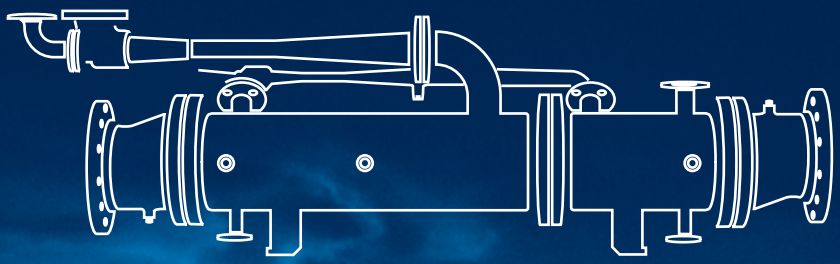


# Two-stage steam jet vacuum systems

THE **EJECTOR** COMPANY

## for venting steam turbine condensers

A maintenance-free system with consistent output and no moving parts

# A premium solution with multiple advantages

## KÖRTING'S TWO-STAGE STEAM JET VACUUM SYSTEMS

Advanced steam jet vacuum system for removing air from steam turbine condensers with redundant jet ejectors, a double-surface condenser, start-up ejector, silencer, instrumentation, isolation valves and process and motive steam piping

**Outstanding availability**
Körting's steam jet vacuum systems offer the highest level of availability compared to conventional venting systems. Designed to withstand overloads, they provide reliable performance under various operating conditions.

**Simple operation**
Our systems are designed user-friendly. Operators simply open or close valves and vanes to initiate or shut down the system, ensuring a straightforward and efficient workflow.

**Maintenance free performance**
With no moving or rotating parts, our steam jet vacuum systems avoid mechanical wear and the risk of issues such as cavitation. Once in operation, the systems work without the need for continuous monitoring and allow operators to focus on other tasks until it's time to shut down the turbine.

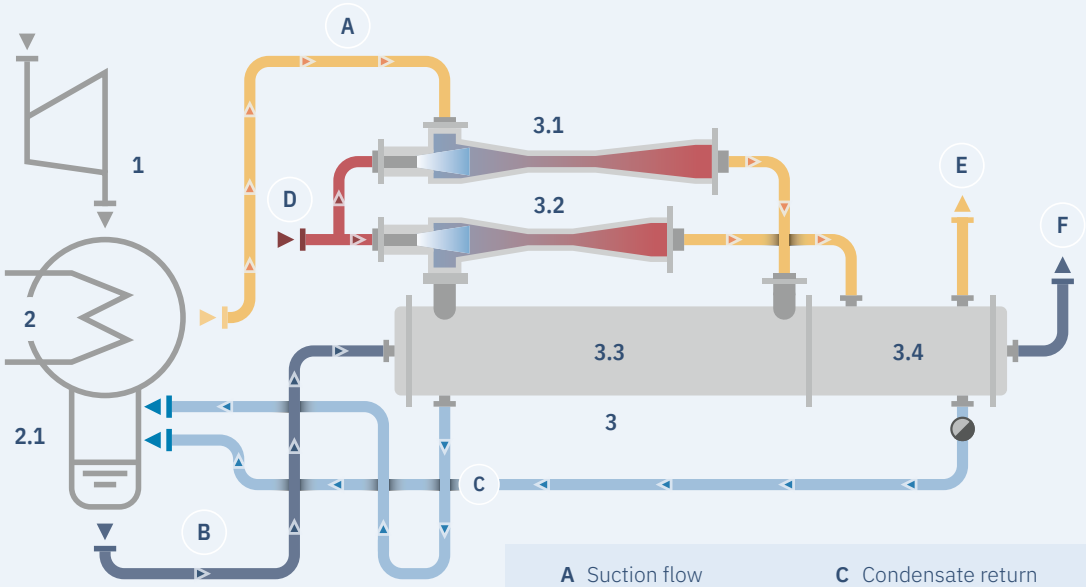
**No fouling**
Our innovative design ensures that only steam and non-condensable gases (commonly air) circulate on the steam side and on the tube side the condensate from the main condenser flows as cooling liquid through the intermadiate and downstream condensers. This use of clean flows effectively prevents fouling and so our systems consistently deliver exceptional performance, even after extended operation.

**Heat recovery**
Both the two stages' motive steam and suction steam from the main condenser are condensed in the intermediate and downstream condensers. During this process, heat is transferred to the condensate of the main condenser, which acts as a coolant. This heat exchange will be used as the initial stage in preheating the main condensate before it returns to the boiler (feedwater preheating).

**Condensate recovery**
Both the suction flow steam and motive steam are fully recovered as condensate from the intermediate and downstream condensers. They are returned to the turbine condenser via loop seals or steam traps, ensuring that no precious condensate is lost.

### BENEFITS OF KÖRTING STEAM JET VACUUM SYSTEMS

- Outstanding availability
- Easy operation
- Maintenance-free designs
- No fouling
- Heat recovery
- Condensate recovery




1. Turbine
2. Turbine condenser
   - 2.1 Hotwell
3. **Two-stage steam jet vacuum systems**
   - 3.1 First stage
   - 3.2 Second stage
   - 3.3 Intermediate condenser
   - 3.4 Downstream condenser

**A** Suction flow
**B** Turbine condensate
**C** Condensate return
**D** Motive steam
**E** Into the atmosphere
**F** To the boiler

**Diagram**

The exhaust steam from turbine **1** condenses in turbine condenser **2**. Entrained non-condensable gas (mainly air), including the entrained steam, is suctioned into the first stage **3.1** of the two-stage steam jet vacuum system **3** as suction flow **A**.

The non-condensable gas is discharged into the atmosphere at **E** via intermediate condenser **3.3**, second stage **3.2** and downstream condenser **3.4**. The suction flow's steam and motive steam **D** condenses within the surface condensers **3.3** and **3.4**. The resulting condensate **C** is returned to the turbine condenser hotwell **2.1** (condensate recovery).

Turbine condensate **B** is used as coolant for the steam jet vacuum system and is pumped successively through condensers **3.3** and **3.4**. The suction steam and motive steam's condensation heat is transferred to cooling condensate **B**. This heat exchange is the first stage in preheating the boiler feed water when the turbine condensate is returned **F** to the boiler (heat is recovered).

A redundant design of a two-stage turbine venting system with instruments, isolation valves and motive steam piping

**More information**
and the practical questionnaire
for a quick quote request find here.

**Körting Hannover GmbH**
Badenstedter Straße 56
30453 Hannover | Germany

+49 511 2129 - 455
sales@koerting.de

KOERTING.DE

251-Power plants-EN-250515