

Vertically Split Overhung Compressors

DH Series Single-Stage

GE's overhung DH series centrifugal compressors feature rugged, heavy-duty construction in accordance with API 617 Chapter 2 specifications. The DH design is specialized to minimize the life cycle cost for owners/operators by providing the highest operating efficiency while maximizing unit reliability and availability. DH compressors were originally developed specifically for petrochemical applications by A-C Compressor (acquired by GE in 2001) and have been used in critical, unspared applications for more than 50 years. The current generation design builds upon this strong legacy by incorporating centrifugal compressor technology from other GE legacy brands, Nuovo Pignone and Thermodyn, while keeping the features and benefits of the original design. Typical DH compressor applications include recycle gas in polypropylene, polyethylene, and ethylene oxide plants, plus heat pump and booster services in petrochemical plants and refineries.

Excellent performance and ease of maintenance

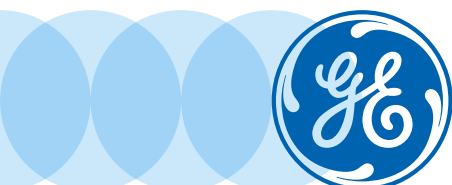
Our vertically split, centrifugal barrel design makes GE's DH-style compressor an excellent performer in medium-pressure applications. The single-stage overhung configuration is simple and easy to maintain with in-place maintenance access to bearings and seals and no integral gears. External speed increasing gears are used when necessary and only one shaft seal is required. The single barrel compressor casing consists of an outer heavy duty casing and casing end head (bolted or retained by a shear ring) and it is virtually leak-proof with only one vertical casing joint.

DH Series compressors at a glance

Technical specifications

MAWP: up to 46.5 bar (675 psig)
Flow Range: 1600 - 102,000 m ³ /h (950 - 60,000 CFM)
Head Range: 125 - 13,700 m (400 - 45,000 ft)
Speed Range: 1000 - 20,000 rpm.
Impeller Diameter: 0.3 - 1.25m (12" - 50")

Note: GE also offers SRL compressors for applications that require integrally geared compressors and increased pressure.



Standard Features

Rugged construction

The DH compressor is available in both fabricated and cast designs. GE's DH compressor design includes many specialized features to avoid process fouling in dirty applications and to simplify maintenance activities. Oversized scroll designs are used for peak efficiency in direct drive electric motor installations. Every compressor is custom engineered using standardized advanced technology components that are proven over a wide range of process operating conditions.

Impellers

Our CFD-designed impellers offer state-of-the-art aerodynamic efficiencies. Impellers may be either open or closed type, with blade designs that include 3D mixed flow, backswept, semi-radial and radial options to suit a wide variety of operating conditions. Open impellers are five-axis milled from a solid forging and covered impellers are fabricated/ welded. Impellers are available in a wide range of materials and are hydraulically mounted on the shaft using our patented system for simple and repeatable installation and removal without heating.

Bearings and rotordynamics

GE standardized bearing packages are proven designs operating in over 1000 overhung compressor units and allow common spare parts across multiple compressors. Pivoted-shoe load bearings and double acting tilt pad thrust bearings are standard features, helping to optimize the unit's rotordynamic performance and stability.

Shaft sealing

A tandem dry gas seal package is standard, with optional GE Trapped Bushing Seal, oil film mechanical seal, carbon ring and other configurations available upon request. Special dry gas seal designs with purging behind the impeller are used in polyethylene and polypropylene applications to avoid seal fouling.

Easy maintenance

The shaft bearings may be replaced simply by removing the top half bearing cover. A rear pull-out design is available which allows easy inspection of the shaft seal and impeller without disturbing the process piping or main compressor casing joint. The shaft seal is accessed by hydraulically removing the impeller without heating.

Adjustable condition monitoring probes

Axial and radial proximity probes are mounted to facilitate external adjustment during operation, minimizing downtime and maximizing unit reliability.

Accessories and options

Adjustable inlet guide vanes

GE's DH compressor employs a cost effective IGV design to extend the fixed speed compressor operating range above or below the rated volume, reducing power requirements by as much as 15% compared to pressure throttling. A choice of pneumatic or electric actuators are available to suit your application.

Drivers and auxiliaries

Typical DH compressor trains are electric motor or steam turbine-driven, with or without external speed increasing gears. Compressor auxiliary items and systems are typically supplied in accordance with API standards, unless otherwise requested.

Services

GE's Oil & Gas business provides tailored solutions to enhance your equipment efficiency and performance, multi-year service agreements to maintain your equipment at peak reliability and availability, OEM-approved spare parts, maintenance, repairs and other advanced services to meet your unique equipment service needs. GE's world-wide field service engineering team can be deployed to support unit installation, commissioning, and on-going operation and maintenance. GE's global footprint enables the delivery of services, technologies and expertise when and where our customers need them. Access to GE's factory repair and service capabilities is available globally, backed by GE's OEM warranty to provide you the quality and confidence you require.

