



Compressed Air System Control

Kaeser Flow Controller

Capacities from 250 to 3400 cfm

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Kaeser Flow Controller (KFC)

The benefits of stable pressure

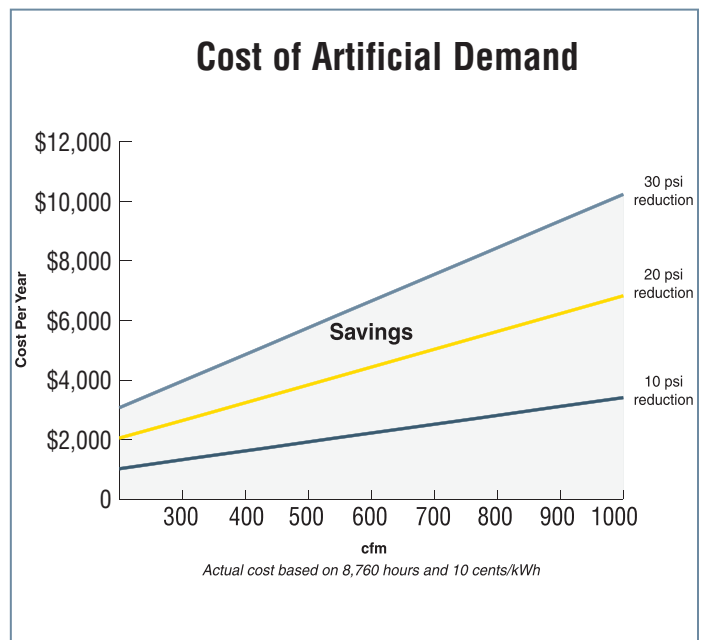
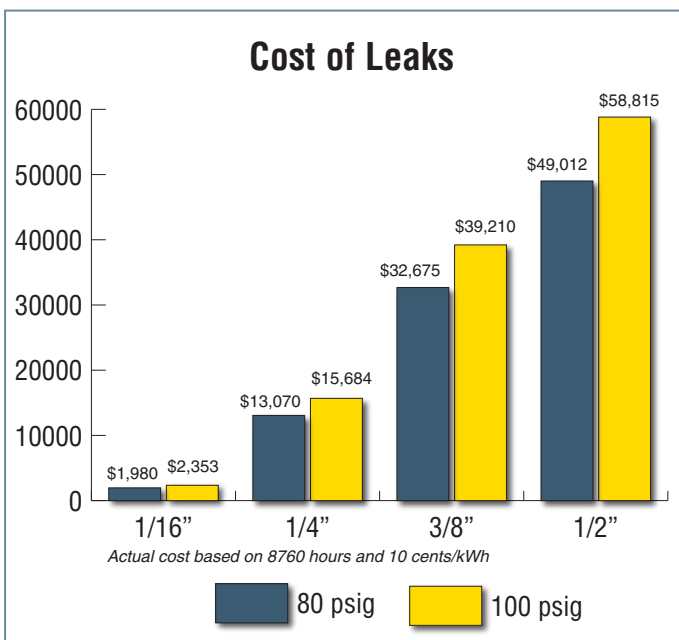
The Kaeser Flow Controller (KFC) is an intermediate flow control installed between the air system supply and the distribution network. When combined with proper storage it rapidly responds to changes in demand and ensures stable air pressure to all points of use throughout your facility for higher production rates, reduced maintenance costs, and significant energy savings.

Controlling wasteful demand

Compressed air is a very expensive input. At 10 cents per kWh, a 125 hp compressor can consume up to \$95,000 per year in energy costs alone. In most systems, only 50% of the air produced is needed for production. Leaks, inappropriate uses, and artificial demand account for the remaining 50%. Without proper controls, you are likely to produce more air volume than needed at higher energy input rates and still not provide stable flow and pressure to your production equipment. Controlling flow and system pressure reduces much of this waste and improves pneumatic equipment operation at the same time.

The impact of artificial demand and leaks

Artificial demand is operating a system at a higher pressure than necessary. Every 2 psig increase in pressure costs approximately 1% increase in power consumption. Most systems have fluctuating demand and if not properly controlled, system pressure will also fluctuate, leading to inconsistent production, higher scrap rates, and higher energy costs. To compensate, many users run more compressors than needed and at higher pressures than needed, causing higher leak rates and greater energy usage.



Flow controller operation

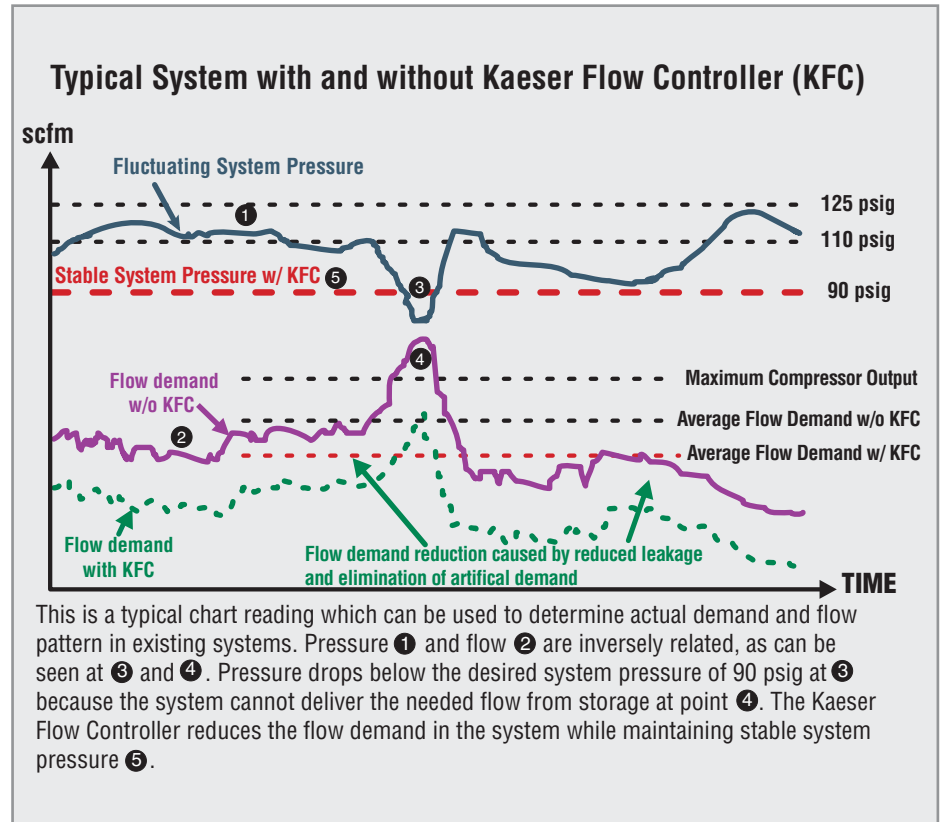
The KFC creates more effective storage by accumulating compressed air in receivers and only delivering what air is needed for production. It responds very rapidly to fluctuating demand and actively maintains constant system pressure downstream.

Reduce costs and waste

Stable air pressure means lowering the operating pressure to what production equipment actually needs. This eliminates artificial demand and substantially reduces air losses through leaks. In this way, overall air consumption is greatly reduced.

Further, stored compressed air can now be used to satisfy air demand spikes (see point 5, on the right) without pressure drop at the point of use. Additional energy is saved, since standby compressors do not have to come on-line. This greatly reduces compressor cycling and ensures more efficient use of compressors.

An added benefit is that by reducing wide fluctuations in volume flow (and velocity), the KFC ensures that your dryers and filters have adequate contact time to properly clean your compressed air. This protects production equipment which may be sensitive to moisture and other contaminants.



Flow Controller Applications

Plants with older compressors that are not compatible with current system master controller technology can benefit from a flow controller since the KFC can help maintain a stable system operating pressure and reduce fluctuations in flow—no communications ports are necessary.

Also, installations with older piping and higher leak loads where it may not be possible to replace aging piping or repair existing leaks can benefit from the KFC's ability to reduce leak rates and artificial demand.

Additionally, applications with a large, intermittent demand event may benefit from having a flow controller since the flow controller creates true storage that can supply the demand event instead of bringing on an additional compressor.

Technical Specifications

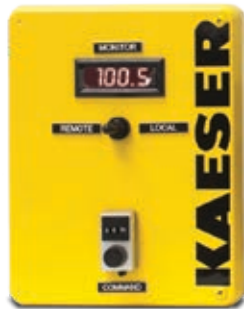
| Model | Max. Flow (scfm) | Connection Size (in.) | Valve Assembly Dimensions W x D x H (in.) | Control Valve Weight (lb.) |
|-----------|------------------|-----------------------|---|----------------------------|
| KFC 250E | 250 | 1" NPT | 7 x 7½ x 12 | 30 |
| KFC 500E | 500 | 2" NPT | 10¼ x 9½ x 14½ | 50 |
| KFC 1000E | 1000 | 2" Flange | 12½ x 9¼ x 14½ | 60 |
| KFC 1500E | 1500 | 3" Flange | 12¾ x 12¾ x 19 | 140 |
| KFC 3400E | 3400 | 4" Flange | 14½ x 12¼ x 19 | 165 |

Max set-point pressure: 145 psig Max working pressure: 175 psig
 Max ambient air temperature: 115°F Max inlet air temperature: 150°F
 Minimum of 10% pressure differential

Higher pressures and temperatures available on request. Consult factory.
 With adequate supply air, storage, and piping, the KFC is capable of holding demand side pressure setpoint to ±0.5 psi.

Flow rating based on: 115 psig inlet, 100 psig set point (outlet), and 68°F compressed air temperature.

Specifications are subject to change without notice.



Features:

- Automatic internal bypass in case of low pressure or loss of power
- Rapid valve response
- NEMA 1 enclosure with status LED
- Control panel can be isolated for service without interrupting air supply
- Closed loop pressure control
- Pressure adjustment knob with lock
- Remote and local pressure set point adjustment
- Electronically controlled pressure regulator
- 5 VDC general alarm
- Easy installation with plug-in power
- No field calibration necessary
- Pilot air does not need to be instrument air quality
- No preventive maintenance

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Built for a lifetime.



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