Model K

Multi-Stage Steam Turbine

The Dresser-Rand® Model K steam turbine is a cost-effective unit designed for commercial and industrial applications where moderate load and steam conditions prevail. With power requirements up to 7650 HP (5700 kW) and speeds to 10,000 RPM, the Model K steam turbine can be configured with one to nine stages to meet a wide range of steam conditions.

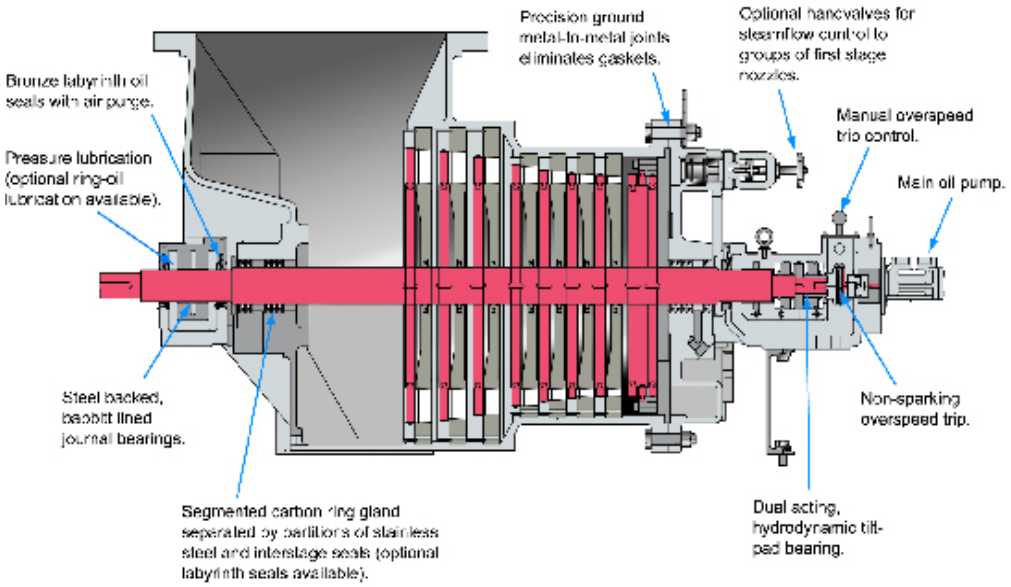
The Model K turbine should be considered wherever a steady power source is required over a wide speed range. Typical Model K turbine installations include chiller drives for universities, medical centers, and district energy applications, as well as drives for compressors, process compressors, centrifugal pumps, fans and blowers in the petroleum, petrochemical, paper, institutional, and food process industries.

Casing Design

A horizontally split casing with integral cast bearing bracket and heavy flanges give the Model K turbine added strength. The integral gland cases, containing the steam seals, provide a heavy gland boss at these points to maintain the integrity and strength in this critical area of the casing. The reinforcing boss permits additional steam seals to be used resulting in less steam loss and longer running times between seal changes. These and other design features help create an exceptionally rugged and reliable turbine.

Inlet Valves

The Model K turbine is designed with a single inlet valve with optional manual hand valves for steam flow control, and a wide selection of optional governors and accessories.



Overspeed Trip System

The overspeed trip system is a mechanical bolt action, non-sparking system operating an independent trip valve. A two-out-of-three electronic system with dual solenoid activation is available as needed.

The independent trip valve can be a high performance butterfly valve, or a Dresser-Rand mechanical latch, or a Gimpel™ oil-operated trip and throttle valve.

DRESSER-RAND

For more information on **Model K steam turbines** contact one of the following locations:

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For a complete list of D-R products and services, visit us at **www.dresser-rand.com** or contact us at the following locations:

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These valve types provide quick-close, positive shut-off of the steam supply and comply with API 612 standards. The trip and throttle valve can function as a manually operated throttle valve for turbine start-up or shut-down.

Governors

The Model K turbine is typically supplied with the Woodward Peak 150 governor control system. It provides tight control of speed (NEMA D) and includes an input for a 4-20 mA remote speed control signal that can be used for a process-generated input to control the speed setting. Other features include dual-speed control dynamics and overspeed trip test capabilities.

Rotors, Seals, and Bearings

Rotors are available in a forged or built-up or integral design with a flexible or stiff shaft for up to nine stages. Labyrinth gland or inter-stage steam seals are provided to accommodate operating conditions or client preference.

Labyrinth-type oil seals retain pressure-fed lubrication in the bearing housings and prevent contamination from foreign material. Steam slingers also protect bearing housings from steam and condensate.

The Model K turbine incorporates dual-acting, hydrodynamic tilting pad thrust-bearing to position the rotor axially and absorb internal thrust. Exhaust- and steam-end bearing covers allow easy access to the bearing housing without removing the casing cover.

Additional Design Features:

- Up, down, or side exhaust orientation
- Back pressure or condensing with non-automatic extraction (bleed)

Specifications

Model	Power HP (kW)	Inlet Pressure $psig_1$ (bar)	Inlet Temp °F (°C)	Exhaust $psig_2$ (bar)	RPM
K	6500 (4850kW)	400 (28)	775 (412)	75 (5)	10,000

Inlet Diameter In (mm)	Exhaust Diameter In (mm)	Stages	Casing Design	Inlet Options
8 (203)	39 (914)	9	Horizontally split	Hand valve

Form 2151

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