

Gas Turbine driven Gas Compressor provides decades of reliable power source

Vericor's ASE40 Gas Turbine provides 3.0MW of compressor power in a continuous-duty application.

CHALLENGE

Provide continuous duty, reliable power to gas compressor application

SOLUTION

Install Vericor's ASE40 Gas Turbine directly to the compressor drive

RESULTS

High power compression capable of operating reliably with high availability

OVERVIEW

As the first industrial end-user of the ASE series aero-derivative gas turbine, Pakistan Oilfields has been operating two ASE40 engines on a continuous-duty compressor drive application since 1979. Their successful natural gas gathering operation has logged over 500,000 hours of operation with minimal downtime.

Vericor's versatile ASE40 and ASE50B engines are highly suitable for compressor drive applications in either stationary or mobile packages. Both engines are fitted with a radial inlet, a rugged accessory gearbox for continuous duty operation, and gas starter for starting off readily available pipeline gas. The stationary applications are currently used for gas processing facilities in Pakistan and Japan, with hundreds of thousands of hours of operation. The mobile compressor package has been successful for pipeline pump-down applications in Canada. With the small footprint, lightweight engine, and mobile characteristics, the mobile compressor package can be moved to strategic points along a pipeline where maintenance is most needed. The versatile mobile compressor package is still in demand today as the ASE50B is being applied to meet greater compression demands.

Rawalpindi, Pakistan



The ASE40 gas turbine drives a centrifugal gas compressor on a continuous-duty basis.

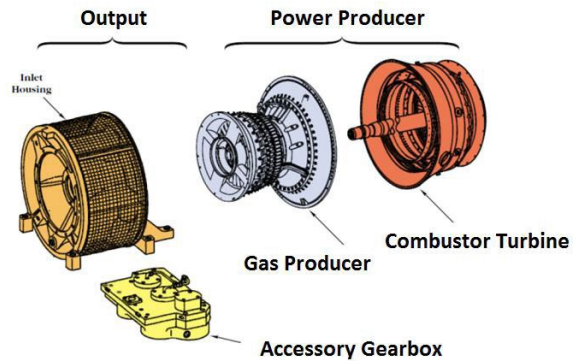




Case Study details and the benefit of an aeroderivative gas turbine

Pakistan Oilfields' application required a new inlet module to couple the gas turbine to the compressor. A new inlet module design was developed that provided an accessory gearbox beneath the turbine to mount pumps and starters. This new inlet module successfully converted the aeroderivative engine to an industrial design that is still used today in continuous-duty applications for power generation and mechanical drive.

The design flow rates of 48 cubic meters per minute (1700 ACFM) at a discharge pressure of 43 bar (620 psig) is easily satisfied with the 3.0 MW shaft power while operating at low radial vibration levels. The ability of the ASE40 to operate at various power turbine speeds, coupled with the dual shaft design, provides the versatility required to accommodate a wide range of compression requirements and varying load swings.



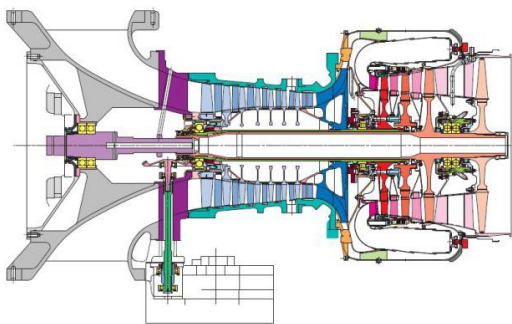
Modules of the ASE40 Gas Turbine

The ASE40 gas turbine was selected as the best fit to satisfy reliable and continuous duty operation.

Vericor's ASE gas turbines are a proven aero-derivative design that are specifically configured for power generation and mechanical drive applications. The advantages of using these gas turbine systems for these applications are many:

- Compact size allows for easy on-site installation and change-out
- High operational readiness
- Fast cold start characteristics
- Low emissions and vibration
- Flexibility to efficiently burn a variety of fuels
- High reliability and low maintenance requirements

The modular nature of these engines allows for easy inspections on-site. This ease-of-care approach simplifies the stocking of spares and lowers downtime and maintenance periods. Recommended maintenance cycles are 30,000 hours for a hot section overhaul and 60,000 hours for a major overhaul.



ASE40 Cross Section