

**KAESER**  
**COMPRESSORS**

*Built for a lifetime.™*



# Air Main Charging Valve

AMCV Series

[kaeser.com](http://kaeser.com)

# Air Main Charging Valve

## Velocity control improves air treatment

*Kaeser's Air Main Charging Valve (AMCV) reduces exposure to excessive velocity by automatically opening and closing to maintain a set minimum pressure in the supply side of the air system while charging the main distribution piping. This prevents damage and increases the effectiveness of air treatment equipment. It also pressurizes the entire air system in the shortest possible time.*

## Why your system needs an AMCV

Compressed air dryers and filters are designed and rated to treat specified volumes of air at specific conditions. A refrigerated dryer, for example, is 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).

If system pressure is not constant, the air velocity through clean air treatment equipment will fluctuate. For those operating 24 hours a day, fluctuation may be minor. If, however, compressors are shut down for any length of time (overnight, weekends, holidays), system pressure will drop significantly as air escapes through leaks. Until full, or near full, operating pressure is reached, dryers and filters may not work to specification and contaminants may be swept downstream.

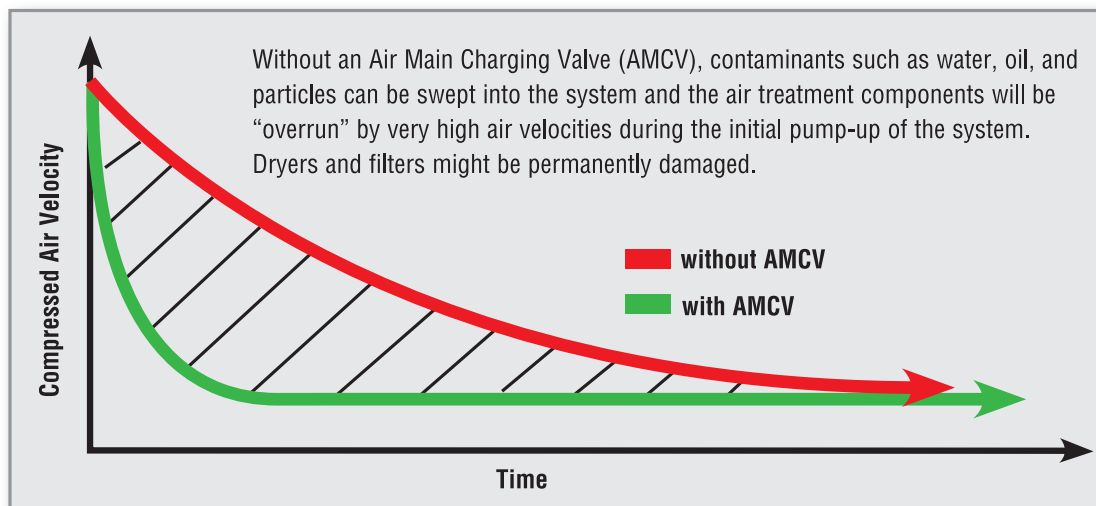
## Air quality protection

The AMCV protects air treatment components from extended exposure to high velocity air while an air system is being pressurized. After the air system has been pressurized, the AMCV also prevents exposure of air treatment components to possible overflow conditions. Leaks, artificial demand, and unregulated uses all affect the total demand for air. When this total demand reduces the system pressure, the increased air velocity may greatly reduce the effectiveness of air treatment components. The AMCV prevents this condition, ensuring that dryers and filters will be able to operate according to their rated specifications.

## Simple installation

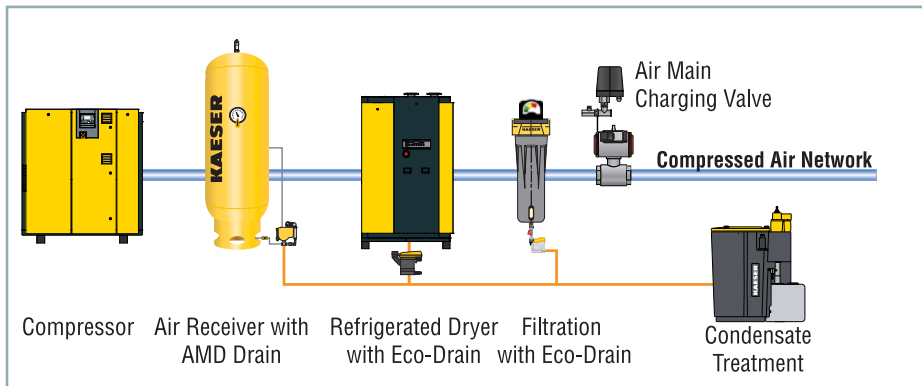
Installing the Air Main Charging Valve is quick and requires no special tools. Since the AMCV requires both electrical supply and pilot air from the air line, we recommend installing an isolation valve upstream of the AMCV.

## Velocity Profile

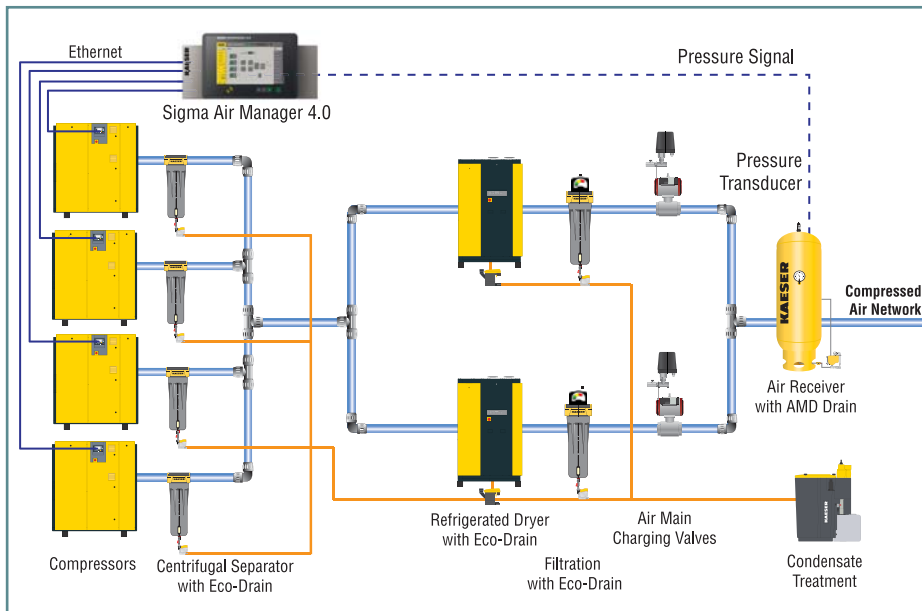


# Installation Options

## Reliable Air Quality

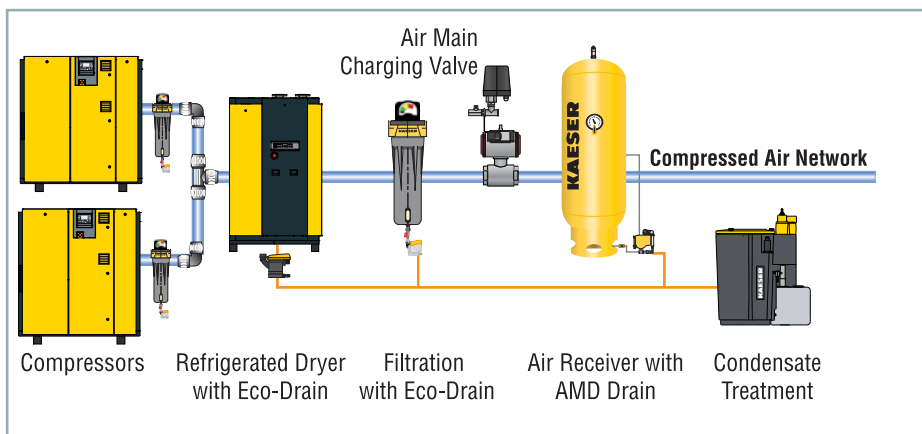


The AMCV ships in the Reliable Air Quality or “fail close” or “normally closed” configuration. It minimizes the exposure of high velocity air at start up and maintains air supply side pressure (prior to the valve) if the set pressure is met. To further protect air treatment equipment, the AMCV closes in case of power failure, if demand exceeds supply, or if pressure falls below the set point. For systems which are shut down frequently, such as nightly, this option further minimizes the exposure time of high velocity air as any storage receiver downstream of the AMCV is pressurized with the demand side piping.



The second Reliable Air Quality System is a multiple compressor system with two parallel air treatment lines controlled by a Sigma Air Manager (SAM) 4.0. SAM 4.0 controls all compressors and turns them on only when needed, improving pressure stability and system reliability. When used in conjunction with the AMCV’s optional outputs, SAM 4.0 can receive an alarm signal if there is a problem with the system. With optional inputs, the AMCV can also close in case of a dryer failure.

## Reliable Air Supply



For Reliable Air Supply, also referred to as “fail open” or “normally open”, the AMCV functions in the same manner as above, however, in case of power failure, the valve remains open, ensuring air supply as long as demand does not exceed supply or the pressure does not fall below the set point. For systems which are shut down infrequently and have no leaks in the supply side piping, this field adjustable setting allows for any storage receiver after the AMCV to supplement air during start up conditions, further minimizing system exposure to high velocity air.

# Technical Specifications

Connection (in.)	Max. Working Temperature (°F)	Max. Working Pressure (psig)	Dimensions W x D x H (approx. in.)	Weight (lbs.)
<b>Electro-pneumatic with Ball Valve</b>				
1 NPT	150	200	9.7 x 5 x 19	15
1-1/2			10 x 5 x 19	21
2 NPT			10 x 5.2 x 20	23
<b>Electro-pneumatic with Butterfly Valve</b>				
2 Flange	150	200	10 x 6 x 22	20
3 Flange			10 x 7.5 x 25	25
4 Flange			13 x 9 x 28	43
6 Flange			13 x 11 x 31	56
8 Flange			16 x 13.5 x 35	100
<b>Electro-pneumatic with Butterfly Valve High Temperature</b>				
2-1/2 Flange	400	232	10 x 7 x 25	33
3 Flange			10 x 7.5 x 25	37
4 Flange			13 x 9 x 28	58
6 Flange			13 x 11 x 31	79
8 Flange			16 x 13.5 x 35	127

**NOTES:** All models require 115V/1 ph/60 Hz power supply. Other versions may be available. Consult factory for more information.

Specifications are subject to change without notice.

# Features

## At a Glance

**Pressure Switch:** Adjustable to desired set point (usually about 10 psi below compressor load or discharge). Below set point, AMCV will be in the closed valve position.

**Solenoid Controller:** 5-way solenoid control valve combined with adjustable nozzles eliminates swings in pressure and velocity.

**Valve:** Available as full-bore ball valve in 1", 1½", and 2" NPT(F) or a rugged, cast iron butterfly valve with oil-resistant gasketing for 2"-8" ANSI flanges. Both are designed for full flow with minimal pressure drop and are adjustable to pressures up to 200 psig unless otherwise stated.



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