SAVE ENERGY

Compressed Air Filter – Wellness Monitoring

Smint TIQ

Condition Based Monitoring (CBM)

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SAVE ENERGY

Filter Wellness Remote Monitoring

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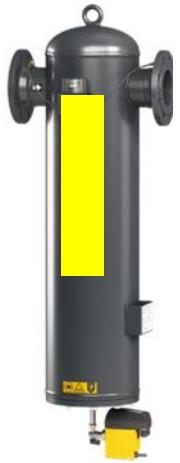
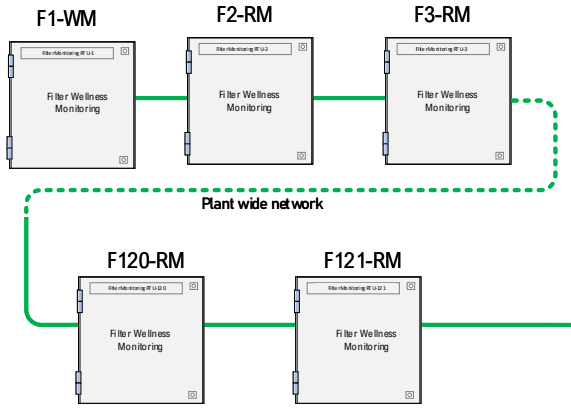
Air filter purchase cost / investment is very small but every year due to filter blockage – the energy loss is more than 10 times of the filter purchase cost.

Energy Saving ~ 4%





KPI

- Air Filter shall be monitored from the centralized Air Management System (AMS) in real time.
- The important parameters like filter inlet & outlet pressure shall be monitored.
- The outlet pressure feedback shall be synchronized with Compressor-Load side - Branch-Machine - Demand Side Optimizer Unit.
- Real time monitoring of percentage of filter blockage level & corresponding energy loss and the money value.
- Differential pressure monitoring across the filter ensuring the pressure loss.
- Drop in inlet pressure creates alarm and centralized AMS acts according to the pre programmed sequence of operation.
- Filter blockage warning – cleaning – replace – alert message
- Indexing the filter blockage level throughout the plant according to the level of blockage and maintenance personnel prioritize the cleaning the filter with highest blockage filter first

OUTPUTS / DELIVERABLES

- Monitoring the flow velocity in the down stream.
- Monitoring the volume and pattern of air consumption.
- Preparing volume of compressor air produced and volume of air distributed in the plant and preparing the Air Distribution System - Balance Sheet, and automatic report generation and shall quantify the leakage of air in the distribution system.
- After implementing the energy saving measures in the air distribution system and compare the air consumption volume and pressure parameters before and after implementation and quantify the air usage and wastage (leak and heat)
- If the air consumption is below the minimum level, the system will automatically close the air supply valve.
- Decrease in air flow consumption and increase in the air distribution system pressure leads to surge situation in the upstream end, and the AMS protects the compressor by controlling the anti surge valve.

BENEFIT'S - VALUE

- Real Time Monitoring and Control
- Indexing of filter blockage level and automatic emailing to the user
- Saves energy and improve the air flow
- Automatic Report generation and emailing
- Thresholds based alerts
- Trend, event, history – analysis
- The filter Effectiveness
- Maintaining condenser process liquid temperature requirements
- The zero air drain valve performance reporting
- AI based – energy loss prediction. & forecasting.

INFORMATION RETRIEVAL

- Browser based monitoring and control
- Web, Mobile – Monitoring system
- Alert, event – messages
- Automatic REPORT generation and emailing
- Discard based Chatbot system
- Without visiting the web service – retrieve any information through discard application.
- AI based performance report