

18.01 **Wyssmont® TURBO-DRYER® Pyrolyzer® for ex-situ retorting**

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The Wyssmont® ([www.wyssmont.com](http://www.wyssmont.com)) process utilizes the Wyssmont® TURBO-DRYER® Pyrolyzer to convert oil shale kerogen into shale oil. Crushed oil shale is continuously fed through an airlock into the Pyrolyzer, which operates under inert gas conditions. The oil shale is then transferred down from shelf-to-shelf inside the Pyrolyzer as it is heated to temperatures not exceeding 600°C (1,110°F). During this stage of the process (transfer and heating), shale oil is released as vapor and delivered into a condenser, where it is cooled and collected. Spent shale is discharged through a chute at the bottom of the Pyrolyzer and then through another airlock. The Wyssmont® TURBO-DRYER® Pyrolyzer® system is a proven technology with several currently operating installations and has many advantages over other technologies. The Wyssmont® Pyrolyzer can be readily customized to meet specific requirements for the desired application. Process variables such as operating temperature, shale residence time, and shelf capacity (thickness of shale on shelves during processing) can be changed to meet the end users requirements. The equipment is low maintenance, providing the user with reliability and low operating costs, as well as essentially unattended operation. The Wyssmont® TURBO-DRYER® Pyrolyzer's® high efficiency heaters along with the precise and uniform temperature control provided by its internal turbo-fan ensures optimal energy efficiency, maximum oil recovery, and minimal char generation.