATERING UNIT)

www.genoil.net
MAXIS Multiphase Dewatering

- Low Operation & Differential Pressures
- Process driven by existing system energy – no additional pumps are required
- Operating Differential Pressures typically ranging from 0.25 bar (3.5 psi) to 0.75 bar (10 psi)
MAXIS Dewatering Performance

- MAXIS is best utilized in Dewatering flows located close to producing wells prior to Group Line transport or as an Inlet Separation (FWKO) means ahead of Oil Treaters.

- In either application, Dewatering using the MAXIS technology is targeted at removing a minimum of 85% to 95% of free water volumes.

- This results in a significant reduction in fluid volumes to existing facilities.
MAXIS Dewatering Performance

- Typically a single pass system, the MAXIS is able to achieve the following:

  - For Medium to Light (18-30 °API) Crude containing 80% or more H₂O Outlet Water Qualities are typically in the range of 40 to 70 ppm

  - For Light Crude (+30 °API) containing 80% or more H₂O Outlet Water Qualities are typically less than 20 ppm

  - Additional passes can reduce the Oil in Water content to TRACE (< 5 ppm) amounts
De-Oiling
MAXIS De-Oiling

Oily Water can be treated prior to injection

OR

In series with or without other water treatment technology.
MAXIS System Capacities range from:

50 BBL/DAY TO 500,000 BBL/DAY

- High Throughput Capacity

  MAXIS offers the benefits of cyclonic action versus gravity settling

- Available in Single or Multi-Unit Modules for Field Installation, Maritime Platforms, Industrial Wastewater Treatment or Refineries

- Reliable and Ready for Installation

MAXIS Systems are Available with Mechanical Designs including:

ANSI 150, 300, 600, 900, 1500 & 2500 Ratings
The Genoil MAXIS Separator is fully tested and has been operational in Canadian oilfields since 1995

Tested and Proven with 12°-40° API Crude
Benefits

- Lower Capital Costs
- Lower Operating Costs
  - Reduced Chemical Cost
  - No Consumables (filter cartridges/media)
- Reduced Fuel gas consumption
- Normally the MAXIS cyclonic separation unit requires no added thermal energy in order to perform liquid/liquid separations.

As a result, an added side benefit to lower thermal requirements is lower NOX emissions.
Benefits

- Reduced Downtime – High Quality fabrication and materials ensure durability and long life
- Ease of Access for Maintenance
- No Moving Parts - ensures durability and minimal downtime
Benefits

• Removable parts & interchangeability allow the MAXIS to be:
  
  • Adjustable to varying production volumes and oil concentrations
  
  • Adaptable to variable inlet flow rates
  
  • Easily maintained
Packaging

Complete skid mounted system

MAXIS units come complete with all required piping, valves and controls and if required, buildings and/or site enclosures.
Quality Control Specifications

Design Codes and Standards

All Genoil MAXIS Installations are designed to be in accordance with:

- NEMA, IEEE, Underwriters Laboratories (UL)
- Federal Occupational Safety and Health Act (OSHA) regulations
- ASME Boiler and Pressure Vessel Code Sections I, VIII, IX and B31.4
- NACE RP-01-75-75 MR-01-75 (if required)
- Genoil Engineering and Design Specifications

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- SSPC (Steel Structures Painting Council)
  - SSPC-SP-5          SSPC-SP7
  - SSPC-SP6          SSPC-SP10
# Dimensions & Capacity Specs

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<th>Length (mm)</th>
<th>Length (inches)</th>
<th>Height to Centerline (mm)</th>
<th>Height to Centerline (inches)</th>
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<th>bbl/day</th>
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*Vessel only.
Offices

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