

CUSTOMER FREQUENTLY ASKED QUESTIONS (FAQS)

1 WHAT IS TURBOMACHINERY ADVISOR?

Helps industrial operators get the most out of their CCC turbomachinery control systems and mission critical assets like compressors by leveraging self-guided tools and diagnostics designed with over five decades of CCC turbomachinery controls know-how. It achieves this by enabling quicker and more thorough critical post event analysis, recommendation of the optimal operating condition to reduce excess recycle and energy use, and identification of unperforming control performance loops.

Turbomachinery Advisor is a collection of advanced, pre-built asset models and dashboards available in Honeywell's asset performance management (APM) offerings. Turbomachinery Advisor can be deployed in cloud as a SaaS offering powered by Honeywell Forge Performance⁺ for Industrials | Asset Performance solution or be deployed on-premise with Honeywell Asset Performance Management.

Turbomachinery Advisor is one of over 40 pre-built industrial asset models available in Honeywell APM solutions. While Honeywell APM is vendor agnostic, Turbomachinery Advisor is built for CCC control systems.

2 WHAT ARE THE CAPABILITIES AND BENEFITS OF TURBOMACHINERY ADVISOR?

Turbomachinery Advisor helps solve challenges that are often unaddressed or manually done in asset performance management practices by going beyond common equipment modeling and monitoring.

First, the solution improves the response time and quality of post-critical event analysis by seamlessly combining high-resolution event data (100+ millisecond). Root-cause analysis is accelerated with powerful visualization tools, self-guided diagnostics tools, and pre-annotated compressor maps highlighting key moments reducing the time and missed insights from traditional analysis methods.

Second, Turbomachinery Advisor automates the monitoring of excess recycle flow through antisurge valves. The tool provides real-time visibility by flagging compressors operating in excess recycle, calculating equivalent excess emissions, identify savings opportunities, and provide recommendations for more efficient operation.

Additionally, Turbomachinery Advisor adds performance control monitoring providing engineers with new measures for control quality, trend visualization and analysis, and recommended corrective actions to improve compressor performance.

OUR DIFFERENTIATORS ARE:

- Embeds CCC IP
- Uniquely incorporates high-resolution event data and performance controller monitoring
- Pre-packaged models and visualizations
- Solution is delivered as a service and scalable across an enterprise

3 WHAT ADDITIONAL BENEFITS ARE GAINED FROM USING TURBOMACHINERY ADVISOR AS OPPOSED TO OTHER VENDOR HEALTH AND PERFORMANCE COMPRESSOR MODELS?

Turbomachinery Advisor extends beyond the core capabilities of health and performance monitoring. These capabilities include critical event analysis, excess recycle monitoring, and performance controller monitoring. By incorporating high-resolution process and machinery data and control analytics, reliability and maintenance engineers can have more comprehensive insights of how control performance and critical events impact the health and performance of individual compressors and complex trains. These insights can help engineers take additional actions to improve reliability and performance of compressors such as:

1. Implement control strategies and maximize compressor performance to sustain optimal performance and meet primary control objectives
2. Detect control, mechanical, or process issues before they result in unplanned downtime or machinery damage
3. Perform faster and more in-depth event investigations with high-resolution process data combined with machinery data
4. Safely operate closer to the surge limit line while reducing energy use and emissions

4 WHAT ARE THE SYSTEM REQUIREMENTS FOR TRANSFERRING HIGH-RESOLUTION CRITICAL EVENT DATA INTO THE HONEYWELL APM SOLUTIONS?

Data from CCC controllers are continuously archived at 100+ milliseconds on CCC's existing TrainTools HMI servers. The OPC Data Logger installed on the TrainTools server (newer than TTCR version 15.3) collects low-resolution data continuously and creates data files. High-resolution data files are generated by a patched version of Archive Exporter installed on the TrainTools Server.

The high-resolution data files are exported only when a critical event occurs such as a surge or emergency shutdown. Both high-resolution and low-resolution data files are pushed to Honeywell APM solutions via file transfer protocols such as SFTP and SMB. The data files once received by the Honeywell APM solutions are parsed into Honeywell APM's historian.

5 IF I AM A CCC CONNECT FOR PI SYSTEM USER, CAN I ACCESS THE ALREADY EXISTING HIGH-RESOLUTION DATA FROM AVEVA PI SYSTEM INTO THE HONEYWELL APM SOLUTIONS?

Yes. But it requires architecture and scope review by a solution consultant.

6 WHAT ARE THE DIFFERENCES BETWEEN USING CCC CONNECT FOR PI SYSTEM AND THE CRITICAL EVENT ANALYSIS SUBMODULE IN TURBOMACHINERY ADVISOR?

Critical Event Analysis offers similar benefits for CCC Connect for PI System by leveraging adaptive resolution data transfer. The Critical Event Analysis feature in Turbomachinery Advisor takes the benefits even further by providing a web-based tool with pre-configured compressor maps, trend charts, event playback features, pre-populated expert annotations and analysis, comment logging and annotation tools that improves the collaboration for analyzing, historicizing, and reporting events.

In addition to the Critical Event Analysis feature, Turbomachinery Advisor also includes additional capabilities of performance controller monitoring, and excess recycle monitoring in a single solution.

7 IF I'M INTERESTED IN MODELS FOR OTHER ASSET TYPES AVAILABLE ON THE HONEYWELL APM PLATFORM IS THAT POSSIBLE?

Yes, Turbomachinery Advisor is just one of many asset models available in Honeywell APM solutions. Honeywell APM solutions have a pre-built asset model library for over 40+ asset types. asset types include instruments, electrical assets, process units, static assets, rotating assets, and mobile assets for a variety of industries. These asset models are updated based on Honeywell expertise, industry standards. These available out-of-the-box models reduce asset configuration time and enable repeatable results that are scalable across the enterprise.