With some imagination, one can equate your plant's compressed air system to the circulatory system of the human body. Think of the air compressors as the heart, pumping life into your production machinery. Your compressed air system's dryers and filters perform similar functions to the kidneys and liver, removing undesired components from the compressed air. The compressor room and plant piping might be thought of as arteries and veins, directing the compressed air where it needs to go to keep your production equipment running smoothly.

But systems sometime fail

Alas, much like a human body, a compressed air system can suffer from common maladies that are capable of compromising the life of a process or facility:

Heart Attack: This is a serious condition for a compressed air system, one that can kill or greatly reduce plant output. Compressors need to be maintained in a condition that lets them produce full output at a moment's notice.

Arrhythmia: Air compressor controls need to be coordinated in a logical manner so that they maintain system pressure adequately at all times. Poor control can cause a compressor to "skip a beat," leading to poor system pressure.

High Blood Pressure & Stroke: As in human health, high compressed air pressure isn't good for the overall health of a plant. Excess pressure makes air compressors operate inefficiently, i.e., consuming about 1% more power for every 2-psig increase in discharge pressure. Poor control of plant air pressure can allow levels to rise so high that storage receiver blowoffs activate, causing transient low-pressure events that impact system pressures.

Kidney & Liver Failure: Like organs in a human body, failure of air dryers and filters will allow contamination downstream that clogs machinery internals and can even spoil production output. A healthy plant has a constant supply of clean, dry compressed air flowing to its constituents on demand.

Blood Clots & Plaque Buildup: Restrictions to flow, be they clogged filters, faulty regulators or undersized pipework, cause unhealthy high-pressure requirements at the compressor room to overcome. Even with this compensation, the end uses may still receive a poor flow of compressed air during peak demand (when a plant's compressed air equipment and piping receive their biggest workout).

Internal Bleeding: Leakage of life-giving com-
pressed air makes your compressors work harder, which leads to system inefficiency. The level of this leakage can increase undetected over time to a point where pressure falls and additional air compressors are required.

See a specialist
The good news is that even if your compressed air system is suffering from one or more of these conditions, there's still hope. The doctor does make house calls. Compressed air specialists can attach instrumentation to your equipment and diagnose your problems. Like performing an EKG on a human patient, a specialist can pinpoint issues with your compressed air system and prescribe the right "medicine" to solve them. Contact yours today.

More information on these topics can be found in the CAC online Library at www.compressedairchallenge.org , or in the
Best Practices for Compressed Air Systems
Manual
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