

# Atlas Copco Compressed Air Piping System



**AIR NET**

The Quality Air Connection



*Atlas Copco*



## Total capability, total responsibility

Right at the heart of your business, Atlas Copco delivers quality compressed air for superior operational capacity. From compressed air generation to point of use, you can choose from our wide range of products to create a complete compressed air system tailored to your specific needs. All Atlas Copco products are engineered to integrate seamlessly, ensuring the highest level of reliability and energy efficiency. As a result, Atlas Copco can take full responsibility for your compressed air infrastructure with a guarantee of best-in-class quality. With a global presence in over 150 countries, we can provide an unrivalled service to maintain and continually improve your compressed air system performance.

Backed by 100 years at the forefront of compressed air, Atlas Copco products offer the finest quality and efficiency. Our goal is to be First in Mind—First in Choice™. That is why Atlas Copco's pursuit of innovation never ceases, driven by the dedication to meet and exceed your demands. Always working with you, we are committed to providing the customized air solution that is the driving force behind your business.

*We are committed to your superior productivity through interaction and innovation.*

# Your business' lifeline

Acting as the vascular system of your manufacturing site, your compressed air system plays a vital role in your production processes. Delivering quality air exactly where you need it, at the right pressure and at the lowest possible cost, Atlas Copco's innovative AIRnet™ compressed air piping system complements your compressed air projects. It consists of high quality elements only and distinguishes itself through flexibility and ease of installation, meeting all of your design and production requirements. Thanks to its wide range of durable products, AIRnet is a complete solution from source to production.



## REDUCED ENERGY COSTS

- AIRnet significantly reduces your operating costs by providing more air flow with less pressure drop thanks to its smooth inner aluminium surface.
- AIRnet's corrosion-free pipes and fittings minimize the risk of leakage and maintain the pressure drop constant over time, reducing energy waste.
- An integrated o-ring ensures an airtight fit.
- A pressure drop reduction of 1 bar results in 7% energy savings of your total compressor installed power.



## TIME SAVING

- AIRnet can be installed easily and quickly by just one person, without requiring any training.
- An AIRnet system can be built in one-third the time of a conventional one, no specialized tools needed. Network maintenance is equally fast.
- As all components are easily adjustable and reusable, AIRnet evolves right along with your production setting.
- AIRnet is compatible with any existing pipe work and equipment.
- To minimize downtime, your installation can be pressurized immediately upon completion.



## BUILT TO LAST

The AIRnet piping system is resistant to corrosion, mechanical shocks, fire, thermal variations and outdoor weather conditions. Thanks to consistent clean quality air, the AIRnet range ensures longer longevity of your equipment and increases the lifetime of the filtration

elements. In line with the high quality performance of our AIRnet product range, we are granting you with a 10 year guarantee on our AIRnet fittings and aluminium pipes against any damages resulting from material defect.



# A variety of benefits

## 1 FULLY CUSTOMIZABLE

Fixed to walls or ceilings, AIRnet's range of fittings lets you custom-build a compressed air system to your specific production needs.

## 2 LEAKAGE-FREE

AIRnet fittings are corrosion-free. They ensure a leakage-free installation and eliminate energy waste.

## 3 MAXIMUM FLEXIBILITY

Quick drops can be added at any time to create extra drop legs. As the connection is made from the side section, the risk of condensate pollutant is eliminated.

## 4 CONSTANT AIR QUALITY

AIRnet delivers constant quality air from point of generation to the various points of use, protecting downstream equipment and manufacturing processes.

## 5 FUTURE-MINDED

As all components are easily adjustable and reusable, AIRnet facilitates future network extensions.

## 6 EASY IDENTIFICATION

In compliance with most industrial standards, AIRnet pipes are standard painted blue or green for simple network identification.

## 7 LOW PRESSURE DROP

The design with full diameter and inside fin guides eliminates air flow restriction and guarantees the lowest possible pressure drop.







3



2



1



2



2

5

4

# Setting a new standard

A galvanized steel compressed air piping system has been the industry standard for many years. With AIRnet, Atlas Copco raises the bar in compressed air piping systems, using only highly

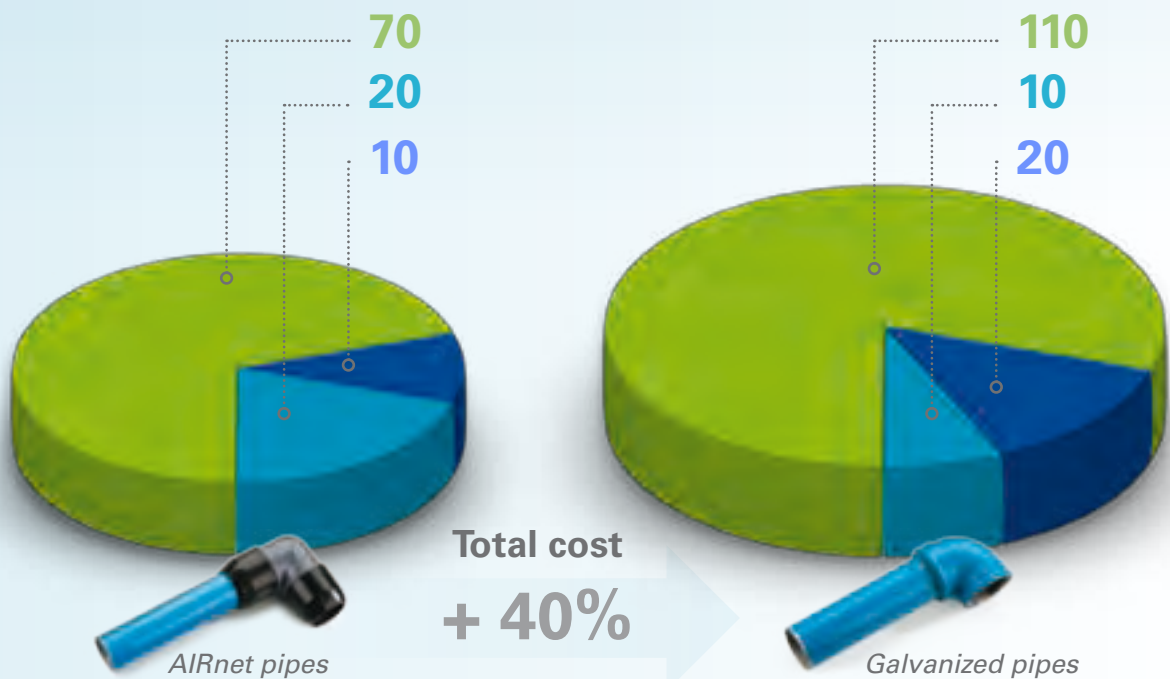
durable materials like aluminium and polymer. AIRnet is suitable for compressed air as well as vacuum and inert gases.

## HIGHER COST SAVING POTENTIAL

→ AIRnet pipe	→ Galvanized pipe
Smooth surface.	Rough surface.
Constant, low friction factor, resulting in an unrestricted air flow.	Friction factor is almost double of an aluminium pipe, restricting the air flow. Due to corrosion, the friction factor increases over time.
Low initial pressure drop. (E.g. In a system with an air demand of 110 l/s, designed as a 400 m long ring of Ø50 mm (2") pipes with P = 7 bar, the pressure drop ( $\Delta P$ ) equals 0.2 bar.)	High initial pressure drop. (E.g. In a system with an air demand of 110 l/s, designed as a 400 m long ring of Ø50 mm (2") pipes with P = 7 bar, the pressure drop ( $\Delta P$ ) equals 0.37 bar.)
Requires lower loading pressure at the compressor and lower power consumption.	Requires higher loading pressure at the compressor and higher power consumption.
Standard painted blue (compressed air) or green (inert gases) for easy network identification.	Pipes need to be painted in the appropriate color, adding to the total cost.



## Pressure drop energy cost



- $\Delta P$  energy cost
- Initial pipe work investment
- Assembly / Bracketing labour



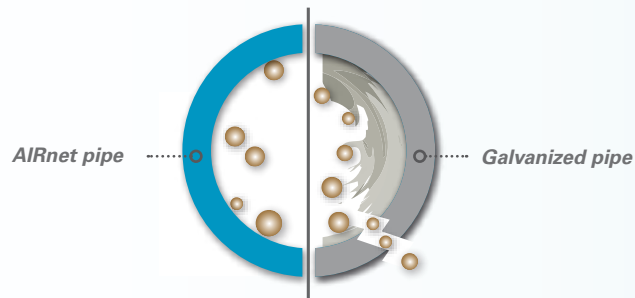


AIRnet pipe

Galvanized pipe

## LONGER LIFETIME

→ AIRnet pipe	→ Galvanized pipe
AIRnet's aluminium pipes and polymer fittings do not corrode. Their smooth inner surface keeps air clean, now and in the years to come.	Corrosion protection depends on the quality of the galvanization.
No risk of corrosion when cutting the aluminium.	When the pipe is cut, the galvanization is removed, resulting in a high risk of corrosion.
Very low risk of leakage, which is not related to corrosion.	The connection poses a high risk of corrosion at low level points where water can stagnate, resulting in a high risk of leakage.



## EASIER INSTALLATION

→ AIRnet pipe	→ Galvanized pipe
Lightweight pipes: a standard Ø50 mm (2") pipe weighs less than 5 kg (11 lbs).	Heavy pipes: a standard Ø50 mm (2") pipe weighs more than 25 kg (55 lbs).
Short manual cutting time.	Very long manual cutting time. Requires an electrical cutter which may generate some metallic dust, polluting the air.
Fast deburring of the pipe. Pipes can be simply pushed into the fitting.	Threading the pipe requires a certain level of experience to avoid future leakage.
In addition to offering a single assembly method for all fittings, the fittings can be tightened by hand and secured with a spanner.	The galvanized fittings need to be tightened using sealing material. The risk of leakage depends on the quality of the thread.
Modifying the network is easy and fast: the fittings and pipes can be simply disassembled and reused.	Modifying the network is difficult and time-consuming: the pipes have to be cut, changed, threaded and reassembled.

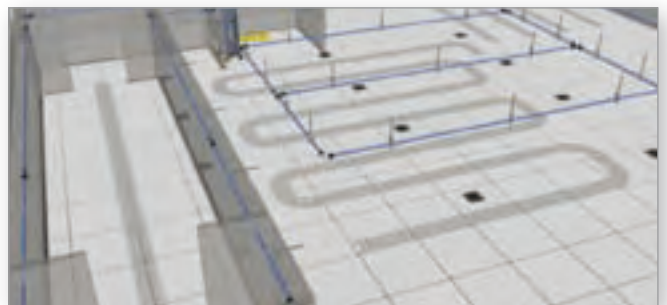


# Professional quotation

Atlas Copco has developed unique 3D software to quote installation jobs. Now you can visualize your future installation, with the flexibility to adjust, modify and validate it. More than just a presentation tool, the AIRnet Planner provides a detailed network

structure and calculates the pressure drop in the system. Starting from the 3D design, the AIRnet Planner creates the bill of material, specifies the exact number of pipes needed, lists all required AIRnet fittings and calculates the assembly time.

## AIRNET Planner





# Simple installation

Lightweight yet robust, AIRnet installs easily and fast. Its large range of fittings, sockets, brackets and accessories accommodates

any possible network geometry. Quickly adjustable and fully reusable, AIRnet evolves right along with your production setting.

Step 1



Step 2



Step 3



*AIRnet uses a single assembly method for all diameters: simply push tube into the fitting and tighten the nut.*



## THE FLEXIBLE FIT

AIRnet effortlessly adapts to the changing demands of your network. Connections to your applications can be easily and manually dismantled and reassembled to connect to new or modified production processes. Quick drop fittings can be added at any time to create extra drop legs. Furthermore, AIRnet is also compatible with any existing pipe work and equipment.



## REDUCED INSTALLATION TIME

AIRnet has been designed with a unique assembly system, allowing an AIRnet system to be built in one-third the time of a conventional one. Assembling a pipe, from cutting to securing the pipe into the fitting, takes only 2 minutes for fittings of smaller diameters ( $\leq \text{Ø}50$  mm, 2"), and only 4 minutes for larger fittings. Pipes up to  $\text{Ø}25$  mm (1") can even be tightened by hand, with instant air tightness. As the system can be pressurized immediately after assembly, you will not waste valuable time.



## IMMEDIATELY AIRTIGHT

Atlas Copco engineered and manufactured AIRnet to eliminate leakage. While the unique O-ring ensures an airtight fit, the longer push distance facilitates achieving perfect alignment for high resistance to vibration. The clinch ring grips the pipe, keeping the fitting firmly in place and securing the installation at maximum working pressure.

# Range overview & specifications



To get the most return on your prime investment, a large range of diameters is available to guarantee a minimal pressure drop.



AlRnet pipes	Ø20 mm (¾")	Ø25 mm (1")	Ø40 mm (1½")	Ø50 mm (2")	Ø63 mm (2½")	Ø80 mm (3")
Blue alu pipe (6 m) for compressed air	•	•	•	•	•	•
Blue alu pipe (3 m) for compressed air	•	•	•	•	•	•
Green alu pipe (6 m) for inert gases	•	•				
S-bend	•	•				
Pipe clips and spacers	•	•	•	•	•	•

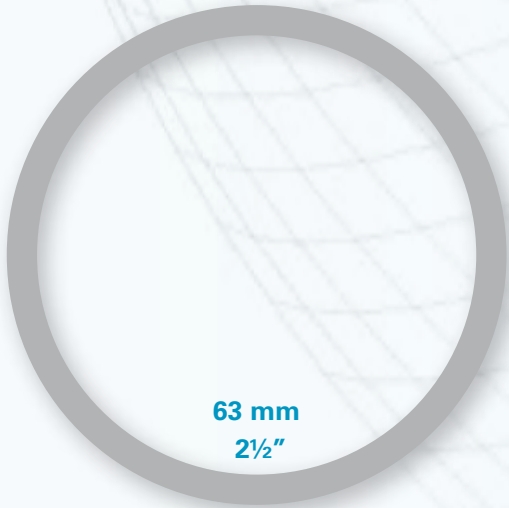


AlRnet fittings	Polymer				Aluminium	
	Ø20 mm (¾")	Ø25 mm (1")	Ø40 mm (1½")	Ø50 mm (2")	Ø63 mm (2½")	Ø80 mm (3")
Equal sockets	•	•	•	•	•	•
Reduction sockets		•	•	•		
90° elbow	•	•	•	•	•	•
45° elbow	•	•	•	•		
Equal tee	•	•	•	•	•	•
Reduction tee		•	•	•		
Reduction tee (threaded)	•	•			•	•
Quick drop		•	•	•	•	•
Quick drop (threaded)		•	•	•	•	•
Valves	•	•	•	•	•	•



AlRnet nipples	Ø20 mm (¾")	Ø25 mm (1")	Ø40 mm (1½")	Ø50 mm (2")	Ø63 mm (2½")	Ø80 mm (3")
Equal nipple sockets male polymer	•	•	•	•		
Equal nipple sockets male alu	•	•	•	•	•	•
Reduction nipple sockets male alu	•	•	•	•	•	•
Equal nipple sockets female alu	•	•	•	•	•	





**63 mm**  
**2 1/2"**



**80 mm**  
**3"**



#### **AIRnet accessories**

Hanging brackets

Tools

Connectors

Air guns

Couplers

Hoses / Rubber hoses / Flexible hoses

AIRnet Planner 3D software

#### **TECHNICAL SPECIFICATIONS**

Working temperature: -20°C to +70°C, -4°F to 158°F  
Maximum working pressure: 13 bar  
Vacuum level: 0.13 bar absolute pressure  
Compatible with all compressor oils  
The AIRnet range is fire-resistant (according to UL94)  
Suitable for outdoor installation

#### **NORM COMPLIANCY**

Extruded aluminum pipes EN755.2 / EN755.8 / EN573.3  
Qualicoat certification  
AIRnet range certification EN 13480  
Directive 97/23/EC  
(Pressure Equipment Directive)  
ASME B31.1

All fittings are available in BSP / NPT



In order to be First in Mind—First in Choice™ for all your compressed air needs, Atlas Copco delivers the products and services that help increase your business' efficiency and profitability.

Atlas Copco's pursuit of innovation never ceases, driven by your need for reliability and efficiency. Always working with you, we are committed to providing you the customized quality air solution that is the driving force behind your business.



**Never use compressed air as breathing air without prior purification in accordance with local legislation and standards.**