

Air Main Charging System

AMCS Series



Why do we need controlled air main charging?

Compressed air dryers and filters are designed and rated to treat specified volumes of air at specific conditions. For example, a refrigerated dryer is typically rated to achieve a specified dew point at a particular volume (scfm), pressure (100 psig), compressed air temperature (100°F) and ambient temperature (100°F). Actual operating conditions are usually different from these values, so most manufacturers provide sizing charts to adjust for any of these factors.

If system pressure is not maintained all the time, air moves through clean air treatment equipment at unusually high velocity when the system is re-started. Until full operating pressure is reached, dryers and filters will not work to specification, resulting in contaminants being swept downstream.

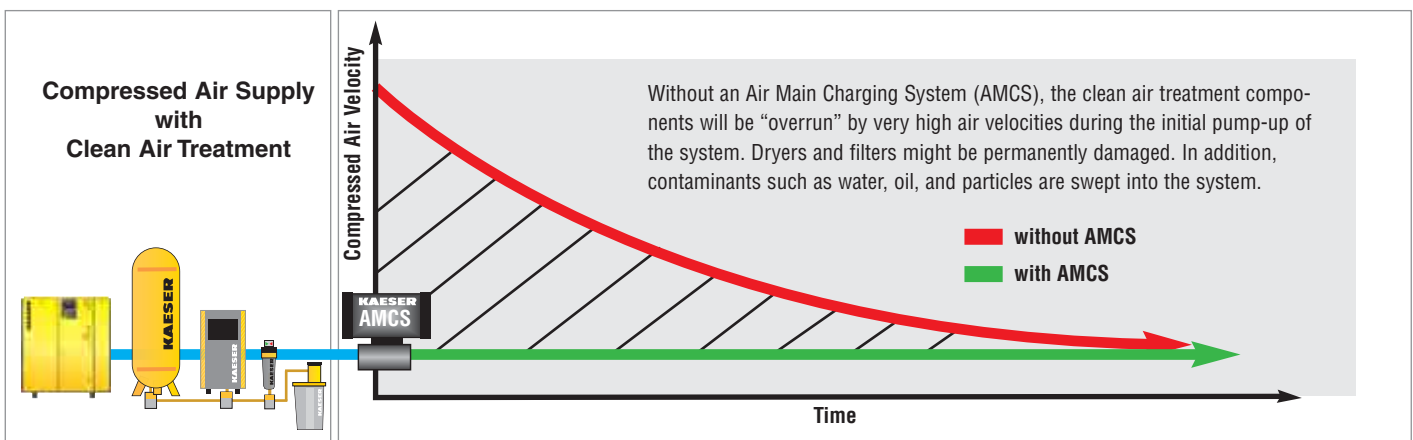
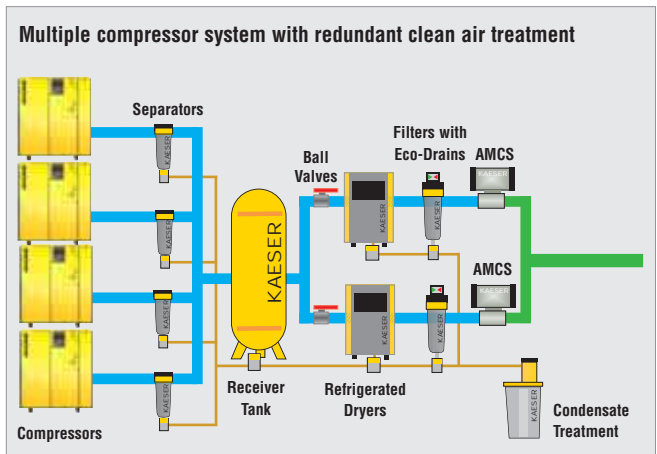
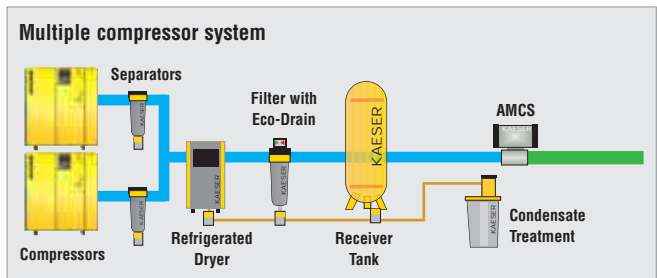
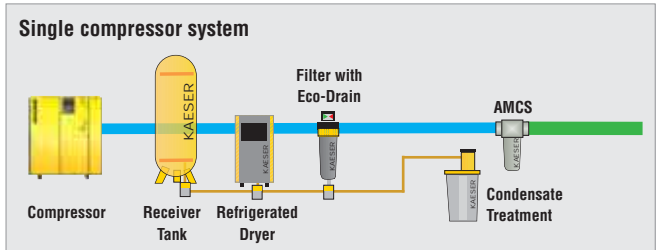
For those operating 24 hours a day, this may not be an issue. If, however, compressors are shut down for any length of time (overnight, weekends, holidays), system pressure will drop significantly as air escapes through leaks.

Kaeser's Air Main Charging System prevents excessive velocity by automatically opening and closing to maintain a set minimum pressure in the supply side of the air system and slowly charging the main distribution piping. This not only ensures correct air quality but also protects and extends the life of treatment devices.

Kaeser offers Air Main Charging Systems to suit all compressed air installations.

Placement of AMCS

The three diagrams below show the proper placement of the Air Main Charging System in systems of increasing complexity.



AMCS Ensures Air Quality



1 Pressure Switch

Reliable pressure switch can be adjusted to the desired set point (usually about 10 psi below the desired system pressure). Below this set point, the Air Main Charging System will be in the closed valve position.

2 Solenoid Controller

A 5-way solenoid control valve combined with adjustable nozzles precisely control valve operation to eliminate swings in pressure and velocity. The standard setting gives priority to air quality so that, in case of power outage, the AMCS will close.

3 Valve

Either a full-bore ball valve or a rugged, cast iron butterfly valve with oil-resistant gasketing. These create minimal pressure drop and feature a manual over-ride, which allows for the valve to remain in the open position if required.

Three System Configurations



Minimum Pressure Valve

This simple unit is suitable for smaller air systems with up to one inch diameter air lines. Pressure is adjustable between 58 and 145 psig. No electricity required.



Ball Valve Type

The Kaeser Air Main Charging System with an electro-pneumatic operated full-bore ball valve is ideal for air systems between 1/2 inch and 3 inches nominal diameter. Adjustable to pressures up to 232 psig.



Butterfly Valve Type

The electro-pneumatically driven, insertion-type butterfly valve is most suited for larger air systems up to 12 inches. Adjustable to pressures up to 232 psig.

Technical Specifications

Connection (in.)	Max. Working Temperature (°F)	Max. Working Pressure (psig)	Dimensions W x D x H (approx. in.)	Weight (lbs.)
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Overflow/Minimum Pressure Valve

1/2 NPT	176	58-145	2.6 x 3.5 x 7.3	2.2
3/4 NPT			3 x 3.5 x 7.3	2.4
1 NPT			3.5 x 3.5 x 7.3	3.3

Electro-pneumatic with Ball Valve (1),(2)

1/2 NPT	212	145 or 232	8.7 x 9.1 x 15.7	8.6
3/4 NPT			8.7 x 9.1 x 16.1	8.8
1 NPT			9.1 x 9.1 x 16.9	9.5
1-1/4 NPT			9.5 x 9.5 x 17.7	10.4
1-1/2			9.5 x 9.5 x 18.1	12.6
2 NPT			9.5 x 9.5 x 18.9	15
2-1/2 NPT			10.2 x 9.5 x 19.2	22
3 NPT			10.6 x 9.5 x 19.7	26.5

Electro-pneumatic with Butterfly Valve (1),(2)

1-1/2 Flange	122	145 or 232	8.7 x 8.7 x 22	13.2
2 Flange			10.6 x 9.1 x 22.8	19.8
2-1/2 Flange			10.6 x 9.8 x 24.4	24.3
3 Flange			10.6 x 10.2 x 26.4	28.7
4 Flange			12.4 x 10.2 x 27.6	39.7
5 Flange			13.6 x 10.2 x 29.5	48.5
6 Flange			16.1 x 11 x 31.5	72.8
8 Flange			17.3 x 13 x 34.6	103.6
10 Flange			19.3 x 15.7 x 38.2	141.1
12 Flange	21.7 x 18.5 x 42.1	198.4		

Power Supply 115V/1 ph/60 Hz

NOTE: Standard factory setting gives priority to air quality. If power is interrupted, the unit remains in the closed position. Please specify when ordering if continued air supply is the priority in your installation.

Specifications are subject to change without notice.



Minimum Pressure Valve



Ball Valve



Butterfly Valve



Built for a lifetime.™

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The Air Systems Specialist

With over 85 years of experience, Kaeser is the air systems specialist. Our extensive 100,000 square foot facility allows us to provide unequalled product availability. With service centers nationwide and our 24-hour emergency parts guarantee, Kaeser customers can rely on the best after-sales support in the industry. Kaeser stands committed to providing the highest quality air system for your specific compressed air needs.

