



**Find
Answers
Faster.**

Customer Problem

Operational efficiency and compliance are paramount in industries where fast and accurate access to documentation and information is crucial. One leading industrial enterprise faced growing challenges in managing its thousands of technical documents – from manuals and maintenance guides to safety procedures. Seeking a transformative solution, they turned to CapitalAI and its advanced NexAnsa platform to streamline document access, enhance productivity, and ensure safety.

Challenge

The organisation's complex environment involved thousands of documents across many sites on endpoints, internal servers, SharePoint sites and archives.

Key challenges included:

- **Time-Consuming Searches:** Employees spent excessive time searching for the correct documents, slowing down operations and training.
- **Operational Delays:** Operational resources needed instant access to troubleshooting guides and technical documentation, but manual searches increased downtime.
- **Safety and Compliance Risks:** Without a centralised system, employees referenced outdated or incorrect procedures, introducing safety issues and risking non-compliance.
- **Knowledge Gaps:** Critical tribal knowledge was buried in unstructured documents or locked in the experience of senior staff.



SOLVED

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Additional challenges

The organisation faced four critical obstacles beyond basic information search:

- **Document Volume:** Thousands of technical pages required efficient processing and indexing beyond manual data entry or traditional keyword searches.
- **Technical Query Complexity:** Technical resources needed answers to specific technical questions in natural language that traditional search engines couldn't interpret.
- **Verification & Compliance:** Users required direct links to source documents to ensure they accessed the most current and compliant procedures.
- **Usage Analytics:** Management needed insights into document utilisation patterns to identify gaps in their documentation and training strategies.

CapitalAI Solution

CapitalAI deployed NexAnsa to address these challenges, creating a centralised knowledge hub with AI-driven search and generation capabilities.

AI-Powered Document Ingestion:

- Automated processing of thousands of documents, extracting key metadata and categorising content.
- OCR (Optical Character Recognition) technology digitised handwritten and scanned documents, ensuring all content was machine-readable.
- Natural Language Processing (NLP) enabled intelligent indexing for contextually relevant retrieval.
- Supported diverse content formats, including text, tables, graphs, images, diagrams, and technical drawings, ensuring comprehensive searchability.

Natural Language Search Interface:

- Enabled staff to ask complex technical questions in natural language (e.g., “What are the safety procedures for the hydraulic press?”) and receive answers with links to the original documents.
- Improved search accuracy through context-aware understanding of technical terminology and synonyms.

Advanced Search & Insights:

- Implemented semantic search algorithms to surface the most relevant documents.
- Provided insights into document access trends, highlighting frequently used materials and identifying content gaps.

Accessibility for Non-Technical Staff:

- Empowered employees at all levels, even those without technical expertise, to retrieve critical documents quickly and easily using plain language queries.

Generative AI:

- Utilising NexAnsa's generative AI capability, users were able to create detailed documents, including training programs, business processes, and summaries of complex documents instantly.

Supplier and Customer Access:

- Extended the platform's utility beyond internal teams by offering suppliers instant access to product specifications, safety data sheets, and compliance documents.
- Enabled customers to swiftly find user manuals, installation guides, and maintenance procedures, enhancing product support and reducing service inquiries.

Document Q&A



What are four things I should know when operating the boiler?

Based on the provided documents, here are four key things to know about boiler operation:

- Safety Procedures and Equipment:**
 - Be aware of and follow the safety rules and regulations.
 - Utilize required safety equipment such as safety glasses and hard hats in designated operating areas.
 - Know the locations of safety equipment like fire extinguishers and safety showers.
- Understanding Processes and Systems:**
 - Thoroughly understand the boiler's process and the role of each component.
 - Familiarity with each system and good communication with the control room for smooth operation.
- Maintaining Awareness and Preventing Hazards:**
 - Maintain good housekeeping practices to prevent slips, trips, and falls.
 - Be aware of potential hazards related to high temperatures, steam, and chemicals.
- Responding to Alarms and Maintaining Equipment:**
 - Pay attention to alarms indicating that parameters are outside normal ranges and take appropriate measures.
 - Keep instrumentation and controls in good working order.
 - Do not pull instruments or controls out of service without proper authorization.

See Referenced Pages

Type your question here:

Document Q&A



What are the operating hours of the boiler?

The "Training and Operating Manual - Recovery Boiler" specifies the following intervals for field operator activities related to the boiler:

- Cleaning of smelt spouts, primary air ports, etc. (15 minute intervals).
- Cleaning of liquor spraying nozzles (1/2 hour intervals).
- Checking burner firing through the sight glass ports clean (1 hour intervals).

These intervals suggest frequent monitoring and maintenance during boiler operation.

The "OPERATION AND MAINTENANCE MANUAL" for the boiler must make a thorough inspection round at least once per shift.

See Referenced Pages

Type your question here:

Document Q&A

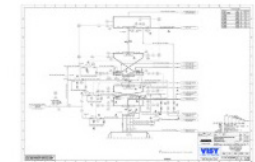
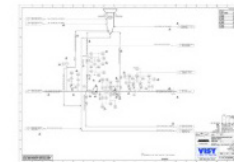


Provide me with a diagram of Boiler B.

The following diagrams of Boiler B are available:

- Combustion Air Recovery Boiler B P & I Diagram:** Engineering diagram showing piping and instrumentation for a combustion air recovery boiler system.
- Main Steam Recovery Boiler B P & I Diagram:** Engineering diagram showing a process flow diagram for a main steam recovery boiler.
- Steam Superheaters Recovery Boiler B P & I Diagram:** Engineering diagram showing steam superheaters recovery boiler system.
- Fire Water Recovery Boiler B P & I Diagram:** Technical piping and instrumentation diagram showing recovery boiler B with multiple heat exchangers.
- Steam Drum Furnace - Recovery Boiler P & I Diagram:** Engineering P&I (Piping and Instrumentation) diagram showing the steam drum furnace system for a recovery boiler.
- Sealing & Bearing Water Recovery Boiler B P & I Diagram:** Engineering P&I (Piping and Instrumentation) diagram showing the sealing and bearing water recovery system for Boiler B.

See Referenced Pages



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What's Next... Suppliers & Subcontractors

Following the success of the project the organisation will expand the use of NexAnsa to suppliers and subcontractors, enabling faster, more accurate access to product brochures, technical drawings, and manuals across their ecosystem. This will significantly reduce the support costs for the company in responding to supplier and customer requests through emails and calls and will greatly reduce response times.

Document Q&A



Provide me with the manufacturer's operations manual for the boiler.



The following operation and maintenance manuals are available:

1. OPERATION AND MAINTENANCE MANUAL

- **Document ID:** BFBM-556-1
- **Producer:** Kvaerner Pulping Oy
- This manual covers start-ups, shutdowns, supervision and control during operation, and most frequently occurring disturbances or failures for the BFB-boiler
it serves as a general guide for operating and maintaining the boiler and auxiliary equipment supplied by Kvaerner Pulping Oy (Page 1).

2. OPERATION MANUAL

- **Document ID:** RBM-242-1
- **Producer:** Kvaerner Pulping Oy
- This is an operation manual for a Kvaerner Pulping recovery boiler

3. Training and Operating Manual, Recovery Boiler B

Outcome

CapitalAI's NexAnsa platform has become a game-changer for the companies staff needing instant access to critical documents. Key benefits include:

- **Immediate Access to Information:** Staff no longer waste time sifting through archives; the right document is just a question away.
- **Accurate, Verifiable Data:** Every result links back to the source, ensuring trust and compliance.
- **Scalable Knowledge Management:** The platform grows with the business, adapting to new document types, users, and use cases.
- **Support for Complex Content:** NexAnsa seamlessly handles diverse content types such as graphs, tables, images, diagrams, and technical drawings, providing rich insights and comprehensive search results.
- **Inclusive Usability:** Non-technical staff can effortlessly access the necessary information without requiring specialised training.
- **AI Document Generation:** Generate accurate, effective documentation, guides and resources from your information with simple requestes e.g. "Create me a simple and easy to understand training manual for a new technician for boiler #6".

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