MASTERING PRODUCT INSIGHTS: SALES TIPS FOR SUCCESS

The Importance of Air Receiver Storage for Load/No-Load Controls

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Two common control methods are inlet modulation and load/no-load controls. Inlet modulation adjusts the compressor's inlet valve to control the amount of air entering the compression chamber. This method helps match the compressor's output to the air demand more closely, providing a smoother and more continuous operation than load/no-load controls. Load/no-load controls operate by switching the compressor between fully loaded (producing compressed air) and unloaded (idling) states based on air demand. This method improves energy efficiency by minimizing the compressor's running time when demand is low.

The role of air receiver storage tanks is crucial, particularly for load/no-load systems. Insufficient air storage can lead to various operational issues, affecting the compressor's performance and longevity. The consequences of inadequate air storage in load/no-load controlled rotary screw air compressors and offers solutions to mitigate these issues.

Operating a load/no-load controlled compressor without sufficient air receiver storage can lead to several issues:

1. **Increased Cycling Frequency:** The compressor must frequently switch between load and no-load states, increasing mechanical wear and energy consumption.

2. **Inconsistent Pressure:** Lack of a buffer can result in pressure fluctuations, affecting the performance of downstream equipment.

3. **Higher Energy Consumption:** Without storage, the compressor may operate less efficiently, consuming more energy to meet demand fluctuations directly.

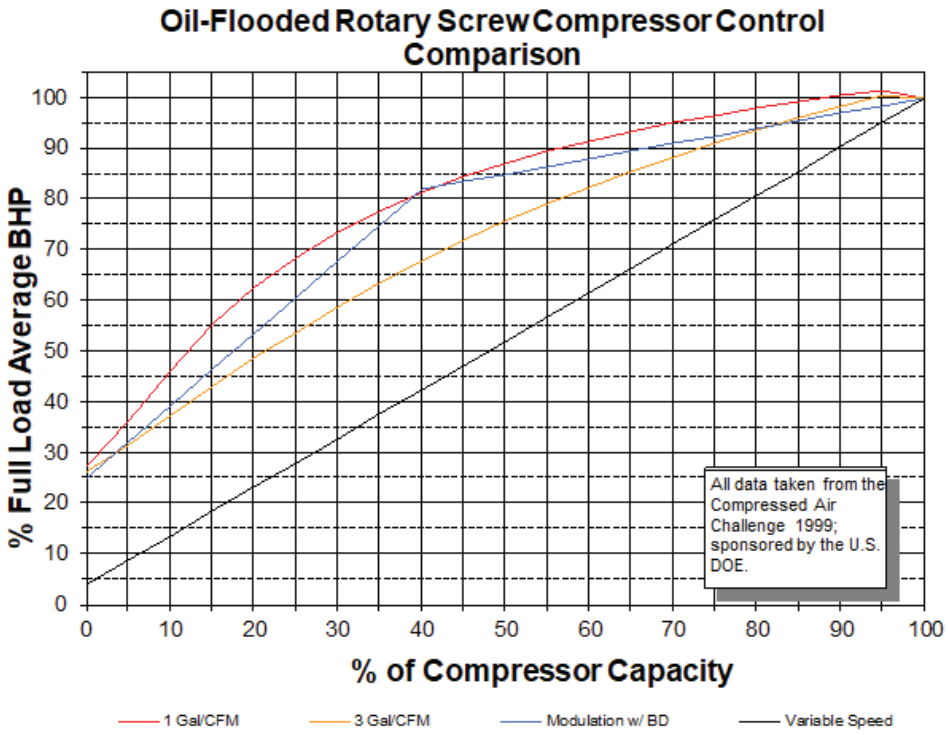
To optimize the performance of a load/no-load system, consider the following:

1. **Adequate Air Receiver Storage:** Ensure that the air receiver tank has sufficient capacity to buffer air demand. A general guideline is to have a tank capacity of 3-5 gallons per CFM (cubic feet per minute) of compressor capacity.

2. **Proper Sizing:** Select the tank size based on the compressor's capacity and the specific air demand profile of the application.

3. **Maintenance Schedule:** Implement a proactive maintenance schedule to address any wear and tear promptly, reducing the risk of unexpected downtime.

Adequate air receiver storage is essential for the efficient and reliable operation of load/no-load controlled rotary screw air compressors. Insufficient storage can lead to inefficiencies, increased wear and tear, higher energy costs, and operational disruptions. By ensuring proper air receiver storage and implementing appropriate solutions, businesses can enhance compressor performance, extend equipment life, and optimize energy efficiency. Investing in adequate air storage is a critical step toward achieving these goals, ensuring the long-term success and reliability of the compressor system.



To calculate the cost of energy for an air compressor, you can use the following formula:

Electricalcost=Total Package Power × KWHcost x # of operating hours

Here's what each variable in the formula means:

· **Total Package Power**: The full-load horsepower of the machine

· **Hours**: The number of hours the compressor runs

· **KWH cost**: The cost of electricity per kilowatt-hour

For example, if a 30 horsepower air compressor runs for 10 hours a day, five days a week, for a 50 weeks in the year, at a part load of 80% with an electricity rate of $0.08 per kilowatt-hour, the annual electrical cost would be:

Machine Performance:	125 cfm @ 125 psig @ 27.45 kW				
Control	Modulation	Load / No-Load			VFD
Type	w/Blowdown	0 Gal/CFM	1 Gal/CFM	3 Gal/CFM	
% of Pkg kW	94%	100%	98%	94%	81%
Pkg kW	25.80	27.52	26.90	25.72	22.17
Hours / day	10	10	10	10	10
Days / Week	5	5	5	5	5
Weeks / Year	50	50	50	50	50
Total hrs./year	2500	2500	2500	2500	2500
kW Cost/hr.	0.08	0.08	0.08	0.08	0.08
Cost of Electricity	$ 5,160.60	$ 5,505.92	$ 5,381.30	$ 5,144.68	$ 4,435.92