



SPILLING STEAM TURBINES

**TAILOR-MADE TURBINES ALSO
FOR LOWER POWER RANGE.**



STEAM TURBINES

... from Spilling are highly suitable for customer-specific solutions due to their modular technology and are designed for decentralised energy production.

STEAM TURBINES

MODULAR TECHNOLOGY FOR CUSTOMER-SPECIFIC SOLUTIONS.

The Spilling steam turbine range is designed for decentralised energy production and permits a wide variety of applications in the 300 to 2,500 kW drive capacity range. The main focus is on applications with which heat is used locally (combined heat and power applications) or where locally available waste products or heat sources are used for producing steam.

THEY ARE IDEALLY SUITABLE FOR DEPLOYMENT AS

- **Back-pressure turbines**
For integration into the steam and heat supply of CHP units in industry and district heating networks
- **Condensing turbines**
For smaller power ratings/steam mass flows and also for saturated steam applications

MULTI-PURPOSE DEPLOYMENT POSSIBILITIES UNDER DEMANDING CONDITIONS

Our steam turbine range includes cantilevered single-stage steam turbines and an integrated gear for simple setup, simple operation and low operating costs.

Spilling steam turbines are suitable for a large number of applications. They are also an ideal supplement to the Spilling steam engine range in larger steam flows, superheated steam or for applications with pure power generation in condensing mode.

POSSIBLE USES

Each unit is planned and realised individually with regard to steam parameters, mechanical engineering installation and integration in order to ensure optimum adaptation to operational requirements. Spilling turbines are deployed in various areas, configurations and sizes:

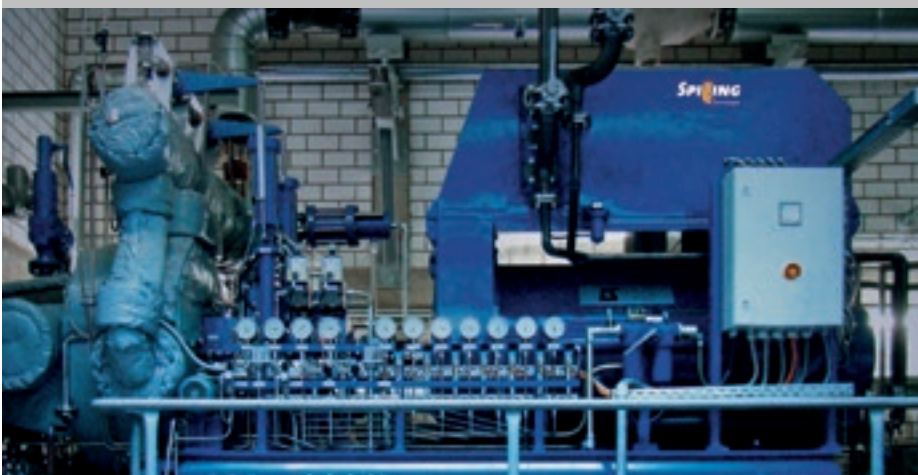
- Ideal for use in facilities with small to medium-sized power ratings
- Ideal for medium-sized to large steam flow rates as back-pressure turbines (combined heat and power applications)
- Ideal for power generation from smaller amounts of waste heat in condensing mode
- Also suitable for saturated steam applications
- Direct drive for pumps, compressors, etc. is possible

CASE EXAMPLE

STEELWORKS IN GERMANY

In a steelworks in South West Germany, saturated steam at 20 bar is produced in a heat treatment process. The steam, which is available in fluctuating amounts, is used to generate electricity by means of a single-stage back-pressure turbine before it is almost completely re-cooled via an air-cooled condenser.

HEAT SOURCE	Waste heat recovery boiler, steel production
MACHINE	Cantilevered single-stage back-pressure turbine
CONTROL	Supply steam pressure
OUTPUT	1410 kW _{el}
LIFE STEAM	20 bar _{abs} saturated steam
EXHAUST STEAM	1.5 bar _{abs}



BENEFITS

- High efficiency
- Operation possible with superheated steam up to 460°C
- Unproblematic use of saturated steam also in vacuum condensing mode
- High availability and simple operation
- Simple setup, operation and low operating costs
- Robust, proven technology
- Also ideal as a contracting solution

TECHNICAL DATA

- Turbine output: 300 to 2,500 kW
- Inlet pressure: up to ~ 65 barg
- Inlet temperature: up to 460°C
- Outlet pressure: Vacuum condenser and back-pressure (up to max. 20 bar)
- Optional nozzle group control for improved partial load efficiency



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