



INDUSTRIAL WASTE WATER TREATMENT

DATA CENTER REDUCES WATER CONSUMPTION WITH PILLER MVR TECHNOLOGY

PILLER VapoFan® supports Bosch's sustainability journey through Mechanical Vapor Recompression

As water scarcity becomes an increasing challenge for industrial and commercial facilities, Bosch Global Software Technologies sought an innovative solution to significantly reduce water consumption at its Bengaluru Software Center, India. By integrating PILLER's VapoFan® Mechanical Vapor Recompression (MVR) technology into a new water purification system, Bosch has taken an important step toward sustainable water management while supporting its long-term environmental goals.

CHALLENGES OF SOFTWARE & DATA CENTER FACILITIES

Bosch was internally driven to improve water sustainability at its Bengaluru Software Center. The existing open-loop cooling system required substantial freshwater consumption, creating operational concerns in a region increasingly affected by water scarcity.

In addition to reducing water usage, Bosch wanted to improve wastewater management while supporting the company's global sustainability initiatives.

Modern software campuses and data center facilities are increasingly challenged by water availability and sustainability requirements. These are for example:

- **Water Scarcity:** Growing pressure to reduce freshwater consumption in regions with limited water availability.
- **Wastewater Regulations:** Increasing environmental regulations require improved wastewater management and water reuse.
- **Cooling Water Demand:** Conventional open-loop cooling systems consume significant amounts of water during operation.

ABOUT THE REFERENCE

- Bosch Global Software Technologies (BGSW), India
- Bosch Manufacturing Solutions (BMG), Germany
- Market Position of BOSCH: Leading global engineering and technology service providers with approximately EUR 1.67 billion in revenue.
- Product Portfolio: Designing, developing, and executing IoT ecosystems through our all-encompassing capability within the 3 aspects of IoT – Sensors, Software, and Services
- Application: Water Purification & Mechanical Vapor Recompression (MVR) System for Data Center
- Location: Bengaluru, Karnataka, India
- PILLER Product: VapoFan® 1.0 (Single Stage)

Bosch Manufacturing Solutions | BMG



- **Operational Reliability:** Critical facilities require highly reliable equipment with minimal maintenance requirements.
- **Sustainability Targets:** Companies are expected to meet ambitious environmental and ESG commitments while maintaining operational efficiency.
- **Future Scalability:** Water-saving technologies must be capable of supporting expansion across multiple facilities.

PILLER'S SOLUTION

Bosch Manufacturing Solutions supplied a complete water purification system and selected PILLER VapoFan® as the preferred steam compression technology for the Mechanical Vapor Recompression (MVR) process.

Previously, alternative compressor technology presented limitations for this application. PILLER's VapoFan® was selected because of its proven performance and outstanding operational reliability.

The VapoFan® is integrated into the Mechanical Vapor Recompression (MVR) distillation system, which has been installed alongside the existing cooling tower process. By recompressing process vapor within the distillation system, the solution enables efficient water recovery while substantially reducing cooling tower water consumption.

This approach helps minimize freshwater demand and supports Bosch's objective of improving water sustainability across its facilities.



PILLER'S SOLUTION

Products used:

- VapoFan® 1.0
- Single-stage configuration

Main application:

- Mechanical Vapor Recompression (MVR) Distillation System

Additional services:

- Engineering support for compact design layout

Why PILLER:

- High operational reliability
- Proven performance in steam compression applications
- Seamless integration into Bosch Manufacturing Solutions' water purification system



FUTURE PLANS

The Bengaluru installation serves as a pilot project supporting the Bosch Group's global sustainability strategy.

With water scarcity measures being implemented at approximately 70 Bosch locations worldwide, similar Mechanical Vapor Recompression applications may be deployed at additional facilities in the future.

Bosch is satisfied with the solution portfolio and sees the technology as an important contributor toward achieving its long-term water conservation objectives.

KEY RESULTS

~1,300 kg/hr
steam saving

6,000 m³/yr
of water saving

Payback
~3 years

Future Rollout
Potential deployment at
~70 global Bosch locations

Piller Blowers & Compressors GmbH

Nienhagener Str. 6
37186 Moringen
GERMANY
www.piller.de

☎ +49 5554 201-0
✉ pbcc-info@piller.de

Piller Global India Pvt Ltd.
"INFINITY House"
S/No 85 A-1/4, Lalit Estate Plot No 7,
Near Ganaraj Chowk, Baner Road,
Pune – 411045 (MH)
INDIA

☎ +91 (0)20 6744 0033
✉ pgi-info@piller.de

Visit our website
to find worldwide
sales & service contacts:

