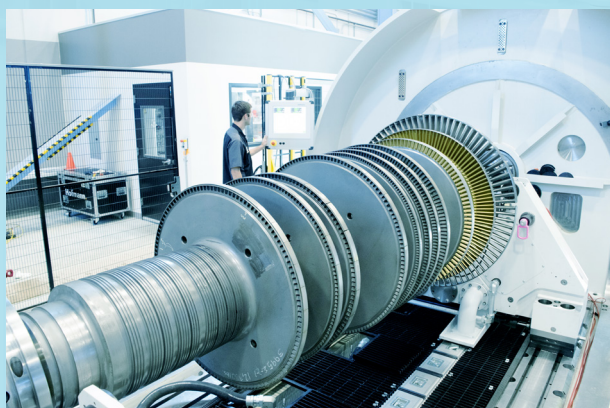


COMPRESSOR REVIEW



Mitsubishi Heavy Industries Compressor International Corp. (MCO-I)



MCO-I's High Speed Balance bunker is an exclusive feature that allows for correct unbalance and minimises vibration under field-like operating conditions.

MCO-I, a subsidiary of Mitsubishi Heavy Industries Compressor Corp. (MCO/MHI), founded in 2012 and located in Pearland, Texas, US, offers a varied portfolio of rotating equipment for different sectors within the oil and gas industry. With over 100 years of experience, MHI is a premier global supplier for centrifugal compressor and steam turbine packages, especially within downstream petrochemical applications, such as ethylene, ammonia, syngas, olefins, etc.

MCO-I's products include Mitsubishi Advanced Compressor, Steam Turbine and Integrally Geared Compressor train packages. The state-of-the-art manufacturing and testing facility offers a comprehensive range of world-class services, such as packaging and assembly, testing, horizontal and vertical storage, reverse engineering, training, repair and refurbishment, original equipment manufacturer (OEM) spare parts and foot print replacement engineering. The compressor train packages are designed to meet industry standards, including API 617,

API 612, and client needs in different market segments. Furthermore, these packages can be customised to meet complex specifications and regulatory requirements.

MCO-I has one of the few facilities in the Gulf Coast region with an on-site high-speed balance bunker. High-speed balancing evaluates rotor performance in a simulated service environment for behaviour study. During the high-speed balance test, the rotor spins at operating speed under a vacuum to prevent the rotor from heating. The effects of residual unbalance post low speed balance test are analysed and further corrections are made to ensure stable behaviour of the rotor. Performing both low speed and high speed balance minimises potential failure modes caused by rotor vibration, reduces potential problems during start up, and avoids expensive field balancing.

MCO-I is not limited to providing new equipment solutions for customers. The company has recently provided a complete overhaul of third-party OEM compressor for a glycol plant, repair and field service support for a turbine, and future multi-equipment turnaround for a customer.

Some of MCO-I's recent projects include the following:

- An order for an ethylene cracker, the scope of which includes cracked gas compressor, C_2H_4 compressor and C_3H_6 compressor driven by MHI steam turbines trains. In addition to the units for ethylene cracker, MCO-I also received an order for the recycle CO_2 compressor – double flow compressor driven by MHI Steam Turbine for the customers mono ethylene glycol (MEG) plant.
- An order for two NGL fractionation plants, the scope of which includes compressors for refrigeration, DeC3 heat pump and DIB heat pump services. Each compressor train, assembled and packaged in Texas, will be driven by electric motor and includes a variable speed gearbox.
- An order for a recycle gas compressor for a Gulf Coast refinery. The scope of this project includes a compressor driven by an electric motor and variable speed gearbox. This unit will also be assembled and packaged in Texas.