KK&K® steam turbines
The comprehensive product range up to 24 megawatts
Whatever your need for a prime mover, Howden can provide you with versatile, reliable and proven industrial steam turbines.

One of the leading turbo machinery manufacturers (formerly AG Kuehnle, Kopp & Kausch/Siemens Turbomachinery Equipment GmbH), with over 100 years of experience and continuous development, and a fleet of more than 20,000 installed turbines, we are a prime partner for your business.

A full range of world-class industrial steam turbines
Howden offers a comprehensive range of steam turbines up to 24 MW. These innovative and economical machines have a simple modular design enabling performance optimisation in a variety of applications. Offering a series of fully compatible models, we are able to achieve optimal configuration and match your needs as accurately as possible.

Our steam turbines meet customer requirements for economic installation and operation as well as providing excellent flexibility for complex industrial processes. Whether you need a generator drive for power generation or a mechanical drive for compressors, blowers and pumps, together we can select the turbine or turboset which is optimally suited to your needs.

We strictly adhere to the guidelines laid down in the quality standards ISO 9001 and ISO 14001.

Fields of application
Howden steam turbines increase the efficiency of power generation and improve the profitability of industrial, as well as mechanical drives, e.g. pumps and compressors.

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**BASE**

**Turbogenerator up to 1000 kW**

The BASE is a single-stage impulse turbine. The cost effective turbine was designed as a generator drive for the 75-1000 kW power range and can be used in small Combined Heat and Power (CHP) plants, in decentralised solar facilities as well as for waste-heat recovery, e.g. used in bottoming cycles attached to gas engines and biogas engines or for the utilisation of residual process steam.

**Technical data**
- Power output up to 1,000 kW
- Inlet pressure up to 40 bar(a) / 580 psi
- Inlet temperature dry saturated steam up to 400°C / 750°F
- Generator 50 Hz / 60 Hz
- Back-pressure up to 7 bar(a) / 160 psi or vacuum

**Typical dimensions (approx.)**
- Length 2.5 m / 8.2 ft*
- Width 1.5 m / 4.9 ft*
- Height 2 m / 6.5 ft*

**Features**
- Back-pressure or condensing type
- Package unit design, oil unit integrated in base frame
- Extremely small and compact design
- Only minimal foundation work required
- Largely maintenance-free, robust construction
- Resilient and proven technology
- Quick start without preheating of the turbine
- Proven components
- Quick installation and commissioning

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**BASE**

**Mechanical drive up to 750 kW**

The BASE for mechanical drives is a single-stage, back-pressure steam turbine in which the flow passes axially through the blading. It is mainly used as a power source for pumps or fans and especially as a stand-by unit with quick-start capability.

**Technical data**
- Power output up to 750 kW
- Inlet pressure up to 101 bar(a) / 1,465 psi
- Inlet temperature dry saturated steam up to 500°C / 930°F
- Speed according to driven machine
- Exhaust pressure: back-pressure up to 11 bar(a) / 160 psi

**Typical dimensions (approx.)**
- Length 1 m / 3.3 ft*
- Width 1 m / 3.3 ft*
- Height 1.3 m / 4.3 ft*

**Features**
- Low-maintenance because of the simple design
- Extremely failure safe
- Quick-start capability
- Turbine with integral oil supply
- Meet requirements of API 611 / 612**
- ATEX version available

*Turbine only.
**If overhung design and integral gear is accepted.

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**Type** | **Steam parameters (up to)** | **Output (MW)** |
---|---|---|
BASE | 101 bar, 500°C | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
CORE | 131 bar, 530°C | | | | | | | | | | | | |
MONO | 131 bar, 530°C | | | | | | | | | | | | |
TWIN | 131 bar, 530°C | | | | | | | | | | | | |
TRI | 131 bar, 530°C | | | | | | | | | | | |
**CORE**

**Up to 6 MW**

The CORE is perfectly suitable for packaging companies and EPCs who complete the unit for their customers.

**Technical data**

- Power output up to 6 MW
- Inlet pressure up to 131 bar(a)/1,900 psi
- Inlet temperature dry saturated steam up to 530°C/985°F
- Speed according to driven machine
- Exhaust pressure: back-pressure up to 29 bar(a)/420 psi or vacuum

**typical dimensions**

Depends on scope of complete package

**features**

- Back-pressure or condensing type
- Nozzle group control valves available
- Quick-start without pre-heating

Meet requirements of API 611/612*

*If overhung design and integral gear is accepted

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**MONO**

**Up to 6 MW**

The MONO stands out by their rugged design and renowned reliability even under the most severe operating conditions. They are ideal for saturated steam service and suitable for use in condensation and back-pressure turbines. With various integral geared modules the MONO can operate in a broad range of applications.

**Technical data**

- Power output up to 6 MW
- Inlet pressure up to 131 bar(a)/1,900 psi
- Inlet temperature dry saturated steam up to 530°C/985°F
- Speed according to driven machine
- Exhaust pressure: back-pressure up to 29 bar(a)/420 psi or vacuum

**Typical dimensions (approx.)**

- Length 1.5 m/4.9 ft* (turbine only, 6 m/20 ft incl. generator)
- Width 2.5 m/8.2 ft*
- Height 2.5 m/8.2 ft*

**Features**

- Back-pressure or condensing type
- Package unit design
- Oil unit integrated in base frame
- Nozzle group control valves available
- Quick-start without pre-heating
- Tailor made

*Turbine only.
The TWIN provides highest cost efficiency and high performance. It reduces high heat gradients and is capable of providing a controlled extraction. The TWIN is a dual casing turbine on one gearbox which can run on different steam lines.

**Technical data**
- Power output up to 12 MW
- Inlet pressure up to 131 bar(a)/1,900 psi
- Inlet temperature dry saturated steam up to 530°C/985°F
- Speed according to driven machine
- Exhaust pressure: back-pressure or vacuum

**Typical dimensions (approx.)**
- Length 6 m/20 ft (incl. generator)
- Width 2.8 m/9.2 ft
- Height 3.2 m/10.5 ft

**Features**
- Back-pressure, condensing type
- Package unit design
- Oil unit integrated in base frame
- Nozzle group control valves available
- Quick-start without pre-heating
- Extremely compact construction
- Pressure controlled extraction and/or admission
- High pressure/low pressure applications
- Reheat possible

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The TRI is a triple casing steam turbine with an integrated gearbox, designed for flexible operation and high efficiency. The multi-casing design allows for up to two controlled extractions as well as for operation on different steam supply systems.

**Technical data**
- Power output up to 12 MW
- Inlet pressure up to 131 bar(a)/1,900 psi
- Inlet temperature up to 530°C/985°F
- Exhaust pressure: up to 0.06 bar (a)/8.7 psi condensation

**Typical dimensions (approx.)**
- Length 8 m/26.2 ft (incl. generator)
- Width 4 m/13.1 ft
- Height 4 m/13.1 ft

**Features**
- Back-pressure, condensing type
- Package unit design
- Oil unit integrated in base frame
- Nozzle group control valves available
- Quick-start without pre-heating
- Extremely compact construction
- Pressure controlled extraction and/or admission
- High pressure/low pressure applications
- Reheat possible

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The MONO, TWIN and TRI Steam Turbines are also available as part of a special engineered and tailor made solution with a power output up to 24 MW. We are able to customise our steam turbines to suit your needs. Any requirements or specifications like ATEX or API 611/612 (with comments) are possible with no limited conditions.
At the heart of your operations

Howden people live to improve our products and services and for over 160 years our world has revolved around our customers. This dedication means our air and gas handling equipment adds maximum value to your operations. We have innovation in our hearts and every day we focus on providing you with the best solutions for your vital operations.