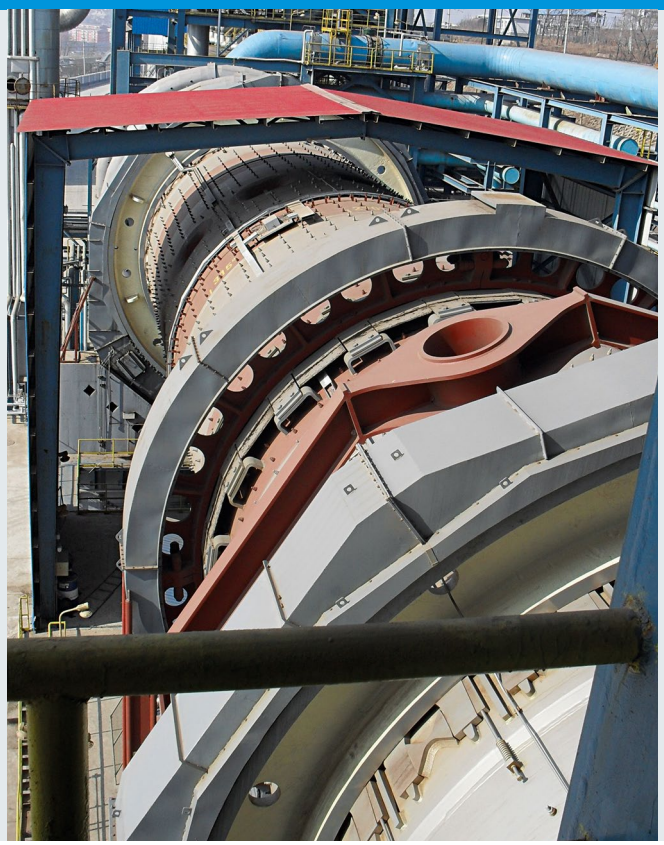
Industrial Solutions for the minerals industry

Alberta Taciuk Processor

thyssenkrupp



The comprehensive solution

Proven design – highest efficiencies – excellent product yields

The Alberta Taciuk Process (ATP) Technology provides a high-performance pyrolysis solution for the extraction of organic components from mineral matrices. This technology is suited to large-scale primary resource production plants (e.g. oil production from oil shales) and environmental remediation projects of industrial sites (e.g. refineries).

The heart of the installation, the ATP Processor, provides for a continuous flow pyrolysis system that integrates ore drying and preheating, pyrolysis (retorting) and combustion in one single rotary machine. Organic components are anaerobically distilled and pyrolysed from the host solids and then recovered as hydrocarbon liquids and gases. Peripheral systems including the oil recovery plant, flue gas treatment as well as feed and ash solids handling are provided to support the central processing unit.

The ATP Processor stands out due to its high separation efficiency (removal of organics from the solids) and excellent yields (recovering hydrocarbons for sale / reuse). The hydrocarbon-free solids produced are generally suited for direct backfill.

ATP systems are designed and configured specifically for each individual application. The ATP Processor can be scaled to suit individual requirements of each project and application. Units from 5 tonnes to 250 tonnes per hour feed rate have been built. The heavy rotary-machine-based system ensures excellent operability, high reliability and flexibility in handling varying feeds.

UMATAC's experienced ATP Technology team provides engineering services ranging from project concepts, feasibility studies, basic process design packages and detailed design of the ATP system, up to process plant supply as part of thyssenkrupp Industrial Solutions. Field technical services include construction supervision, operator training programs, commissioning support and ongoing process operation assistance.

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Fields of application

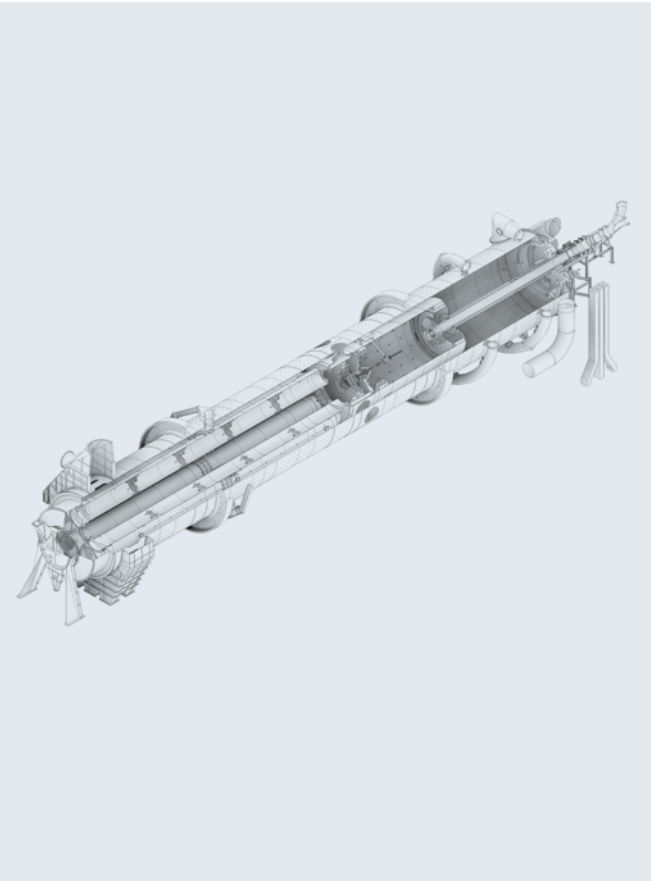
- Primary resource production of oil from mined oil shales or oil sands
- Environmental remediation of contaminated soils
- Processing of heavy hydrocarbon residuals containing solids
  e.g. tank bottoms
- Processing of wastes feedstock
  e.g. off-specification styrene and spent rubber tires

Main features

- Processing feedstock in a single machine (simplified material handling)
- High thermal efficiency
- Proven flexibility to deal with changing ore quality and moisture
- Process energy supplied by spent ore heat contents
- Large unit processing capacities

Design parameters

- Free-moisture content (0 to 15 %) and
  organic content of the feed (0 to > 2 0%) realised
- Nature of the organics: kerogen, bitumen, heavy/complex hydrocarbons
- Composition and physical properties of the host solid
- Required ore-processing capacity (250 t/h realized, 500 t/h projected)



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