

Compressed Air Distribution System

SmartPipe™

from 1/2" to 6"



SmartPipe™

Compressed Air Piping

Kaeser's SmartPipe is a modular compressed air distribution system that offers both lower installation costs and lower long term operating costs.

Piping selection directly affects the three key elements of every compressed air system: flow, pressure, and air quality. Poor choices in pipe materials, diameter, and layout cause flow restrictions, often resulting in significant pressure drop. Pressure drop is the main cause of increased energy consumption and underperforming air driven tools and equipment.

Choices in piping also directly impact installation costs. Heavier materials cause fatigue and slow work, especially in overhead installations. The types of fittings used must also be considered. Some connection types cause pressure drop, need special tools, and take more time to install.

SmartPipe offers an excellent choice for compressed air and inert gas distribution for pressures up to 188 psig (13 bar) (consult factory for higher pressures) in temperatures from -4°F to +140°F (-20°C to 60°C). SmartPipe is also ideal for vacuum up to 98.7% (29.6" Hg).

Pipe Material Selection

Common compressed air piping materials with their advantages and disadvantages.

Material	Advantages	Disadvantages
Black Iron	Moderate material costs Readily available in multiple sizes	Labor intensive installation May rust and leak Rough inside promotes contaminant build up and creates pressure drop
Galvanized Iron	Moderate material costs Readily available in multiple sizes Some rust protection	Often only exterior is coated Labor intensive installation Rough inside promotes contaminant build up and creates pressure drop May rust at joints and leak
Copper	No rust, good air quality Smooth interior-low pressure drop	Requires quality brazing to prevent leaks Susceptible to thermal cycling Installation requires open flame
Stainless Steel	No rust, good air quality Smooth interior-low pressure drop	Labor intensive installation Expensive materials
PVC	Lightweight Inexpensive	Safety In certain areas, not compliant with code



Black and galvanized iron



This actual cutaway of black iron compressed air piping shows typical contaminant build up and flow restriction after just a few years of operation.



What's so smart about SmartPipe?

Ease of Installation

Fast to install and easy to modify, Kaeser SmartPipe is the most versatile compressed air distribution system available. Our combination of lightweight materials and connectors dramatically reduce labor and installation time, especially in overhead installations.

Other features include:

- Installs faster than other common piping
- No specialized trades needed
- No threading, welding, or brazing pipe
- No special tools needed
- Simple mounting and connecting hardware
- Can connect to existing systems with other pipe types
- Easy to add on to or disassemble for your changing needs

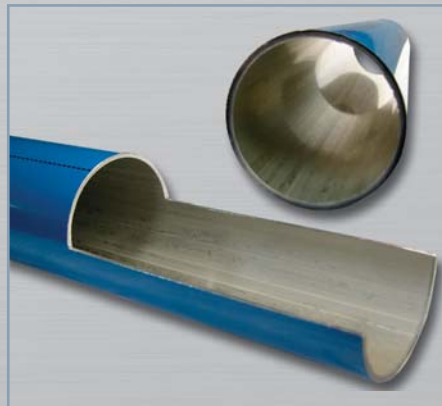
Optimum flow and air quality

SmartPipe's smooth calibrated aluminum construction has a low coefficient of friction, providing the best possible laminar flow. Full bore fittings further minimize pressure drop for optimum flow and energy efficiency. Leak free connectors prevent air loss and wasted energy.

SmartPipe is ideal for installations requiring the highest quality air. Aluminum material will not rust or corrode. Further, it has no rough surfaces or interior restrictions that accumulate contaminants. The smooth interior with full bore design allows them to flow to your dryers and filters for efficient removal.



Integral condensate retention design for superior flow without pressure drops.



Cutaway of 5-year-old SmartPipe. Inside remains smooth and clean with no contaminant build up or pressure loss.

Wide scope of supply

SmartPipe is available in seven sizes from 168 mm down to 16.5 mm and is perfect for use as headers, branch lines, and drops to point of use.

- ✓ 168 mm OD (6" ID)
- ✓ 100 mm OD (4" ID)
- ✓ 76 mm OD (3" ID)
- ✓ 63 mm OD (2-1/2" ID)
- ✓ 40 mm OD (1-1/2" ID)
- ✓ 25 mm OD (7/8" ID)
- ✓ 16.5 mm OD (1/2" ID)



Rigid aluminum calibrated pipe ensures clean air and optimum flow rate performance.

The SmartPipe line includes all the accessories you need for a top quality installation:

- straight unions
- elbows and tees
- cross connectors
- reducing fittings
- gooseneck drops
- ball valves
- quick assembly brackets and hangers
- snap-shut pipe clips
- expansion and flex hoses
- variety of ISO 4414/EN983 compliant safety couplers

Compressed Air System Design

Materials

SmartPipe components are non-flammable and 100% recyclable. Piping is constructed of 6063-T5 calibrated alloy aluminum and is blue powder-coated outside. Pipe, fittings, and valves are guaranteed silicone free.

Connectors feature durable Nitrile gasket seals. 16.5 mm, 25 mm, and 40 mm fittings are made of non-flammable polyamide (nylon) (UL94-HB standard) and are resistant to UV rays and most compressor fluids. 63 mm fittings are coated aluminum. 76 mm and 100 mm fittings are manufactured from 304S stainless steel while 168 mm fittings are anodized aluminum.



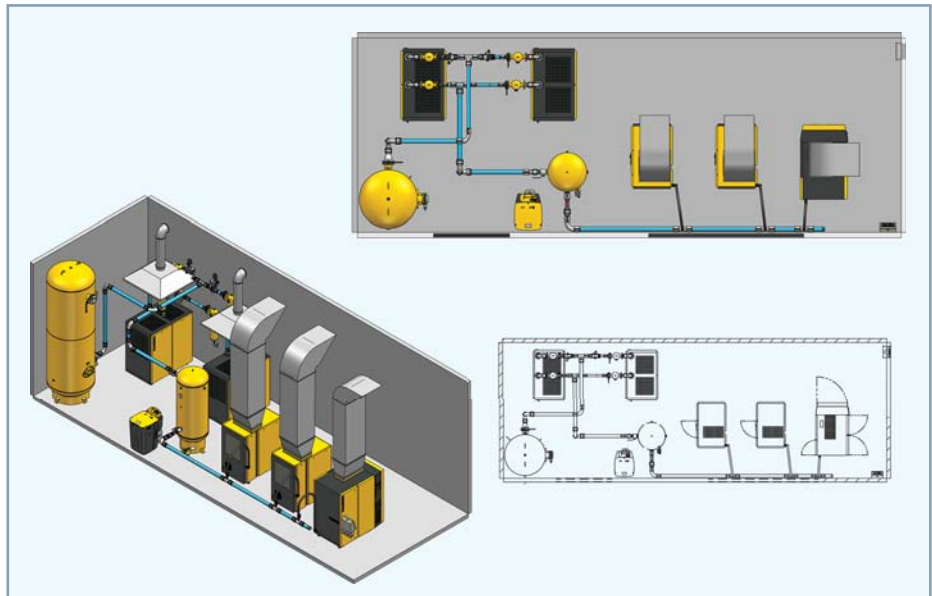
Kaeser's team of engineers are always at your service to help design or optimize your compressed air system.

Using our Air Demand Analysis (ADA) and Kaeser Energy Saving System (KESS) we can evaluate your existing installation and demonstrate how proposed changes will improve your system performance.

Kaeser can also produce 2D and 3D CAD drawings of the proposed

system. This is a huge benefit in project planning. It helps visualize new equipment and how it will fit into the building along with existing equipment, piping, walls, vents, etc. This facilitates installation planning.

From complex installations, to challenging environments, to limited space, Kaeser can design a system to meet your specific requirements for performance and reliability.



KAESER COMPRESSORS

Built for a lifetime.™

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