



Chicago  
Pneumatic



Innovative Compressed  
Air Distribution System



**AIRnet  
PF Series**

**People. Passion. Performance.**

## Unique Assembly System



## AIRnet 10 Year Guarantee

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



# AIRnet vs. Traditional Galvanized Pipes



## AIRnet PIPES



- ✓ Smooth surface.
- ✓ Low friction factor.
- ✓ 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.)
- ✓ Aluminium and polymer fittings are corrosion free.

- ✓ No risk of corrosion when cutting the aluminium. Very low risk of leakage, which is not related to corrosion.
- ✓ Lightweight pipes: a standard Ø50 mm (2") diameter pipe weighs less than 5 kg (11 lbs).
- ✓ Short manual cutting time.
- ✓ Fast deburring of the pipe. Pipes can be simply pushed into the fitting.
- ✓ The fittings can be tightened by hand and secured with a spanner.
- ✓ Modifying the network is easy: the fittings and pipes can be simply disassembled and re-used.
- ✓ Standard painted blue (compressed air) or green (inert gases) for easy network identification.

- ✗ Rough surface.
- ✗ Friction factor is almost double of an aluminium pipe.
- ✗ 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 (2") pipes with P= 7 bar, the pressure drop ( $\Delta P$ ) equals 0.37 bar.)



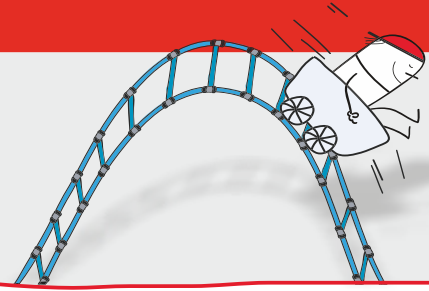
## GALVANIZED PIPES



- ✗ Corrosion protection depends on galvanization quality.
- ✗ When cutting the pipe, the galvanization is removed. The connection poses a high risk of corrosion at low level points where water can stagnate, resulting a high risk of leakage.
- ✗ Heavy pipes: a standard Ø50 mm (2") pipe weighs more than 25 (55 lbs).
- ✗ Very long manual cutting time, electrical cutter may generate metallic dust.
- ✗ Threading the pipe requires certain level of experience to avoid future leakage.
- ✗ The galvanized fittings need to be tightened using a spanner. The risk of leakage depends on the quality of the thread.
- ✗ Modifying the network is often difficult : after disassembly, the pipes have to be cut, changed, threaded and re-assembled.
- ✗ Pipes need to be painted in the appropriate color, adding to the total cost.

## Fast

Installing a piping system is no longer time consuming, thanks to AIRnet.



### READY? SET? DONE!

- The pipes are easy to cut and the polymer or aluminum fittings ensure a perfect alignment instantly.
- AIRnet does not require painting. In compliance with industrial standards, AIRnet pipes are standard painted for simple network identification.
- AIRnet is adaptable to any existing pipe work. Future extensions can simply be plugged in.
- The AIRnet system can be pressurized immediately after assembly, limiting downtime to an absolute minimum.

### EVEN FASTER WITH THE PF SERIES

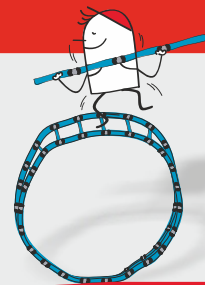
- The Pre Fit (PF) series offers pre-torqued fittings from 20-50 mm.
- A gentle push of the pipe into the fittings is all it takes. The connection is made within seconds!

**AIRnet saves you up to 85% on installation time**



## Easy

With AIRnet there is no need for heavy tools or extra manpower.



### TAKE IT EASY

- One person can safely handle and install AIRnet. While solid and robust, aluminum AIRnet pipes weigh five times less than galvanized pipes.
- AIRnet is installed with simple tools. No welding, gluing or crimping is required. Welding or lathe machines are a burden of the past.
- AIRnet offers a full scope of materials including pipes, fittings and accessories.

### PF SERIES: EASY DOES IT!

- Connect AIRnet to a threaded system with the innovative Adaptor Union Nut.
- AIRnet PF series is the first in the industry to offer a standard built-in Conductivity Strip.



### FROM DESKTOP TO WORKSHOP

- AIRnet Planner 24/7 is a unique software tool to design and quote an AIRnet installation.
- It provides a detailed network structure and calculates the pressure drop.
- AIRnet planner 24/7 creates the bill of material, lists the exact number of pipes and fittings needed and calculates the assembly time.

**All it takes: one pair of hands + a simple set of tools**



# Reliable

The reliability of AIRnet is not a hollow promise; it is a solid 10-year guarantee.



## THE RIGHT STUFF

- AIRnet consists of aluminum and polymers, highly durable materials suitable for compressed air as well as for vacuum and nitrogen gas.
- AIRnet is resistant to corrosion, mechanical shocks, thermal variations and outdoor weather conditions.
- AIRnet offers consistently clean quality air, protecting the downstream manufacturing process and contributing to equipment longevity.
- The AIRnet leak-resistant connections offer superior sealing.

- The low friction factor of aluminum and the seamless connections minimize pressure drop.
- Low pressure drop and a bigger inner diameter result in high efficiency.

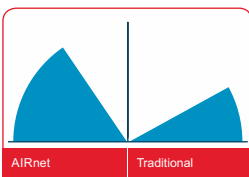
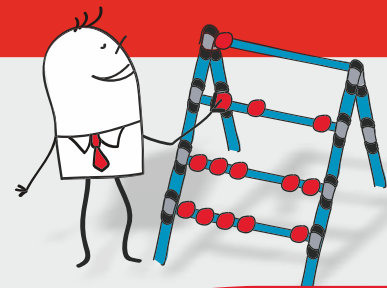
**AIRnet is corrosion-free and leak-proof**



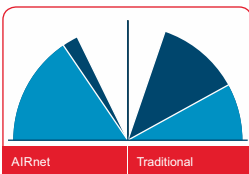
0.013 bar absolute to 16 bar absolute  
Visible Correct Torque Indication  
Silicone Free\*\*\*  
PED/ASME/ASTM  
QUALICOAT Certified

# The Bottom Line

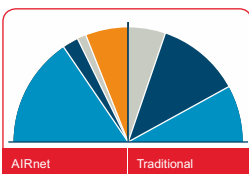
More good news: AIRnet offers lots of savings.



If you look at the total cost of ownership of a piping system, AIRnet proves to be the most cost-effective solution. Let's do the math.



AIRnet is installed up to 85% faster and by one single technician, reducing the labor cost. All system extensions and modifications can be done equally fast.



In a compressor installation, a 1 bar pressure drop leads to 7% more energy consumption. AIRnet offers minimal pressure drop and thus more savings. The leak-resistant and corrosion-free pipes and fittings prevent downtime and ensure high efficiency.

- Material Cost
- Labor
- Leaks and Pressure Drop
- SAVINGS

**AIRnet effectively reduces the cost of ownership of your piping system\***

\*Calculators are available to compute your potential savings!

# Product Information

## AIRnet Fitting Design

### Diameters 20 - 50 mm (3/4 - 2") - PF Series



- 1 Strong-grip internal design**  
Superior sealing, flexible grip ring and fool proof engineering design
- 2 Specific nut design**  
Push-In, Pre Torque with standard hexagon nut profile
- 3 Specific BODY design**  
Light weight, slim body with Easy to see Torque Indication
- 4 Specific inlet guide**  
For easier pipe insertion and perfect alignment
- 5 Parts identity**  
Part number and diameter are embossed

### Diameters 63 - 80 mm (2 1/2 - 3")



- 6 Strong-grip internal design**  
New design increasing grip, strength and safety (with stainless steel clinch ring)
- 7 Specific nut design**  
Notches enable you to tightly secure the AIRnet spanner, without damaging the nut itself
- 8 Specific body design**  
Very large inner body diameter eliminates the flow resistance and pressure drop
- 9 Specific inlet guide**  
For easier pipe insertion and perfect alignment

- 10 Strong-grip internal design**  
New design concept for large diameter provides optimum grip performance (with stainless steel clamp-grip)
- 11 Specific nuts & bolts design**  
4 sets of bolts and nuts with unique safety pin ensures 40 Nm grip
- 12 Specific body design**  
Made up of corrosion resistant sheet metal to ensure light weight and compact design
- 13 Specific seal system**  
Sealing system (seal + seal holder) is specially designed for compressed air or vacuum and ensures leak free piping system
- 14 Parts identity**  
Part number and diameter are embossed

### Diameter 100 mm (4")



AIRnet is a compressed air piping system that delivers quality air exactly where you need it, from compressor to the point of use.

### Product Range

Diameter pipes and fittings	20, 25, 40, 50, 63, 80, 100, 158
Pipes	blue, green, straight 6 meter, straight 3 meter, S-bend, U-bend
Fittings	straight connections, reductions, tee, elbow 45°, elbow 90°, end cap, valves, quick drop, nipple, adaptor union, flange, threaded fittings
Fixtures	pipe clip, pipe clip spacer, valve support, flange support, pipe support/hanging solutions
Tools	spanner, drill bit, drill bit holder, pipe cutter, pipe cutter spare blade, deburr, torque wrench, slide fluid
Accessories	hose, conductivity strip, flange nuts and bolts, threaded couplings

- For compressed air, vacuum and nitrogen gas
- Vacuum level: 0.013 bar abs
- Operating pressure:
  - 20-50 mm & 100 mm (3/4"-2", 4"): max 16 barg (232 psig)
  - 63-80 mm (2 1/2"-3"): max 13 barg (188 psig)
- Operating temperature limits:
  - 20-50 mm & 100 mm (3/4"-2", 4"): -20°C to 80°C (-4°F to 176°F)
  - 63-80 mm (2 1/2"-3"): -20°C to 70°C (-4°F to 158°F)
- Lowest allowable pressure dewpoint: -70°C (-94°F)
- Resistant to the effect of compressor oils (mineral oil/PAO based/Ester based oils)
- AIRnet pipes are resistant to direct UV radiation and fittings are resistant to indirect UV radiation
- Corrosion-free
- Leak-resistant
- Compatible with oil-free and oil-injected compressors
- For indoor installation (protected against direct sunlight, rain, snow or wind)

### Performance Criteria



### Fittings



Fittings	PF Series Polymer	Aluminum	Steel-Aluminum
Diameter	20-50 mm (3/4-2)	63-80 mm (2 1/2-3)	100 mm (4)
Material	PA6 with 30% fiberglass injection	Aluminum alloy EN-AB46100	Material clamp: sheet metal steel S355MC, acc EN10149-2 Fitting: cast aluminum AISi9Mg
Grip ring	Stainless steel	Stainless steel	Stainless steel AISI 30
Seal	Rubber NBR 70SH	Rubber NBR 70SH	Rubber NBR 70SH



**Chicago Pneumatic : Service Ahead of Time**



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Design  
 Manufacture, Sales and  
 Service of air compressors,  
 Air dryers and air filters



**ISO 9001**  
 Chicago Pneumatic's  
 Environmental Management System  
 forms an integral part of each  
 business process.



**ISO 14001**  
 ISO 14001 EMS  
 forms integral part of  
 each business process.

**Regional Customer Centres**

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